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BEFORE THE ARIZONA CORPORATION COMMISSION

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IN THE MATTER OF THE APPLICATION OF)
SALT RIVER PROJECT, OR THEIR)
ASSIGNEE(S), IN CONFORMANCE WITH)
THE REQUIREMENTS OF THE ARIZONA)
REVISED STATUTES §§ 40-360.03 AND 40-)
360.06 FOR A CERTIFICATE OF)
ENVIRONMENTAL COMPATIBILITY)
AUTHORIZING THE CONSTRUCTION OF)
NATURAL GAS-FIRED, COMBINED CYCLE)
GENERATING FACILITIES AND)
ASSOCIATED INTRAPLANT TRANSMISSION)
LINES, SWITCHYARD IN GILBERT, ARIZONA)
LOCATED NEAR AND SOUTHEAST OF THE)
INTERSECTION OF VAL VISTA DRIVE AND)
WARNER ROAD.)

AZ CORP COMMISSION
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Arizona Corporation Commission
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BRIEF
OF APPLICANT
SALT RIVER PROJECT
IN SUPPORT OF
THE CERTIFICATE OF ENVIRONMENTAL COMPATABILITY
GRANTED ON FEBRUARY 14, 2001

1 PRELIMINARY STATEMENT

2 Salt River Project Agricultural Improvement and Power District ("SRP"), requests
3 that the Corporation Commission ("Commission") affirm the Certificate of Environmental
4 Compatibility ("CEC") issued by the Power Plant and Transmission Siting Committee
5 ("the Siting Committee").

6 This application is not business as usual. At stake here is the continued reliability
7 of the electricity system serving the people and businesses of Central Arizona.
8 During the twenty days of hearings and deliberations the members of the Siting
9 Committee recognized the importance of this case. The Siting Committee members
10 carefully considered each of the statutory siting criteria. They compared these with the
11 testimony and argument of the Applicant, of the ACC Staff, and each of the twenty-one
12 intervenors. The resultant order and its thirty-four conditions is the product of these
13 monumental efforts.

14 In spite of the careful attention to detail during the hearings, and the resulting
15 provisions that address and effectively mitigate the environmental impact, some of the
16 neighborhood intervenors blindly continue to oppose the application in its entirety. SRP
17 submits that the current position of the objecting intervenors (the "Local Intervenors") is
18 driven by emotion, not by fact.

19 The Santan Expansion Project will use the cleanest and most modern technology
20 available in the United States. It will meet the most stringent air quality standards
21 existing anywhere in the nation¹. It will avoid the environmental impact of new
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23 ¹ Because the plant is built in the Maricopa County non-attainment area, it will be required to achieve the
24 lowest achievable emission rate ("LAER"). This means that the plant will meet the most stringent air quality
standards applicable anywhere in the nation.

1 transmission. It will leverage the existing site to improve the overall area. And, most
2 importantly, the Santan Expansion Project will meet, and is the only reasonable
3 alternative to meet, the critical needs of SRP's customers for a reliable and stable source
4 of power.

5 Long on rhetoric and short on solutions, Local Intervenors have closed their eyes
6 to the facts. They argue "don't build it here"; raising the same points as were raised
7 before and addressed by the Siting Committee. As did the Siting Committee, the
8 Commission should reject these obstructionist arguments and confirm the carefully
9 crafted and well-reasoned decision of the Siting Committee.

10 STANDARD OF REVIEW

11 Upon creating the Siting Committee the Legislature found "there is at present and
12 will continue to be a growing need for electric service which require the construction of
13 major new facilities. It is recognized that such facilities cannot be built without in some
14 way affecting the physical environment where the facilities are located." (Laws 1971, Ch.
15 67, § 1.) By substituting a statewide siting authority for what was formerly a local
16 function, the legislature sought to insure that generation and transmission siting
17 decisions consider the interests of the State as a whole, and not just the objections of
18 neighbors and local governments. In short, the goal of power plant siting is to balance
19 environmental interests with the goal that electricity suppliers "meet the needs and
20 desires of the people of the state for economical and reliable electric service." *Id.*

21 In California, we are witnessing the impact of suppressing one of these goals in
22 favor of the other. There, the "NIMBYs²" and "BANANAs³" have prevailed for years. The

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² "Not in my backyard".

1 imbalance has resulted in a serious shortage of necessary generation and transmission
2 capacity, exposing consumers to wildly fluctuating energy prices and rolling blackouts.
3 Now, there is no quick fix in California. The entire state is facing a financial crisis of
4 unprecedented proportions.

5 In Arizona, the Santan Expansion Project is an integral part of SRP's plan to
6 construct the necessary facilities to ensure that it can meet future demand. SRP cannot
7 overemphasize the importance of this project. The Santan Expansion Project is
8 designed to, and will, insure that customers in Central Arizona continue to receive
9 reliable and economic energy. No other reasonable alternative exists.

10 The standard of review established in A.R.S. § 40-360.07(B) requires that the
11 Commission "balance in the broad public interest, the need of an adequate, economical
12 and reliable supply of electric power with the desire to minimize the effect thereof on the
13 environment and ecology of the state⁴." The Commission is also bound to conduct its
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16 ³ "Build absolutely nothing anywhere near anyone".

17 ⁴ A.R.S. Section 40-360.06 specifically directs the Siting Committee to consider these environmental
18 factors:

- 19 1. Existing plans of the state, local government and private entities for other developments at or in
20 the vicinity of the proposed site.
- 21 2. Fish, wildlife and plant life and associated forms of life upon which they are dependent.
- 22 3. Noise emission levels and interference with communication signals.
- 23 4. The proposed availability of the site to the public for recreational purposes, consistent with safety
24 considerations and regulations.
5. Existing scenic areas, historic sites and structures or archaeological sites at or in the vicinity of
the proposed site.
6. The total environment of the area.
7. The technical practicability of achieving a proposed objective and the previous experience with
equipment and methods available for achieving a proposed objective.
8. The estimated cost of the facilities and site as proposed by the applicant and the estimated cost
of the facilities and site as recommended by the committee, recognizing that any significant
increase in costs represents a potential increase in the cost of electric energy to the customers or
the applicant.
9. Any additional factors which require consideration under applicable federal and state laws
pertaining to any such site.

1 review on the basis of the record presented to the Siting Committee. A.R.S. §40-
2 360.07(B).

3 Laying the evidentiary record against the standard of balancing statewide interest,
4 the choice is clear. The Santan Expansion project is critically necessary to meet the
5 needs of Central Arizona. Because the project uses an existing site, employs the most
6 effective pollution control technology in the nation, includes unprecedented landscaping
7 and screening, and avoids any new transmission, it effectively mitigates the
8 environmental impact.

9 SRP sets out below the evidentiary record supporting the major items of dispute.
10 SRP also refers the attention of the Commission to the brief of the Arizona Utility
11 Investors Association (AUIA) for a categorical refutation of each specific point raised by
12 the Local Intervenors in their filings with the Commission⁵.

13 ARGUMENT

14 I. The Santan Expansion Project is Necessary to Serve Local Load

15 The obvious threshold issue, but one that was not seriously contested during the
16 hearings, is whether the East Valley needs the Santan Expansion Project. The evidence
17 is undisputed that supplies are tight now, and that shortages will reach critical levels by
18 2004 or 2005. Local generation, meaning generation located within the load center, will
19 absolutely be needed during this time frame. There was no real objection to this
20 premise, other than refrain to build it somewhere else, which point we address in Section
21 II below.

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24 ⁵ SRP incorporates by reference the brief of AUIA.

1 The subject of need, both of the capacity and the system reliability provided by the
2 Santan Expansion Project, was supported in major part by the study of Jennifer Tripp
3 from R. W. Beck. The need issues were punctuated by comments from other witnesses
4 and by the Siting Committee members themselves.

5 Testimony of Jennifer Tripp

6 Jennifer Tripp is a transmission and generation consultant with the national firm of
7 R.W. Beck. Ms. Tripp conducted an independent study at the request of SRP on the
8 demand for energy in the East Valley and the transmission and generation facilities
9 available to meet this demand. Ms. Tripp reached two conclusions. First, "the current
10 East Valley peak load right now exceeds . . . the import capability of the East Valley" (Tr.
11 at 401-402; [Exh. 1]⁶). This means that local generation must be run in the east valley to
12 meet current needs because there is no additional transmission import capacity
13 available. Second, a new local generation resource is needed in the near future (Tr. at
14 402; [Exh. 2]).

15 The R. W. Beck study estimates that expected growth in the East Valley will
16 outstrip the load serving capacity of existing transmission and local generation (including
17 the under-construction Kyrene project) by 2005 (Tr. at 411-412; [Exh. 3]). The timeline
18 may be even shorter. The estimate assumes that all generation would be available to
19 serve load. It does not provide any generation for a reserve margin.

20 Testimony of SRP Witnesses

21 Two SRP witnesses confirmed the importance of the Santan Expansion Project to
22 SRP's overall resource plan. Dave Areghini, SRP Associate General Manager for Power
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1 Operations, called the Santan Expansion Project the “cornerstone of our resource
2 planning” (Tr. 170–171; [Exh. 4]). Mark Bonsall, Associate General Manager for
3 Commercial and Customer Services said: “[O]ur current projection over the next five
4 years is a load growth of about 3.7 percent, with the majority of that growth occurring in
5 the East Valley . . . the load serving capability for the East Valley will limit out at around
6 2004, 2005” (Tr. at 495; [Exh. 5])

7 Testimony of ACC Staff

8 ACC Staff witness Asher Emerson agreed that the entire Santan Expansion
9 Project is necessary to meet projected load (Tr. at 3509; [Exh. 6]). Mr. Emerson went on
10 to explain that that the Santan Expansion Project is needed for system reliability, as well
11 as to provide generation for local load: other alternatives “don’t react dynamically . . . and
12 so what happens by using these other methods, your system becomes less reliable, and
13 you don’t have the flexibility to operate your system” (Tr. at 3775; [Exh. 7]). Mr. Emerson
14 concluded that the Santan Expansion Project, as opposed to any other option, will, in
15 addition to serving load, provide needed voltage support to insure East Valley reliability.

16 (*Id.*)

17 Comments of Committee Member Steve Olea

18 We also point to the statement of Siting Committee member Steve Olea, the
19 designee of the Commission Chairman on the undisputed need for additional local
20 generation:

21 The need to prove that we need local generation to me does
22 not need to be done. . . . That has been done in front of this
23 Committee, that has been done in front of the Commission,

24 ⁶ Each transcript page and exhibit referenced in this brief is contained in a booklet accompanying this brief.
The references in brackets are to the exhibit numbers in the booklet.

1 we've had several workshops on that, we've had Staff provide
2 testimony, we've had all of the utilities provide testimony. So,
3 you know, at least in my opinion there is not a need to show
4 that you need the local generation.

(Tr. at 2873; [Exh. 8])

5 In conclusion, the rate of growth in the East Valley is fueling a dramatic increase
6 in demand for electricity. According to Ms. Tripp current peak demand exceeds import
7 capacity, and in the very short term, more local generation resources must come online
8 to serve this growth. Each substantive witness supported this conclusion. In fact, there
9 was little dispute on this issue from the Local Intervenors⁷.

10 **II. The Santan Expansion Project is Superior to All Alternatives, and is the Only
11 Reasonable Alternative, to Meet the East Valley Needs**

12 A major focus of discussion at the hearings was the general proposition that the
13 Santan Expansion Project ought to be built "somewhere else". But, it is noteworthy that
14 no evidence whatsoever exists in the record that would establish that any other option is
15 feasible given the objectives of timing, improving system reliability, providing market
16 stability and minimizing the overall environmental impacts.

17 In reaching its conclusion that the Santan Expansion Project is the only
18 reasonable alternative to meet East Valley demands, SRP considered a comprehensive
19 number of generation and transmission alternatives. On the generation side (all of which
20 also need significant transmission) SRP considered new plants in four regions: the "local
21 region" - Agua Fria; the "Palo Verde region" - Harquahala and Gillespie; the "Southern
22 Arizona region" - Mobile, Florence and Saguaro; and the "Northwest Arizona region" -

23 ⁷ For example, Mr. Apergis stated "[P]lease understand the intervenors, I think I speak for most of them
24 when I make this statement, we're not ignorant to the fact that sometime in the future there will be a need
for peak power in the east valley" (Tr. at 3701; [Exh. 9]).

1 Kingman and New River (Tr. at 3541-3542; [Exh. 10]). SRP also considered the option
2 of building transmission to bring the power into the East Valley from proposed "merchant
3 plants."

4 SRP Associate General Manager Mark Bonsall presented the results of SRP's
5 studies (Tr. at 496-503 and 3539-3548; [Exh. 11]). Mr. Bonsall concluded that no other
6 alternative comes close to the Santan Expansion Project in terms of timing, system
7 reliability, environmental factors, risk parameters, costs and congruence to SRP's
8 mission.

9 Criteria 1. Timing - No other alternative can be ready in time to meet anticipated retail
10 demand in the East Valley

11 The Santan Expansion Project is superior to other options because of timing. The
12 Santan Expansion Project can be developed faster for a variety of reasons including
13 "SRP already owns the site. It has access to water, water disposal and some natural
14 gas. It needs no new transmission" (Tr. at 497; [Exh. 12]). Additionally, Santan could be
15 operational by 2004 if it is needed. (*Id.*) No other alternative, in terms of development,
16 permitting, and construction, could be developed anywhere near this time frame.

17 Criteria 2. System Reliability - The Santan Expansion Project provides the greatest
18 degree of system reliability

19 The Santan Expansion Project is a local source of generation. Local generation is
20 important for two reasons, both relating to system reliability. "First, it provides necessary
21 voltage support. Voltage support is essential to maintain power quality. As power
22 travels over distances, voltage drops. A load center this size cannot exclusively depend
23 on remote resources" (Tr. at 498; [Exh. 13]). As no local generation has been built since
24 the 1970s, the system is significantly deficient in this respect (Tr. at 1352-1353; [Exh.
14]). "Second, since the substantial majority of outages result from outages on the

1 transmission or distribution system, local generation will increase system reliability
2 because . . . of its proximity to load" (Tr. at 498; [Exh. 13]).

3 Criteria 3. Environmental Impact

4 The Santan Expansion Project is superior for environmental reasons. In
5 summary, Mr. Bonsall testified that all of the other alternatives to the Santan Expansion
6 Project involve the construction of extensive new transmission. "The impact to
7 homeowners on any of these transmission alternatives is in our experience with our
8 customers, greater than the impact of the facility in Santan" (Tr. at 499; [Exh. 15]). Also,
9 Mr. Bonsall pointed out that none of the other alternatives, except Agua Fria, are in the
10 Maricopa non-attainment area. Therefore the other alternatives would not be required to
11 produce a net benefit to Valley air quality, as would the Santan Expansion Project (Tr. At
12 3547; [Exh. 16]).

13 Criteria 4. Risk Parameters – the Santan Expansion Project minimizes risk more
14 effectively than other alternative

15 The Santan Expansion Project is also superior in terms of risk management for
16 three reasons. "First, this proposal increases assurance of adequate resources" (Tr.
17 499; [Exh. 15]). The Santan expansion option is not dependent on proposals involving
18 merchant plants that may or may not be built, and that have transmission problems.
19 "Secondly, the addition of local SRP-owned gas-fired resources . . . will help balance
20 SRP's portfolio for meeting customers' needs" (Tr. at 500; [Exh. 17]). "Lastly, both the
21 Kyrene and the Santan projects provide our customers with a critically important layer of
22 price risk management." (*Id.*) During a transmission outage or congestion, prices will
23 increase to what the market will bear. Since Santan is local and owned by SRP, it will
24 help SRP to manage those risks and protect customers from price spikes. (*Id.*)

1 Criteria 5. Cost - The Santan Expansion Project is the least expensive alternative

2 The Santan Expansion Project is the least expensive alternative. "It uses an
3 existing site, some existing common facilities. It does not require incremental
4 transmission and less investment in gas supply than other alternatives" (Tr. at 501; [Exh.
5 18]). In addition to their other shortcomings, the cheapest of the other alternatives
6 (putting all other detriments aside) would cost SRP customers an additional \$120 million
7 (Exhibit 86-2; [Exh. 19]).

8 Criteria 6. SRP's Mission - Assuring reliability and minimizing costs to consumers

9 SRP is a political subdivision of the State of Arizona. It does not have equity
10 owners and does not distribute profits. SRP's mission is to provide a source of low cost
11 and reliable power to its customers. SRP has been doing so since 1937.

12 On the reliability side, in addition to its general mission, SRP has a statutory
13 obligation to insure reliability of its system (Tr. at 497; [Exh. 12]) and to act as the
14 "provider of last resort" for its customers (Tr. at 497; [Exh. 12]). The Santan Expansion
15 Project is the only reasonable way that SRP can assure its customers that it will meet
16 this obligation.

17 SRP prides itself in delivering economically priced energy. SRP's costs become
18 its customers' costs. Within the bounds of sound management and sensitivity to
19 environmental concerns, SRP's mission is to continue to be a low cost provider. The
20 Santan Expansion Project most effectively meets this element of SRP's mission.

21 Based on the testimony of the analysis of these six planning criteria and the
22 incremental costs of the alternative sites, the evidence is undisputed that the Santan
23 Expansion Project is the best and only reasonable option. No other party offered another
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1 reasonable option, other than the general proposition that SRP should build the plant
2 somewhere else.

3 **III. The Expansion is Compatible With Existing Plans in the Vicinity**

4 The Local Intervenors also complained that expanding the current generating
5 facilities at Santan is not compatible with the land use plans in the area. Ignoring the fact
6 that the Santan Power Station has operated on the location since 1974, that each and
7 every Local Intervenor purchased a home in the area after 1995, and that the Santan
8 Expansion Project will only serve to enhance the compatibility of the existing site, the
9 Local Intervenors again raised the refrain to build elsewhere.

10 The evidence in the record is clear that the expansion of the existing site is
11 compatible with the plans of the Town of Gilbert. George Pettit, the Assistant Town
12 Manager of Gilbert stated: “[t]he fact that the plant existed at the time we annexed it in
13 1984. We brought it in with the knowledge it was a plant But along with that came
14 certain rights that regardless of what the zoning code of the year 2000 suggests ought to
15 happen, it’s difficult to go back and retroactively apply a lot of those standards. In fact it
16 is legally impossible” (Tr. at 2088-2089; [Exh. 20]). When asked whether the Santan
17 Expansion Project is compatible with the current general plan of the town, Mr. Pettit
18 stated “I believe so. That’s the purpose behind the M.E. [Multi-use Employment]
19 designation in the general plan” (Tr. at 2140; [Exh. 21]).

20 Witness Randall Palmer of The Environmental Planning Group (“EPG”), a
21 consulting group with extensive experience in land use planning, explained compliance
22 with the Town general plan in more detail: “[F]rom a future land use perspective, if you
23 look at the Gilbert General Plan, what it has been designated is called the multi-use
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1 employment (ME) area, which is an area which accommodates industrial use. For those
2 reasons, from purely a specific land use perspective, we would expect the impacts of
3 those resources to be minimal to low" (Tr. at 1463-1464; [Exh. 22]).

4 Garlyn Bergdale of EPG was specifically asked about compatibility of the Santan
5 Expansion Project with the Gilbert General Plan: "[Y]es . . . you must put it in context as
6 this power plant has been in there for a number of years and . . . the residents of Gilbert
7 moved in around this area and felt that it was a good place to live" (Tr. at 1602; [Exh.
8 23]). Mr. Bergdale went on to state that the current facility was compatible because of
9 existing screening. The conditions of the CEC require SRP to provide additional
10 screening and landscaping to make the expansion more a part of the neighborhood
11 similar to the existing facility. (*Id.*)

12 Even Town Councilman Mike Evans, who now opposes the Santan Expansion
13 Project, agreed that he could be "talked into" two of the three planned new units (Tr. at
14 2479; [Exh. 24]).

15 Additionally, on April 25, 2000, the Town of Gilbert and SRP entered into an
16 Intergovernmental Agreement ("IGA") (Exhibit H-1; [Exh. 25]). A major purpose of the
17 IGA was to provide for the construction of facilities to insure that the Santan Expansion
18 Project is consistent with the Town General Plan. (Tr. at 1484; [Exh. 26]) The IGA
19 provided in relevant part that SRP would, in connection with the Santan Expansion
20 Project:

- 21 • improve portions of Warner Road and Val Vista Road
- 22 • provide screening consistent with landscaping on Warner Road
- 23 • design and construct a trail system
- 24 • fund an offsite tree planting program
- relocate SRP's canal along Ray Road
- relocate the transmission training tower

1 **IV. The Mitigation Plans Were Developed by the Community Through a**
2 **Community Involvement Process**

3 Ignored in the objections of the Local Intervenors are the lengthy and substantial
4 efforts of SRP to work with the Community. Before the Santan Expansion Project
5 application was even filed, SRP engaged in a public process to work with the community,
6 to understand community concerns, and to develop measures to address community
7 concerns. This process involved the formation of a "Community Working Group"
8 ("CWG") consisting of representatives of the neighborhoods, of the Town, and of other
9 interested people and institutions in the area (and even including some of the Local
10 Intervenors). Through this community process a number of significant measures were
11 developed. Some of these were reflected in the IGA between SRP and Gilbert, and
12 many more were presented during the hearings as a part of SRP's proposed visual and
13 other mitigation measures. See, e.g., Exhibits 88, 89 and 90 [Exh. 27].

14 Working with the CWG, SRP engaged in a land use evaluation, far exceeding the
15 statutory requirements of A.R.S. § 40-360.03. Mr. Palmer described the planning
16 process as "quite a bit more robust in terms of looking at not only the issues that might
17 be directly related to the proposed project but also issues that came about through
18 discussions with either the [Community Working Group], the public, the agencies or other
19 entities" (Tr. at 1465-1466; [Exh. 28]).

20 The details of the outcome of the community efforts are reflected in many of the
21 thirty-four conditions approved by the Siting Committee. The details of the mitigation
22 plans will be further defined in subsequent community meetings, also as detailed in the
23 thirty-four conditions. In summary, the detailed outcome of the community process
24 included:

1 1. Extensive on-site visual mitigation plans, including careful attention to the
2 placement of facilities, the visual design of the facilities, the below grade placement of
3 facilities, the color of facilities, berms and screens of the facilities, and the very extensive
4 landscaping that is depicted in the various simulations. Exhibit Nos. 75-1 through 75-32;
5 [Exh. 29].

6 2. Extensive off-site visual mitigation. These will be further developed through
7 the upcoming public processes, but it is important to understand that these, in concert
8 with the on-site mitigation plans, will almost entirely shield the view of the plant facilities
9 from surrounding neighborhoods. This point is dramatically shown in the "shelter-belt"
10 exhibits, which are Exhibit Nos. 75-33 through 75-57; [Exh. 30].

11 3. Noise mitigation. Additionally SRP and the CWG responded to neighborhood
12 concerns about noise. Through a combination of technology, screening and lowering the
13 facilities, SRP has committed (as reflected in Condition 10) to meet noise standards
14 much more stringent than what would currently be required in the Town of Gilbert.

15 4. Community enhancements. As described above SRP has committed, as
16 reflected in the IGA and in the Conditions (7, 8 and 9) to construct significant community
17 enhancements including walking and equestrian trails, bridges, canal relocation and road
18 improvements.

19 5. Water Conservation. SRP committed to work with the Town to attempt to use
20 available effluent water as it becomes available. To supplement effluent, SRP agreed to
21 work with the Town on an arrangement to obtain excess water available to the Town, to
22 the ultimate benefit of the Town. As an alternative, SRP could also directly contract for
23 Central Arizona Project ("CAP") water.

24 **V. The Expansion Will Improve Air Quality in the Vicinity of the Santan
Expansion Project and Generally in the Valley**

 Another fallacy promoted by the Local Intervenors is that the Santan Expansion
Project will have a negative impact on air quality. But, this contention is simply not
supported by the evidence. Under rules of the Environmental Protection Agency and
Maricopa County, SRP will be required to improve the overall air quality after
construction of the Santan Expansion Project. The evidence presented at the hearings
demonstrates that total emissions from the plant site will decrease, that the effect of each
criteria pollutant on the local neighborhoods will be imperceptible, and that the Santan

1 Expansion Project poses no health risk. Simply put, the air quality in Maricopa County
2 will be better after the plant is constructed.

3 Dr. Libicki testified that the Santan Expansion Project would have no discernable impact
4 on air quality

5 Dr. Shari Libicki's credentials were not questioned. She is a principal with Environ
6 Corporation, a company that assesses the environmental impact of chemicals. She has
7 three degrees in chemical engineering: a Bachelor's from Michigan, and a Master's and
8 Doctorate from Stanford (Tr. at 637-638; Exh. 31). She has worked on air quality issues
9 in Maricopa County for the last 11 years (Tr. at 659; [Exh. 32]).

10 Dr. Libicki tackled the issue in two parts. First, she looked at the effect of the
11 expansion on the overall air quality, as required by the Clean Air Act. In describing the
12 effect of the Clean Air Act, Dr. Libicki testified that "Maricopa County is . . . non-
13 attainment for ozone, dust, carbon monoxide. Any new source of air pollution is required
14 to install the best control technology. It is required to offset pollution increases. . . . It
15 has to maintain the local air quality near the source" (Tr. at 640; [Exh. 33]). The offsets
16 required by the Clean Air Act preclude any increase in pollutants regulated under the Act.
17 In fact, for some of the pollutants, notably PM-10 and NOx, SRP will have to demonstrate
18 as part of the air permitting process, that it has improved overall air quality.

19 Second, Dr. Libicki examined the effect of the Santan Expansion Project on
20 specific neighborhoods surrounding the plant site, and even on specific locations as
21 identified by the Local Intervenors (e.g. their homes, school sites). In order to examine
22 the impact on the local area, Dr. Libicki developed air quality models for each pollutant to
23 simulate the concentration of emissions around the plant.

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1 The models assume the worst case scenario in terms of emissions from the plant.
2 For example, the models assume the expanded plant will operate at full capacity, which
3 is not technologically feasible (Tr. at 647; [Exh. 34]). Also, the models assume the worst
4 day in a five-year period based on meteorology and emissions for the plant. Finally, the
5 models do not include the effect of the off-site offsets that will be required under the
6 Clean Air Act.

7 The results of Dr. Libicki's studies are set forth in Exhibits 74-1 through 74-26;
8 [Exh. 35]. In short, Dr. Libicki concluded (based on the worst case scenario) that there
9 would be "no discernable impact" on the air quality in the local neighborhoods (Tr. at 674,
10 692; [Exh. 36]).

11 Even though the studies show that the expansion will not adversely impact local
12 air quality, and in fact will improve regional and local air quality, the Siting Committee
13 considered the air issues and imposed additional conditions. These include the
14 requirements to replace the existing Gilbert street sweepers (major PM10 producers)
15 with PM certified clean units (Condition 23), and to work with the Gilbert Unified School
16 District to provide cleaner school busses (a ground level source of pollution directly
17 effecting school children) (Condition 11).

18 Dr. Whipple compared the emission level to EPA Air Quality Standards and found the
19 expansion would not pose a health risk

20 Dr. Chris Whipple responded to the stated health concerns of the Local
21 Intervenors. Dr. Whipple has studied the health effects of power plants since 1974 (Tr.
22 at 1885; [Exh. 37]). He has taught courses on the subject at Stanford University and
23 worked on health studies with the Environmental Protection Agency, the Department of
24 Energy and the National Academy of Sciences (Tr. at 1886; [Exh. 38]).

1 Using the models developed by Dr. Libicki, Dr. Whipple further examined the
2 potential health effects of the expansion. Dr. Whipple explained that the EPA standards
3 were designed to protect the public with a margin of safety taking into account risks to
4 sensitive groups within the population such as the elderly and people with lung diseases
5 (Tr. at 1891; [Exh. 39]). Dr. Whipple concluded that for each type of pollutant, the level
6 of emissions from the plant was far below the standard applied by the EPA (Tr. at 1891-
7 1901; [Exh. 40]). In summary, Dr. Whipple testified that the Santan Expansion Project
8 would not pose a health risk to residents in the vicinity (Tr. at 1901; [Exh. 41]).

9 *Testimony of the Maricopa County Air Quality Division*

10 In addition to testimony from Drs. Libicki and Whipple, an official from the Air
11 Quality Division of Maricopa County, Steve Peplau, testified about air quality issues.
12 According to Mr. Peplau's testimony, under the Clean Air Act, the County has the
13 responsibility to permit and monitor compliance with air quality standards. The County
14 requires that SRP go through a complex and lengthy permitting process to demonstrate
15 that the plant will operate without contributing to air quality problems in the County. The
16 permitting process requires the use of technology that will achieve the lowest emission
17 rate (Tr. at 4139; [Exh. 42]). It also requires offsets (emission reductions) to ensure that
18 the plant does not increase emission levels (Tr. at 4140; [Exh. 43]).

19 Mr. Peplau also address the issue of ongoing compliance, pointing out that after
20 permitting the plant, the County will engage in monitoring to ensure compliance.
21 "Certainly if and when the permit issued, that only starts the kind of the journey on this"
22 (Tr. at 4148; Exh. 44). Compliance includes extensive testing of the emissions stack and
23 continuous emissions monitoring (Tr. at 4148; [Exh. 44]).
24

1 Mr. Peplau concluded with a statement about SRP's record of compliance:
2 "[T]hey have acted very responsibly and we certainly wouldn't anticipate them, you know,
3 operating in a noncompliant situation" (Tr. at 4153; [Exh. 45]).

4 No credible evidence controverted the testimony on health issues

5 The testimony of these expert witnesses was uncontroverted. The Local
6 Intervenors presented comment regarding health issues relating to air quality. But the
7 comment lacked foundation and was not credible.

8 For example, Dr. Christopher Labbon testified on the adverse health effects of
9 emissions from power plants. Dr. Labbon has no qualifications as an air quality expert or
10 as a toxicologist. The entirety of his testimony was based on his own personal
11 experiences and "studies" he had read (which were not entered into the record). When
12 questioned about his reasoning for objecting to Dr. Libicki's credentials to perform
13 specific studies relating to the Santan Expansion Project, he stated as his primary
14 objection that "[S]he does not live here, she doesn't have all the stats" (Tr. at 2843; [Exh.
15 46]).

16 Furthermore, it was obvious Dr. Labbon either had not reviewed or understood the
17 testimony of SRP's other expert. During cross-examination, Dr. Labbon was asked the
18 simple question, "[W]hat was the subject matter of Dr. Whipple's testimony?" In
19 response, he stated "SRP's expansion of the San Tan generating station" (Tr. at 2847;
20 [Exh. 47]). When asked if there was anything more specific that he could recall about the
21 testimony, he responded "[I] briefly reviewed the information. I didn't have any other
22 specifics" (Tr. at 2848; [Exh. 48]).

23

24

1 The Local Intervenors also entered written statements from four local physicians
2 into the record. None of these physicians were subject to cross-examination, and there
3 was no information presented about their background or expertise involving air emissions
4 and health effects of air emissions. Basically these letters only said that air emissions in
5 general pose a health risk.

6 **VI. Other Health and Safety Issues Raised During the Hearing**

7 In addition to air quality Local Intervenors also raised safety concerns, mainly
8 about the use of ammonia and the safety of gas pipelines used to supply the plant.
9 While the Local Intervenors were quite vocal about these issues, there is no factual basis
10 for their concerns.

11 *The use of aqueous ammonia poses no safety risk*

12 On the issue of ammonia, Mr. Dietrich testified "that ammonia would be used
13 associated with the selected catalytic reduction process in the new units. The type of
14 ammonia that we will be using is not hazardous material [because it is obtained and used
15 in a highly diluted form]" (Tr. at 1306-1307; [Exh. 49]). Mr. Dietrich also testified that
16 SRP "will take all necessary safety precautions for the storage and the use of that
17 chemical" (Tr. at 1171; [Exh. 50])

18 *The gas pipeline and the associated metering facilities pose no safety risk*

19 Also, there is nothing at all unusual or dangerous about the natural gas pipelines
20 serving the site. The existing Santan units are fueled through an El Paso Natural Gas
21 pipeline that enters the plant from Warner Road. The Santan Expansion Project fuel will
22 be delivered through a new El Paso Natural Gas pipeline. Neither facility poses a risk.
23 The pipeline is operated under strict federal standards. (See 49 U.S.C.A. 60101 et. seq.
24 and 49 CFR 190-199; [Exh. 51]). After the expansion the existing and new facilities will

1 continue to be operated to meet these standards (Tr. at 1100; [Exh. 52]). Furthermore,
2 the gas delivery systems are no different than the systems serving many parts of the
3 metropolitan area. Nonetheless, as an accommodation to the concerns of the Local
4 Intervenors, SRP has agreed to construct a wall around the metering facility to further
5 protect it from traffic (Condition 13).

6 **VII. The ACC Staff Supports the Application**

7 Local Intervenors argue that, in another proceeding before the Siting Committee
8 not related to Santan, a member of the ACC staff, Jerry Smith, testified that local
9 generation should not be built. This was an early statement of ACC Staff and does not
10 represent its current position. ACC Staff supports the application for the Santan
11 Expansion Project (Tr. at 3509; [Exh. 6]). In response to a question from the Siting
12 Committee about the need for local generation, Mr. Emerson was clear on the Staff's
13 support of the fact that more local generation is needed: "the best thing is to have your
14 generation as close to your load as possible" (Tr. at 3772; [Exh. 53]). Since local
15 generation is needed to improve the system, Mr. Emerson concluded "if you didn't
16 approve Santan, then what you would have is another location for internal generation in
17 the east valley somewhere. So SRP would then go back to the drawing board and look
18 for another location for the generation" (Tr. at 4377; [Exh. 54]).

19 **VIII. The Expansion Will Not Adversely Effect Property Values**

20 Ignoring the fact that each of them purchased a home near the existing Santan
21 power plant, the Local Intervenors also raise issues about property values. A.R.S. § 40-
22 360.06 describes the factors to be considered by the Siting Committee as a basis for its
23 action on a CEC application. Property values is not a statutory factor for consideration.
24

1 Nevertheless, the Siting Committee spent a significant amount of time taking testimony
2 and deliberating on this issue.

3 SRP introduced into the record two studies on residential property values in the
4 area around the plant, one by PricewaterhouseCoopers and the other by Kelly
5 Commercial Consultants.⁸ PricewaterhouseCoopers concluded, "there is currently no
6 indication that the marketability, pricing and/or market value of homes located in those
7 neighborhoods have been affected by the expansion plan. Moreover, we do not
8 currently see anything in the market to suggest that this is likely to change if and when
9 the Expansion Plan is implemented" (Exhibit 68; [Exh. 55]). Similarly, Kelly Commercial
10 concluded, "The existing Santan Generating Station has had no measurable impact on
11 the value or marketability of the residential homes. . . . Overall, I am unable to
12 definitively predict the effect of the Santan Expansion Project on nearby residential
13 property values. However, after taking into account the data outlined in this report, and
14 assuming there are no negative health effects, and assuming the proposed mitigation
15 and enhancement measures are completed, the evidence suggests that the effect of the
16 proposed Santan Expansion Project will be negligible" (Exhibit 61; [Exh. 56]).

17 Local Intervenors attack the reports as biased, but offer no specific information to
18 support these statements. Both reports were prepared pursuant to Uniform Standards of
19 Professional Appraisal Practice by professionals bound to meet the strict standards
20 governing their industry.

21
22
23 ⁸ Proposed Santan Generating Facility Expansion Evaluation of Potential Impact on Area Home Values,
24 PricewaterhouseCoopers and A Study of the existing Santan Generating Station (Gilbert, Arizona) on
Nearby Residential Property Values, Kelly Commercial Consultants, Inc., August 21, 2000.

1 Local Intervenors further argue about recent comments by the Maricopa County
2 Assessor. These comments were not part of the record before the Siting Committee and
3 therefore are outside the scope of the Commissions review⁹.

4 **IX. The Siting Committee Fully Considered and Debated Each Issue During**
5 **Deliberations, and Crafted Thirty-Four Conditions to Meet the Concerns of**
6 **the Local Intervenors**

7 The Local Intervenors finally argue that after 17 days of testimony members of the
8 Siting Committee failed to consider the evidence before rendering their judgment. This
9 statement is wildly untrue. The Siting Committee spent three days discussing the
10 testimony. During these three days the Siting Committee members addressed in detail
11 each of the issues, reviewed the evidence, discussed the issues among themselves, and
12 asked for clarification from the parties.

13 Also during that three-day period the Siting Committee members carefully
14 considered each factor identified in the statute, A.R.S. § 40-360.06, and compared those
15 to the proposed conditions of the CEC order (Tr. at 3747, 3977, 4132; [Exh. 57]). At
16 times the Siting Committee members even read portions of the statute out-loud (Tr. at
17 3753-3755, 4187-4188, 4358, 4380; [Exh. 58]). Through the three days of deliberations
18 the Siting Committee members developed thirty-four conditions. Many of these
19 conditions have been discussed above, and most were expressly directed to concerns
20 raised by Local Intervenors. For example, Condition 18 requires SRP to operate the
21 plant consistent with its obligation to serve retail load (addressing the concern that the
22 plant output would be sold to California). Condition 20 requires SRP to consider

23 ⁹ SRP is prepared to rebut the comments of the County Assessor and introduce updated reports by
24 PricewaterhouseCoopers and Kelly Commercial Consultants refuting these claims, should the Commission
determine that it is appropriate to go beyond the record on this issue.

1 available technologies to reduce the size of the steam plume created by the plant
2 (addressing the concern about vapor clouds on certain days). Condition 21 prohibits
3 SRP from constructing additional extra high voltage transmission lines into or out of the
4 Santan site (to assure the residents that additional major facilities would not be built in
5 the area). Condition 14 requires SRP to use water at the plant in a manner acceptable to
6 the Department of Water Resources including a commitment to use surface water, CAP
7 water or effluent water for cooling and power plant purposes. And, Condition 29 requires
8 SRP to work with the Town and the Community Working Group to maximize the positive
9 effects of its actions to improve home values in the area.

10 In all the members of the Siting Committee, in a manner previously
11 unprecedented, considered each of the concerns expressed during the seventeen days
12 of hearing and imposed substantial conditions to address many if not most of the
13 concerns of all parties.

14 **X. The Issue of Public Support for the Santan Expansion Project**

15 Finally, rightly or wrongly, considerable time was spent during the hearings, and
16 many documents have been placed in the case docket, relative to public attitudes toward
17 the Santan Expansion Project. All parties participated in the effort to bring this
18 information before the Siting Committee. Applicant has argued that Siting Committee
19 and Commission decisions should be based on the environmental and other facts
20 produced during the hearing, and that power plant siting should not be reduced to a
21 popularity contest. Nonetheless, as the Commission may be interested in the
22 overwhelming statewide support for the Santan Expansion Project, we attach as
23 Attachment One a summary of some of the third party statements that appear in the
24 record.

ATTACHMENT ONE

- Dr. Albert L. McHenry, Dean of College of Technology and Applied Sciences, ASU East states: *"[I]t is apparent that additional generating recourses will be needed within the next two to four years to meet our region's continuing population growth. Nowhere is this need more apparent than in the East Valley, where growth is continuing at rates exceeding 10 percent per year. ...The plant would provide an environmentally acceptable and economically efficient means to power the grid, while more advanced technologies are being developed."* (Exhibit 25)
- W. David Thompson, President and CEO of Spectrum Astro, one of the major employers in the Town of Gilbert, states: *"SRP's plans for building a natural-gas fired facility at its existing Santan site would appear to utilize the best available environmental technology to meet the energy needs of local businesses and residents. ... [w]e believe it is critical that SRP continues to build capacity to meet the growth needs in the East Valley."* (Exhibit 21)
- Scott Morrison, Chair Gilbert Town Economic Development Advisory Committee states: *"IN 113 degree weather last month, SRP issued a plea for voluntary energy conservation as demands on its power system broke all-time records, pushing the utility's electric system close to physical limits. Do we really need to suffer chronic power outages to prove wrong a small group of Gilbert residents who want to stop SRP from building a critically needed new power plant...?"* (Exhibit 18)
- The East Valley Partnership states: *"A review of the proposal, the facts and the alternatives leads us to believe that this is the best solution for the region. SRP's proposal to add a generating station at its Santan site will serve all of us well in many ways. First, the additional generation for our community will preserve our ability to acquire low-cost reliable power from SRP. Second, a guaranteed electricity supply will support our community's efforts to build our economic base by assuring businesses that power is available and affordable. Third, the plant will provide a boost to Gilbert's tax base and public school revenues."* (Exhibit 15)
- Vulcan Materials Company states : *"Without these resources [Kyrene and Santan], it is clear that electric demands will soon exceed supplies, putting large segments of SRP's customer base at risk of outages, economic losses and potential volatility in the future price of electricity."* (Exhibit 23)
- Michael O. Leonard, General Manager of the Roosevelt Water Conversation District states: *"Since the Committee began its hearings on the Santan Project in*

Mid-October, evidence presented by SRP and others has made clear two pertinent parts: the east Valley will be facing electricity shortages without the Santan expansion, and environmental impacts of expanding the Santan facility are de minimus and can be completely offset through a variety of technical and aesthetic mitigation measures. . . .Further, I live within 1 ½ miles of the Santan plant and I have talked to a number of friends and landowners about the expansion of the Santan plant. Through such conversations, I have repeatedly heard my friends and neighbors, all of whom live in the area surrounding the Santan plant, voice strong support and approval for the Santan Expansion Project.” (Letter docketed December 5, 2000)

- *Larry Chesley, a resident of Gilbert and former State Senator states: “Are there other options for SRP? Of course there are. Are they viable? Not if we want electricity in the next 4 or 5 years. (Letter docketed October 24, 2000)*
- *Craig M. Berger, President of Berge Ford, states: “The proposed Santan Expansion Project appears to offer the best means to fill a growing gap in power demand and supply, with the least environment impact. It also appears that SRP has engaged in a thorough public process to develop a publicly acceptable plan for its project.” (Letter docketed September 8, 2000)*
- *David K. Udall states: SRP’s proposals for Santan seem reasonable and responsible to me. The growth of our Valley dictates the challenging need for more power. As a community, we must all share in these infrastructure challenges. The Salt River Project has been part of Arizona’s history for almost as long as my family. They have a long and solid record of doing what’s needed for the benefit of the whole community. (Letter docketed September 6, 2000)*
- *Paul R. Tullis, Vice President, Worldwide Facilities of Cerprobe, a major employer in the Town of Gilbert states: “We are convinced that additional generating capacity will be needed soon to meet the east Valley’s continued growth. Speedy construction of an 825-megawatt gas-fired combined cycle plant at the Santan will provide an economically practical and environmentally compatible means of meeting the region’s mounting electricity demands. While having a reliable supply of affordably priced electricity is important to Cerprobe, we recognize that ensured electric supply also is important to our employees, their families and the overall economy of the East Valley. (Letter docketed September 1, 2000)*
- *Raymond Nunez, President International Brotherhood of Electric Workers states: to the best of my knowledge, the Siting Committee has heard or approved application for constructing nearly a dozen gas-fired plants in Arizona over the past year. Most of these plants were approved as merchant plants. In other words, the facilities were approved by the Committee wit the clear understanding that the new power being generated will be sold out of state and to the highest possible profit to those plant owners. ...the Santan project will be built to serve*

the energy needs of our local communities and the resources will be used locally. The environmental protections will be extensive. (Tr. at 3596)

- *Tony Hyland, Chairman of the Board of the Gilbert Chamber of Commerce states: These hearings have shown that Gilbert and the east valley will face power shortages over the coming years unless additional electric resources are approved and built. And as I see it, the SRP has the options of, number one, adding 825 megawatts of new generating capacity at its 28-year-old Santan facility, or number two, developing significant new transmission corridors to serve the east valley's explosive growth, then endeavoring to purchase power off the southwestern grid, bidding against California's high end markets. This alternative would obviously result in increased local power costs. From an environmental and quality of life standpoint, its clearly better to allow SRP to build clean, natural gas-burning generators at an existing plant site than to struggle with the alternative of building new transmission lines...The Santan project can be buffered with landscaping, aesthetically screened, and designed in such a way to reduce air emissions from the plant site. Noise levels will be minimal to meet the strictest codes of other valley cities. Purchased surface water will be used to cool this plant, leaving Gilbert groundwater resources unaffected. As one who owns a home in the area, and that's really in the area, I'm very close to it, I have no fears my property values or those around me will suffer any decline. Not the least...It will serve as a more efficient method to ensure an unimpeded source of power close to our businesses and residential people who live there in our community. (Tr. at 3587-3589)*
- *Bob Jarman, a resident of Gilbert states: I've lived there now for the last 15 years. I have no problem with a power plant being there. I have neighbors that have no problem with this. (Tr. at 3614) I'm a World War II veteran and I know what it is to be without electricity. (Tr. at 3615) We have a son who has asthma. He lives in that area to the east of the power plant. It doesn't seem to bother him. (Tr. at 3616)*
- *Mr. And Mrs. Frederick Bermudez, residents of Gilbert state: We only have to look as far as California to see the results of a shortage of electricity. California, too, delayed in building power plants and today is paying the price for it. The need for additional generation in Arizona – specifically in the East Valley – is immediate. While there are alternatives to building generating, those alternatives will mean several years' delay in getting an adequate power supply to the East Valley....Expanding and improving an existing plant to make it more efficient – and more importantly cleaner – is the best answer to addressing power needs in the East Valley. (Letter docketed December 6, 2000)*
- *Tribune Newspapers editorial states: [I]t's opponents who blow smoke...the big transmission lines that would have to be strung across the East Valley if new generating facilities are built outside the metro area are even uglier and affect more neighborhoods. (Exhibit 18)*

- The Arizona Republic (June 10, 2000) editorial states: *Something is going to happen in Gilbert. The SRP's reasonable projection for future demands for electricity make it obvious something needs to happen in Gilbert.* (Exhibit J-2)
- The Tribune (May 23, 2000) editorial states: *Gilbert residents trying to stop Salt River Project from building a clean, natural-gas-fired power plant that would ensure a reliable electricity supply as the town grows should reconsider. They could end up with something much worse. Like power outages. Or those big, ugly electric transmission lines....the San Tan plant in Gilbert would be about as clean as power plants can be – fueled by natural gas and utilizing the very latest and most efficient technology.... Not everyone wants a Wal-Mart or power plant in their neighborhood; but we all want inexpensive, reliable electricity in our homes and businesses.* (Exhibit J-2)
- Thayer Verschoor, a resident of Gilbert writes to The Arizona Republic: *After years of reliable service, perhaps we take for granted the benefits of a consistent and low-cost supply of electricity from SRP. I urge everyone in the East Valley to look at the big picture and support SRP's efforts to expand its Santan Generation Facility. We need it if we're going to have enough power for our homes, schools, businesses and industries.* (Exhibit J-2)
- Barbara Sheldon, a resident of Gilbert states in a June 6, 2000 editorial to the Tribune: *We were given extensive air quality data as well as information as to the strict requirements that have been established by the EPA. The standards for the year 2000 are more restrictive than those established in the 70's when the existing plant was constructed. The same is true of the noise standards....as well as the certainty of a continued reliable source of power and I feel we have a definite win/win proposition.* (Exhibit J-2)
- Cynthia Dunham, Mayor of Gilbert states: *As much as I wish that there was not a power plant in the middle of my community, the reality is it was there before I came, before I bought my house. I personally do not believe that I have the right to make them go away. I personally, and I know that there has been opinions expressed that are different from this, but I'm speaking as just me. I'm not concerned about the impact on property values. It's a power plant today, its going to be a power plant tomorrow. I think that SRP can do a good job in mitigation the visual impact of whatever facility they put in there, and I guess I could base that on the fact that they've done such a good job that so many people didn't know that this plant was there. I do understand the need for power, and as I meet on a regular basis with businesses that we're trying to bring in our community, one of the concerns that they have is inexpensive, reliable power.* (Tr. at 3667-3668)
- And 1829 Gilbert residents living within one and one half miles of the Santan site signed individual letters of support for the Santan Expansion Project. (Exhibit 29)

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BEFORE THE ARIZONA POWER PLANT AND
TRANSMISSION LINE SITING COMMITTEE

IN THE MATTER OF THE APPLICATION OF) CASE No. 105
SALT RIVER PROJECT AGRICULTURAL) DOCKET No.
IMPROVEMENT AND POWER DISTRICT IN) L-00000B-00-0105
CONFORMANCE WITH THE REQUIREMENTS OF)
ARIZONA REVISED STATUTES SECTIONS)
40-360.03 AND 40-360.06, FOR A)
CERTIFICATE OF ENVIRONMENTAL)
COMPATIBILITY AUTHORIZING THE)
EXPANSION OF ITS SANTAN GENERATING)
STATION, LOCATED AT THE INTERSECTION)
OF WARNER ROAD AND VAL VISTA DRIVE,)
GILBERT, ARIZONA, BY ADDING 825)
MEGAWATTS OF NEW CAPACITY IN THE)
FORM OF THREE COMBINED CYCLE NATURAL)
GAS UNITS, AND ASSOCIATED INTRAPLANT)
TRANSMISSION LINES.)

At: Mesa, Arizona
Date: October 25, 2000
Filed:

REPORTER'S TRANSCRIPT OF PROCEEDINGS
VOLUME II
(Pages 266 through 519)

ARIZONA REPORTING SERVICE, INC.
Court Reporting
Suite Three
2627 North Third Street
Phoenix, Arizona 85004-1103

Prepared for: By: CAROLYN T. SULLIVAN, RPR
CCR No. 50528

1 generation integration, congestion management, market
2 pricing, generation project financing, and regulatory
3 issues. I also, in doing that, I assist utilities and
4 developers in selecting alternatives that best meet
5 the transmission needs of the projects. In that
6 regard, I've been involved in at least 100 generation
7 integration plant studies in the last year.

8 Q. And what is the purpose of your testimony
9 today?

10 A. The purpose of my testimony today is twofold:

11 The first is dealing with reliability issues
12 in general.

13 The second is discussing load serving
14 limitations of the East Valley specifically. In that
15 regard, the East Valley limitations are based on a
16 study that R. W. Beck performed, an independent study.
17 That is, I believe, Exhibit 71 in the latest book.

18 The study was independent based on a couple
19 different factors. The first were that R. W. Beck
20 independently defined the scope and the approach to be
21 used. We also did the study at our own direction
22 using data that we gathered from SRP.

23 The results of the study that I'll talk about
24 in my testimony also show two things:

25 The first is that the current East Valley

1 peak load right now exceeds the load serving
2 capability -- I mean, the import capability of the
3 East Valley. That means that local generation in the
4 East Valley has to be run today.

5 The second issue that I'll be addressing is
6 that a new resource is needed, and it's needed before
7 too long.

8 Q. And the study that you've referenced is
9 marked as Exhibit 71?

10 A. Yes, it is.

11 Q. Would you describe in general terms power
12 system reliability issues as related to your
13 testimony.

14 A. Yes. In regards to my testimony, there's a
15 lot of issues regarding reliability. But in regards
16 to what I'm testifying on that is resource issues,
17 there's five key points that I would like to bring
18 out.

19 The first is that you need an adequate amount
20 of generation and transmission to reliably serve
21 loads. You can't have one without the other. They go
22 hand in hand.

23 The second point is that metropolitan areas,
24 such as Phoenix, the whole Phoenix region is
25 metropolitan area, and it's generally generation

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1 variables. And like we talked about, you have the
2 import limit, which we put as this whole bottom part
3 of the graph. That's the East Valley import.

4 The next level would be the generation that
5 we've -- it's actually the next three levels, the
6 generation that exists or is already approved for the
7 East Valley. We just gathered it by hydro and gas.
8 There's no reason that they're in that stacking order,
9 but they're separated for that reason mostly because
10 gas and oil, as long as it's not out for maintenance,
11 is available when you want to use it. Hydro, you
12 don't know. Depending on the weather and how much
13 rain there's been, you can't call on hydropower to be
14 at its maximum capability all the time. We have
15 plotted it by what its maximum capability would be,
16 which, as I said, is not available all the time. It's
17 almost impossible to have all your generation
18 available at any point in time. We've also added in
19 the 250 on top for Kyrene.

20 I'll just break down a little bit on what it
21 shows here besides the components that are going up
22 the graph. On the left scale here, we have the load
23 level for -- that can be served in the East Valley.
24 The starting point of the actual load starts here
25 about the 2,800 megawatt load level that I referred to

1 before. And then from that, we escalate it due to
2 load growth. And we escalated it at three different
3 load rates, 2 1/2 percent, 3.8, and 4.4, which are
4 tied -- the higher ones are tied actually to the
5 historical load growth in the East Valley. The 2 1/2
6 is a more conservative number, which across the
7 country is a reasonable average.

8 The top line is the load serving capability.
9 When you mesh all of these things together, if you
10 assumed all the generation was available all the time,
11 that would be the load serving capability with the
12 imports.

13 If you follow that along -- and there's a
14 couple other things I'll point out in a second. But
15 if you followed it along, basically you get at a
16 higher load growth scenario, by 2005, you exceed the
17 load growth capability of the East Valley. And that's
18 an optimistic picture because it's assuming that all
19 generation is available, and it also does not assume
20 that reserve margins are there, which is amount of
21 generation that you hold back on your system to handle
22 emergency situations, and we have not included those
23 in the graph, either.

24 So as you go along -- I'll show you a couple
25 things. The import capability starts about 2,500, and

1 BEFORE THE POWER PLANT AND TRANSMISSION

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4 IN THE MATTER OF THE APPLICATION OF)
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 8 REVISED STATUTES 40-360.03 AND)
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 12 NATURAL GAS-FIRED, COMBINED CYCLE)
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 16 ARIZONA LOCATED NEAR AND SOUTHEAST)
 17 OF THE INTERSECTION OF VAL VISTA)
 18 DRIVE AND WARNER ROAD.)
 19)

12

13

At: Mesa, Arizona

14

Date: September 14, 2000

15

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REPORTER'S TRANSCRIPT OF PROCEEDINGS

18

VOLUME I
(Pages 1 through 265)

19

20

ARIZONA REPORTING SERVICE, INC.
Court Reporting
Suite Three
2627 North Third Street
Phoenix, Arizona 85004-1103

21

22

23

Prepared for: By: CECELIA BROOKMAN, RPR
CCR No. 50154

24

25

1 in-service date between 2004, 2005. If load growth
2 falls below our current projections, we might phase in
3 the third unit at a later date.

4 These three units are in a central part of
5 SRP's planning to meet future load growth and to
6 maintain electric system reliability. I am sure that
7 you have read over the past three or four months about
8 the reliability crisis that faces many parts of the
9 nation, and the price spikes that have occurred in the
10 San Diego area. This reliability crisis is prompted
11 in part by delays in building necessary
12 infrastructure. To support that, let me read you a
13 quote from a report that was prepared by the
14 California independent system operator and entitled
15 the report on California energy market issues and
16 performance dated May, June of 2000. And it reads,
17 "In summary, the major cause of high wholesale prices
18 this summer has been the absence of new investment in
19 generation and transmission to meet growth in demand
20 over the past decade."

21 In SRP's service territory we do not face the
22 same immediate crisis. This is because we have been
23 able to build infrastructure as we have needed. The
24 approval of the Kyrene expansion project, the planned
25 upgrade of the transmission system in the west valley,

1 and the upgrade of the APS transmission system into
2 Kyrene will help us to avert a crisis in the summers
3 of 2002 and 2003. However, these are just short-term
4 solutions, and we cannot continue to rely on them
5 solving our long-range problems. We cannot continue
6 to add capacity in dribs and drabs or bits and pieces.
7 We must have a long-range plan, and it takes a long
8 time for transmission or generation facility to be
9 planned and constructed and placed in operation.
10 That's at least four to five years, and we believe the
11 Santan project is a good alternative to that plan.

12 It is much more cost effective and less
13 intrusive to think in terms of projects designed to
14 meet this long-term growth rather than wait for the
15 short-term crisis to hit us and then have to react
16 accordingly. As we mentioned in the Kyrene hearing,
17 the Santan expansion project is the cornerstone of our
18 resources planning. This resource will give us great
19 flexibility to meet future needs, it will
20 significantly increase the reliability of the valley,
21 it will be minimally intrusive on property owners and
22 residents, and it will be the most cost effective
23 approach to meeting our growing needs.

24 Q. Mr. Areghini, would you please describe the
25 Santan site.

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BEFORE THE ARIZONA POWER PLANT AND
TRANSMISSION LINE SITING COMMITTEE

IN THE MATTER OF THE APPLICATION OF) CASE No. 105
SALT RIVER PROJECT AGRICULTURAL) DOCKET No.
IMPROVEMENT AND POWER DISTRICT IN) L-00000B-00-0105
CONFORMANCE WITH THE REQUIREMENTS OF)
ARIZONA REVISED STATUTES SECTIONS)
40-360.03 AND 40-360.06, FOR A)
CERTIFICATE OF ENVIRONMENTAL)
COMPATIBILITY AUTHORIZING THE)
EXPANSION OF ITS SANTAN GENERATING)
STATION, LOCATED AT THE INTERSECTION)
OF WARNER ROAD AND VAL VISTA DRIVE,)
GILBERT, ARIZONA, BY ADDING 825)
MEGAWATTS OF NEW CAPACITY IN THE)
FORM OF THREE COMBINED CYCLE NATURAL)
GAS UNITS, AND ASSOCIATED INTRAPLANT)
TRANSMISSION LINES.)

At: Mesa, Arizona

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REPORTER'S TRANSCRIPT OF PROCEEDINGS

VOLUME II
(Pages 266 through 519)

ARIZONA REPORTING SERVICE, INC.
Court Reporting
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Prepared for: By: CAROLYN T. SULLIVAN, RPR
CCR No. 50528

1 A. Our current projection over the next five
2 years is a load growth of about 3.7 percent, with the
3 majority of that growth occurring in the East Valley.

4 As you have heard from Jennifer Tripp, the
5 load serving capability for the East Valley will limit
6 out at around 2004, 2005, although I do need to point
7 out that that chart did not include a projection for
8 reserves for the East Valley, something that I believe
9 that she said, but it's important to underscore. That
10 basically can be said for the entire Valley. We are
11 roughly at parity now between loads and resources.

12 Thus, the basic outline of our resource plan
13 is to develop incremental resources in the Valley in
14 order to meet load, enhance reliability, and relieve
15 pressure on the transmission system, to make
16 incremental transmission investments in order to
17 increase import capability into the Valley, to seek
18 additional purchases from outside of the Valley, using
19 that import capability and longer term to seek to
20 develop and own incremental capacity outside the load
21 center.

22 We believe that this plan best satisfies the
23 criteria that I mentioned earlier and that the Santan
24 Expansion Project is both the single most critical
25 element thereof and superior to any other

1 certain what the Staff position is on this specific
2 application. Does Staff support it or oppose it?

3 A. We support this proposal.

4 Q. You support it at the entire amount of
5 megawatts that's proposed of the three units?

6 A. Yes.

7 Q. Did you have any position on the mitigation
8 measures that have been discussed?

9 A. The visual ones, mainly, I think that they
10 will help the visual hiding of it.

11 Q. Just to follow up a little bit on one or two
12 of Mr. McWhirter's questions, and it was a question I
13 asked earlier on either of, I think Mr. Dietrich or
14 perhaps Mr. Areghini, that it has to do with the
15 voltage support.

16 Maybe you could explain to me a little bit
17 what the relationship between transmission and local
18 generation in terms of voltage support is, and really
19 kind of going to the fundamental question, which is
20 what will be the effect of siting one unit or two
21 units or three units on the entire system?

22 A. The more -- say you take one, two or three
23 units, which they're looking at. For each unit, say
24 250 megawatts, you have that much more megavars
25 support there, then that means you can import more

1 argument, we're going to take and let's just build
2 another big plant up in the Four Corners or someplace
3 out in the desert, and then we'll just pipe that power
4 in?

5 MR. EMERSON: What the problem there is, even
6 at a certain point you've got to have, because these
7 lines, when you build them, they -- it's the voltage
8 that pushes the power in, okay? And without that
9 voltage at the far end, where you're using it, then
10 you don't get the power in. There's a lot of things
11 you can try to do to get the power in, like instead of
12 power plants, you use megavars, but they don't react
13 dynamically as changes in the system, and so what
14 happens by using these other methods, your system
15 becomes less reliable, and you don't have the
16 flexibility to operate your system.

17 MEMBER TOBIN: What is the current status of
18 the Central Arizona Transmission Study?

19 MR. EMERSON: The current status is they
20 originally were going to have results near the end of
21 February, and it's close to the end of March now.

22 MEMBER TOBIN: Is a preliminary -- I'm sorry,
23 maybe I took a little mind vacation there. Is the
24 preliminary report or draft report going to be out, or
25 how is this going to work?

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 17 OF THE INTERSECTION OF VAL VISTA)
 18 DRIVE AND WARNER ROAD.)

L-00000B-00-0105
CASE NO. 105

12

13 At: Mesa, Arizona

14 Date: December 5, 2000

15 Filed:

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VOLUME XIII
(Pages 2782 through 3067)

19

20

ARIZONA REPORTING SERVICE, INC.
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21

22

23

Prepared for: By: JANICE SCHUTZMAN, RPR, RMR
CCR No. 50353

24

SITING COMMITTEE

25

1 roll into the inescapable conclusion that we need
2 additional local generation and San Tan is the best
3 place to put it.

4 I guess I need some guidance as to
5 exactly what it is you want and I will get it here
6 for you.

7 MEMBER OLEA: There is two points you
8 brought up. One is the need for the local
9 generation. And this is only one member's point of
10 view, but at least in my opinion the need to prove
11 that we need local generation to me does not need
12 to be done to me.

13 That has been done in front of this
14 committee, that has been done in front of the
15 Commission, we've had several workshops on that,
16 we've had Staff provide testimony, we've had all of
17 the utilities provide testimony. So, you know, at
18 least in my opinion there is not a need to show
19 that you need the local generation.

20 Now where you put it, that's the
21 question. And to me there has been testimony by
22 several SRP witnesses that they have looked at
23 alternatives. And based on those alternatives,
24 this is the best place to go.

25 And at least in my mind the testimony

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19)

20 At: Mesa, Arizona
21 Date: December 12, 2000
22 Filed:

23 REPORTER'S TRANSCRIPT OF PROCEEDINGS

24 VOLUME XVII
25 (Pages 3582 through 3746)

26 ARIZONA REPORTING SERVICE, INC.
27 Court Reporting
28 Suite Three
29 2627 North Third Street
30 Phoenix, Arizona 85004-1103

31 Prepared for: By: CECELIA BROOKMAN, RPR
32 CCR No. 50154
33 SITING COMMITTEE

1 the people who came here today to speak to you. Help
2 us help SRP do the responsible thing. Build their
3 plant away from highly populated areas. It will be a
4 win/win we all can live with.

5 Thank you again for giving me this
6 opportunity to be heard.

7 CHMN. BULLIS: Mr. Apergis.

8 MR. APERGIS: Mr. Chairman, members of the
9 Line Siting Committee. When these hearings started, I
10 didn't quite know what to expect, but I quickly
11 realize this, that as intervenors, we were basically
12 outgunned in this type of an arena. We didn't have
13 experts, we didn't have 20-year SRP veterans to speak
14 on our behalf. We were just a handful of people with
15 common sense that basically wished to express their
16 arguments about their opposition to this plant.

17 Please understand that as intervenors, I
18 think I speak for most of them when I make this
19 statement, we're not ignorant to the fact that
20 sometime in the future there will be a need for peak
21 power in the east valley, especially since we're a
22 part of these proceedings.

23 That is not the primary issue, though, as I
24 understand it. As I see it, if you gentlemen, for
25 whatever reasons you may have, are not satisfied that

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21 Court Reporting
22 Suite Three
23 2627 North Third Street
24 Phoenix, Arizona 85004-1103
25 Prepared for: By: CECELIA BROOKMAN, RPR
 CCR No. 50154

1 these various sites. Alternatives come and go, but
2 these are the ones that we felt were available to us
3 at that point in time.

4 We have -- we are still reticent to share
5 numbers related to anticipated profits or terms and
6 conditions or the developers might impose upon us and
7 pursue any given alternatives, so we basically have
8 presented numbers in this presentation, as you'll see
9 in a minute, that only relate to the cost differences
10 that we would anticipate would arise between this and
11 kind of a base case. We have not wanted to telegraph
12 our assessment of private developers' intentions to
13 the market for, I think, obvious reasons.

14 To reiterate, we use this basically as a
15 screening analysis to determine direction. These
16 numbers were prepared on that basis, and are
17 estimates. If you've got more serious about a
18 specific site, you clearly would develop much more
19 detailed numbers associated therewith. And I think
20 I'll refer to one such instance as I go through this
21 presentation.

22 So these are the sites. As you see, the
23 range between the local region 1 and 2, Santan,
24 Agua Fria, the Palo Verde region, Harquahala,
25 Gillespie, southern Arizona region, Mobile, Florence,

1 Saguaro, northwest Arizona region, Kingman and New
2 River, which is No. 9. We do think they're
3 representative of any of the alternatives to be
4 pursued in respect to their areas.

5 One of the factors we did look at was cost.
6 As I mentioned, I'll show you a little bit about our
7 cost comparison. Of those four regions, as you see,
8 we've got the alternatives arranged between northwest
9 Arizona, Palo Verde, southern Arizona, as well as the
10 local. On this chart is an example in each region of
11 the incremental costs that we assessed to that
12 particular alternative.

13 That may not be the only alternative in that
14 region. I'll explain what the differences are in that
15 area. But, for instance, in the northwest region you
16 see Kingman listed there. It was our assessment there
17 was about a \$40 million incremental cost for land,
18 water and gas. In the Kingman area transmission is
19 about \$95 million. Transmission is a substantial
20 driver amongst all of these alternatives,
21 environmental being negative 15, negative 15 meaning
22 that the costs of environmental mitigation outside of
23 the airshed is in fact lower than the cost of
24 environmental mitigation inside the airshed, the cost
25 of offsets, if you will. That really transfers into a

1 A. Our current projection over the next five
2 years is a load growth of about 3.7 percent, with the
3 majority of that growth occurring in the East Valley.

4 As you have heard from Jennifer Tripp, the
5 load serving capability for the East Valley will limit
6 out at around 2004, 2005, although I do need to point
7 out that that chart did not include a projection for
8 reserves for the East Valley, something that I believe
9 that she said, but it's important to underscore. That
10 basically can be said for the entire Valley. We are
11 roughly at parity now between loads and resources.

12 Thus, the basic outline of our resource plan
13 is to develop incremental resources in the Valley in
14 order to meet load, enhance reliability, and relieve
15 pressure on the transmission system, to make
16 incremental transmission investments in order to
17 increase import capability into the Valley, to seek
18 additional purchases from outside of the Valley, using
19 that import capability and longer term to seek to
20 develop and own incremental capacity outside the load
21 center.

22 We believe that this plan best satisfies the
23 criteria that I mentioned earlier and that the Santan
24 Expansion Project is both the single most critical
25 element thereof and superior to any other

1 alternatives.

2 Q. Mr. Bonsall, did you do a specific study of
3 alternatives to Santan?

4 A. Not per se. As I mentioned, our planning
5 process is ongoing, and periodically, we would compile
6 comparisons of alternatives. They were all similar in
7 nature, comparing local generation options to merchant
8 plant proposals to greenfield sites. On the basis of
9 the criteria that I mentioned, we have consistently
10 considered local generation options to be superior to
11 the others.

12 Q. Mr. Bonsall, can you elaborate on these
13 planning criteria as they apply to the Santan
14 Expansion Project.

15 A. Let me go through them one by one.

16 First, timing. Timing is tight. The timing
17 is tight regionally as well as nationally. Arizona is
18 not an electrical island, so it is affected by these
19 regional and national conditions. Load growth
20 continues. Our actual load growth over the last ten
21 years has been over 5 percent. In fact, in a recent
22 article on October 20th in The Tribune, the East
23 Valley cities were noted for their phenomenal growth,
24 with Gilbert topping the list, Fountain Hills
25 following up, and Chandler right behind them.

1 SRP, along with the Department of Economic
2 Security, ASU, U of A, and the Blue Chip Forecast,
3 expects growth to moderate somewhat, with our own
4 forecast being at 3.7 percent. It clearly does not
5 appear that growth will evaporate. Even if growth
6 initiatives pass, it's more likely than not that
7 growth will accelerate into our service regions, not
8 decelerate.

9 SRP, as the distribution provider and
10 provider of last resort, has a legal as well as an
11 ethical obligation to take all reasonable steps to be
12 sure that our customers have a reliable and low cost
13 supply of electricity when it is needed.

14 Santan is ideal from another perspective.
15 SRP already owns the site. It has access to water,
16 water disposal and some natural gas. It needs no new
17 transmission to get the energy there for it could be
18 there already. It would have to be distributed from
19 there, that's true, but to get that amount of capacity
20 to that point in the East Valley would require no new
21 incremental transmission.

22 We're planning Santan for the summer of 2005.
23 It's possible that we could need a portion of it for
24 the summer of 2004. We can meet this time frame. We
25 don't believe any other alternatives could do this.

1 From a timing perspective, Santan is far better than
2 any alternative.

3 Second, reliability. Local generation is
4 important for two reasons related to reliability:

5 First, it provides necessary voltage support.
6 Voltage support is essential to maintain power
7 quality. As power travels over distances, voltage
8 drops. A load center this size cannot exclusively
9 depend on remote resources. And we have not added
10 local generation in a long time. The system needs
11 additional voltage support. Santan will provide much-
12 needed local voltage support to both our 69 and 230kV
13 systems, and no other option meets this essential need
14 as effectively as new generation at Santan.

15 Second, since the substantial majority of
16 outages result from outages on the transmission or
17 distribution system, local generation will increase
18 system reliability because precisely of its proximity
19 to load. Local generation acts as a surrogate or
20 replacement for transmission in effect in providing a
21 backstop to whatever interruption may occur.

22 Third, certain environmental factors. And I
23 clearly will not address all of them. We have a
24 witness coming up to speak to other issues. But as to
25 transmission, Santan is unique in that it can add

1 significant capacity to the system without building
2 new transmission because the supply would be at the
3 load center already. Other alternatives would have to
4 get it there. Other alternatives thus would require
5 significant new transmission at the 500kV and/or 230kV
6 levels.

7 By necessity, this new transmission must be
8 through existing neighborhoods and areas planned for
9 new residential development. In his testimony,
10 Mr. Areghini discussed a possible alternative with two
11 500kV lines and three or four 230kV lines, involving
12 more than some 600 new transmission structures. While
13 this is only one alternative, all alternatives other
14 than Santan would require significant amounts of new
15 local transmission. The impact to homeowners on any
16 of these transmission alternatives is, in our
17 experience with our customers, greater than the impact
18 of the facility in Santan. We conclude on the basis
19 of this consideration that Santan is the preferred
20 environmental alternative regarding the transmission.

21 Fourth, risk parameters. There are three
22 elements of risk that this proposal effectively
23 addresses:

24 First, this proposal increases assurance of
25 adequate resources. An advantage of SRP building at

1 Santan is that it provides assurance that the resource
2 will be built when, as well as where, it is needed.
3 There are many merchant plants proposed. They all
4 have transmission challenges getting to the load
5 center. Some are being built, some will be. Others
6 will remain proposals. Some will look to serve this
7 market. Others will look elsewhere. We maintain
8 communication with these developers in pursuit of
9 reasonable transactions for our customers. There is
10 some capability here, and we continue to pursue it.
11 However, we believe that Santan will absolutely be
12 necessary to assure sufficient resources to serve the
13 load in the Valley in any case.

14 Secondly, the addition of local SRP-owned
15 gas-fired resources provides an attractive and a
16 desirable addition to the portfolio of resources that
17 SRP uses to meet customer need. Although gas-fired
18 resources today are a relatively small portion of
19 SRP's current portfolio, adding additional gas-fired
20 resources will help balance SRP's portfolio for
21 meeting customers' needs.

22 Lastly, both the Kyrene and the Santan
23 projects provide our customers with a critically
24 important layer of price risk management. During
25 tight market conditions, market prices become

1 decoupled from underlying costs as a result of supply
2 shortages. This is particularly the case during
3 periods of transmission congestion or outage. Prices
4 rise to whatever the market will bear. Such is the
5 condition today, and it appears that it's going to
6 stay that way for some time. It is this condition
7 that has led to enormous consumer unrest in
8 California. The Santan resource is strongly preferred
9 because it will help insulate SRP customers from these
10 kinds of price movements.

11 Fifth, cost. Clearly Santan is the preferred
12 option on cost grounds. It uses an existing site,
13 some existing common facilities. It does not require
14 incremental transmission and less investment in gas
15 supply than other alternatives. Being positioned
16 where it is as well has benefits associated with
17 voltage support and other reliability factors. Being
18 the type of resource that it is, highly efficient,
19 flexible, environmentally friendly combined cycle
20 natural gas technology, it can respond to changes in
21 load as well as produce energy effectively. All in
22 all, Santan is a cost-advantaged proposal.

23 This leads me to my last criteria, which is
24 congruence to mission. SRP is a public power entity
25 and a political subdivision of the state. As such, we

1 do not have equity investors. We don't have stock
2 options because we don't have stock. There is neither
3 a door through which institutional equity investors
4 may get enriched or a cushion of outside investment to
5 absorb losses. Cost savings directly benefit our
6 customers. Additional costs directly burden our
7 customers. Even our energy remarketing, our New West
8 Energy, is wholly owned by SRP, and any benefits
9 derived therefrom come back to the parent, SRP, and
10 thus, to its customers.

11 SRP exists in effect only for the purpose of
12 serving its customers as to power with low cost and
13 reliable energy. We are cost minimizers. We are not
14 profit maximizers. We have no desire to charge, for
15 instance, what the market will bear because the
16 beneficiaries of our operations are our customers
17 themselves.

18 This plant is being proposed, in fact, only
19 to serve our native load customers first and foremost,
20 Arizona consumers. It is beneficial to these
21 customers and it's beneficial to this market to have
22 SRP fulfill this mission, but we must have the tools
23 to do so.

24 We do not expect absolutely all of our
25 730,000 customers to concur. I think there's a few

1 here today that don't. But we do believe that on the
2 basis of timing, reliability, environmental
3 considerations, risk, including price risk management
4 and cost, this Santan proposal is clearly to the much
5 greater good and is the preferred course of action.

6 MR. SUNDLOF: I have no further questions.

7 Tender the witness for cross-examination.

8 CHMN. BULLIS: Thank you.

9 Mr. Heyman, how much cross do you have?

10 MR. HEYMAN: I can get us out of here by
11 5:00, if you'd like.

12 CHMN. BULLIS: I don't want to cut off your
13 cross-examination.

14 MR. HEYMAN: I just have a few minutes' worth
15 of cross-examination. Of course, it always depends
16 upon the answers and not the questions.

17

18 CROSS-EXAMINATION

19

20 Q. (BY MR. HEYMAN) Mr. Bonsall, one of the
21 things I wanted to talk to you about is this concept
22 that I visited with Ms. Tripp about providing safe,
23 reliable, and economic electricity. You mentioned it
24 a little bit toward the end of your testimony that
25 you're a public power entity and not a municipality.

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40-360.06 FOR A CERTIFICATE OF) L-00000B-00-0105
7 ENVIRONMENTAL COMPATIBILITY)
AUTHORIZING THE CONSTRUCTION OF) CASE NO. 105
8 NATURAL GAS-FIRED, COMBINED CYCLE)
GENERATING FACILITIES AND)
9 ASSOCIATED INTRAPLANT TRANSMISSION)
LINES, SWITCHYARD IN GILBERT,)
10 ARIZONA LOCATED NEAR AND SOUTHEAST)
OF THE INTERSECTION OF VAL VISTA)
11 DRIVE AND WARNER ROAD.)
)

12

13 At: Mesa, Arizona
14 Date: December 11, 2000
15 Filed:

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17 REPORTER'S TRANSCRIPT OF PROCEEDINGS

18 VOLUME XVI
19 (Pages 3432 through 3581)

20

20 ARIZONA REPORTING SERVICE, INC.
21 Court Reporting
 Suite Three
22 2627 North Third Street
 Phoenix, Arizona 85004-1103

23 By: CECELIA BROOKMAN, RPR
24 Prepared for: CCR No. 50154

24

25

1 MARK BONSALL,
2 recalled as a witness, having been previously duly
3 sworn by the Certified Court Reporter to speak the
4 truth and nothing but the truth, was examined and
5 testified as follows:

6

7 DIRECT EXAMINATION

8

9 Q. (BY MR. SUNDLOF) Mr. Bonsall, there's been
10 some questions raised by the Committee and other
11 participants here about the alternatives that SRP
12 looked at relative to both Kyrene and Santan as being
13 the preferred options, and there was a request by
14 Mr. Olea and others that you expand a little bit more
15 on what SRP has done to examine alternatives and what
16 the alternatives are. And could you go ahead and
17 answer that question through your testimony and the
18 several exhibits that we've passed out, Exhibit 86?

19 A. I will do so briefly. I did want to say to
20 the Committee that this morning when I thought I
21 perhaps might be back on the stand, after listening to
22 the Supreme Court deliberations, I was prepared to say
23 how humbled and honored I was to take on this
24 position, after listening to that. Assuming that
25 you're at this point, after seeing the movie Galaxy

1 Quest play on the screen, I am just not sure what to
2 say; the importance of my testimony.

3 There was one item that I wanted to respond
4 to, if I might. It occurred during the sequence of
5 the hearing that I thought I might clarify is not on
6 the alternatives specifically, but there was seemingly
7 a question that arose, frankly, about EPG's role in
8 Kyrene. And I wanted to clarify for the record that
9 EPG did not really do any duties whatsoever in the
10 conduct of the Kyrene or Santan proceeding. They were
11 engaged in and developed mitigation alternatives for
12 Kyrene, alternatives through the CWG process, which
13 they did.

14 Clearly, we used a landscape architect firm
15 that we use for other purposes when it got to the
16 point of detailed examination, and they are with us,
17 as a matter of fact, and we've engaged them in this
18 proceeding, so I just wanted to clarify that for the
19 record. That was not a question I think, but they're
20 just due to have that clarified.

21 Let me go ahead and address the alternatives,
22 if I might. I'm going to show you the sites that we
23 looked at prior to concluding basically, Kyrene and
24 Santan were the direction that we wanted to head. We
25 did conduct what I would call a screening analysis on

1 these various sites. Alternatives come and go, but
2 these are the ones that we felt were available to us
3 at that point in time.

4 We have -- we are still reticent to share
5 numbers related to anticipated profits or terms and
6 conditions or the developers might impose upon us and
7 pursue any given alternatives, so we basically have
8 presented numbers in this presentation, as you'll see
9 in a minute, that only relate to the cost differences
10 that we would anticipate would arise between this and
11 kind of a base case. We have not wanted to telegraph
12 our assessment of private developers' intentions to
13 the market for, I think, obvious reasons.

14 To reiterate, we use this basically as a
15 screening analysis to determine direction. These
16 numbers were prepared on that basis, and are
17 estimates. If you've got more serious about a
18 specific site, you clearly would develop much more
19 detailed numbers associated therewith. And I think
20 I'll refer to one such instance as I go through this
21 presentation.

22 So these are the sites. As you see, the
23 range between the local region 1 and 2, Santan,
24 Agua Fria, the Palo Verde region, Harquahala,
25 Gillespie, southern Arizona region, Mobile, Florence,

1 Saguaro, northwest Arizona region, Kingman and New
2 River, which is No. 9. We do think they're
3 representative of any of the alternatives to be
4 pursued in respect to their areas.

5 One of the factors we did look at was cost.
6 As I mentioned, I'll show you a little bit about our
7 cost comparison. Of those four regions, as you see,
8 we've got the alternatives arranged between northwest
9 Arizona, Palo Verde, southern Arizona, as well as the
10 local. On this chart is an example in each region of
11 the incremental costs that we assessed to that
12 particular alternative.

13 That may not be the only alternative in that
14 region. I'll explain what the differences are in that
15 area. But, for instance, in the northwest region you
16 see Kingman listed there. It was our assessment there
17 was about a \$40 million incremental cost for land,
18 water and gas. In the Kingman area transmission is
19 about \$95 million. Transmission is a substantial
20 driver amongst all of these alternatives,
21 environmental being negative 15, negative 15 meaning
22 that the costs of environmental mitigation outside of
23 the airshed is in fact lower than the cost of
24 environmental mitigation inside the airshed, the cost
25 of offsets, if you will. That really transfers into a

1 cost savings for any alternative outside the airshed.

2 We made an allowance for what we call
3 reliability being more distant. These resources will
4 be subject to greater risk of interruption and of
5 costs necessarily to cure those interruptions, and
6 that will vary a bit depending upon the nature of the
7 resource.

8 If you add those up, those cost differences
9 relative to the base case, the base case for all
10 intents and purposes being Kyrene, 40 plus 95 minus
11 the 15, plus the 40, amounted to about a \$160 million
12 difference for Kingman.

13 There was another alternative in that group
14 besides Kingman. That was New River, which was Option
15 No. 9. New River would be towards the higher end of
16 the range shown for the region, mainly because of the
17 expenses necessary to get gas to the New River region,
18 which is not there in sufficient supply as of right
19 now. There might be some transmission expense as well
20 associated with New River, but New River would be in
21 the upper end of that range.

22 Dropping to the Palo Verde region, you've got
23 Harquahala, you've also got Gillespie. They're
24 basically pretty much a push. Gillespie is a little
25 bit farther out so there might be some transmission

1 differential there, but we would anticipate again the
2 range differential between those two would be about
3 150 to \$175 million, based on the factors that are
4 shown there for the Palo Verde region.

5 If we could move over to the southern Arizona
6 region, again, you see the difference is about
7 \$150 million as a result of the factors that are
8 listed above for the Mobile option. Also included in
9 this region are Florence and Saguaro. We would
10 anticipate that Florence would be towards the upper
11 end of that region range because of gas considerations
12 getting gas into the Florence area. We would think
13 that Saguaro would be higher up in that range because
14 of greater relative transmission deficiencies that
15 would have to be overcome for the Saguaro site. But
16 those are the three sites in that region.

17 I'm going to rack up how we viewed these
18 things subsequently, but we also looked at
19 alternatives in the local area, Agua Fria in
20 particular, that's in the upper right-hand corner.
21 The biggest difference here is transmission, because
22 the system need, as I think you've heard in prior
23 testimony, is really in the southeast valley.
24 Frankly, getting capacity from the northwest of the
25 valley to the southeast valley without substantial

1 disturbance on the transmission system between those
2 two points would require some pretty substantial
3 incremental transmission investment, mainly on APS'
4 network. It is insufficient to handle. The ability
5 to transfer capacity from the northwest to the
6 southeast, Agua Fria itself as a local alternative was
7 not particularly attractive because we didn't feel the
8 transmission system was sufficient to handle the job
9 and supply the southeast valley.

10 As I indicated, we believe that these
11 estimates are very, very conservative, and as you'll
12 recall for one set of options, Palo Verde options,
13 Mr. Areghini gave you an estimate, a much more
14 definitive estimate what it would take from a
15 transmission perspective to make one of those options
16 viable, and he did show, as you'll recall, the region
17 that would need to be served with incremental
18 transmission, those options to be pursued as well as
19 the lines that he would feel would be incrementally
20 necessary to make that work.

21 And recall that those lines that he showed on
22 this chart amounted to something in the neighborhood
23 of an incremental \$200 million investment or
24 thereabouts. The point being, as you got closer to a
25 given alternative, more definitive engineering

1 estimates would be made. In fact, the likelihood, I
2 believe most of these cost estimates would go up, not
3 down.

4 Transmission has not only a substantial cost
5 impact, but obviously a substantial environmental
6 impact as well, so let me take you back to how we
7 basically racked up these alternatives.

8 For reasons that have been discussed pretty
9 extensively thus far in this proceeding, we really
10 believe that the Santan option is by far and away the
11 preference on the basis of the totality of these
12 factors, but as well individually. From a timing
13 perspective it is the one that is not dependent on
14 others, it is dependent on SRP, and it is not
15 dependent upon incremental transmission. All of these
16 Options 3 through 9 are dependent upon incremental
17 transmission investment and others, construction
18 activity.

19 In regard to reliability, Santan and
20 Agua Fria, both local options, assuming that you could
21 in fact, in a timely fashion, put in the transmission
22 necessary to make Agua Fria do the job, would have a
23 favorable impact overall in system reliability,
24 because they are, in fact, local options. They are
25 not outside the ring, they would be inside the ring

1 and both could suffice for reliability purposes.

2 The environmental column is really kind of a
3 composite view, in our opinion, of the elimination of
4 the need for a substantial amount of incremental
5 transmission, as we've articulated previously, as well
6 as local options do require the attainment of offsets.
7 We think that is in fact the right thing to do. We
8 don't consider the regulations that require offsets at
9 all to be a penalty, but rather to be an inducement,
10 frankly, to do the right thing, and we think that's an
11 environmental plus, to develop on a local basis.
12 Clearly, it's a plus on a cost basis. All the rest of
13 the alternatives are negative.

14 Compared thereto I spoke in my testimony to
15 price risk management. Santan is clearly a plus,
16 Agua Fria is a plus as well. All of the other
17 alternatives are either pluses or minuses, depending
18 upon who develops them and what their pricing
19 mentality is. If it is us, it's a plus, because as
20 I've testified before, we're not profit maximizers and
21 we're not interested in pricing what the market will
22 bear, but rather what our costs are. Others are not
23 of that mind, and it's not a criticism, that's what we
24 believe to be the most consumer friendly thing to do.

25 So in conclusion, I would remind the

1 Committee that this proposal is intended to serve the
2 retail consumers of SRP first and foremost. It is
3 different from other proposals that you may see. It's
4 not intended to serve the market. It is intended to
5 serve SRP retail customers, and in the way that SRP
6 traditionally does, again being cost minimizers and
7 not profit maximizers.

8 We have a statutory obligation, frankly, to
9 keep the lights on and to do it in the right way, and
10 hence the extensive, I think, mitigation elements to
11 this plan which you have seen, and our willingness to
12 pursue further, including those suggested by Member
13 Smith.

14 There was another article in the paper this
15 morning about -- The Wall Street Journal, about what
16 happens to systems that are not adequately provided
17 for. And you see that happening in spades in the
18 State of California today, and it continues on, and
19 it's going to get worse. We really don't want that to
20 happen to our customers, I know you don't either, for
21 it to happen in the State of Arizona.

22 We do believe this proposal is absolutely
23 critical to SRP attaining its mission to provide low
24 cost and quality power to our consumers, and that is
25 the conclusion that we reached, that the best thing

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BEFORE THE ARIZONA POWER PLANT AND
TRANSMISSION LINE SITING COMMITTEE

IN THE MATTER OF THE APPLICATION OF) CASE No. 105
SALT RIVER PROJECT AGRICULTURAL) DOCKET No.
IMPROVEMENT AND POWER DISTRICT IN) L-00000B-00-0105
CONFORMANCE WITH THE REQUIREMENTS OF)
ARIZONA REVISED STATUTES SECTIONS)
40-360.03 AND 40-360.06, FOR A)
CERTIFICATE OF ENVIRONMENTAL)
COMPATIBILITY AUTHORIZING THE)
EXPANSION OF ITS SANTAN GENERATING)
STATION, LOCATED AT THE INTERSECTION)
OF WARNER ROAD AND VAL VISTA DRIVE,)
GILBERT, ARIZONA, BY ADDING 825)
MEGAWATTS OF NEW CAPACITY IN THE)
FORM OF THREE COMBINED CYCLE NATURAL)
GAS UNITS, AND ASSOCIATED INTRAPLANT)
TRANSMISSION LINES.)

At: Mesa, Arizona

Date: October 25, 2000

Filed:

REPORTER'S TRANSCRIPT OF PROCEEDINGS

VOLUME II
(Pages 266 through 519)

ARIZONA REPORTING SERVICE, INC.
Court Reporting
Suite Three
2627 North Third Street
Phoenix, Arizona 85004-1103

Prepared for: By: CAROLYN T. SULLIVAN, RPR
CCR No. 50528

1 SRP, along with the Department of Economic
2 Security, ASU, U of A, and the Blue Chip Forecast,
3 expects growth to moderate somewhat, with our own
4 forecast being at 3.7 percent. It clearly does not
5 appear that growth will evaporate. Even if growth
6 initiatives pass, it's more likely than not that
7 growth will accelerate into our service regions, not
8 decelerate.

9 SRP, as the distribution provider and
10 provider of last resort, has a legal as well as an
11 ethical obligation to take all reasonable steps to be
12 sure that our customers have a reliable and low cost
13 supply of electricity when it is needed.

14 Santan is ideal from another perspective.
15 SRP already owns the site. It has access to water,
16 water disposal and some natural gas. It needs no new
17 transmission to get the energy there for it could be
18 there already. It would have to be distributed from
19 there, that's true, but to get that amount of capacity
20 to that point in the East Valley would require no new
21 incremental transmission.

22 We're planning Santan for the summer of 2005.
23 It's possible that we could need a portion of it for
24 the summer of 2004. We can meet this time frame. We
25 don't believe any other alternatives could do this.

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1 From a timing perspective, Santan is far better than
2 any alternative.

3 Second, reliability. Local generation is
4 important for two reasons related to reliability:

5 First, it provides necessary voltage support.
6 Voltage support is essential to maintain power
7 quality. As power travels over distances, voltage
8 drops. A load center this size cannot exclusively
9 depend on remote resources. And we have not added
10 local generation in a long time. The system needs
11 additional voltage support. Santan will provide much-
12 needed local voltage support to both our 69 and 230kV
13 systems, and no other option meets this essential need
14 as effectively as new generation at Santan.

15 Second, since the substantial majority of
16 outages result from outages on the transmission or
17 distribution system, local generation will increase
18 system reliability because precisely of its proximity
19 to load. Local generation acts as a surrogate or
20 replacement for transmission in effect in providing a
21 backstop to whatever interruption may occur.

22 Third, certain environmental factors. And I
23 clearly will not address all of them. We have a
24 witness coming up to speak to other issues. But as to
25 transmission, Santan is unique in that it can add

1 particularly the air quality, air modeling report was
2 conducted over a number of months prior to that.

3 Q. And when would that have begun?

4 A. It was early in the year 2000. I don't
5 recall the exact date.

6 Q. Would you turn to the application, page 1,
7 introduction.

8 A. Okay.

9 Q. Third paragraph down, you see the project
10 need. Do you see that section?

11 A. Yes.

12 Q. If you come down to the second paragraph, and
13 I'll just point you to the part that I'm interested in
14 asking you some questions about the application. And
15 apparently you are saying that the new facilities are
16 also needed to maintain and improve the reliability of
17 the electric system. Do you see that paragraph?

18 A. Yes.

19 Q. You go on to say, proper system planning
20 dictates a mix of local and remote generation. Local
21 generation is necessary to maintain voltage levels and
22 provide recourses in the event of an outage of the
23 system component. And I might as well finish it.
24 There's only one more sentence. Yet no local
25 generation has been built in the East Valley since the

1 mid 1970s. The Santan Expansion will partially
2 address this element of system operation.

3 We've heard yesterday from Mr. Bonsall that
4 as recently as January 1998, SRP had indicated to the
5 Corporation Commission it was not planning any new
6 generation. Do you recall that testimony?

7 A. Yes, I recall that testimony.

8 Q. If proper system planning dictates a mix of
9 local and remote generation and local generation is
10 necessary to maintain voltage levels, when did SRP
11 decide that proper planning dictated the Santan
12 project?

13 A. The planning for this project and for the
14 Kyrene project took place in -- as I recall, in the
15 summer or -- mid to late '98. That's when we started
16 discussions in-house and started analysis on those two
17 projects.

18 Q. So prior to that time, proper system planning
19 did not require local generation?

20 A. I think the statement here is a general one
21 that indicates that for a system of the size of Salt
22 River Project that you really need a balance of
23 generation located where the customer load is as well
24 as generation remote from the load. I think the
25 important part here -- the important point to make is

1 significant capacity to the system without building
2 new transmission because the supply would be at the
3 load center already. Other alternatives would have to
4 get it there. Other alternatives thus would require
5 significant new transmission at the 500kV and/or 230kV
6 levels.

7 By necessity, this new transmission must be
8 through existing neighborhoods and areas planned for
9 new residential development. In his testimony,
10 Mr. Areghini discussed a possible alternative with two
11 500kV lines and three or four 230kV lines, involving
12 more than some 600 new transmission structures. While
13 this is only one alternative, all alternatives other
14 than Santan would require significant amounts of new
15 local transmission. The impact to homeowners on any
16 of these transmission alternatives is, in our
17 experience with our customers, greater than the impact
18 of the facility in Santan. We conclude on the basis
19 of this consideration that Santan is the preferred
20 environmental alternative regarding the transmission.

21 Fourth, risk parameters. There are three
22 elements of risk that this proposal effectively
23 addresses:

24 First, this proposal increases assurance of
25 adequate resources. An advantage of SRP building at

1 BEFORE THE POWER PLANT AND TRANSMISSION
2 LINE SITING COMMITTEE

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4 IN THE MATTER OF THE APPLICATION OF)
5 SALT RIVER PROJECT OR THEIR)
6 ASSIGNEE(S), IN CONFORMANCE WITH)
7 THE REQUIREMENTS OF THE ARIZONA)
8 REVISED STATUTES 40-360.03 AND)
9 40-360.06 FOR A CERTIFICATE OF) L-00000B-00-0105
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13 At: Mesa, Arizona
14 Date: December 11, 2000
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1 and both could suffice for reliability purposes.

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4 the need for a substantial amount of incremental
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6 as local options do require the attainment of offsets.
7 We think that is in fact the right thing to do. We
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11 environmental plus, to develop on a local basis.
12 Clearly, it's a plus on a cost basis. All the rest of
13 the alternatives are negative.

14 Compared thereto I spoke in my testimony to
15 price risk management. Santan is clearly a plus,
16 Agua Fria is a plus as well. All of the other
17 alternatives are either pluses or minuses, depending
18 upon who develops them and what their pricing
19 mentality is. If it is us, it's a plus, because as
20 I've testified before, we're not profit maximizers and
21 we're not interested in pricing what the market will
22 bear, but rather what our costs are. Others are not
23 of that mind, and it's not a criticism, that's what we
24 believe to be the most consumer friendly thing to do.

25 So in conclusion, I would remind the

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Prepared for: By: CAROLYN T. SULLIVAN, RPR
CCR No. 50528

1 Santan is that it provides assurance that the resource
2 will be built when, as well as where, it is needed.
3 There are many merchant plants proposed. They all
4 have transmission challenges getting to the load
5 center. Some are being built, some will be. Others
6 will remain proposals. Some will look to serve this
7 market. Others will look elsewhere. We maintain
8 communication with these developers in pursuit of
9 reasonable transactions for our customers. There is
10 some capability here, and we continue to pursue it.
11 However, we believe that Santan will absolutely be
12 necessary to assure sufficient resources to serve the
13 load in the Valley in any case.

14 Secondly, the addition of local SRP-owned
15 gas-fired resources provides an attractive and a
16 desirable addition to the portfolio of resources that
17 SRP uses to meet customer need. Although gas-fired
18 resources today are a relatively small portion of
19 SRP's current portfolio, adding additional gas-fired
20 resources will help balance SRP's portfolio for
21 meeting customers' needs.

22 Lastly, both the Kyrene and the Santan
23 projects provide our customers with a critically
24 important layer of price risk management. During
25 tight market conditions, market prices become

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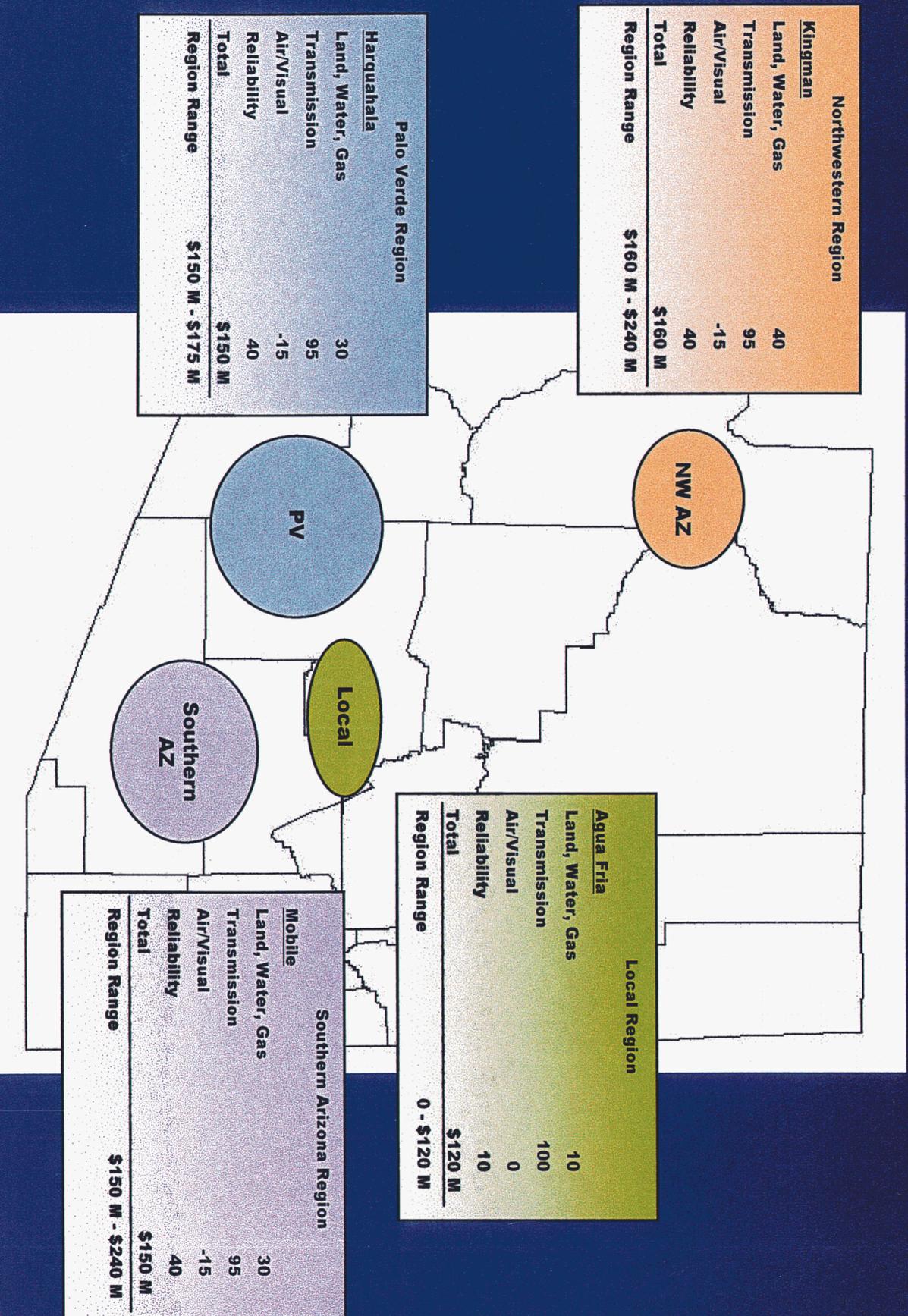
Prepared for: By: CAROLYN T. SULLIVAN, RPR
CCR No. 50528

1 decoupled from underlying costs as a result of supply
2 shortages. This is particularly the case during
3 periods of transmission congestion or outage. Prices
4 rise to whatever the market will bear. Such is the
5 condition today, and it appears that it's going to
6 stay that way for some time. It is this condition
7 that has led to enormous consumer unrest in
8 California. The Santan resource is strongly preferred
9 because it will help insulate SRP customers from these
10 kinds of price movements.

11 Fifth, cost. Clearly Santan is the preferred
12 option on cost grounds. It uses an existing site,
13 some existing common facilities. It does not require
14 incremental transmission and less investment in gas
15 supply than other alternatives. Being positioned
16 where it is as well has benefits associated with
17 voltage support and other reliability factors. Being
18 the type of resource that it is, highly efficient,
19 flexible, environmentally friendly combined cycle
20 natural gas technology, it can respond to changes in
21 load as well as produce energy effectively. All in
22 all, Santan is a cost-advantaged proposal.

23 This leads me to my last criteria, which is
24 congruence to mission. SRP is a public power entity
25 and a political subdivision of the state. As such, we

Range of Cost Difference



1 BEFORE THE POWER PLANT AND TRANSMISSION
2 LINE SITING COMMITTEE

3
4 IN THE MATTER OF THE APPLICATION OF)
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5 ASSIGNEE(S), IN CONFORMANCE WITH)
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6 REVISED STATUTES 40-360.03 AND)
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7 ENVIRONMENTAL COMPATIBILITY)
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9 ASSOCIATED INTRAPLANT TRANSMISSION)
LINES, SWITCHYARD IN GILBERT,)
10 ARIZONA LOCATED NEAR AND SOUTHEAST)
OF THE INTERSECTION OF VAL VISTA)
11 DRIVE AND WARNER ROAD.)
)

12
13 At: Mesa, Arizona
14 Date: November 28, 2000
15 Filed:

16
17 REPORTER'S TRANSCRIPT OF PROCEEDINGS

18 VOLUME IX
19 (Pages 1942 through 2172)

20 ARIZONA REPORTING SERVICE, INC.
21 Court Reporting
 Suite Three
22 2627 North Third Street
 Phoenix, Arizona 85004-1103

23 By: CECELIA BROOKMAN, RPR
24 CCR No. 50154
25

Prepared for:
24
25

1 existence of the Santan plant don't necessarily make
2 the zoning code developed today, and approved by the
3 council, being used for new zoning cases today doesn't
4 necessarily apply in retrospect. We can't go back and
5 legally enforce current standards on existing and
6 approved zoning and existing and approved uses with
7 grandfathered rights.

8 To the extent that the questions are going to
9 continue along what are the current town zoning
10 standards and so forth, I can try to respond as best I
11 can. In terms of the legal environment that we all
12 find ourselves having to operate under and the
13 municipal environment, whether it be Supreme Court
14 findings about illegal takings and grandfathered
15 rights and what you can and can't take, you're going
16 to have to get an attorney up here to answer a lot of
17 those issues.

18 But in the context of this plant, this
19 annexation, the fact that the plant existed at the
20 time we annexed it in 1984, it was constructed prior
21 to that time. We brought it in with the knowledge it
22 was a plant. We knew that, and we're willing to say
23 that. But along with that came certain rights that
24 regardless of what the zoning code of the year 2000
25 suggests ought to happen, it's difficult to go back

1 and retroactively apply a lot of those standards. In
2 fact it is legally impossible. Michael can hit me up
3 side the head if I start turning into too much of an
4 attorney. It's my understanding it's legally
5 impossible to go back and try to impose today's
6 standards on something that have grandfathered rights
7 and uses under zoning law.

8 CHMN. BULLIS: Thank you. I appreciate that.
9 That was helpful.

10 MEMBER TOBIN: One other thing. I guess, as
11 I mentioned very, very early in the hearing, again, I
12 would offer out that you have certain points that
13 you're trying to make. Think about where the best
14 place is to make those points. It may not be with
15 this particular witness. It may be you have to get
16 somebody and bring them in in your case in chief.
17 Think about what it is you want to tell us, then
18 figure out is this individual to do that or do you
19 need to bring somebody in when it's your turn to make
20 the point you want to make, because not always will
21 the witnesses that are coming in for SRP be able to
22 help you make the points you want to make.

23 MS. PARRAULT: Thank you.

24 Q. (BY MS. PARRAULT) Let me table that.

25 Are you aware that 300 homes were recently

1 BEFORE THE POWER PLANT AND TRANSMISSION

2 LINE SITING COMMITTEE

3

4 IN THE MATTER OF THE APPLICATION OF))
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 15 LINES, SWITCHYARD IN GILBERT,))
 16 ARIZONA LOCATED NEAR AND SOUTHEAST))
 17 OF THE INTERSECTION OF VAL VISTA))
 18 DRIVE AND WARNER ROAD.))
 19))

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13 At: Mesa, Arizona

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17 REPORTER'S TRANSCRIPT OF PROCEEDINGS

18 VOLUME IX
 (Pages 1942 through 2172)

19

20 ARIZONA REPORTING SERVICE, INC.
 21 Court Reporting
 Suite Three
 2627 North Third Street
 22 Phoenix, Arizona 85004-1103

23 By: CECELIA BROOKMAN, RPR
 Prepared for: CCR No. 50154

24

25

1 compatible with the Town of Gilbert general plan?

2 A. I believe so. That's the purpose behind the
3 M.E. designation in the general plan in the 1994
4 general plan for the site. M.E. stands for multiuse
5 employment. It's a general plan. It's not a zoning
6 classification, it's just a land use designation
7 within the general plan.

8 Q. And my last question is one that you don't
9 have to answer today, but I'm going to take up
10 Mr. Michaud's offer of yesterday that I said I didn't
11 want but I'll take it up now, is that he would take
12 questions back to the town council, I guess. And my
13 question is: If the CEC is approved by this
14 Committee, are there any conditions that the town
15 would like imposed on the CEC that the town feels
16 would benefit the town and the residents? And that's
17 something for the town to think about, and to get back
18 with this Committee on if they feel there's something
19 that they would like added as a condition. Thank you.

20 CHMN. BULLIS: Thank you.

21 Mr. Sundie.

22 MEMBER SUNDIE: Yes, I have a couple
23 follow-up questions on water.

24

25

1 BEFORE THE POWER PLANT AND TRANSMISSION
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11 DRIVE AND WARNER ROAD.)
)

12
13 At: Mesa, Arizona
14 Date: November 22, 2000
15 Filed:

16 REPORTER'S TRANSCRIPT OF PROCEEDINGS

17 VOLUME VII
18 (Pages 1455 through 1708)

19
20 ARIZONA REPORTING SERVICE, INC.
Court Reporting
21 Suite Three
2627 North Third Street
22 Phoenix, Arizona 85004-1103

23 By: CECELIA BROOKMAN, RPR
Prepared for: CCR No. 50154
24 MS. SANDIE SMITH
25 Member

1 to follow on, I think that the overall process is
2 pretty well shown in the application on Exhibit B-1.
3 And on that exhibit, what you can see is that there
4 are a number of different activities that occur during
5 a project like this that begin to, or rather do
6 integrate technical studies with environmental
7 studies, as well as public involvement activities.
8 EPG's role in this process was to assist in the
9 facilitation of that. And then, as I explained
10 earlier, we also conducted individual studies for the
11 project.

12 Q. Would you please summarize the results of
13 your studies.

14 A. Let's see if I can make this work.

15 Yes. The first thing I'd like to address is
16 the question of land use, which EPG was responsible
17 for preparing the evaluation. I think, as everyone
18 knows here, that the existing site is a site that's
19 been highly disturbed. It's a site which currently
20 has a power plant on it. It is a site that at this
21 point in time does have residential areas to the
22 north, the east and the south. It also has a retail
23 development area, which is actually currently being
24 constructed upon at this point in time, to the west.

25 From a future land use perspective, if you

1 look at the Gilbert general plan, what it has been
2 designated is called the multiuse employment area,
3 which is an area which accommodates industrial use.
4 For those reasons, from purely a specific land use
5 perspective, we would expect the impacts of those
6 resources to be minimal to low.

7 Q. Mr. Palmer, can you describe what was unique
8 about the Santan Expansion Project planning process?

9 A. Yes. I'm going to spend a little bit of time
10 with this, because I really think it was probably the
11 backbone of the process that was used to direct the
12 outcome of the plans that have been --

13 Q. Let me just stop. You can't read the slide.
14 I want to make sure everybody has that in their
15 exhibit books and is able to see it. It's in the
16 books, I believe it's exhibit --

17 CHMN. BULLIS: 75-3.

18 MR. SUNDLOF: -- 75-3.

19 THE WITNESS: What you see here outlined are
20 a series of tasks that we went through with the
21 process in order to do the assessment process and
22 mitigation planning. I guess the blocks that you see
23 in the lighter green, I would say, are pretty much
24 traditional steps that you must take for any type of a
25 planning process, at least such that we've been

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18 DRIVE AND WARNER ROAD.)
19)

20 At: Mesa, Arizona
21 Date: November 22, 2000
22 Filed:

23
24 REPORTER'S TRANSCRIPT OF PROCEEDINGS
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26 VOLUME VII
27 (Pages 1455 through 1708)

28 ARIZONA REPORTING SERVICE, INC.
29 Court Reporting
30 Suite Three
31 2627 North Third Street
32 Phoenix, Arizona 85004-1103

33 By: CECELIA BROOKMAN, RPR
34 Prepared for: CCR No. 50154
35 MS. SANDIE SMITH
36 Member

1 MR. BERGDALE: Yes. And I guess you must put
2 it in the context as this power plant has been in
3 there for a number of years and you people, the
4 people, the residents of Gilbert moved in, around this
5 area, and felt that it was a good place to live, as
6 you've all talked about for a long period of time.
7 The attempt here has been to say yeah, there was
8 existing facility, it had existing screening. In
9 order to put a new facility in there or continue this
10 kind of usage you would take out some of the old
11 facilities like the tanks, you would do a better job
12 of screening or landscaping and make it more part of
13 the neighborhood. So yes, it is definitely
14 compatible.

15 Q. (BY MS. PARRAULT) Key Biscayne Road, do you
16 remember that, Randy?

17 A. Yes.

18 Q. I don't think I saw a slide. Remember we had
19 driven there and asked you, told you that it was a
20 straight shot as you're driving down Key Biscayne and
21 the vision of the plant was, there was nothing
22 stopping you from seeing it?

23 A. Yeah, actually, I remember that quite well.
24 And we had an original view from Key Biscayne which we
25 pulled, which was right at the corner of Warner and

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10 ARIZONA LOCATED NEAR AND SOUTHEAST)
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11 DRIVE AND WARNER ROAD.)
12 _____)

13 At: Mesa, Arizona
14 Date: November 30, 2000
15 Filed:

16 REPORTER'S TRANSCRIPT OF PROCEEDINGS
17

18 VOLUME XI
19 (Pages 2352 through 2677)

20 ARIZONA REPORTING SERVICE, INC.
21 Court Reporting
Suite Three
22 2627 North Third Street
Phoenix, Arizona 85004-1103

23 By: JANICE SCHUTZMAN, RPR, RMR
Prepared for: CCR No. 50353
24 SITING COMMITTEE
25

1 appropriate way to do this would be to just put one
2 new unit, I might even get talked into two, but
3 definitely not three.

4 Q. You in the past have asked SRP for data
5 information individually and personally in meetings
6 and other forms of communication, is that true?

7 A. That's correct.

8 Q. And were you satisfied that all those
9 requests were met?

10 A. By and large I've received the bulk of
11 the information that I've asked for. However, I
12 have repeatedly asked for a breakdown of the
13 aggregate amounts of the air quality contaminants
14 that will be released into the air shed and I've
15 also specifically asked for air modeling data under
16 a variety of weather and atmospheric conditions for
17 those contaminants.

18 My concern has always been that the bulk
19 of the air quality improvement that would be
20 received would be from a reduction of the NOx and
21 the SOx, primarily the nitrous oxides. And I was
22 concerned that the carbon monoxide, the PM-10s and
23 the VOCs would increase with the increased burning
24 of natural gas. That's one of the things that
25 happens when you burn fossil fuels.

**INTERGOVERNMENTAL AGREEMENT
BETWEEN THE TOWN OF GILBERT
AND THE
SALT RIVER PROJECT**

This Intergovernmental Agreement is entered into this 25th day of April, 2000 by and between the town of Gilbert, Arizona, a municipal corporation of the State of Arizona ("Town") and the Salt River Project Agricultural Improvement and Power District, a political subdivision of the State of Arizona ("SRP").

RECITALS

1. SRP is authorized by law to generate and distribute electric power and provides such electric power to customers in Town in SRP's exercise of its governmental capacity.
2. SRP has notified Town that in order to meet projected demands in the Town and surrounding areas it is necessary to expand the Santan Generating Plant ("Plant"), an existing electric generating facility in Town, by adding 825 MW of additional generating capacity.
3. SRP has initiated and participated in the Santan Community Working Group, which includes representatives of the Town and the community, to address issues raised by the Plant expansion. The Santan Community Working Group has recommended measures to improve the Plant property and the surrounding area.
4. The Parties desire to implement the recommendations of the Santan Community Working Group and to institute cooperative action in conjunction with the expansion of the Plant through the actions set forth in this Intergovernmental Agreement.
5. Town is authorized to enter into this Intergovernmental Agreement pursuant to A.R.S. § 9-240 and SRP is authorized to enter into this Intergovernmental Agreement pursuant to A.R.S. § 48-2337.

NOW THEREFORE, in consideration of the mutual promises contained herein, the Parties agree as follows:

1. **SRP OBLIGATIONS:** Contingent upon SRP receiving the necessary approvals for expansion of the Plant, SRP shall, at its cost, cause the following to be performed:

1.1 **Improvements to Warner Road and Val Vista Road:** SRP shall, at its cost, improve or pay the cost of improving the portion of Warner Road and Val Vista Road adjacent to the Plant property boundary. Improvements shall include, but not be limited to, (i) improving the south half of Warner Road and the east half of Val Vista Road, including the construction of sidewalks, a median and street lighting facilities, and (ii) installation of landscaping on the north side of Warner Road. All such improvements shall comply with Town standards and the Town

shall maintain all landscaping improvements not located on Plant property. As part of such improvements, SRP shall pay the cost of relocating the existing 69 kV line and other electrical facilities as relocation may be required by the construction of the improvements.

1.2 Screening of the Plant: SRP shall provide screening on the north and west sides of the Plant property. Such screening shall be compatible with the design and landscaping of Warner Road and shall be approved by Town. Screening on the north side will be evaluated as part of the Warner Road improvements described in Paragraph 1.1 and as may be determined by the Santan Community Working Group on or before December 31, 2000. Screening on the west side will include evaluating the use of berms, vegetation, architectural treatment and/or walls. SRP will remove the northern fuel tanks (which is necessary to construct the Plant improvements) and will paint the remaining tank.

1.3 Trail Extension: SRP shall design and construct or pay the cost of construction on the east edge of the Plant property a horseback/hiking trail, crossing lights, and trail heads at both the north and south end of the trail. At the south end, a bridge over the canal into Crossroads Park shall be constructed. SRP will delineate property boundaries and dedicate the property to the Town, retaining appropriate property rights for necessary transmission lines and transmission line access. The Town will be responsible for ongoing maintenance.

1.4 Rerouting of Canal at Ray Road: SRP shall reroute the SRP Eastern Canal at Ray Road to eliminate the portion parallel to Ray Road. The Town agrees to grant any necessary easements over its property to facilitate the rerouting. The canal relocation is subject to the paramount rights and appropriate approvals of the United States, and shall acknowledge the prior rights of the United States and SRP.

1.5 Training Tower Removal: SRP will remove the lattice tower transmission training tower presently on the Plant property.

1.6 Revegetation Along New RS 18 Line: For a distance of one mile going north from Plant property boundaries, SRP will restore any vegetation damaged or destroyed along the RS 18 line as a result of the construction of the line. Vegetation which dies within six months of the work will be presumed to have resulted from the construction of the line and will be replaced at SRP's cost.

1.7 Dust Control Along Canals: SRP shall be responsible for meeting applicable PM-10 standards along SRP canal banks. The Parties acknowledge that Town has no jurisdiction to enforce such standards.

1.8 Offsite Tree Planting: SRP shall develop an offsite tree planting program in the local impact area (without maintenance) pursuant to mitigation concepts developed and accepted by the Santan Community Working Group on or before December 31, 2000.

2. TOWN OBLIGATIONS: Town agrees to do the following:

2.1 Acceptance of Dedications and Improvements: Upon completion in accordance with Town standards, Town shall accept the dedication and improvements described in Paragraphs 1.1 and 1.3.

2.2 Cooperation with SRP: Town agrees to work cooperatively with SRP in order that the agreements of SRP contained in Paragraph 1 will not be unreasonably delayed.

2.3 Regulatory Testimony: The Town recognizes SRP and the Santan Community Working Group have identified measures over which the Town has jurisdiction and which will serve to mitigate impacts the Plant expansion will have on the community. The Town recognizes it has a role in implementing these recommended measures and it therefore agrees it will provide supportive testimony regarding the public process which led to this Intergovernmental Agreement and the agreements contained herein.

3. SRP EXERCISE OF ITS GOVERNMENTAL POWERS.

The parties acknowledge that the Town does not have zoning jurisdiction over SRP in SRP's exercise of its governmental functions.

4. PARTIES TO NEGOTIATE FURTHER AGREEMENTS:

4.1 Cooling Water: Town and SRP explore the possibility of SRP purchasing from Town a supply of cooling water for the Plant. Any such agreements for the purchase of cooling water may include, but not be limited to, the following water supplies:

4.1.1 Surface water available in Town's domestic water service account.

4.1.2 CAP water allocated to or leased by Town.

4.1.3 Recharge credits earned by Town in SRP's Groundwater Savings Facility.

4.1.4 Reclaimed water owned by Town.

4.2 Discharges of Cooling Water: Town and SRP will explore the possibility of an agreement for the use of Town's facilities for the discharge of cooling water from the Plant.

4.3 Natural Gas Supply: Town agrees to cooperate to the extent of its governmental powers to facilitate the SRP access to its natural gas supply.

5. GENERAL PROVISIONS:

5.1 Notices: Any notice, consent or other communication ("Notice") required or permitted under this Agreement shall be in writing and either delivered in person, sent by facsimile transmission, deposited in the United States mail, postage prepaid, registered or certified mail, return receipt requested, or deposited with any commercial air courier or express service addressed as follows:

If to Town of Gilbert:

Town Manager
Town of Gilbert
1025 South Gilbert Road
Gilbert, Arizona 85296
(480) 503-6862 (telephone)
(480) 497-4943 (facsimile)

with a copy to:

Gilbert Town Attorneys
c/o Martinez & Curtis, P.C.
2712 North 7th Street
Phoenix, Arizona 85006-1090
(602) 248-0372 (telephone)
(602) 274-2381 (facsimile)

If to SRP:

Terrill A. Lonon
Corporate Secretary
Salt River Project
Post Office Box 52025
Phoenix, Arizona 85072-2025
(602) 236-5005 (telephone)
(602) 236-2188 (facsimile)

with a copy to:

Corporate Counsel
Salt River Project
Post Office Box 52025
Phoenix, Arizona 85072-2025
(602) 236-2249 (telephone)
(602) 236-2188 (facsimile)

Notice shall be deemed received at the time it is personally served, on the day it is sent by facsimile transmission, on the second day after its deposit with any commercial air courier or express service, or, if mailed, five days after the Notice is deposited in the United States mail as above provided. Any time period stated in a Notice shall be computed from the time the Notice is deemed received. Either party may change its mailing address or the person to receive Notice by notifying the other party as provided in this paragraph. Notices sent by facsimile transmission shall also be sent by regular mail to the recipient at the above address. This requirement or

duplicate notice is not intended to change the effective date of the Notice sent by facsimile transmission.

5.2 Governing Law: This Contract shall be governed by the laws of the State of Arizona.

5.3 Duration: This Agreement shall remain in effect until the actions contemplated or required herein are completed by the parties.

5.4 Conflict of Interest: This Agreement may be terminated pursuant to the provisions of A.R.S. Section 38-511.

5.5 Successors and Assigns: This Agreement shall not be assignable, except at the written consent of the parties hereto; and it shall extend to and be binding upon the heirs, executors, administrators, successors and assigns of the parties hereto.

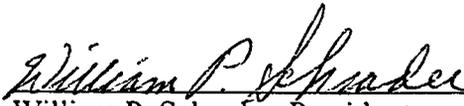
5.6 Additional participants in the Plant: SRP may include other participants in the operation, ownership and /or financing of the Plant expansion; provided however, that the addition of other participants shall not reduce or modify the obligations set forth herein.

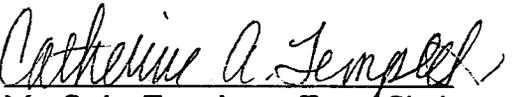
IN WITNESS WHEREOF, the parties hereto have caused this document to be executed the date and year first herein above written.

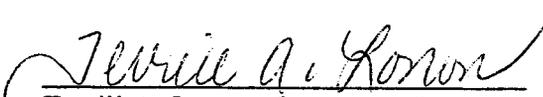
TOWN OF GILBERT,
A municipal corporation

SALT RIVER PROJECT
AGRICULTURAL IMPROVEMENT
AND POWER DISTRICT,
a political subdivision

By: 
Cynthia L. Dunham, Mayor

By: 
William P. Schrader, President

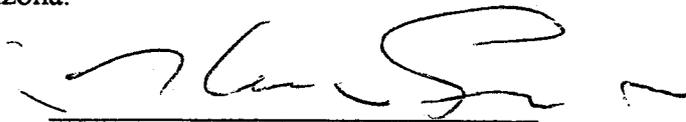
ATTEST:

Ms. Cathy Templeton, Town Clerk

ATTEST AND COUNTERSIGN:

Terrill A. Lonon, Corporate Secretary

ATTORNEY DETERMINATION

In accordance with the requirements of ARS Section 11-952(D), each of the undersigned attorneys acknowledge that: (1) they have reviewed the above Agreement on behalf of their respective clients; and, (2) as to their respective clients only, each attorney has determined that this Agreement is in proper form and is within the powers and authority granted under the laws of the State of Arizona.


For the Town of Gilbert


For the Salt River Project Agricultural Improvement District

Date April 25, 2000

Date May 9, 2000

1 BEFORE THE POWER PLANT AND TRANSMISSION
2 LINE SITING COMMITTEE

3

4 IN THE MATTER OF THE APPLICATION OF)
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17 OF THE INTERSECTION OF VAL VISTA)
18 DRIVE AND WARNER ROAD.)
19)

L-00000B-00-0105

CASE NO. 105

13 At: Mesa, Arizona

14 Date: November 22, 2000

15 Filed:

16

REPORTER'S TRANSCRIPT OF PROCEEDINGS

17

VOLUME VII

18

(Pages 1455 through 1708)

19

20 ARIZONA REPORTING SERVICE, INC.
21 Court Reporting
22 Suite Three
23 2627 North Third Street
24 Phoenix, Arizona 85004-1103

23 By: CECELIA BROOKMAN, RPR
24 CCR No. 50154

24 Prepared for:
25 MS. SANDIE SMITH
Member

1 earlier that concepts were developed in part through
2 the evaluation of the Gilbert general plan. Could you
3 expand on that concept?

4 A. Yes, certainly. I think that if you review
5 the Gilbert general plan and you look at several of
6 the different elements, again, there's a lot of keys
7 to be drawn from those elements. I think one of the
8 things that they talk about specifically has to deal
9 with the development of agreements and working
10 together with groups like the regional water
11 conservation area, and SRP specifically. I think they
12 look towards that type of involvement. I think that
13 the IGA is a direct reflection of that intent, and
14 actually, the CWG, in a lot of ways, was indicative of
15 the kinds of working group that they like to see in
16 context with projects like this.

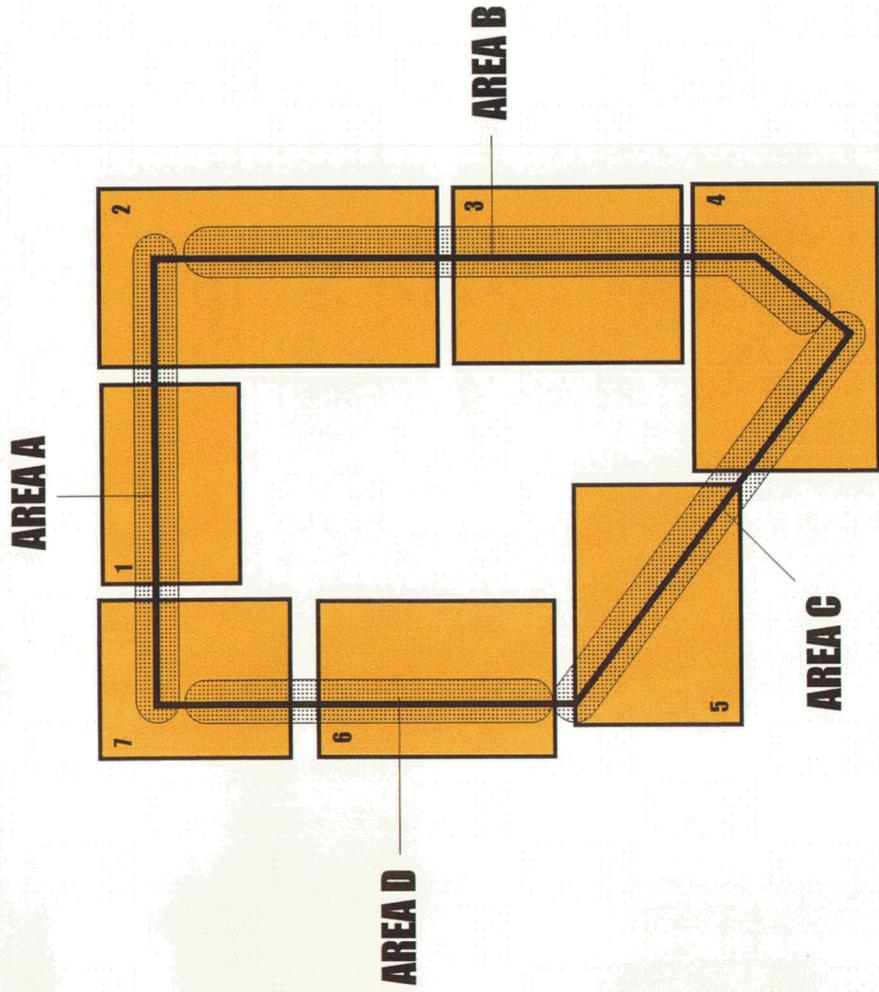
17 As well, I think there are really some more
18 specific examples that you can draw from their plan,
19 which I think in the context of a specific area that
20 we were looking at, gave us some pretty good clues,
21 and the question about the trail system, the
22 development of that trail system, was specifically
23 designed to allow for the things that the general plan
24 specifies. I think that the development of many of
25 the mitigation measures that we identified were based

EXHIBIT 88

SANTTAN

EXPANSION PROJECT

Mitigation and Enhancements



Area A: Warner Road

- Sheet 1 of 7
- Sheet 2 of 7
- Sheet 7 of 7

Area B: Eastern Boundary

- Sheet 2 of 7
- Sheet 3 of 7

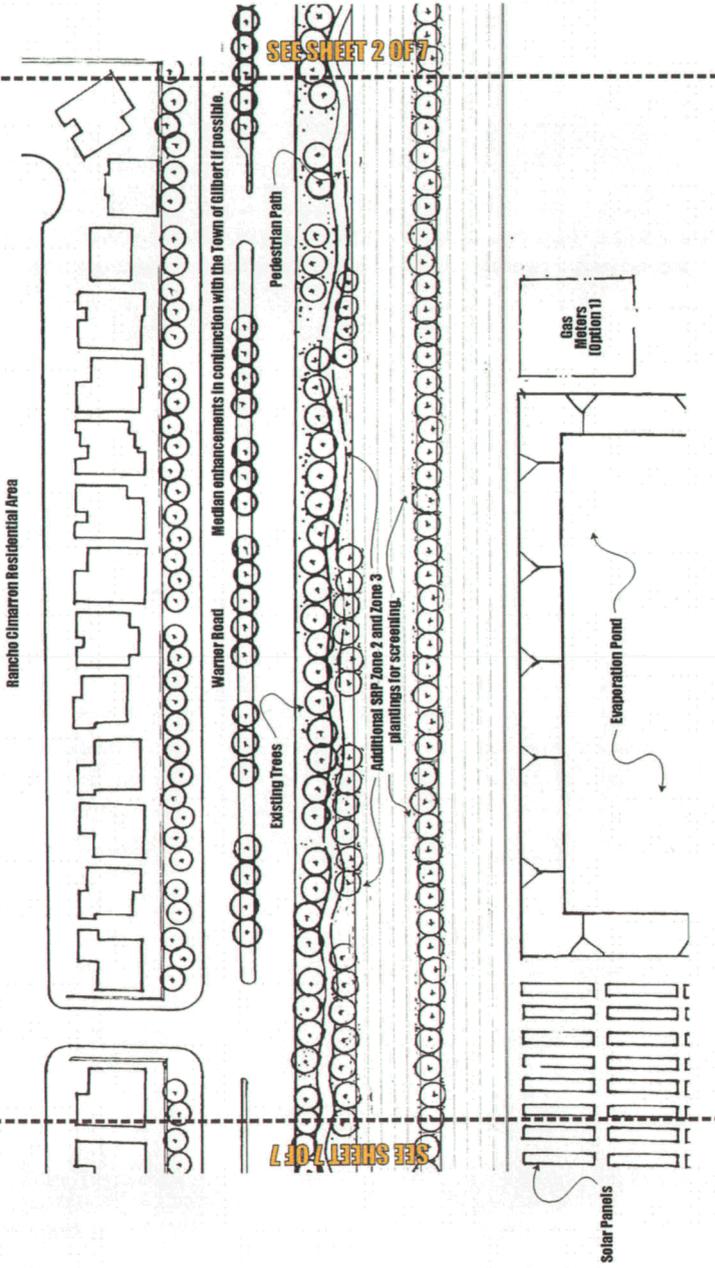
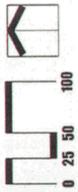
Area C: Southern Boundary

- Sheet 4 of 7
- Sheet 5 of 7

Area D: Western Boundary

- Sheet 6 of 7
- Sheet 7 of 7

plan view



planting zones

SAP zones refer to recommended distance or location from power lines as defined by SRP.

- Understory Zone: within 25' from overhead lines.
- Zone 1: 25' maximum tree height and spread at least 25' from overhead lines.
- Zone 2: 25' maximum tree height and spread at least 40' from overhead lines.
- Zone 3: over 40' in height and spread at least 60' from overhead lines.

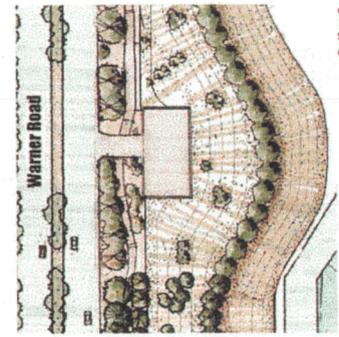
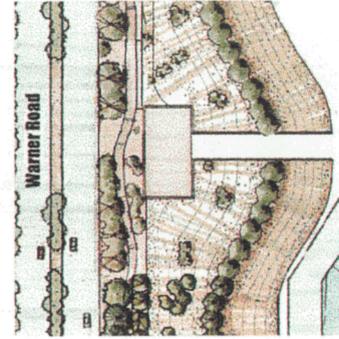
key elements

- Create high-quality development and landscaping along arterial streets such as Warner Road to enhance the Town's image.
- Secure permanent interconnected open space, which provides visual and functional links with parks, schools, and neighborhoods.
- Utilize both sides of the canal, railroad and electrical transmission line corridors, providing for hiking, bicycling, jogging, equestrian, and non-motorized transportation.
- Encourage the use of massing of plant materials, installation of screen walls, sidewalks and berms along arterial streets.
- The street character of the community should provide visual unity and enhance the environment of adjoining land uses.

location map



SITE PLAN SHEET 1 OF 7

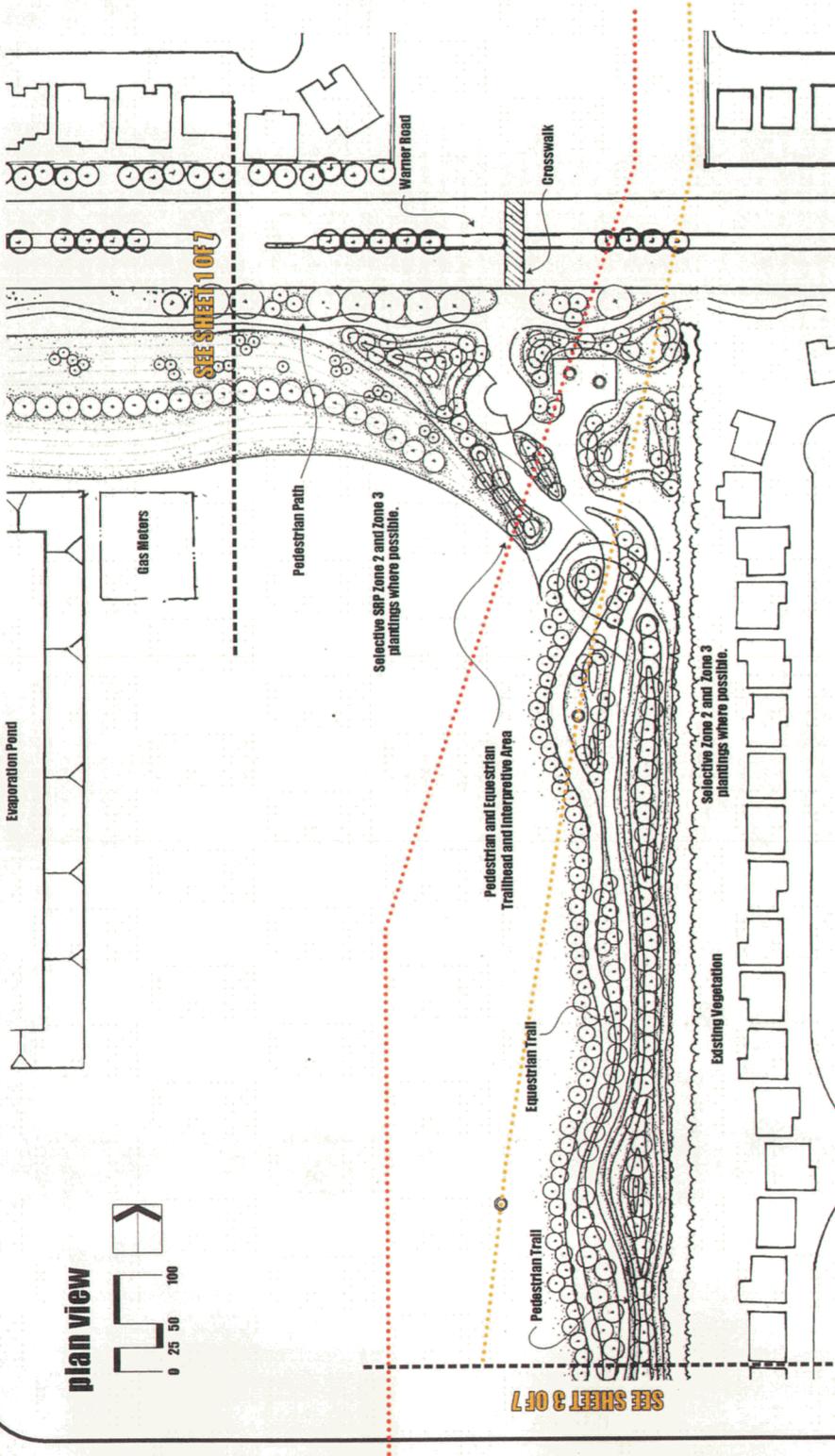
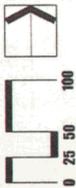


- gas meter options**
- Option 1: Move meters behind berm
 - Option 2: Entry from Warner Road
 - Option 3: Access from SRP property

AREA A Mitigation and Enhancements
SCALE APPROXIMATE

DRAFT 12/11/00

plan view



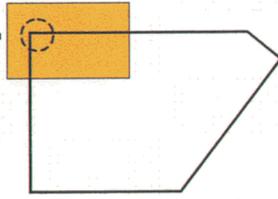
planting zones

SIP zones refer to recommended distance or location from power lines as defined by SIP:
 -Understory Zone: within 25' from overhead lines.
 -Zone 1: 25' maximum tree height and spread at least 35' from overhead lines.
 -Zone 2: 25'-48' maximum tree height and spread at least 48' from overhead lines.
 -Zone 3: over 48' in height and spread at least 60' from overhead lines.

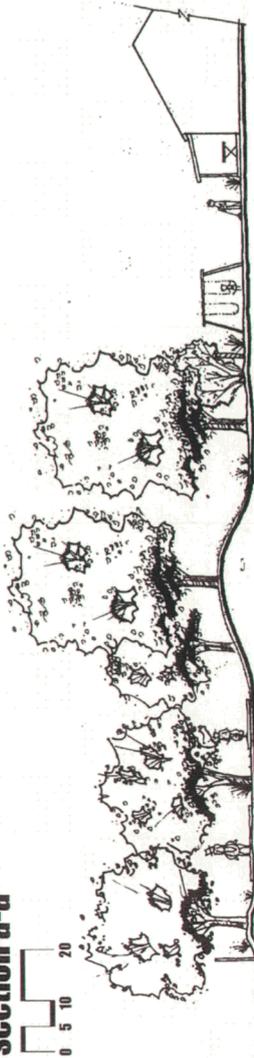
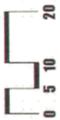
key elements

- Enhance community identity through creation of gateways, which convey a sense of entry into the Town through use of landscaping, monumentation, signs, and public art.
- Create high-quality development and landscaping along arterial streets such as Warner Road to enhance the Town's image.
- Secure permanent interconnected open space, which provides visual and functional links with parks, schools, and neighborhoods.
- Utilize both sides of the canal, railroad and electrical transmission line corridors, providing for biking, bicycling, jogging, equestrian, and non-motorized transportation.
- Encourage the use of massing of plant materials, installation of screen walls, sidewalks and berms along arterial streets.
- The street character of the community should provide visual unity and enhance the environment of adjoining land uses.

location map



section a-a



Switchyard

Equestrian Path

Pedestrian Path

Vegetation to screen residential area from plan.

Existing Residential

AREA A-B Mitigation and Enhancements

DRAFT 12/11/00

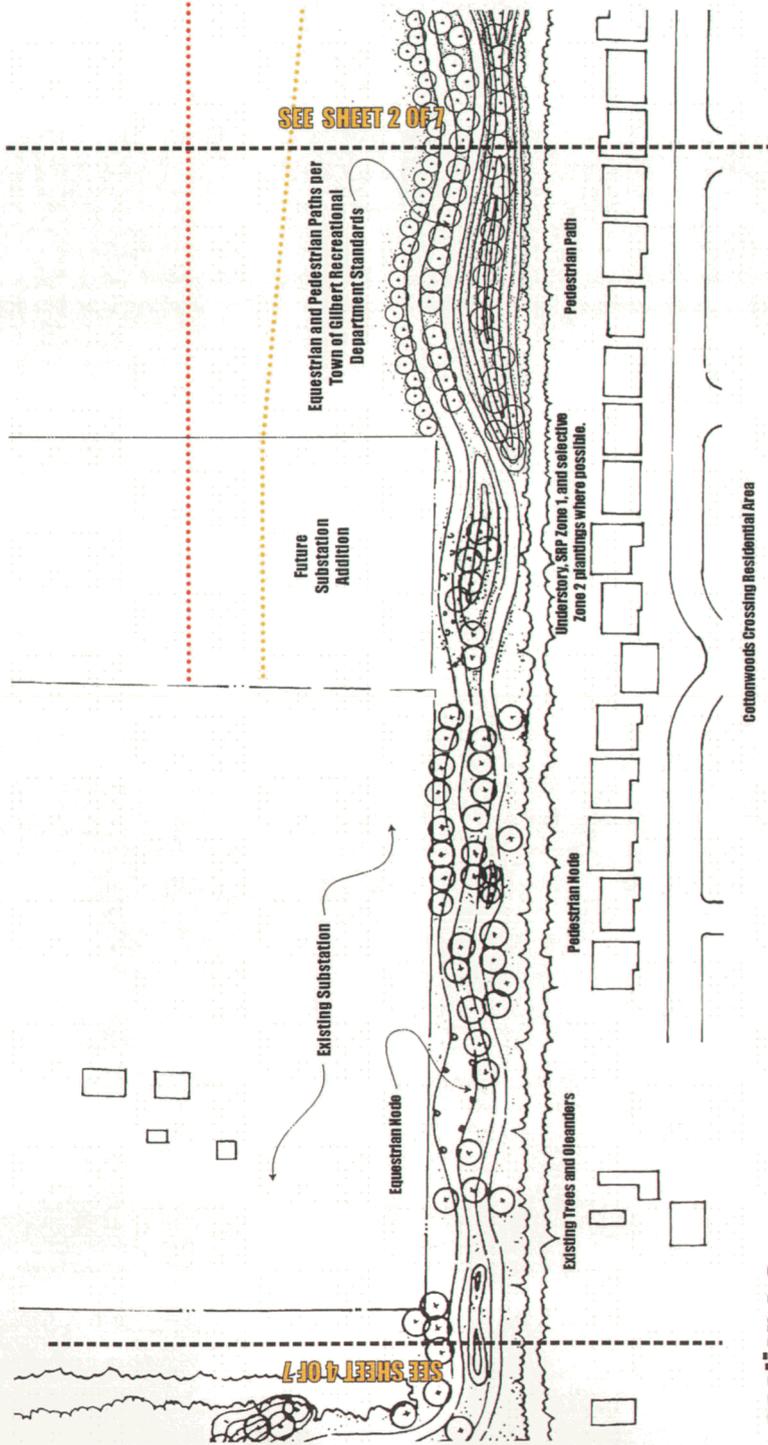
SITE PLAN SHEET 2 OF 7



LEGEND: 230KV Proposed 230KV

SCALE APPROXIMATE

plan view



section a-a



- Switchyard
- Equestrian Path
- Pedestrian Node
- Vegetation to screen residential area from plan.
- Existing Residential

AREA B Mitigation and Enhancements
SCALE APPROXIMATE

DRAFT 12/11/00

LEGEND: 230KV Proposed 230KV

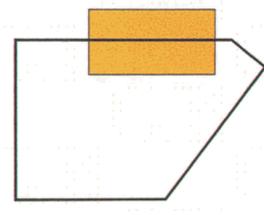
planting zones

SRP zones refer to recommended distance or location from power lines as defined by SRP:
 -Understory zone: within 25' from overhead lines.
 -Zone 1: 25' maximum tree height and spread at least 25' from overhead lines.
 -Zone 2: 25'-48' maximum tree height and spread at least 48' from overhead lines.
 -Zone 3: over 48' in height and spread at least 60' from overhead lines.

key elements

-Secure permanent interconnected open space, which provides visual and functional links with parks, schools, and neighborhoods.
 -Utilize both sides of the canals, railroad and electrical transmission line corridors, providing for hiking, bicycling, jogging, equestrian, and non-motorized transportation.
 -Promote trail development that is visually pleasing to the user, as well as to those living adjacent to the trail.
 -Orient equestrian trail development to accessing equestrian subdivisions, low-density areas and Rowley Park, and limit conflicts with street traffic.

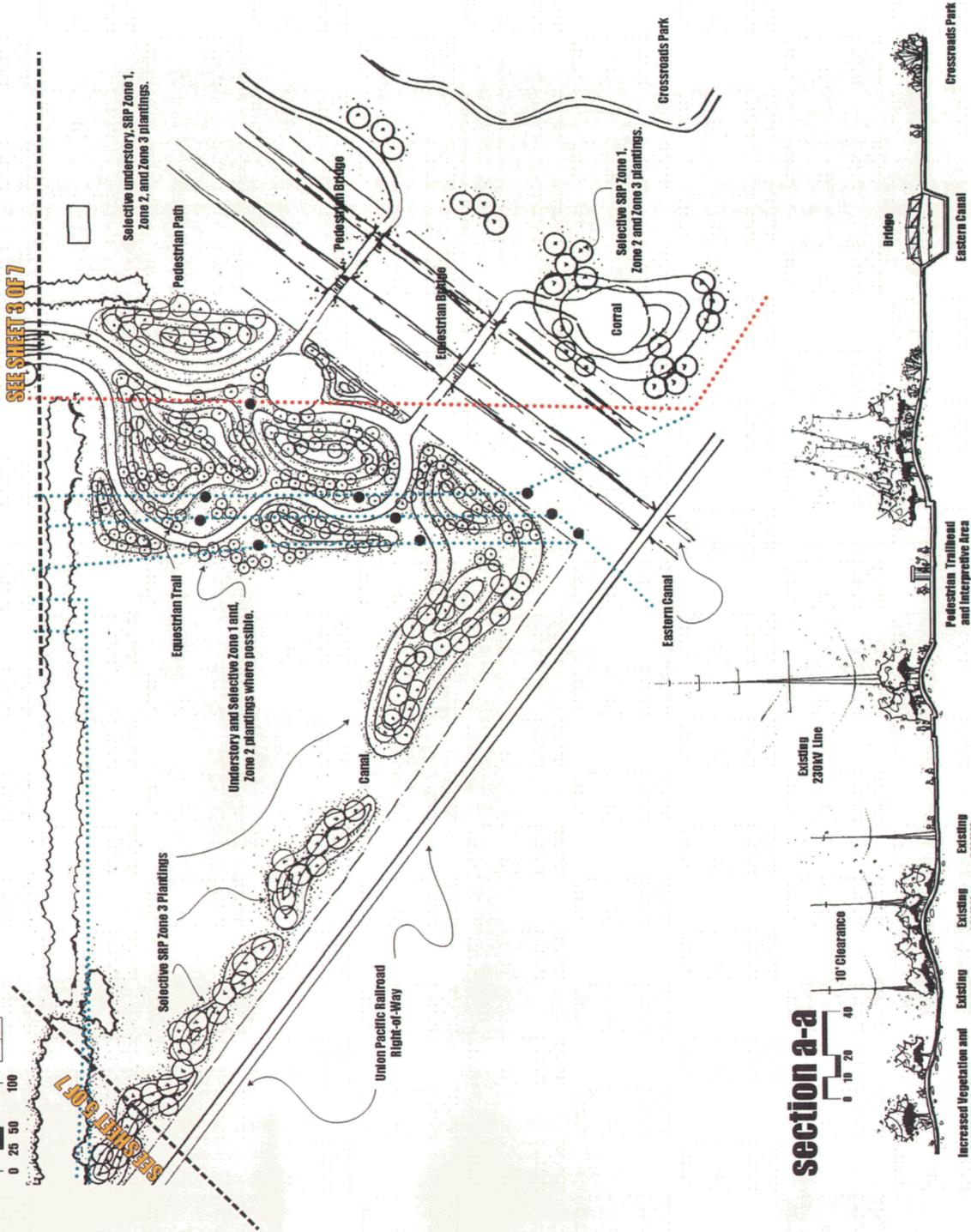
location map



SITE PLAN SHEET 3 OF 7



plan view



SEE SHEET 3 OF 7

planting zones

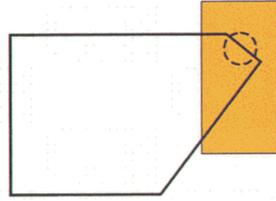
SRP zones refer to recommended distance or location from power lines as defined by SRP:

- Understory zone: within 25' from overhead lines.
- Zone 1: 25'-48' maximum tree height and spread at least 25' from overhead lines.
- Zone 2: 25'-48' maximum tree height and spread at least 48' from overhead lines.
- Zone 3: over 48' to height and spread at least 60' from overhead lines.

key elements

- Secure permanent interconnected open space, which provides visual and functional links with parks, schools, and neighborhoods, utilize both sides of the canals, railroad and electrical transmission line corridors, providing for hiking, bicycling, jogging, equestrian, and non-motorized transportation.
- Enhance community identity through creation of gateways, which convey a sense of entry into the Town through use of landscaping, monumentation, signs, and public art.
- Promote trail development that is visually pleasing to the user, as well as to those living adjacent to the trail.
- Orient equestrian trail development to accessing equestrian subdivisions, low-density areas and Rodeo Park, and limit conflicts with street traffic.
- Secure pedestrian, equestrian, and bicycle access across major barriers (canals, railroads).
- Consider plans for a rapid rail corridor on the existing Union Pacific Railroad line.

location map

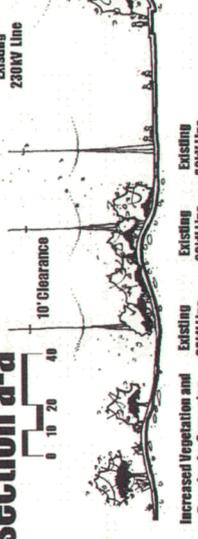


SITE PLAN SHEET 4 OF 7



LEGEND:
 230KV
 69KV

section a-a

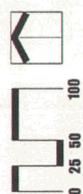


Increased Vegetation and Screening for Screening
 Existing 69KV Line
 Existing 69KV Line
 Existing 69KV Line

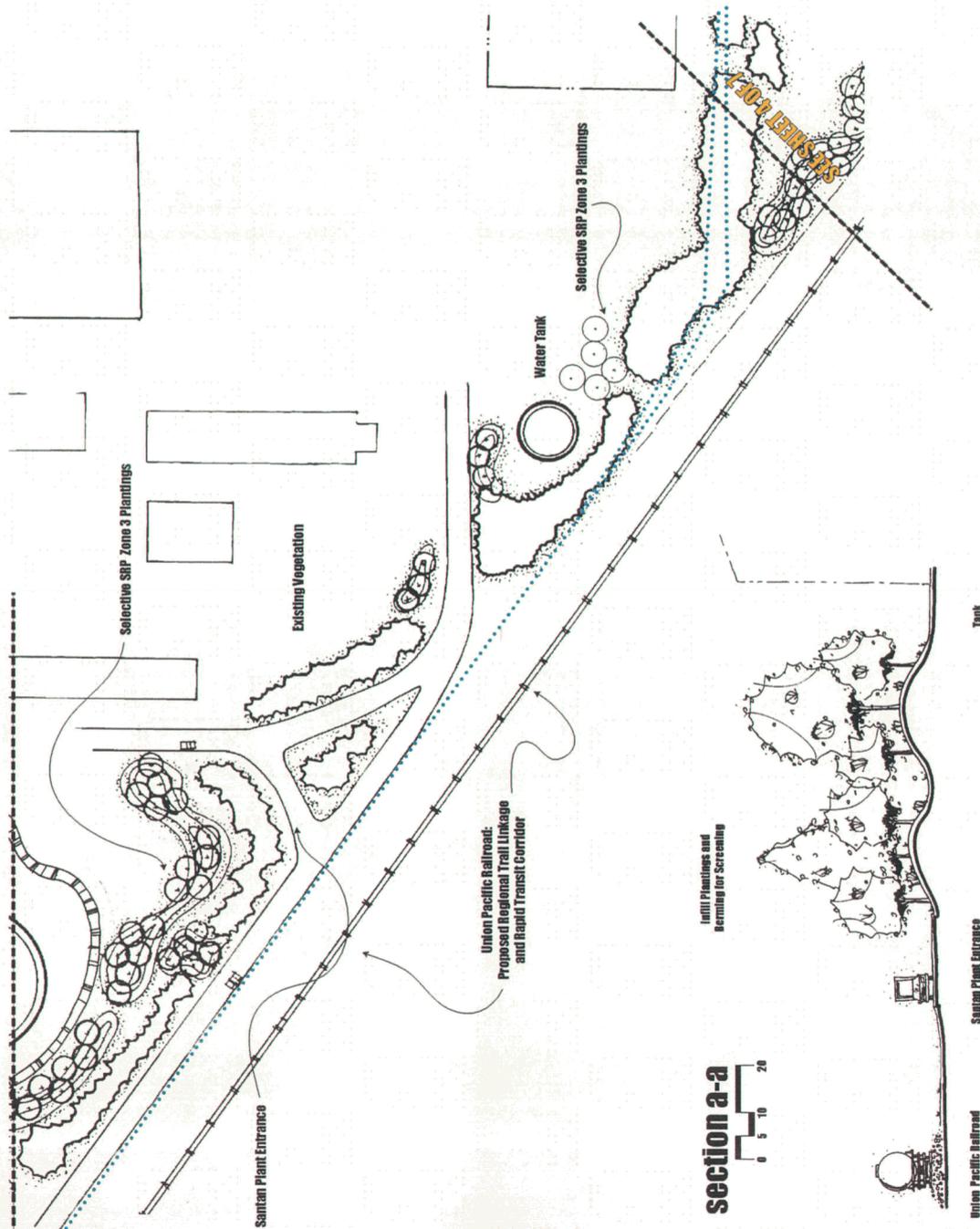
AREA B-C Mitigation and Enhancements
 SCALE APPROXIMATE

DRAFT 12/11/00

plan view



SEE SHEET 6 OF 7



section a-a



planting zones

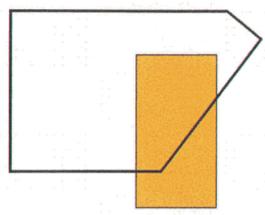
SRP zones refer to recommended distance or location from power lines as defined by SRP:

- Understory zone: within 25' from overhead lines.
- Zone 1: 25' maximum tree height and spread at least 25' from overhead lines.
- Zone 2: 25'-40' maximum tree height and spread at least 40' from overhead lines.
- Zone 3: over 40' in height and spread at least 60' from overhead lines.

key elements

- Secure permanent interconnected open space, which provides visual and functional links with parks, schools, and neighborhoods.
- Utilize both sides of the canals, railroads and electrical transmission line corridors, providing for hiking, bicycling, jogging, equestrian, and non-motorized transportation.
- Promote trail development that is visually pleasing to the user, as well as to those living adjacent to the trail.
- Orient equestrian trail development to accessing equestrian subdivisions, low-density areas and Rodeo Park, and limit conflicts with street traffic.
- Secure pedestrian, equestrian, and bicycle access across major barriers (canals, railroads).
- Consider plans for a rapid rail corridor on the existing Union Pacific Railroad line.

location map



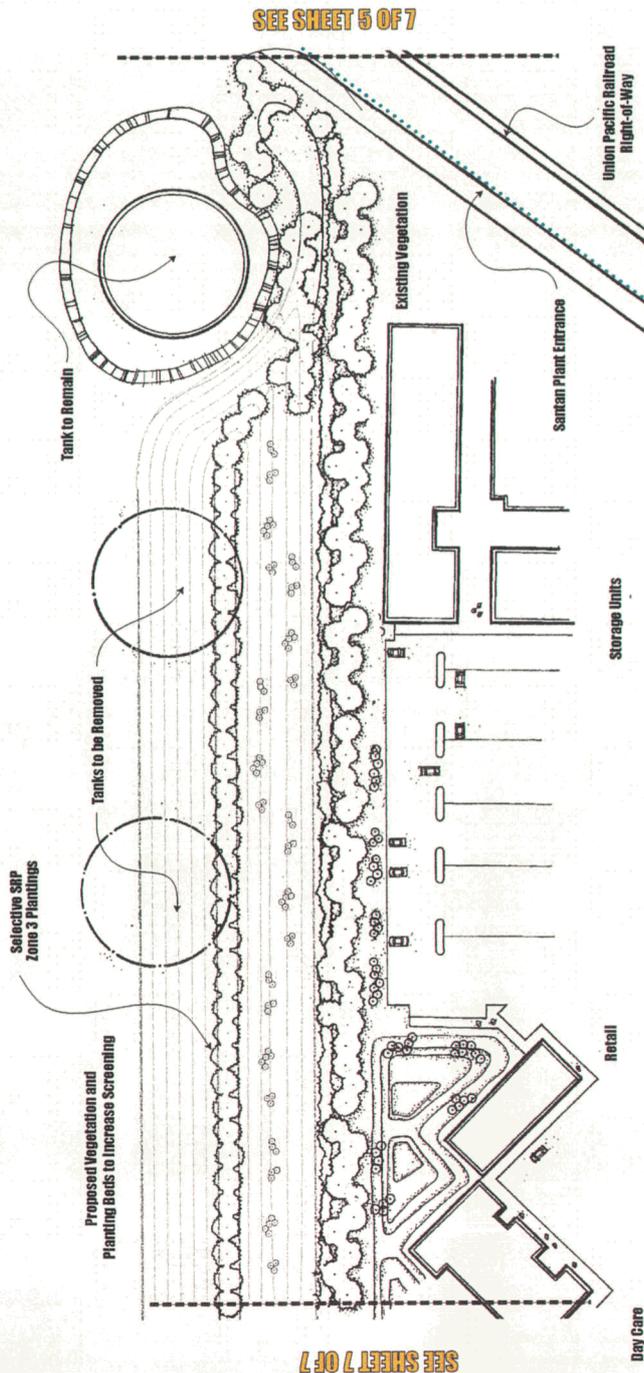
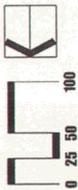
SITE PLAN SHEET 5 OF 7



LEGEND: 69KV

AREA C Mitigation and Enhancements
 DRAFT 12/11/00
 SCALE APPROXIMATE

plan view



SEE SHEET 7 OF 7

SEE SHEET 5 OF 7

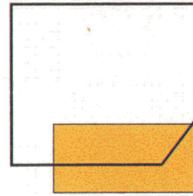
planting zones

SPP zones refer to recommended distance or location from power lines as defined by SPP:
 -Understory Zone: within 25' from overhead lines.
 -Zone 1: 25' maximum tree height and spread at least 25' from overhead lines.
 -Zone 2: 25'-40' maximum tree height and spread at least 40' from overhead lines.
 -Zone 3: over 40' in height and spread at least 60' from overhead lines.

key elements

-Design facilities to screen less attractive elements from arterials and residential areas, placing these elements away from main streets to preserve visible areas for more attractive quality office, industrial users, and unique features.
 -Promote facilities that are attractive, well landscaped, and in harmony with the overall project design parameters.

location map



section a-a



Proposed Berming and Vegetation to Increase Screening from Commercial Area

Commercial Area

Via Vista Road

SITE PLAN SHEET 6 OF 7



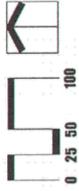
LEGEND: 69KV

AREA D Mitigation and Enhancements

SCALE APPROXIMATE

DRAFT 12/11/00

plan view



planting zones

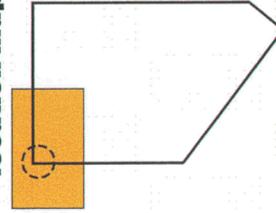
SAP zones refer to recommended distance of location from power lines as defined by SAP:

- Boundary Zone: within 25' from overhead lines.
- Zone 1: 25' maximum tree height and spread at least 25' from overhead lines.
- Zone 2: 25' - 40' maximum tree height and spread at least 40' from overhead lines.
- Zone 3: over 40' in height and spread at least 60' from overhead lines.

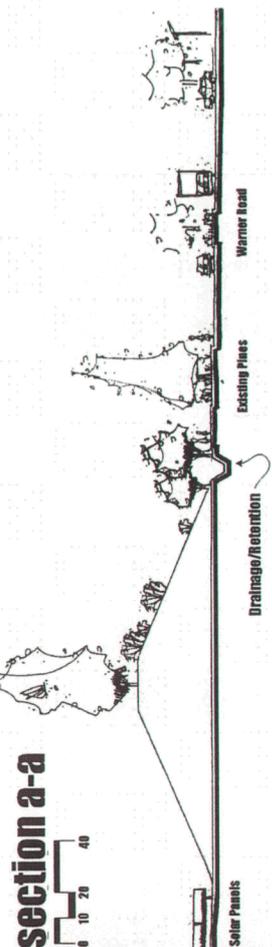
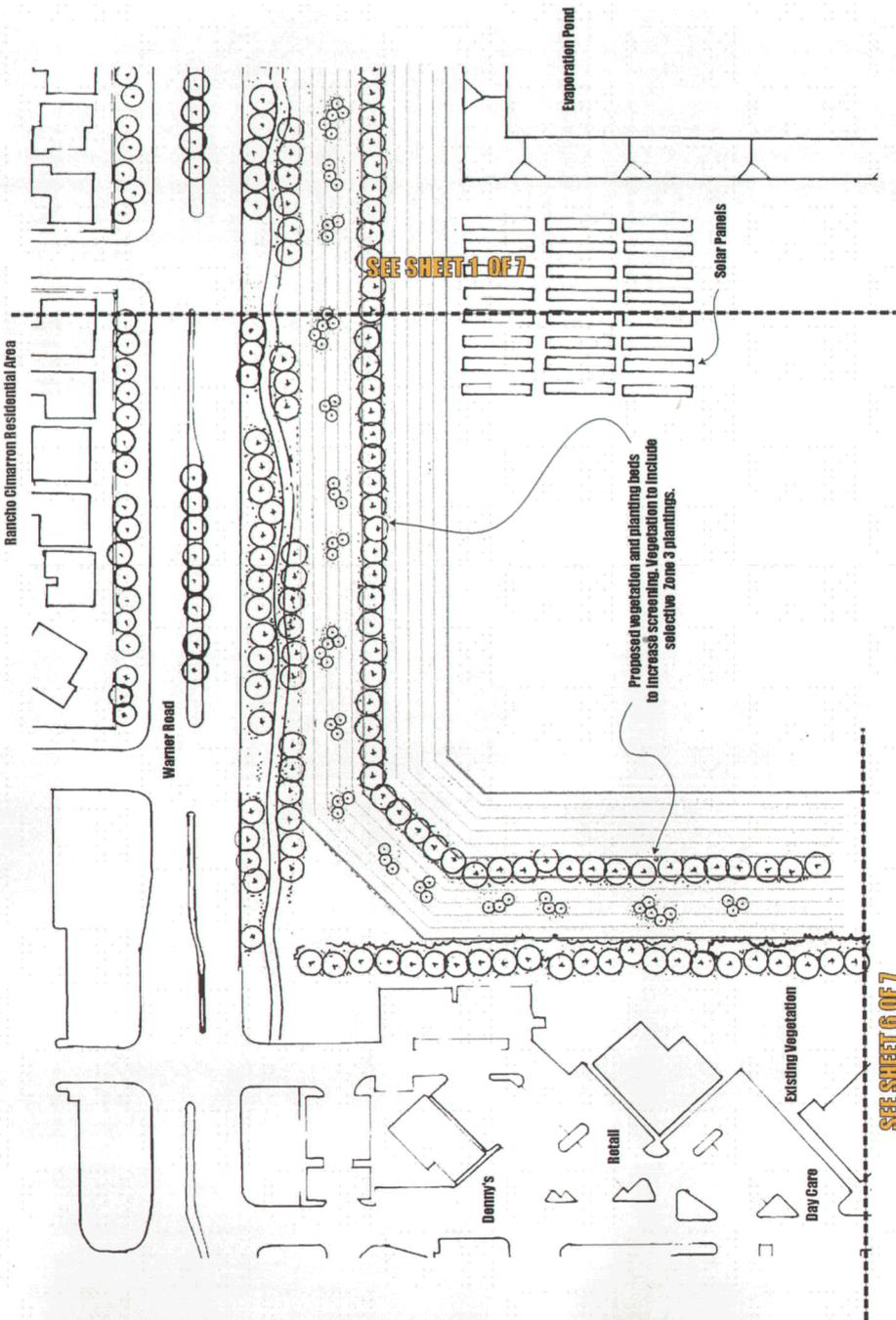
key elements

- Secure permanent interconnected open space, which provides visual and functional links with parks, schools, and neighborhoods.
- Utilize both sides of the canals, railroad and electrical transmission line corridors, providing for hiking, bicycling, jogging, equestrian, and non-motorized transportation.
- Promote trail development that is visually pleasing to the user, as well as to those living adjacent to the trail.
- Enhance community identity through creation of gateways, which convey a sense of entry into the Town through use of landscaping, monumentation, signs, and public art.
- Create high-quality development and landscaping along arterial streets such as Warner Road to enhance the Town's image.
- Encourage the use of massing of plant materials, unification of screen walls, sidewalks, and berms along arterial streets.

location map



SHEET 7 OF 7

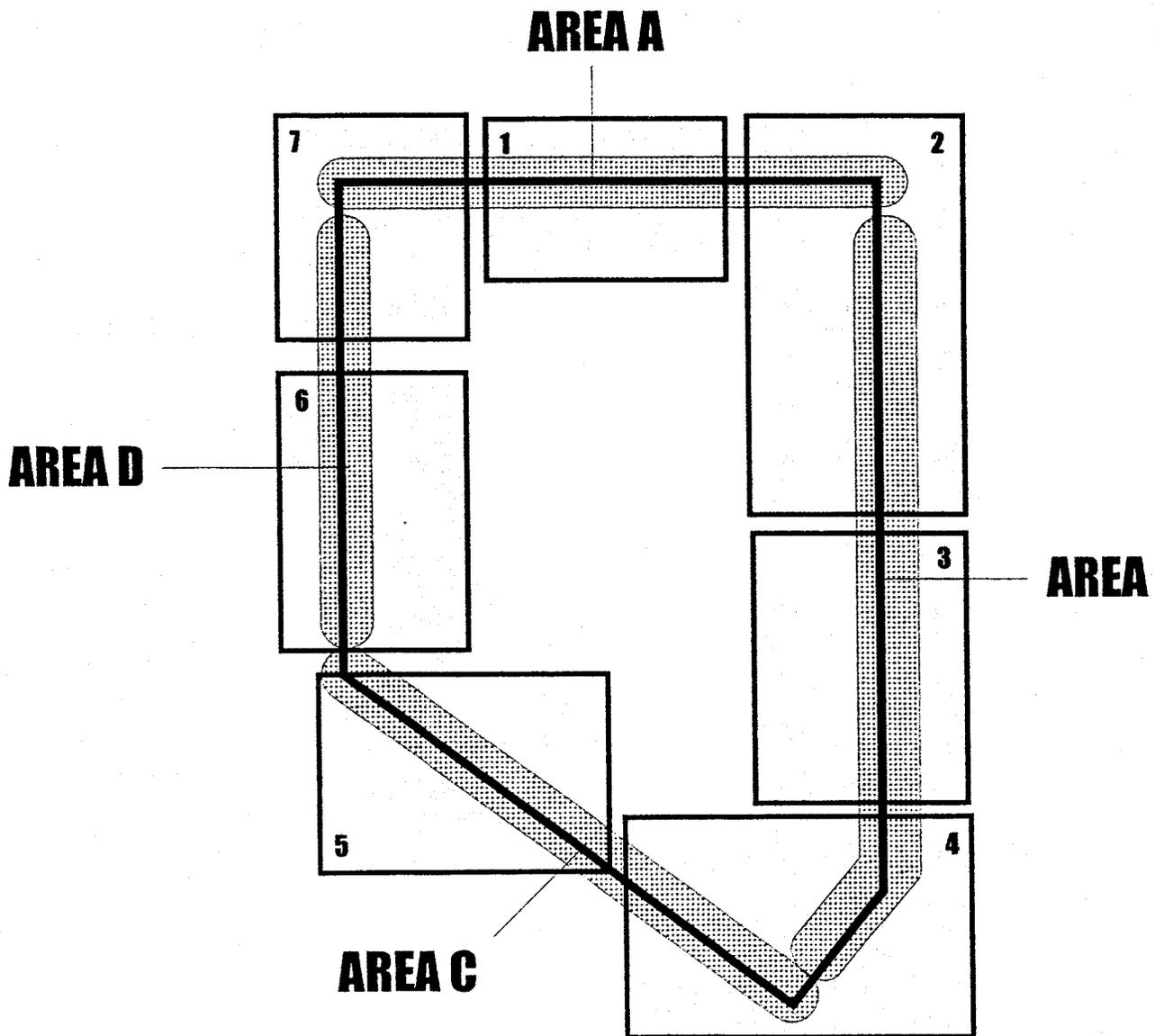


AREA D-A Mitigation and Enhancements

SCALE APPROXIMATE
DRAFT 12/11/00

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Mitigation and



KEY MAP
DRAFT: 12/11/00

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N PROJECT

Enhancements

Area A: Warner Road

Sheet 1 of 7

Sheet 2 of 7

Sheet 7 of 7

Area B: Eastern Boundary

Sheet 2 of 7

Sheet 3 of 7

Area C: Southern Boundary

Sheet 4 of 7

Sheet 5 of 7

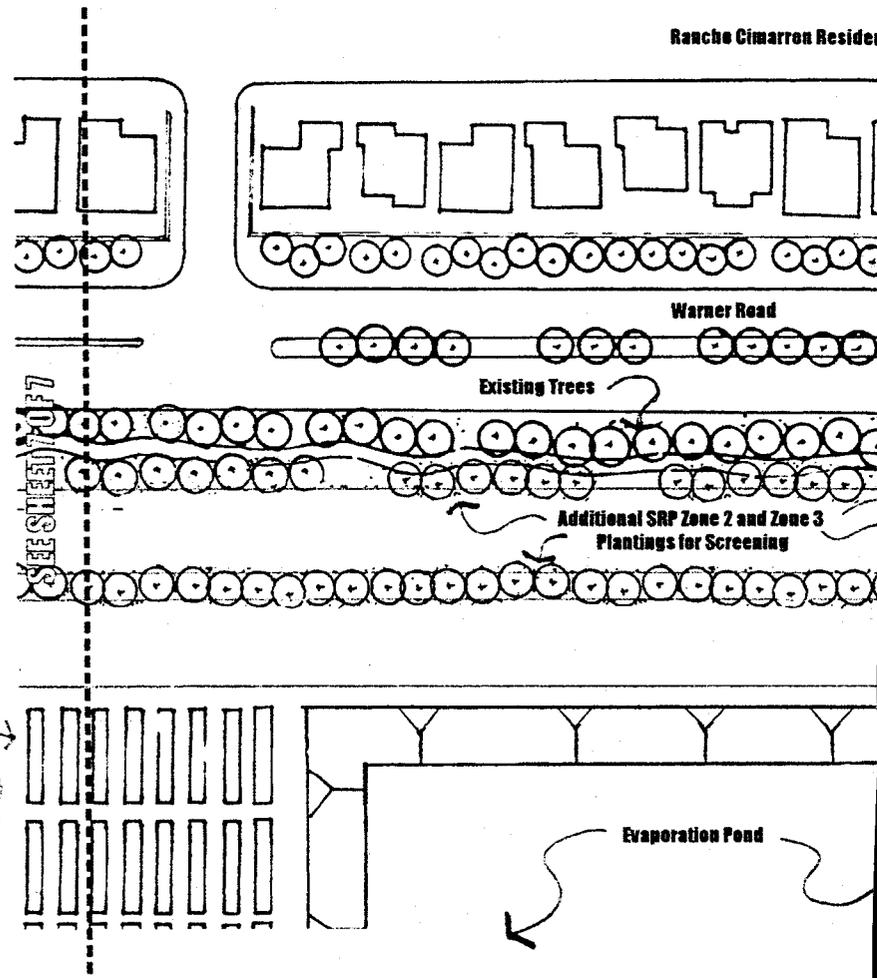
Area D: Western Boundary

Sheet 6 of 7

Sheet 7 of 7

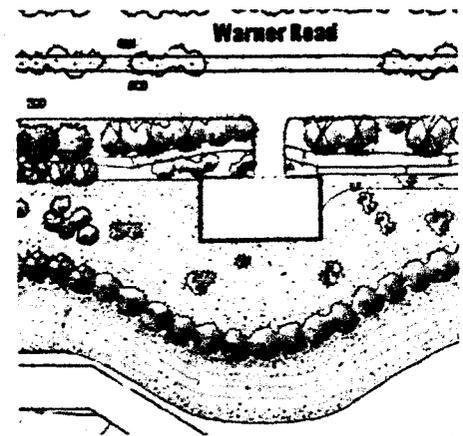
B

plan view



gas meter options

- Option 1: Move meters behind berm
- Option 2: Entry from Warner Road
- Option 3: Access from SRP property



AREA A Mitigation and Enhancements

DRAFT 12/11/00

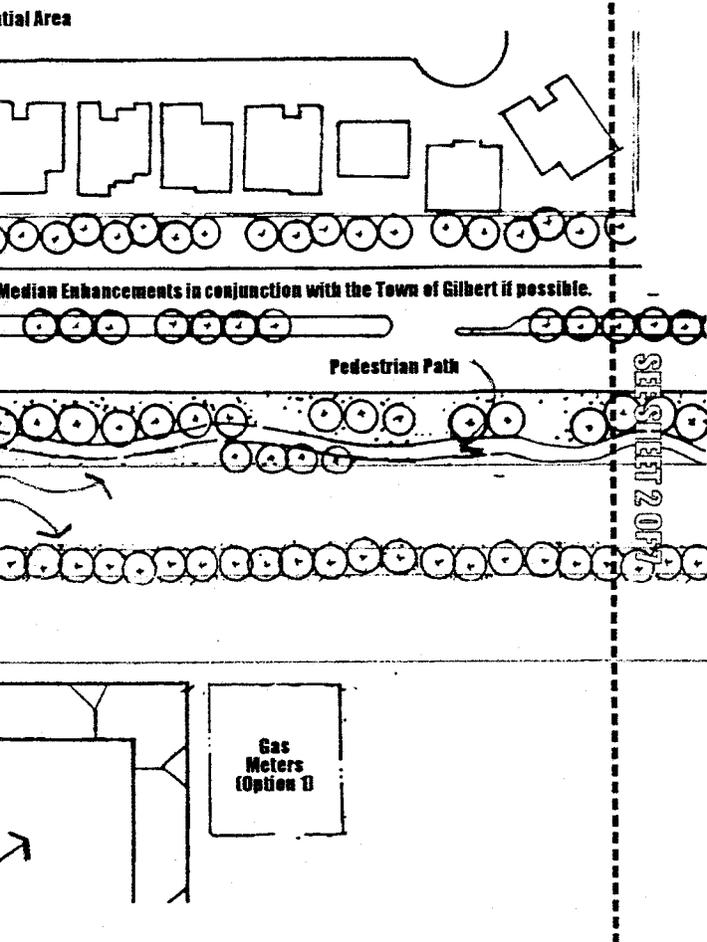
SCALE APPROXIMATE

Option 2

planting zones

SRP Zones refer to recommended distance or location from power lines as defined by SRP:

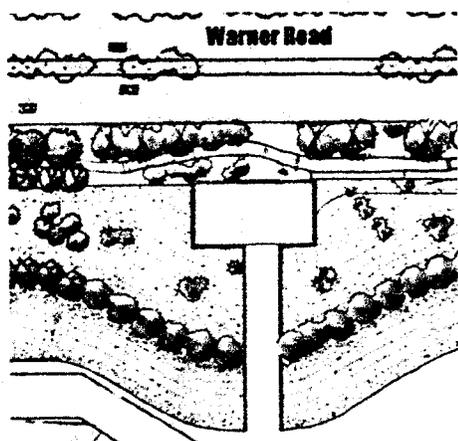
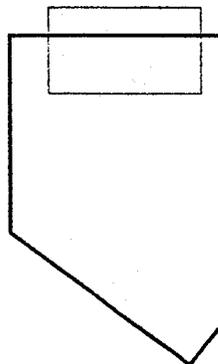
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- Zone 1: 25' maximum tree height and spread at least 25' from overhead lines.
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key elements

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- Encourage the use of massing of plant materials, undulation of screen walls, sidewalks and berming along arterial streets.
- The street character of the community should provide visual unity and enhance the environment of adjoining land uses.

location map

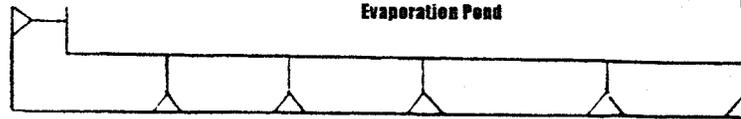
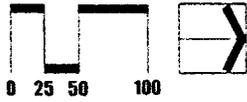


Option 3

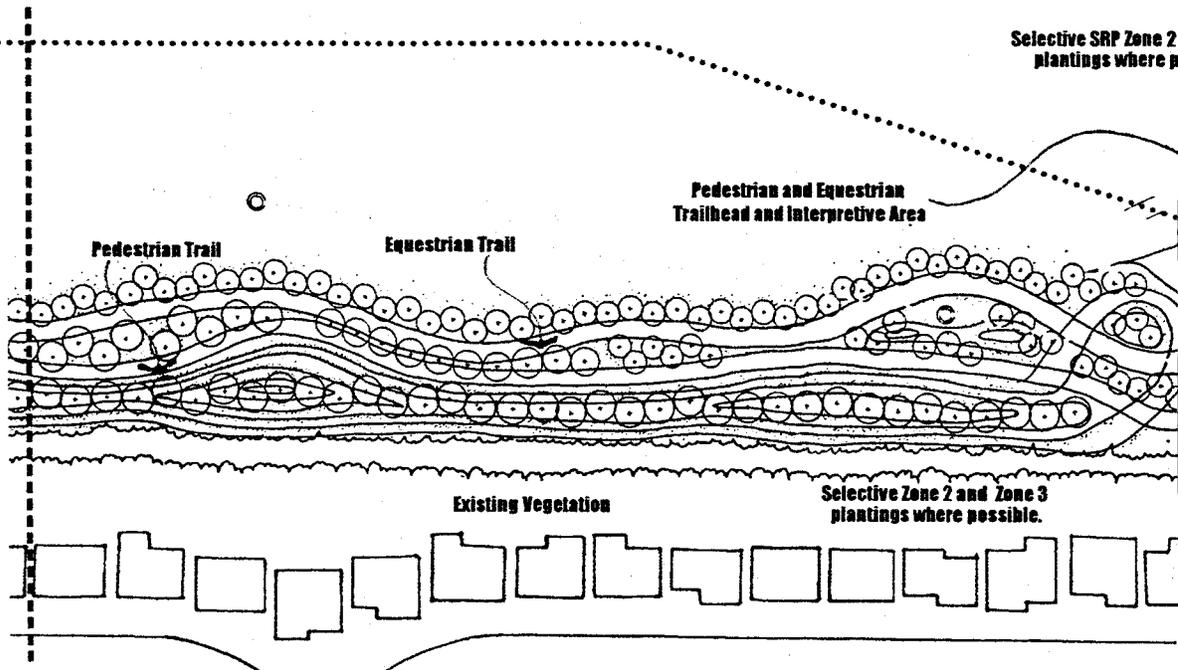
SITE PLAN SHEET 1 OF 7

SANTAN
EXPANSION PROJECT

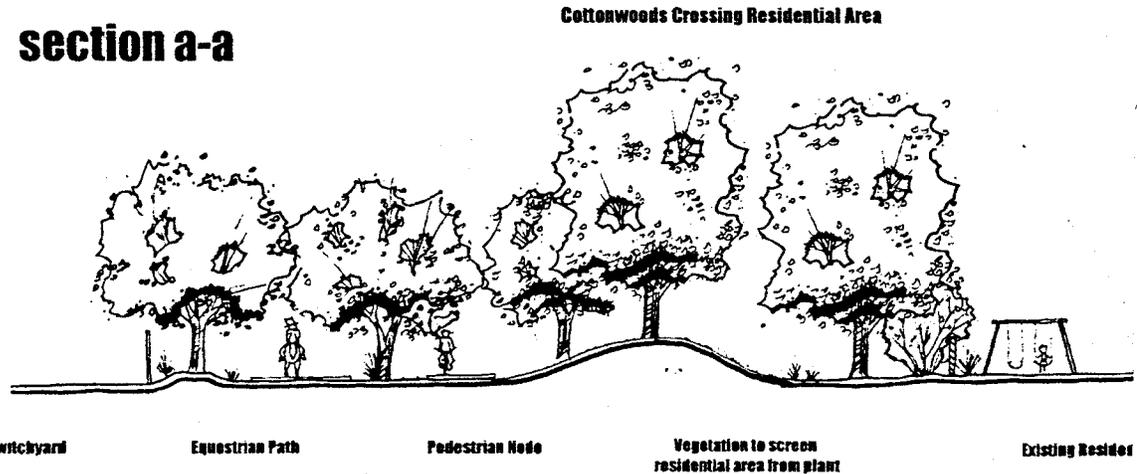
plan view



SEE SHEET 2 OF 7



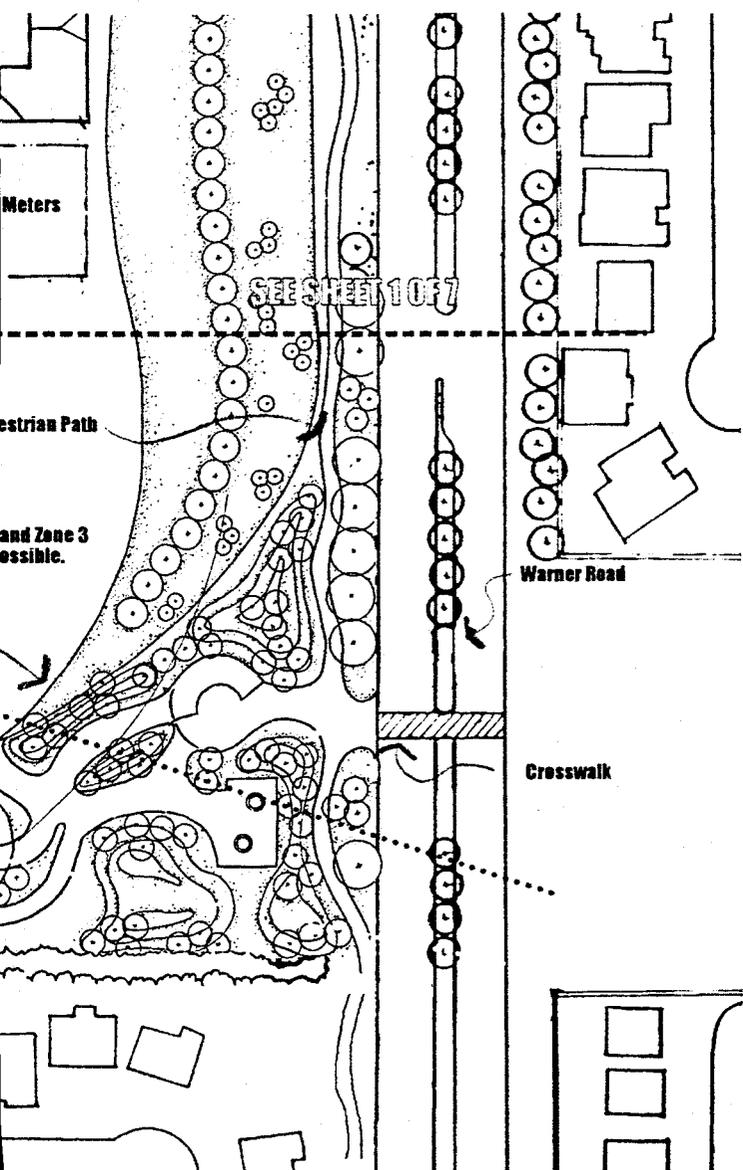
section a-a



AREA A-B Mitigation and Enhancements

DRAFT 12/11/00

SCALE APPROXIMATE



planting zones

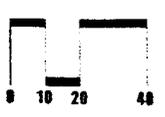
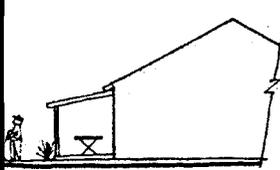
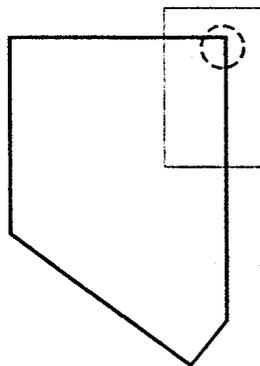
SRP Zones refer to recommended distance or location from power lines as defined by SRP:

- Understory Zone: within 25' from overhead lines.
- Zone 1: 25' maximum tree height and spread at least 25' from overhead lines.
- Zone 2: 25'- 40' maximum tree height and spread at least 40' from overhead lines.
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key elements

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location map



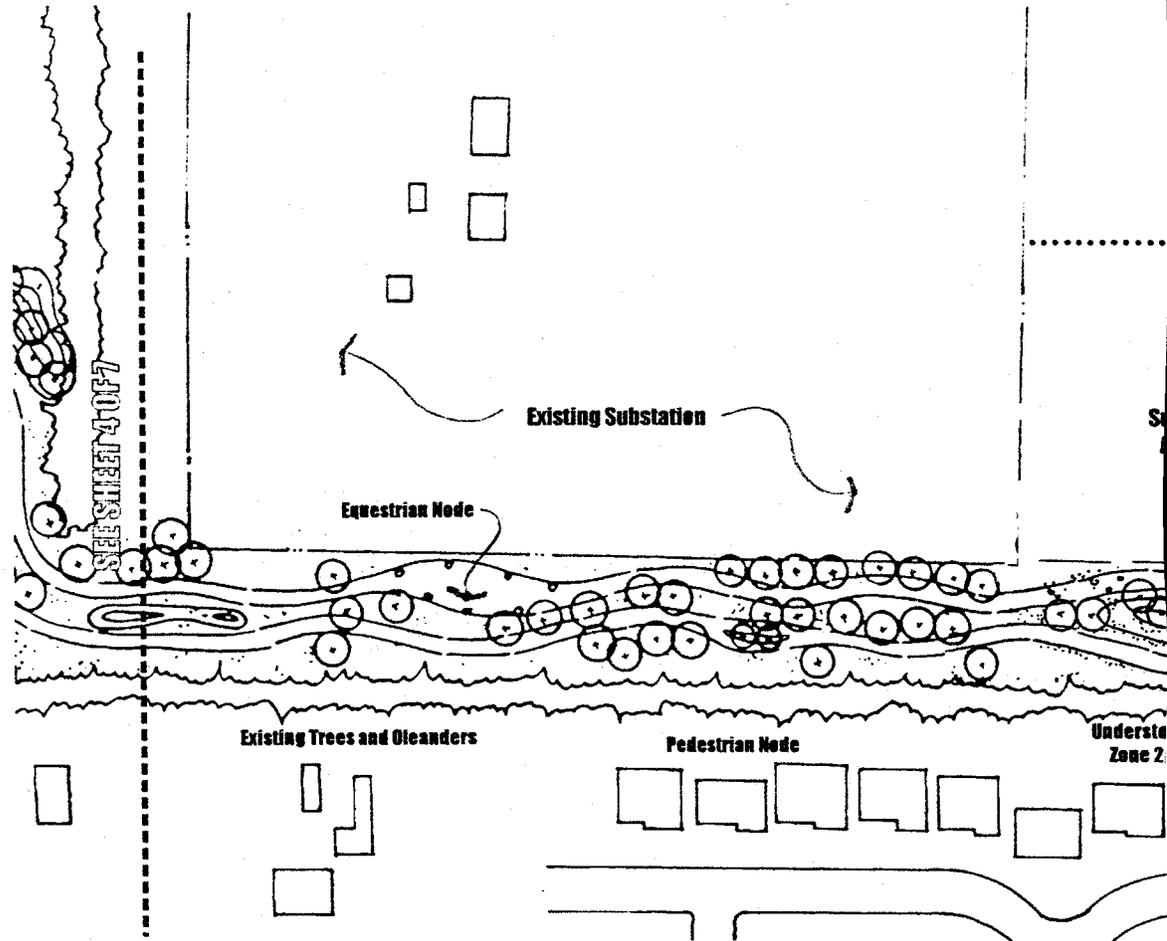
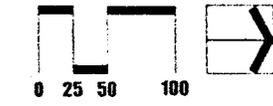
LEGEND: 230kV

Proposed 230kV

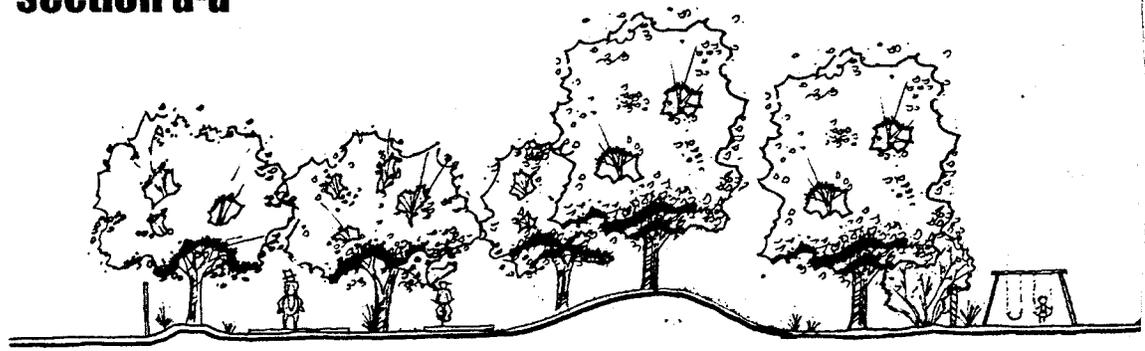
SITE PLAN SHEET 2 OF 7

SANTAN
EXPANSION PROJECT

plan view



section a-a



Switchyard Equestrian Path Pedestrian Node Vegetation to screen residential area from plant Existing Residential

AREA B Mitigation and Enhancements

DRAFT 12/11/00

SCALE APPROXIMATE

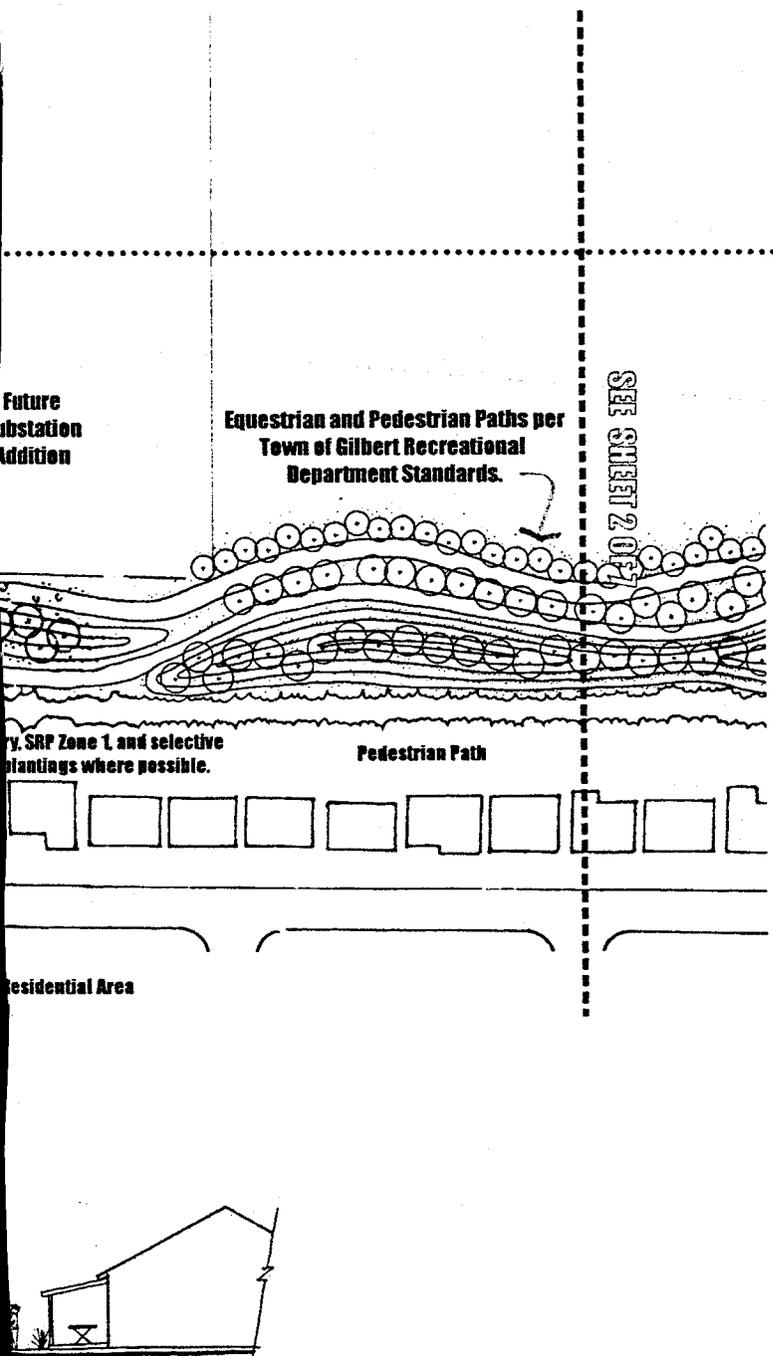
planting zones

SRP Zones refer to recommended distance or location from power lines as defined by SRP:

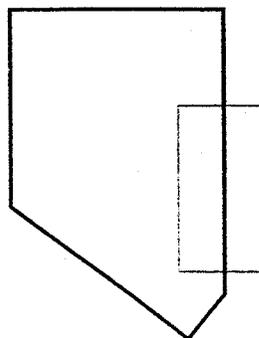
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key elements

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- Promote trail development that is visually pleasing to the user, as well as to those living adjacent to the trail.
- Orient equestrian trail development to accessing equestrian subdivisions, low-density areas and Rodeo Park, and limit conflicts with street traffic.



location map

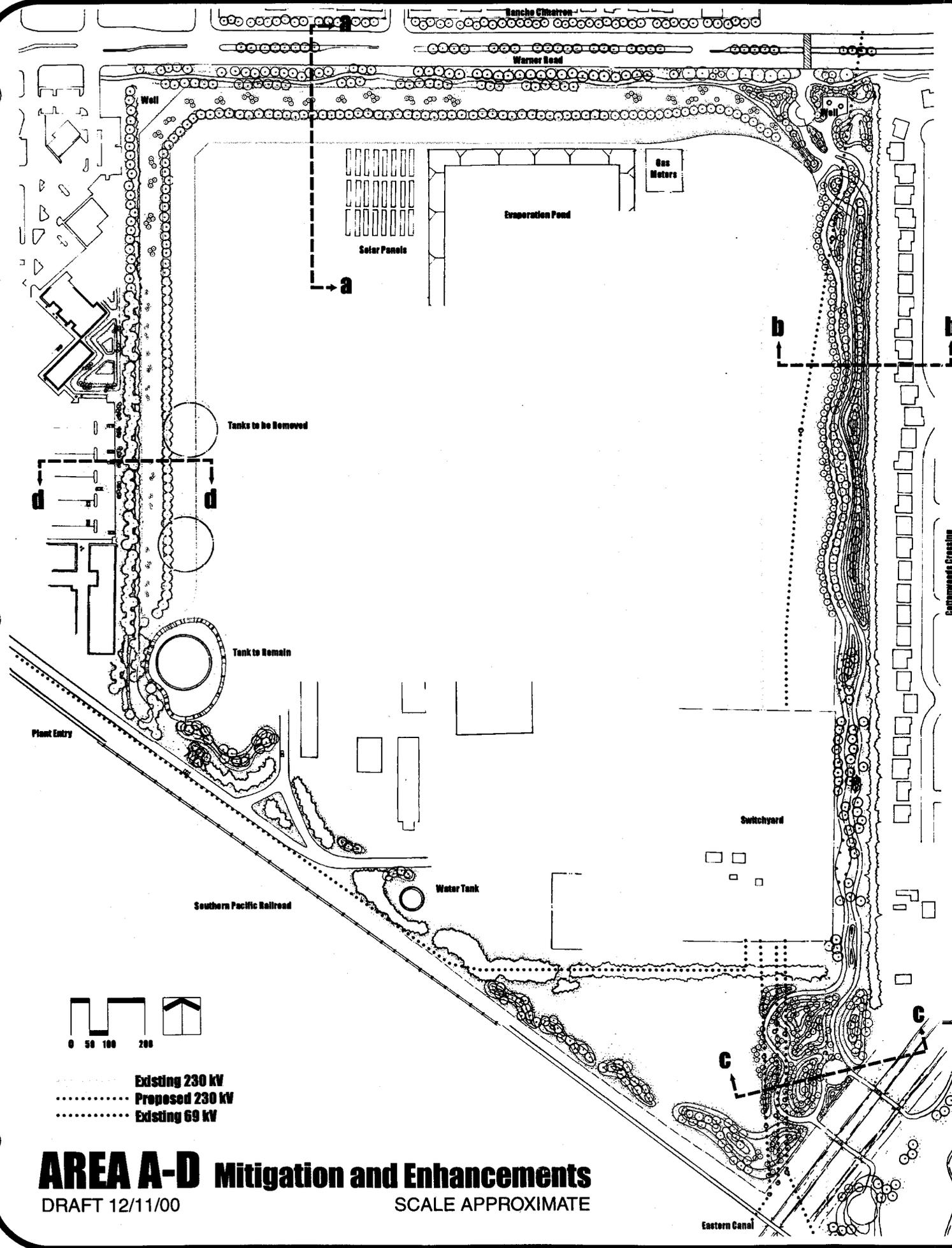


SITE PLAN SHEET 3 OF 7

SANTAN
EXPANSION PROJECT

LEGEND: 230kV

Proposed 230kV

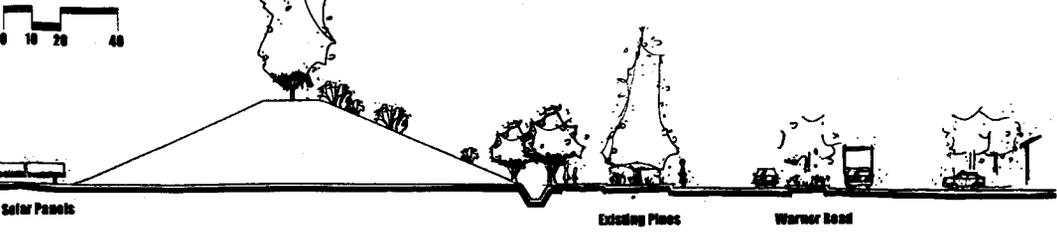


AREA A-D Mitigation and Enhancements

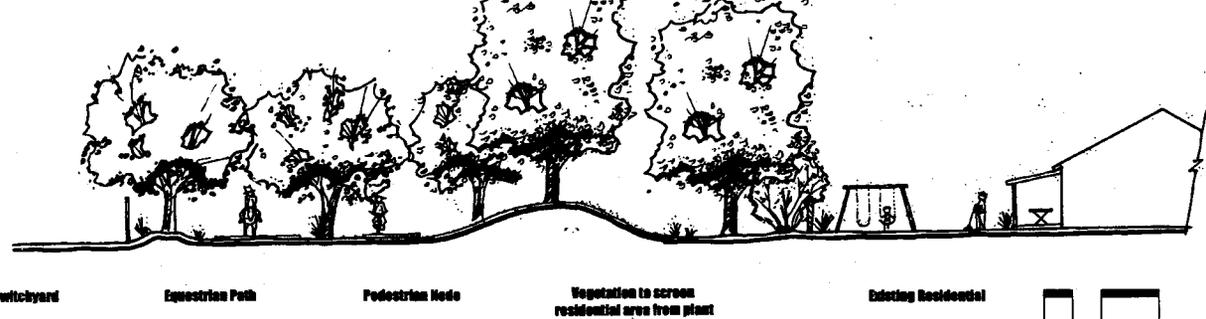
DRAFT 12/11/00

SCALE APPROXIMATE

section a-a



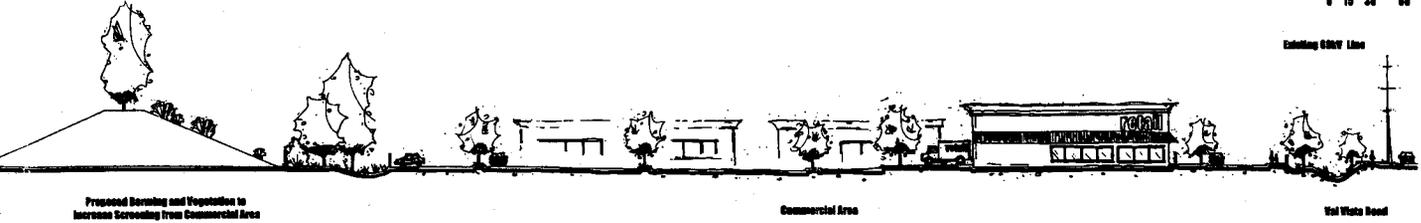
section b-b



section c-c



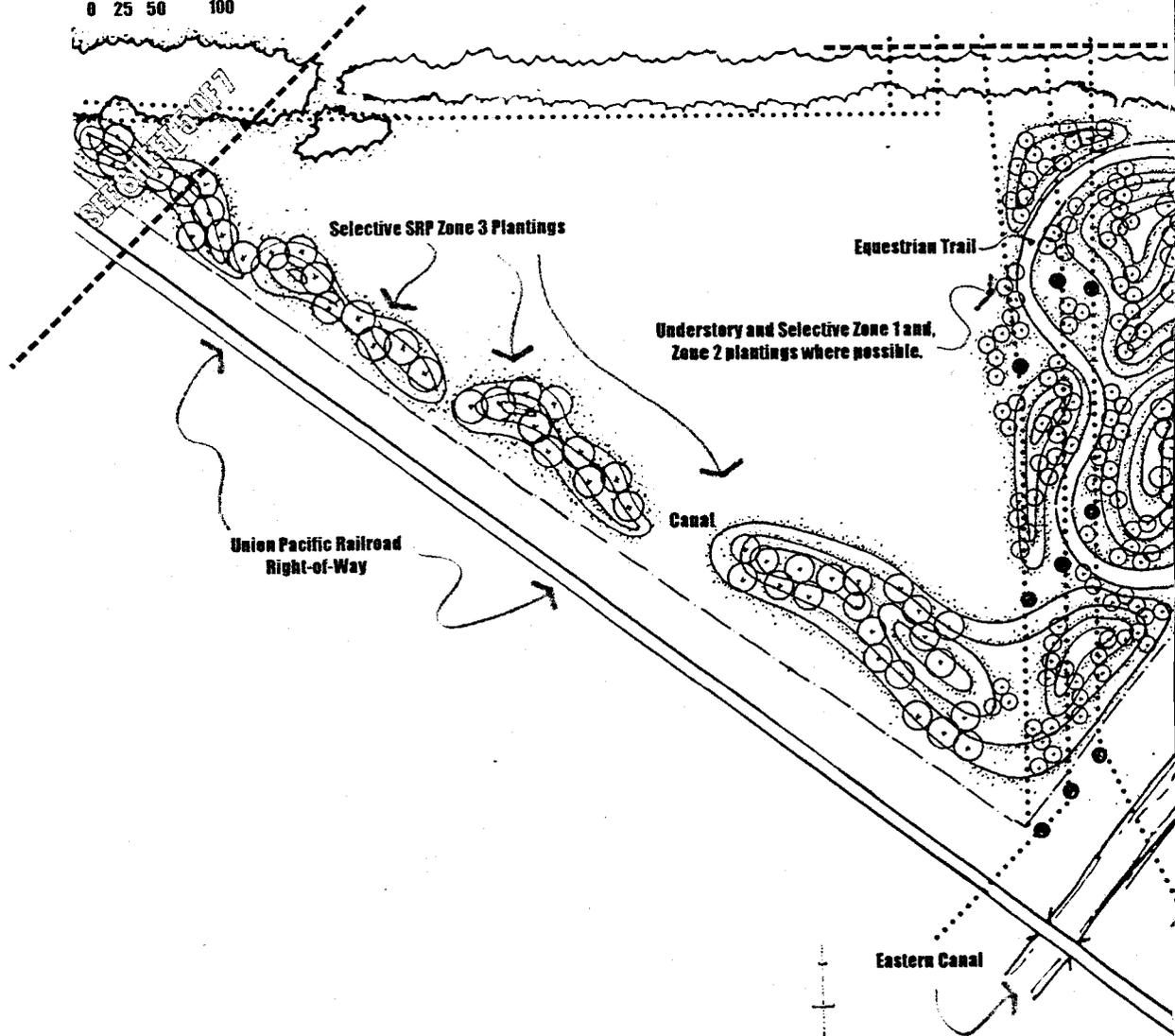
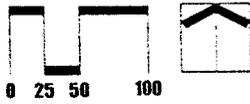
section d-d



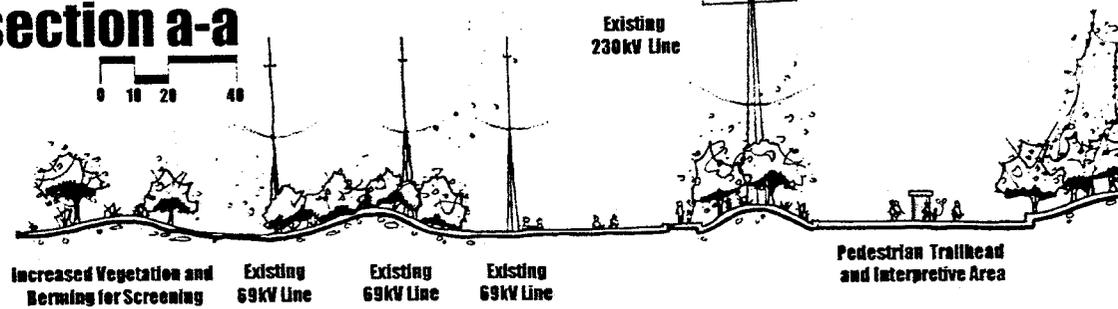
Crossroads Park



plan view



section a-a

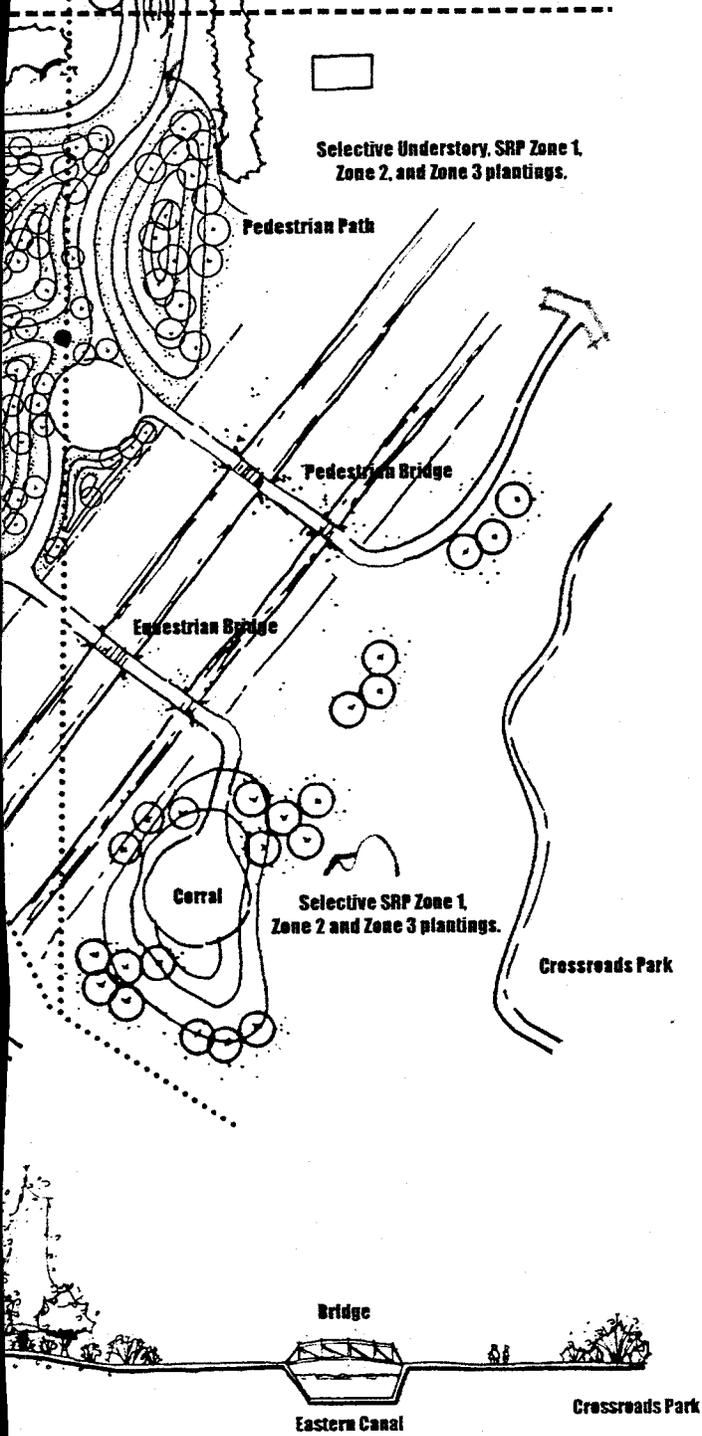


AREA B-C Mitigation and Enhancements

DRAFT 12/11/00

SCALE APPROXIMATE

SEE SHEET 3 OF 7



planting zones

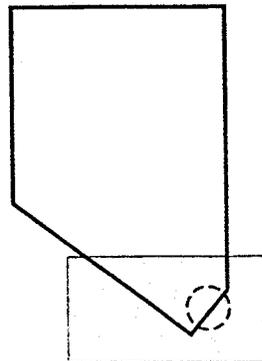
SRP Zones refer to recommended distance or location from power lines as defined by SRP:

- Understory Zone: within 25' from overhead lines.
- Zone 1: 25' maximum tree height and spread at least 25' from overhead lines.
- Zone 2: 25'-40' maximum tree height and spread at least 40' from overhead lines.
- Zone 3: over 40' in height and spread at least 60' from overhead lines.

key elements

- Secure permanent interconnected open space, which provides visual and functional links with parks, schools, and neighborhoods. Utilize both sides of the canals, railroad and electrical transmission line corridors, providing for hiking, bicycling, jogging, equestrian, and non-motorized transportation.
- Enhance community identity through creation of gateways, which convey a sense of entry into the Town through use of landscaping, monumentation, signs, and public art.
- Promote trail development that is visually pleasing to the user, as well as to those living adjacent to the trail.
- Orient equestrian trail development to accessing equestrian subdivisions, low-density areas and Rodeo Park, and limit conflicts with street traffic.
- Secure pedestrian, equestrian, and bicycle access across major barriers (canals, railroads).
- Consider plans for a rapid rail corridor on the existing Union Pacific Railroad line.

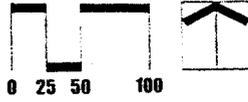
location map



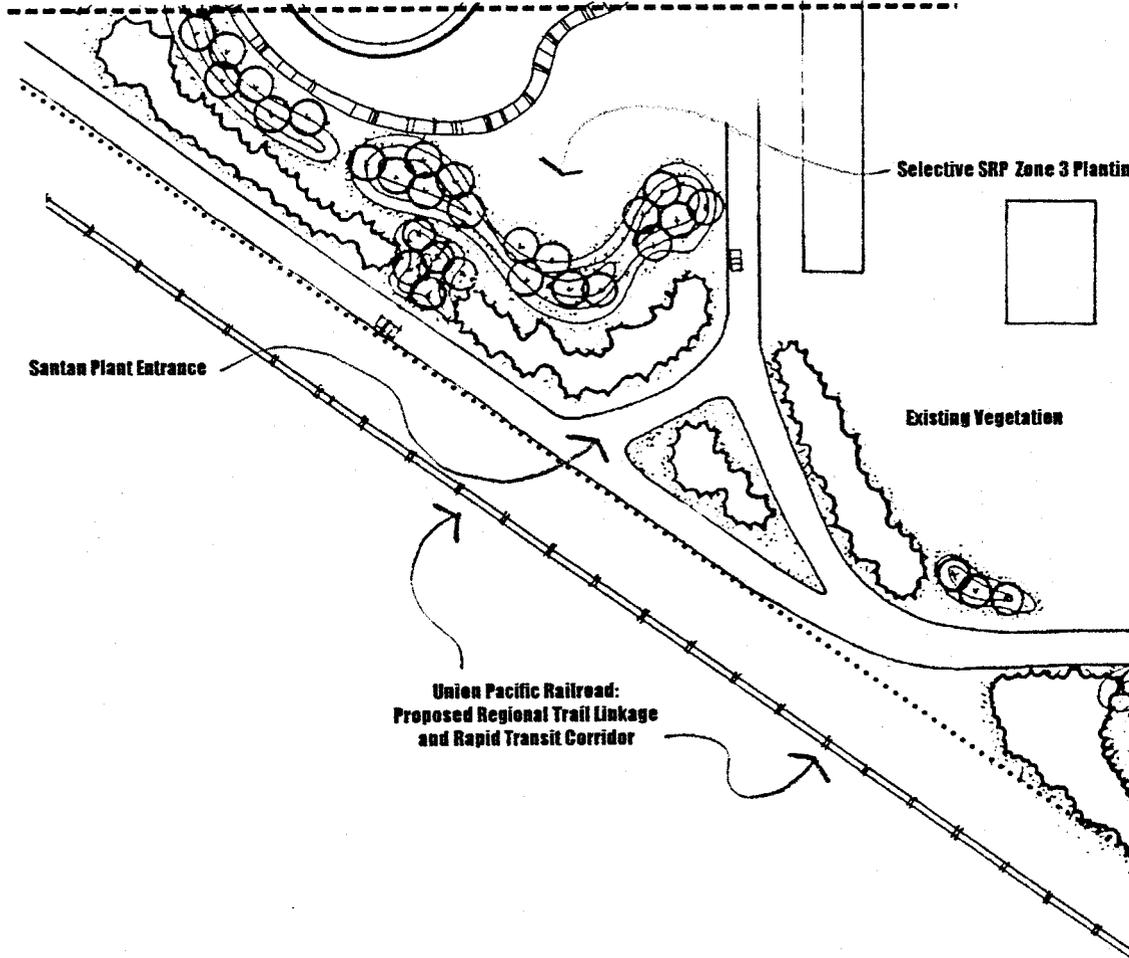
SITE PLAN SHEET 4 OF 7

SANTAN
EXPANSION PROJECT

plan view



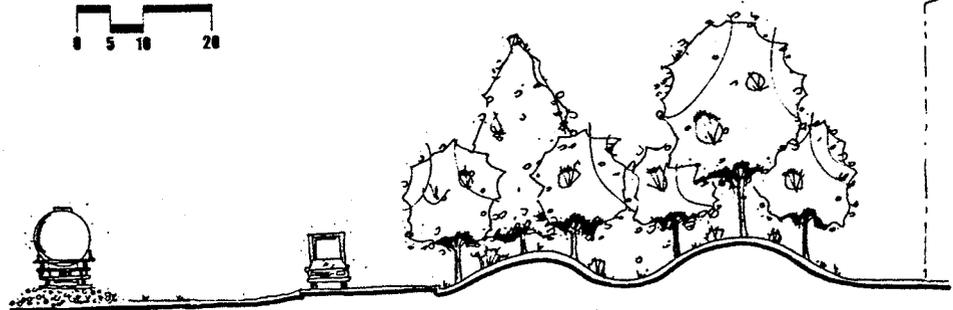
SEE SHEET 6 OF 7



section a-a



Infill Plantings and
Berms for Screening



Union Pacific Railroad

Santan Plant Entrance

Tank

AREA C Mitigation and Enhancements

DRAFT 12/11/00

SCALE APPROXIMATE

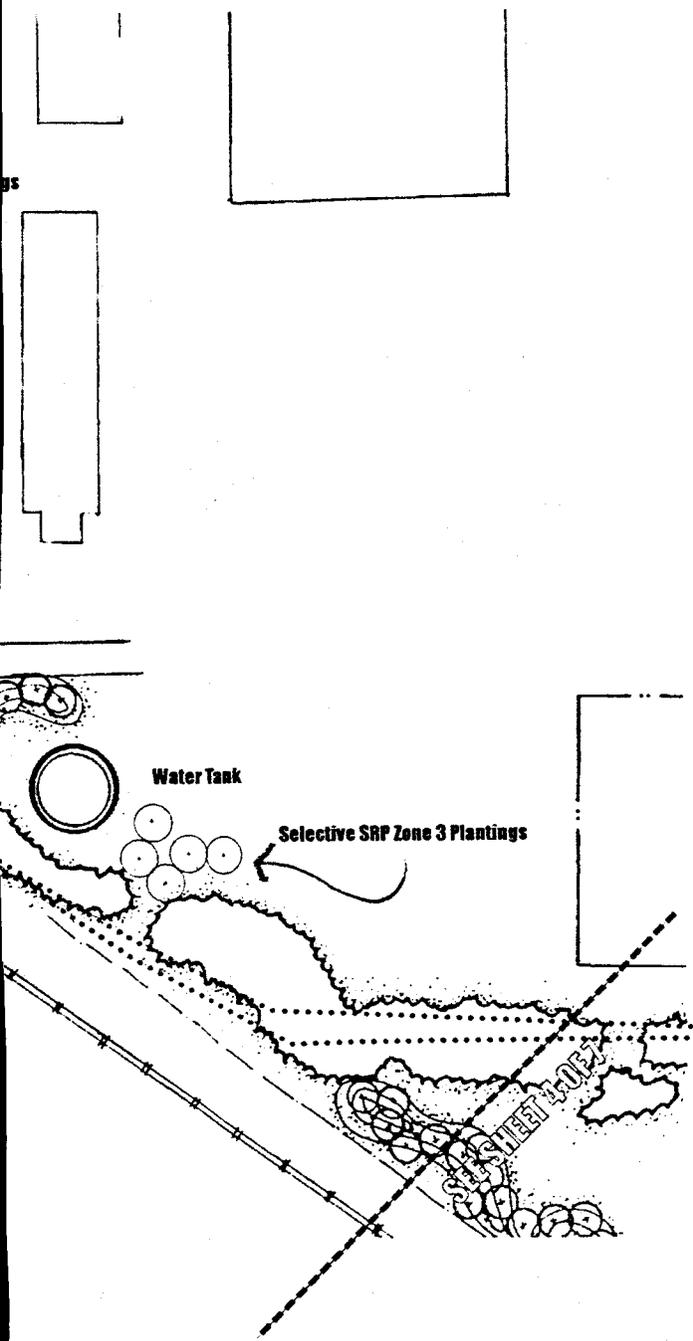
planting zones

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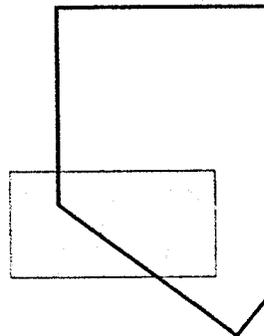
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location map

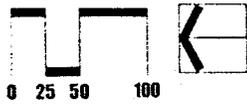


SITE PLAN SHEET 5 OF 7

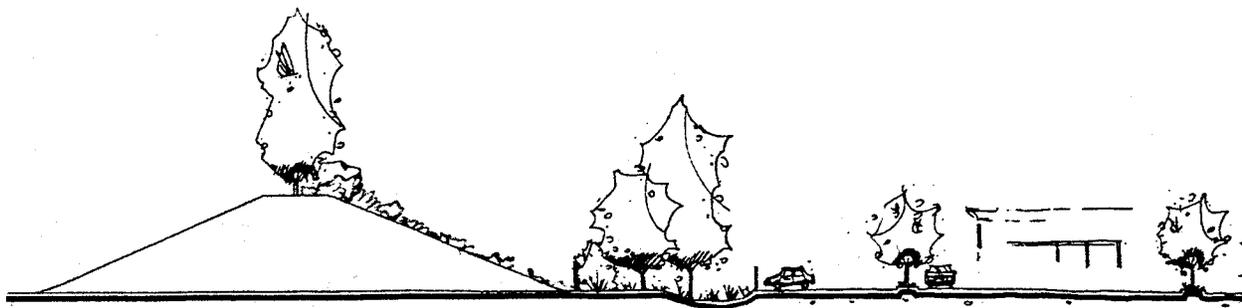
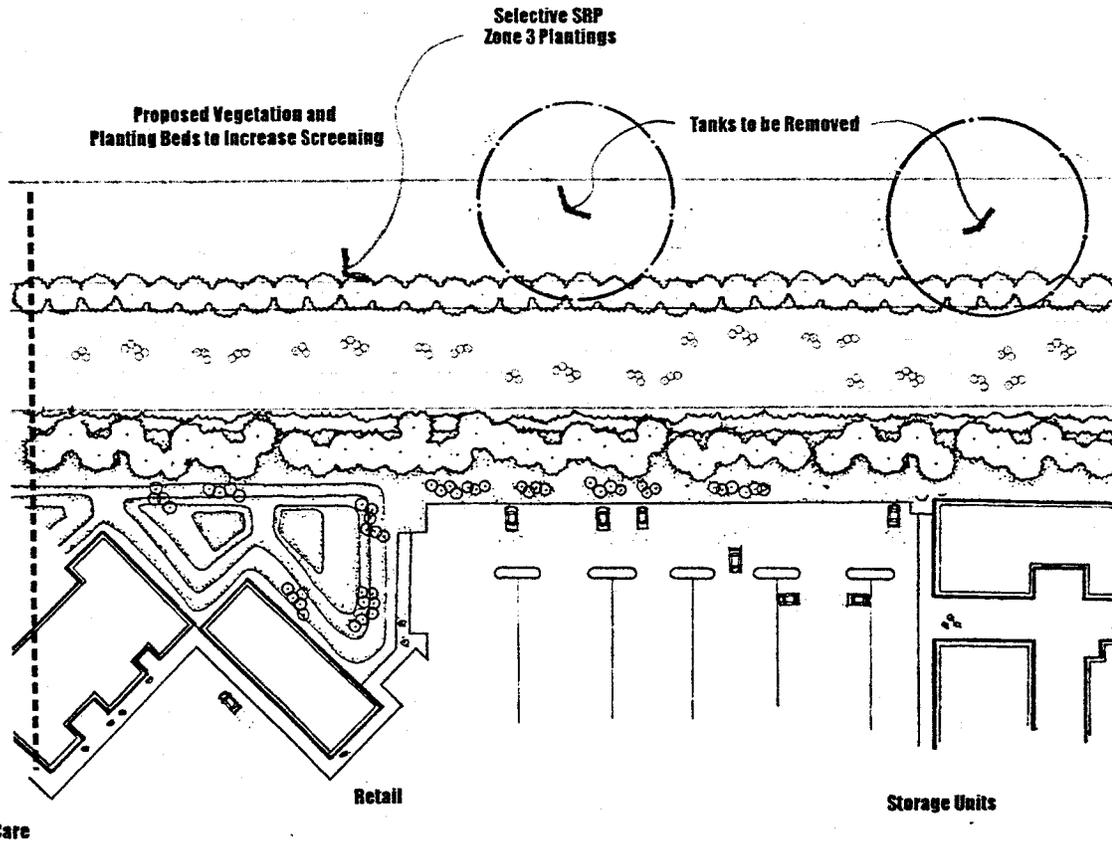
SANTAN
EXPANSION PROJECT

LEGEND: 69KV

plan view



SEE SHEET 7 OF 7



Proposed Berming and Vegetation to Increase Screening from Commercial Area

AREA D Mitigation and Enhancements

DRAFT 12/11/00

SCALE APPROXIMATE

planting zones

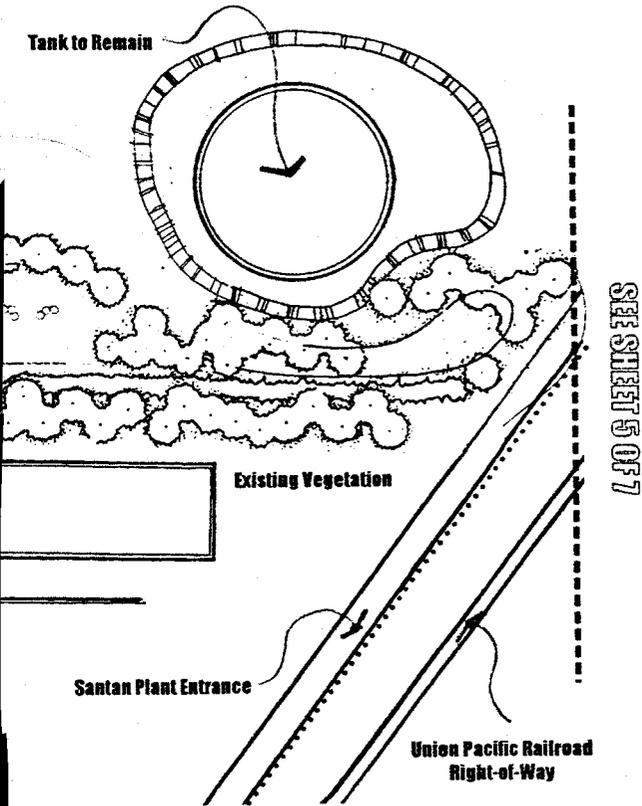
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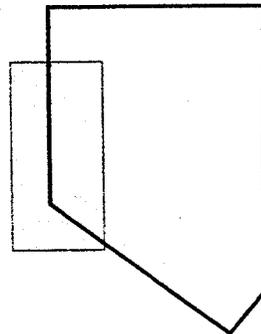
key elements

Design facilities to screen less attractive elements from arterials and residential areas, placing these elements away from main streets to preserve visible areas for more attractive quality office, industrial users, and unique features.

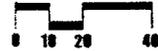
Promote facilities that are attractive, well landscaped, and in harmony with the overall project design parameters.



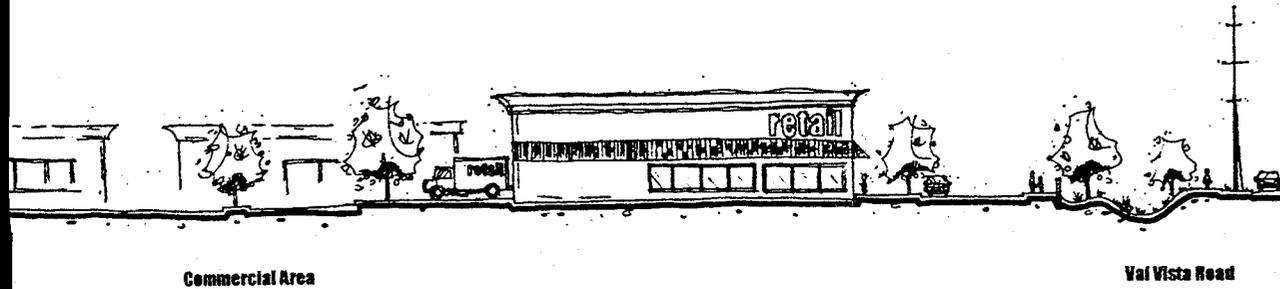
location map



section a-a



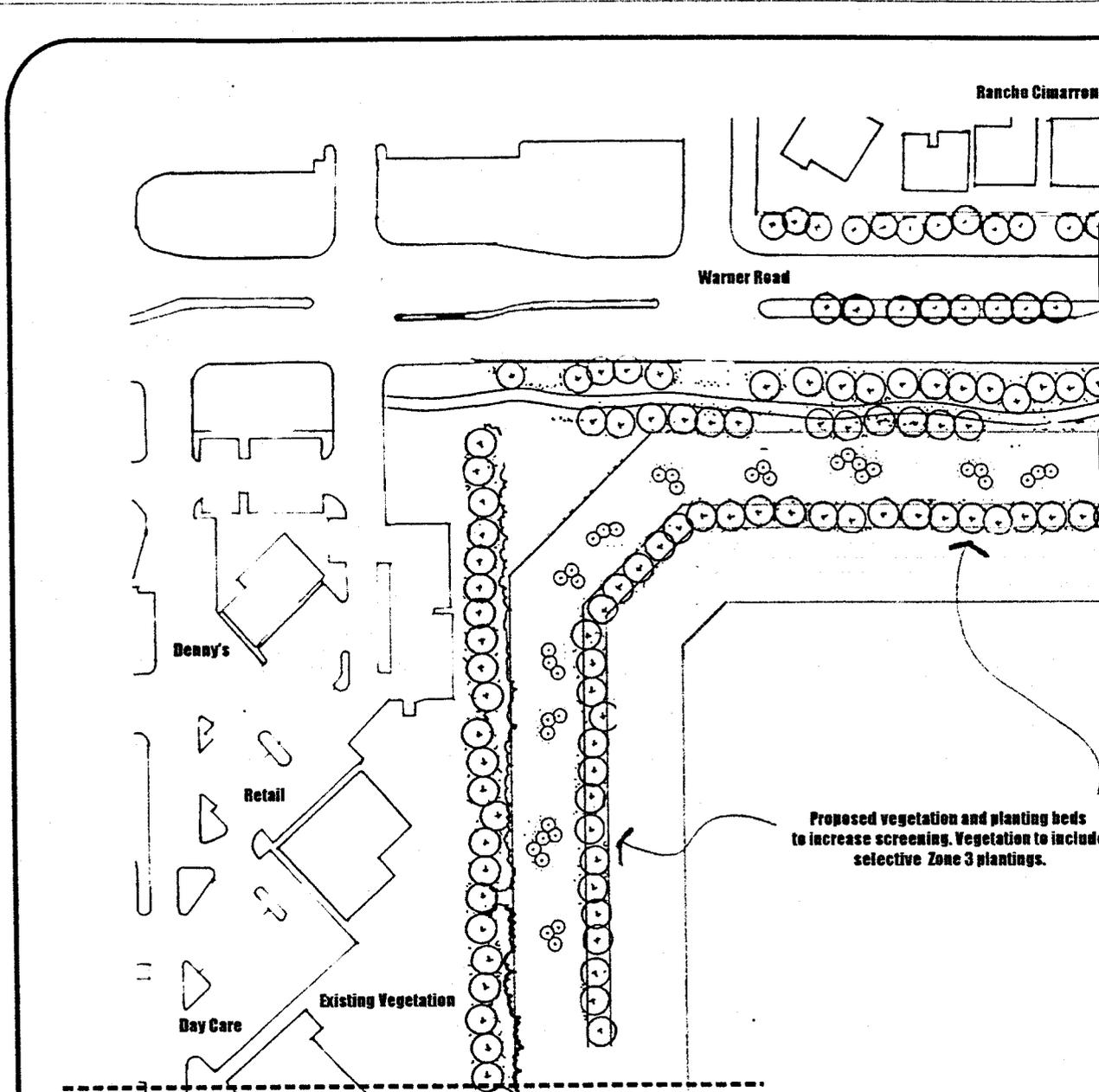
Existing 69kV Line



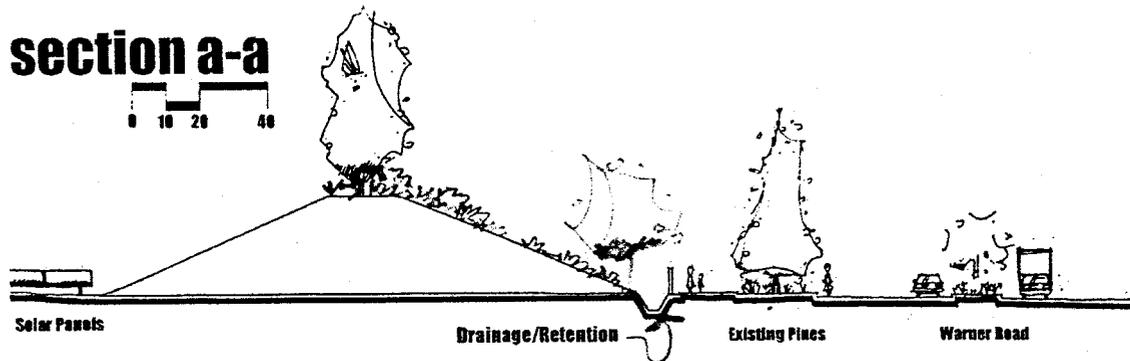
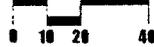
LEGEND: 69kV

SITE PLAN SHEET 6 OF 7

SANTAN
EXPANSION PROJECT



section a-a

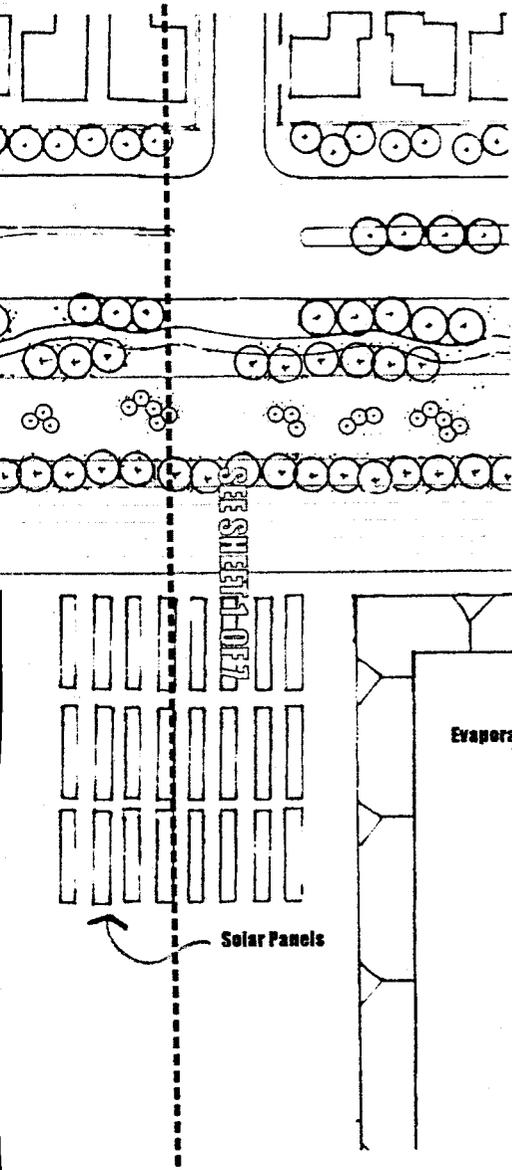


AREA D-A Mitigation and Enhancements

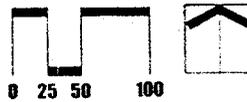
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SCALE APPROXIMATE

Residential Area



plan view



planting zones

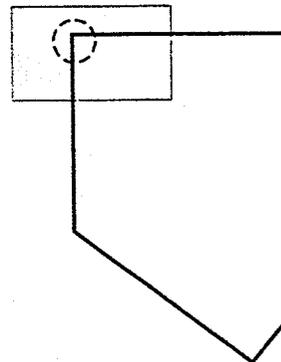
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key elements

- Secure permanent interconnected open space, which provides visual and functional links with parks, schools, and neighborhoods. Utilize both sides of the canals, railroad and electrical transmission line corridors, providing for hiking, bicycling, jogging, equestrian, and non-motorized transportation.
- Promote trail development that is visually pleasing to the user, as well as to those living adjacent to the trail.
- Enhance community identity through creation of gateways, which convey a sense of entry into the Town through use of landscaping, monumentation, signs, and public art.
- Create high-quality development and landscaping along arterial streets such as Warner Road to enhance the Town's image.
- Encourage the use of massing of plant materials, undulation of screen walls, sidewalks and berming along arterial streets.

location map



SHEET 7 OF 7

EXHIBIT 89

Town of Gilbert

SRP

TASKS

CWG/PUBLIC COMMUNICATIONS

- Designate Town's point of contact (project manager)
- Design/planning/engineering/maintenance staff participation
- Provide Town engineering and design standards

- Generation/transmission/operations/maintenance staff participation
- Designate SRP's point of contact
- Refine project description & survey

Task 1 - Concept Plan Review

- Review CEC conditions and concepts
- Revise as appropriate based on refined project description and CEC conditions
- Conduct additional studies, if needed
- Develop preliminary designs for each area

- CWG meetings
- Newsletter (announce process initiation)
- News release
- Open house

- Town design review

- Participate in review meetings

Task 2 - Town of Gilbert Review

- Document comments

- CWG meetings

- Staff participation

- Assist in plan revisions

Task 3 - Plan Revisions

- Revise plan
- Prepare final preliminary designs

- CWG meetings
- Newsletter (announce open house)
- Open house

- Town design/planning review

- Participate/review

- Town's project manager to monitor
- Provide final inspection services

- Review

- Review final plan
- Participate in meetings for review

- Participate/review

- Provide construction monitoring

- Implementation

➔ **Task 4 - Final Plan Development**

➔ **Task 5 - Prepare Construction Documents and Maintenance Plan**

➔ **Task 6 - Implementation** ➔ **Task 7 - Maintenance**

- Submit final plan for review
- Finalize plan
- Prepare construction documents

- Construction
- Prepare as-built drawings
- Monitor construction

- CWG meetings
- CWG participation in Town review
- Newsletter (announce finalization of plan)
- Open house

- CWG meetings

- Newsletter (announce completion)

- CWG designee for monitoring

Design and Implementation Process



EXHIBIT 90

Santan New Conditions

Introductory note: These new conditions are renumbered. Shown in italics is the derivation of each new condition. "Standard conditions" are the six conditions that usually accompany CEC orders for generation projects. "SRP conditions" are the 21 conditions submitted by SRP. The "Tobin conditions" are ten conditions summarized by Committee member Tobin, which summarize conditions proposed by various intervenors. The "Olea conditions" are the additional conditions suggested by Committee member Olea.

New Condition 1

This condition is Standard Condition 1

Applicant shall comply with all existing applicable air and water pollution control standards and regulations, and with all existing applicable ordinances, master plans and regulations of the State of Arizona, the Town of Gilbert, the County of Maricopa, the United States, and any other governmental entities having jurisdiction.

New Condition 2

-This condition is Standard Condition 2. SRP requests six years, rather than five.

This authorization to construct the Project will expire five (5) years from the date the Certificate is approved by the Arizona Corporation Commission unless construction of the Project is completed to the point that the project is capable of operating at its rated capacity; provided, however, that Applicant shall have the right to apply to the Arizona Corporation Commission for an extension of this time limitation.

New Condition 3

This condition is Standard Condition 3

Applicant's project has two (2) approved transmission lines emanating from its power plant transmission switchyard and interconnecting with the existing transmission system. This plant interconnection must satisfy the single contingency criteria (N-1) without reliance on remedial action such as a generator unit tripping or load shedding.

New Condition 4

This condition is Standard Condition 4

Applicant shall use reasonable efforts to remain a member of WSCC, or its successor, and shall file a copy of its WSCC Reliability Criteria Agreement or Reliability Management System (RMS) Generator Agreement with the Commission.

New Condition 5

This condition is Standard Condition 5

Applicant shall use reasonable efforts to remain a member of the Southwest Reserve Sharing Group, or its successor.

New Condition 6

This condition is Standard Condition 6

Applicant shall meet all applicable requirements for groundwater set forth in the Third Management Plan for the Phoenix Active Management Area.

New Condition 7

This condition is a combination of old SRP conditions 1 and 4, Tobin condition 9, and Olea condition 13

With respect to landscaping and screening measures, including the improvements listed in the IGA, Applicant agrees to develop and implement a public process consistent with the process chart (Exhibit 89) presented during the hearings, modifying the dates in the IGA with the Town of Gilbert, if necessary, to correspond with the schedule in Exhibit 89.

The new Community Working Group (CWG) will consist of 12 members, selected as follows: three members selected by the Town of Gilbert, three members selected by neighborhood homeowner associations, three representatives selected by intervenors, and three members selected by SRP (not part of the aforementioned groups) who were part of the original community working group. Applicant and landscaping consultants shall act as advisors to the CWG. CWG meetings shall be noticed to and be open to the general public.

The objective of the CWG shall be to refine the landscaping and mitigation concept plans submitted during these hearings (Exhibit 88). The CWG shall work within the scope of commitment by Applicant for onsite and offsite improvements to achieve appropriate visual mitigation of plant facilities and to facilitate the design and installation of the concept plan components so as to maximize the positive impact on the community and

to increase, wherever possible, the values of the homes in the neighboring areas. The refinement of the mitigation plans shall be reasonably consistent with the planning criteria of the Town of Gilbert, the desires of neighboring homeowner associations, and the reasonable needs of Applicant.

Applicant shall retain an independent facilitator to conduct the CWG meetings. It shall be the role of the facilitator to assist in initial education and in conducting an orderly and productive process. The facilitator may, if necessary, employ dispute resolution mechanisms.

The CWG shall also assist in establishing reasonable maintenance schedules for landscaping in public-view areas of Applicant's plant site.

Applicant will develop with the Town of Gilbert a fund, to be administered by the Town of Gilbert, to provide for the construction and maintenance of off-site landscaping in the areas depicted in the off-site landscaping concepts as developed by the CWG.

New Condition 8

This condition is from SRP condition 2

The visual mitigation plans and concepts presented to these proceedings constitute a commitment level by Applicant. Applicant will not reduce the overall level of mitigation as set forth in its Application and this proceeding, except as may be reduced during the CWG process.

New Condition 9

This condition is from SRP condition 3 and Olea condition 7

Applicant shall, where reasonable to do so, plant on site trees by the fall of 2001. Because planting of trees must await the improvement of Warner Road and the design and construction of berms, this condition will largely apply to trees on the East side of the site, and some of the trees on the North side. All landscaping will be installed prior to the installation of major plant equipment, except where delays are reasonably necessary to facilitate construction activities.

New Condition 10

This condition derives from SRP condition 6

Applicant shall operate the Project so that during normal operations the Project shall not exceed the most restrictive of applicable (i) HUD

residential noise guidelines, (ii) EPA residential noise guidelines, or (iii) applicable City of Tempe standards. During construction Additionally, construction and operation of the facility shall comply with OSHA worker safety noise standards. Applicant agrees that it will use its best efforts to avoid during nighttime hours construction activities that generate significant noise. Additionally, Applicant agrees to comply with the standards set forth in the Gilbert Construction Noise Ordinance, Ordinance No. 1245, during construction of the project.

New Condition 11

This condition is SRP condition 8

Applicant will work with the Gilbert Unified School District to assist it in converting all or part of its school bus fleet to green diesel or other alternative fuel, as may be feasible and determined by Gilbert Unified School District, and will contribute \$330,000 to this effort. Applicant will support legislation to include green diesel as an alternative fuel for school funding purposes.

New Condition 12

This condition is SRP condition 9

Applicant shall work with all interested East Valley cities, including at a minimum, Mesa, Chandler, Queen Creek and Gilbert, to fund a Major Investment Study through the Regional Public Transit Authority to develop concepts and plans for commuter rail systems to serve the growing population of the East Valley. Applicant will contribute a maximum of \$400,000 to this effort.

New Condition 13

This condition derives from SRP condition 10 and Olea condition 12

Within six months of approval of this Order by the Arizona Corporation Commission, Applicant shall either relocate the gas metering facilities to the interior of the plant site or construct a solid wall between the gas metering facilities at the plant site and Warner Road. The wall shall be of such strength and size as to deflect vehicular traffic (including a fully loaded concrete truck) that may veer from Warner Road to the gas-metering site.

New Condition 14

This condition is SRP condition 11

Applicant will use only renewable water for cooling and power plant purposes. The water use for the plant will be consistent with the water plan submitted in this proceeding. Applicant will work with the Town of Gilbert to attempt to use available effluent water, where reasonably feasible.

New Condition 15

This condition is SRP condition 12

Applicant agrees to comply with all applicable federal, state and local regulations relative to storage and transportation of chemicals used at the plant.

New Condition 16

This condition derives from SRP condition 13

Applicant agrees to maintain on file with the Town of Gilbert safety and emergency plans relative to emergency conditions that may arise at the plant site. On at least an annual basis Applicant shall review and update, if necessary, the emergency plans. Copies of these plans will be made available to the public and on Applicant's web site. Additionally Applicant will cooperate with the Town of Gilbert to provide information to community residents relative to potential emergency situations arising from the plant or related facilities. Applicant agrees work with the Gilbert police and fire departments to jointly develop on site and off-site evacuation plans, as may be reasonably appropriate.

New Condition 17

This condition derives from SRP condition 14

In obtaining air offsets required by EPA and Maricopa County, Applicant will use its best efforts to obtain these offsets as close as practicable to the plant site. In the event that Applicant constructs other projects which require offsets, Applicant will make additional efforts to obtain, where reasonably feasible, offsets in the Gilbert area.

New Condition 18

This condition derives from SRP condition 15 and Olea condition 10

In order to reduce the possibility of generation shortages and the attendant price volatility that California is now experiencing, SRP will

operate the facilities consistent with its obligation to serve its retail load and to maintain a reliable transmission system within Arizona.

New Condition 19

This condition derives from SRP condition 16 and Olea condition 14

Beginning upon operation of the new units, Applicant will establish a citizens' committee to monitor air and noise compliance and water quality reporting. Applicant will establish on-site air and noise monitoring facilities to facilitate the process. Additionally Applicant shall work with Maricopa County and the Arizona Department of Environmental Quality to enhance monitoring in the vicinity of the plant site. Result of air monitoring will be made reasonably available to the public and to the citizens' committee. Applicant shall provide on and off site noise monitoring services (at least on a quarterly basis), testing those locations suggested by the citizens' committee.

New Condition 20

This condition derives from SRP condition 17

Applicant will explore, and deploy where reasonably practicable, the use of available technologies to reduce the size of the steam plumes from the unit cooling towers.

New Condition 21

This condition derives from SRP condition 18

SRP will, where practicable, work with El Paso Natural Gas Company to use the railroad easements for the installation of the new El Paso gas line.

New Condition 22

This condition derives from SRP condition 19

Other than the Santan/RS 18 lines currently under construction, Applicant shall not construct additional Extra High Voltage transmission lines (115kV and above) into the Santan site.

New Condition 23

This condition derives from SRP condition 21

Applicant will replace all Town of Gilbert existing street sweepers with certified PM10 efficient equipment. A PM10 efficient street sweeper is a street sweeper that has been certified by the South Coast Air Quality Management District (California) to comply with the District's performance standards under its Rule 1186 (which is the standard referenced by the Maricopa Association of Governments).

New Condition 24

This condition derives from Tobin condition 2, and from conversations this week with the Office of Environmental Health

Applicant has presented evidence to indicate that the project will not create health risks in the surrounding area. Nonetheless, because of concerns raised by neighbors to the plant site, Applicant will offer to work in a cooperative effort with the Office of Environmental Health of the Arizona Department of Health Services to enhance its environmental efforts.

New Condition 25

This condition derives from Tobin condition 4

Applicant will operate, improve and maintain the plant consistent with applicable environmental regulations and requirements of the Environmental Protection Agency, the Arizona Department of Environmental Quality, Maricopa County and the Town of Gilbert.

New Condition 26

This condition derives from Tobin condition 5 and Olea condition 1

Applicant will cooperate with Maricopa County in its efforts to establish appropriate standards relative to the use of distillate fuels in Valley generating facilities.

New Condition 27

This condition derives from Tobin condition 7

Applicant will install continuous emission monitoring equipment on the new units and will make available on its website emissions data from both the existing and new units according to EPA standards. Applicant will provide information to the public on its website in order to assist the public in interpreting the data.

New Condition 28

This condition derives from Tobin condition 8

Applicant will comply with the provisions of the Intergovernmental Agreement dated April 25, 2000 between Applicant and the Town of Gilbert.

New Condition 29

This condition derives from Tobin condition 6

During the proceeding neighbors to the plant site raise significant concern about the impact of the plant expansion on residential property values. Applicant has pointed out that many of the major conditions in this order, and other conditions applicable to Applicant, as well as the significant investment by Applicant, will enhance the general neighborhood and property values. These include

- major air quality enhancement measures and local offsets,
- extensive landscaping and screening requirements,
- significant contribution of new property taxes,
- the various community improvements including road improvements, trail and bridge construction and canal relocation,
- limits on future high voltage transmission,
- noise reduction and monitoring activities,
- construction limitations,
- air monitoring activities,
- contributions to the community including additional taxes, new PM10 certified street sweepers, and green diesel school buses,

In performing each of the conditions in this order Applicant, in conjunction where applicable with the Town of Gilbert and the plant site neighbors, shall consider and attempt to maximize the positive effect of its activities on the values of the homes in the surrounding neighborhoods.

New Condition 30

This condition derives from Olea condition 4

Applicant shall construct the auxiliary boiler stack at such height as may be determined by air modeling requirements. Applicant shall situate the auxiliary boiler stack so that it is not visible from off the plant site.

New Condition 31

This condition derives from Olea condition 8

Applicant will construct the HRSGs approximately 15 feet below grade and will construct the HRSGs so that the overall height of the HRSG module from the natural grade is no more than 80 feet.

New Condition 32

This condition is Olea condition 11

Applicant will complete the installation of the dry low NOX burners on the existing units prior to the construction of the new units.

1
2
3 **BEFORE THE ARIZONA POWER PLANT**
4 **AND TRANSMISSION LINE SITING COMMITTEE**

3 In the matter of the Application of Salt)
4 River Project Agricultural Improvement and)
5 Power District in conformance with the)
6 requirements of Arizona Revised Statutes)
7 Sections 40-360-03 and 40-360.06, for a)
8 Certificate of Environmental Compatibility)
9 authorizing the Expansion of its Santan)
10 Generating Station, located at the intersection)
11 of Warner Road and Val Vista Drive,)
12 in Gilbert, Arizona, by adding 825 megawatts)
13 of new capacity in the form of three combined)
14 cycle natural gas units, and associated)
15 intraplant transmission lines.)

Case No. 105

Docket No. L-00000B-00-0105

Decision No. _____

11 **CERTIFICATE OF ENVIRONMENTAL COMPATIBILITY**

12 Pursuant to notice given as provided by law, the Arizona Power Plant and
13 Transmission Line Siting Committee (the "Committee") held public hearings at the
14 Dobson Ranch Inn, 1644 South Dobson Road, Mesa, Arizona, on September 14, 2000,
15 and various days following, in conformance with the requirements of Arizona Revised
16 Statutes section 40-360 *et seq.*, for the purpose of receiving evidence and deliberating
17 on the Application of Salt River Project Agricultural Improvement and Power District
18 ("Applicant") for a Certificate of Environmental Compatibility in the above-captioned
19 case (the "Application").

20 The following members or designees of members of the Committee were present
21 for the hearing on the Application:

22 -Paul A. Bullis Chairman, Designee for Arizona Attorney General Janet
23 Napolitano
24 Steve Olea Designee of Chairman of the Arizona Corporation
25 Commission

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Richard Tobin Designee for the Arizona Department of Environmental Quality

Dennis Sundie Designee for the Director of the Department of Water Resources

Mark McWhirter Designee for the Director of the Energy Office of the Arizona Department of Commerce

Sandie Smith Appointed Member

Mike Whalen Appointed Member

George Campbell Appointed Member

A. Wayne Smith Appointed Member

Jeff Mcguire Appointed Member

The Applicant was represented by Kenneth C. Sundlof, Jr., Jennings, Strouss & Salmon PLC. There were sixteen intervenors: Arizona Utilities Investor Association, by Ray Heyman; Arizona Corporation Commission Staff, by Janice Alward; Arizona Center for Law in the Public Interest, by Timothy Hogan, Mark Kwiat, Elisa Warner, David Lundgreen, Cathy LaTona, Sarretta Parrault, Mark Sequeira, Cathy Lopez, Michael Apergis, Marshal Green, Charlie Henson, Jennifer Duffany, Christopher Labban, Bruce Jones and Dale Borger. There were a number of limited appearances.

The Arizona Corporation Commission has considered the grant by the Power and Line Siting Committee of a Certificate of Environmental Compatibility to SRP and finds that the provisions of A.R.S. §40-360.06 have complied with, and, in addition, that documentary evidence was presented regarding the need for the Santan Expansion Project. Credible testimony was presented concerning the local generation deficiency in Arizona and the need to locate additional generation within the East Valley in order to minimize transmission constraints and ensure reliability of the transmission grid. The evidence included a study that assessed the needs of the East Valley. The analysis

1 found that the East Valley peak load currently exceeds the East Valley import capability
2 and within the next 5 years the East Valley load will exceed the load serving capability.

3 Additional testimony was presented regarding SRP's projected annual 3.7% load
4 growth in its service territory. By 2008, SRP will need approximately 2700 MW to meet
5 its load. This local generation plant will have power available during peak periods for
6 use by SRP customers.

7 Accordingly, pursuant to A.R.S. §40-360.07(B), the Commission has balanced in
8 the broad public interest, the need for an adequate, economical and reliable supply of
9 electric power with the desire to minimize the effect thereof on the environment and
10 ecology of this State.

11
12 At the conclusion of the hearing and deliberations, the Committee, having
13 received and considered the Application, the appearance of Applicant and all
14 intervenors, the evidence, testimony and exhibits presented by Applicant and all
15 intervenors, the comments made by persons making limited appearances and the
16 comments of the public, and being advised of the legal requirements of Arizona Revised
17 Statutes Sections 40-360 to 40-360.13, upon motion duly made and seconded, voted to
18 grant Applicant the following Certificate of Environmental Compatibility (Case No. L-
19 00000B-00-0105):

20 Applicant and its assignees are granted a Certificate of Environmental
21 Compatibility authorizing the construction of an 825 megawatt generating facility
22 consisting of three combined cycle units with a total net output of 825 megawatts
23 together with related infrastructure and appurtenances, in the Town of Gilbert, on
24 Applicant's existing Santan Generating Station site, and related switchyard and
25 transmission connections, as more specifically described in the Application (collectively,
the "Project"). Applicant is granted flexibility to construct the units in phases, with

1 different steam turbine configurations, and with different transmission connection
2 configurations, so long as the construction meets the general parameters set forth in the
3 application.

4 This certificate is granted upon the following conditions:

- 5 1. Applicant shall comply with all existing applicable air and water pollution
6 control standards and regulations, and with all existing applicable
7 ordinances, master plans and regulations of the State of Arizona, the
8 Town of Gilbert, the County of Maricopa, the United States, and any other
9 governmental entities having jurisdiction.
- 10 2. This authorization to construct the Project will expire five (5) years from
11 the date the Certificate is approved by the Arizona Corporation
12 Commission unless construction of the Project is completed to the point
13 that the project is capable of operating at its rated capacity; provided,
14 however, that Applicant shall have the right to apply to the Arizona
15 Corporation Commission for an extension of this time limitation.
- 16 3. Applicant's project has two (2) approved transmission lines emanating
17 from its power plant" transmission switchyard and interconnecting with the
18 existing transmission system. This plant interconnection must satisfy the
19 single contingency criteria (N-1) without reliance on remedial action such
20 as a generator unit tripping or load shedding.
- 21 4. Applicant shall use reasonable efforts to remain a member of WSCC, or
22 its successor, and shall file a copy of its WSCC Reliability Criteria
23 Agreement or Reliability Management System (RMS) Generator
24 Agreement with the Commission.
- 25 5. Applicant shall use reasonable efforts to remain a member of the
Southwest Reserve Sharing Group, or its successor.
6. Applicant shall meet all applicable requirements for groundwater set forth
in the Third Management Plan for the Phoenix Active Management Area.
7. With respect to landscaping and screening measures, including the
improvements listed in the IGA, Applicant agrees to develop and
implement a public process consistent with the process chart (Exhibit 89)
presented during the hearings, modifying the dates in the IGA with the
Town of Gilbert, if necessary, to correspond with the schedule in Exhibit
89.

The new Community Working Group (CWG) will consist of 12 members,
selected as follows: three members selected by the Town of Gilbert, three

1 members selected by neighborhood homeowner associations, three
2 representatives selected by intervenors, and three members selected by
3 SRP (not part of the aforementioned groups) who were part of the original
4 community working group. Applicant and landscaping consultants shall
act as advisors to the CWG. CWG meetings shall be noticed to and be
open to the general public.

5 The objective of the CWG shall be to refine the landscaping and mitigation
6 concept plans submitted during these hearings (Exhibit 88). The CWG shall
7 work within the scope of commitment by Applicant for onsite and offsite
8 improvements to achieve appropriate visual mitigation of plant facilities and
9 to facilitate the design and installation of the concept plan components so as
10 to maximize the positive impact on the community and to increase, wherever
possible, the values of the homes in the neighboring areas. The refinement
of the mitigation plans shall be reasonably consistent with the planning
criteria of the Town of Gilbert, the desires of neighboring homeowner
associations, and the reasonable needs of Applicant.

11 Applicant shall retain an independent facilitator to conduct the CWG
12 meetings. It shall be the role of the facilitator to assist in initial education and
in conducting an orderly and productive process. The facilitator may, if
necessary, employ dispute resolution mechanisms.

13 The CWG shall also assist in establishing reasonable maintenance
14 schedules for landscaping in public-view areas of Applicant's plant site.

15 Applicant will develop with the Town of Gilbert a fund, to be administered by
16 the Town of Gilbert, to provide for the construction and maintenance of off-
17 site landscaping in the areas depicted in the off-site landscaping concepts as
developed by the CWG.

- 18 8. The visual mitigation plans and concepts presented to these proceedings
19 constitute a commitment level by Applicant. However, Applicant will not
20 reduce the overall level of mitigation as set forth in its Application and this
proceeding, except as may be reduced during the CWG process.
- 21 9. Applicant shall, where reasonable to do so, plant on site trees by the fall of
22 2001. Because planting of trees must await the improvement of Warner
23 Road and the design and construction of berms, this condition will largely
24 apply to trees on the East side of the site, and some of the trees on the
North side. All landscaping will be installed prior to the installation of major
plant equipment, except where delays are reasonably necessary to facilitate
construction activities.
- 25 10. Applicant shall operate the Project so that during normal operations the
Project shall not exceed the most restrictive of applicable (i) HUD residential

1 noise guidelines, (ii) EPA residential noise guidelines, or (iii) applicable City
2 of Tempe standards. During construction Additionally, construction and
3 operation of the facility shall comply with OSHA worker safety noise
4 standards. Applicant agrees that it will use its best efforts to avoid during
5 nighttime hours construction activities that generate significant noise.
6 Additionally, Applicant agrees to comply with the standards set forth in the
7 Gilbert Construction Noise Ordinance, Ordinance No. 1245, during
8 construction of the project.

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11. Applicant will work with the Gilbert Unified School District to assist it in converting all or part of its school bus fleet to green diesel or other alternative fuel, as may be feasible and determined by Gilbert Unified School District, and will contribute \$330,000 to this effort.
 12. Applicant shall work with all interested East Valley cities, including at a minimum, Mesa, Chandler, Queen Creek and Gilbert, to fund a Major Investment Study through the Regional Public Transit Authority to develop concepts and plans for commuter rail systems to serve the growing population of the East Valley. Applicant will contribute a maximum of \$400,000 to this effort.
 13. Within six months of approval of this Order by the Arizona Corporation Commission, Applicant shall either relocate the gas metering facilities to the interior of the plant site or construct a solid wall between the gas metering facilities at the plant site and Warner Road. The wall shall be of such strength and size as to deflect vehicular traffic (including a fully loaded concrete truck) that may veer from Warner Road to the gas-metering site.
 14. Applicant will use only renewable water for cooling and power plant purposes. The water use for the plant will be consistent with the water plan submitted in this proceeding. Applicant will work with the Town of Gilbert to attempt to use available effluent water, where reasonably feasible.
 15. Applicant agrees to comply with all applicable federal, state and local regulations relative to storage and transportation of chemicals used at the plant.
 16. Applicant agrees to maintain on file with the Town of Gilbert safety and emergency plans relative to emergency conditions that may arise at the plant site. On at least an annual basis Applicant shall review and update, if necessary, the emergency plans. Copies of these plans will be made available to the public and on Applicant's web site. Additionally Applicant will cooperate with the Town of Gilbert to provide information to community residents relative to potential emergency situations arising from the plant or related facilities. Applicant agrees work with the Gilbert police and fire departments to jointly develop on site and off-site evacuation plans, as may

1 be reasonably appropriate.

2 17. In obtaining air offsets required by EPA and Maricopa County, Applicant will
3 use its best efforts to obtain these offsets as close as practicable to the plant
4 site. In the event that Applicant constructs other projects which require
5 offsets, Applicant will make additional efforts to obtain, where reasonably
6 feasible, offsets in the Gilbert area.

7 18. In order to reduce the possibility of generation shortages and the attendant
8 price volatility that California is now experiencing, SRP will operate the
9 facilities consistent with its obligation to serve its retail load and to maintain a
10 reliable transmission system within Arizona.

11 19. Beginning upon operation of the new units, Applicant will establish a citizens'
12 committee to monitor air and noise compliance and water quality reporting.
13 Applicant will establish on-site air and noise monitoring facilities to facilitate
14 the process. Additionally Applicant shall work with Maricopa County and the
15 Arizona Department of Environmental Quality to enhance monitoring in the
16 vicinity of the plant site. Result of air monitoring will be made reasonably
17 available to the public and to the citizens' committee. Applicant shall provide
18 on and off site noise monitoring services (at least on a quarterly basis),
19 testing those locations suggested by the citizens' committee.

20 20. Applicant will explore, and deploy where reasonably practicable, the use of
21 available technologies to reduce the size of the steam plumes from the unit
22 cooling towers.

23 21. SRP will, where practicable, work with El Paso Natural Gas Company to use
24 the railroad easements for the installation of the new El Paso gas line.

25 22. Other than the Santan/RS 18 lines currently under construction, Applicant
shall not construct additional Extra High Voltage transmission lines (115kV
and above) into the Santan site.

26 23. Applicant will replace all Town of Gilbert existing street sweepers with
certified PM10 efficient equipment. A PM10 efficient street sweeper is a
street sweeper that has been certified by the South Coast Air Quality
Management District (California) to comply with the District's performance
standards under its Rule 1186 (which is the standard referenced by the
Maricopa Association of Governments).

27 24. Applicant has presented evidence to indicate that the project will not create
health risks in the surrounding area. Nonetheless, because of concerns
raised by neighbors to the plant site, Applicant will offer to work in a
cooperative effort with the Office of Environmental Health of the Arizona
Department of Health Services to enhance its environmental efforts.

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25. Applicant will operate, improve and maintain the plant consistent with applicable environmental regulations and requirements of the Environmental Protection Agency, the Arizona Department of Environmental Quality, Maricopa County and the Town of Gilbert.

26. Applicant will cooperate with Maricopa County in its efforts to establish appropriate standards relative to the use of distillate fuels in Valley generating facilities.

27. Applicant will install continuous emission monitoring equipment on the new units and will make available on its website emissions data from both the existing and new units according to EPA standards. Applicant will provide information to the public on its website in order to assist the public in interpreting the data.

28. Applicant will comply with the provisions of the Intergovernmental Agreement dated April 25, 2000 between Applicant and the Town of Gilbert.

29. During the proceeding neighbors to the plant site raise significant concern about the impact of the plant expansion on residential property values. Applicant has pointed out that many of the major conditions in this order, and other conditions applicable to Applicant, as well as the significant investment by Applicant, will enhance the general neighborhood and property values. These include

- major air quality enhancement measures and local offsets,
- extensive landscaping and screening requirements,
- significant contribution of new property taxes,
- the various community improvements including road improvements, trail and bridge construction and canal relocation,
- limits on future high voltage transmission,
- noise reduction and monitoring activities,
- construction limitations,
- air monitoring activities,
- contributions to the community including additional taxes, new PM10 certified street sweepers, and green diesel school buses,

In performing each of the conditions in this order Applicant, in conjunction where applicable with the Town of Gilbert and the plant site neighbors, shall consider and attempt to maximize the positive effect of its activities on the values of the homes in the surrounding neighborhoods.

30. Applicant shall construct the auxiliary boiler stack at such height as may be determined by air modeling requirements. Applicant shall situate the auxiliary boiler stack so that it is not visible from off the plant site.

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- 31. Applicant will construct the HRSGs approximately 15 feet below grade and will construct the HRSGs so that the overall height of the HRSG module from the natural grade is no more than 80 feet.
- 32. Applicant will complete the installation of the dry low NOX burners on the existing units prior to the construction of the new units.

GRANTED this ____ day of January, 2001

ARIZONA POWER PLANT AND TRANSMISSION
LINE SITING COMMITTEE

By Paul A. Bullis
Its Chairman

1 APPROVED BY ORDER OF THE ARIZONA CORPORATION COMMISSION

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4 _____
5 Chairman

Commissioner

Commissioner

6
7 In Witness hereof, I, Brian C. McNeil,
8 Executive Secretary of the Arizona
9 Corporation Commission, set my hand
10 and cause the official seal of this
11 Commission to be affixed this ____ day
12 of _____, 2000.

13
14 By: _____
15 Brian C. McNeil
16 Executive Secretary

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Dissent: _____

1 BEFORE THE POWER PLANT AND TRANSMISSION

2 LINE SITING COMMITTEE

3

4 IN THE MATTER OF THE APPLICATION OF))
5 SALT RIVER PROJECT OR THEIR))
6 ASSIGNEE(S), IN CONFORMANCE WITH))
7 THE REQUIREMENTS OF THE ARIZONA))
8 REVISED STATUTES 40-360.03 AND))
9 40-360.06 FOR A CERTIFICATE OF)) L-00000B-00-0105
10 ENVIRONMENTAL COMPATIBILITY))
11 AUTHORIZING THE CONSTRUCTION OF)) CASE NO. 105
12 NATURAL GAS-FIRED, COMBINED CYCLE))
13 GENERATING FACILITIES AND))
14 ASSOCIATED INTRAPLANT TRANSMISSION))
15 LINES, SWITCHYARD IN GILBERT,))
16 ARIZONA LOCATED NEAR AND SOUTHEAST))
17 OF THE INTERSECTION OF VAL VISTA))
18 DRIVE AND WARNER ROAD.))
19))

13 At: Mesa, Arizona

14 Date: November 22, 2000

15 Filed:

16

REPORTER'S TRANSCRIPT OF PROCEEDINGS

17

VOLUME VII

18

(Pages 1455 through 1708)

19

20

ARIZONA REPORTING SERVICE, INC.

21

Court Reporting

Suite Three

22

2627 North Third Street

Phoenix, Arizona 85004-1103

23

Prepared for:

By: CECELIA BROOKMAN, RPR

CCR No. 50154

24

MS. SANDIE SMITH

25

Member

1 involved with.

2 You start with, in this area, identifying the
3 issues associated with the project. And in order to
4 do that, you need a project description, you need to
5 know what kind of mitigation is being committed on the
6 project. Once you have done that, obviously, you
7 begin to try to get a handle on what kind of
8 environmental resources could be affected by the
9 project, be they human, environment, natural, culture.

10 Then finally you go through an impact
11 assessment. You try and get your arms around the
12 impacts, are they short or long-term, and where those
13 impacts occur. Having identified what they call
14 initial impacts, we then move the arena of
15 establishing mitigation to address those impacts.

16 And I think some of the easiest types of
17 mitigation to talk about oftentimes with these types
18 of projects are things that we would do for visual
19 types of resources. Those mitigation measures are
20 reviewed, and there's a selection of those that are
21 made.

22 For the Santan project, SRP presented,
23 through a process that was actually quite a bit more
24 robust in terms of looking at not only the issues that
25 might be directly related to the proposed project but

1 also issues that came about through discussions with
2 either the CWG, the public, the agencies or other
3 entities. And in that way, what we were able to do
4 is, in conjunction with those issues that had to be
5 addressed specific to the plant, we were also able to
6 determine whether or not other outstanding issues
7 could be addressed outside of that arena, and if so,
8 where would those areas for enhancement be and how
9 could we develop those.

10 So what you're beginning to do is you're
11 working much more towards a kind of an overall
12 community type of a plan to look at outstanding issues
13 in several different regards. I think the key to
14 this, and we've heard a lot about this, is that this
15 actually led to the establishment of the
16 intergovernmental agreement. The review of these
17 different issues, the impacts, suggestions that were
18 made, all those were brought together and became a
19 part of the intergovernmental agreement that was
20 approved by the, or agreed to by the City of Gilbert.

21 Q. Mr. Palmer, would you please describe the
22 concept plans that were developed.

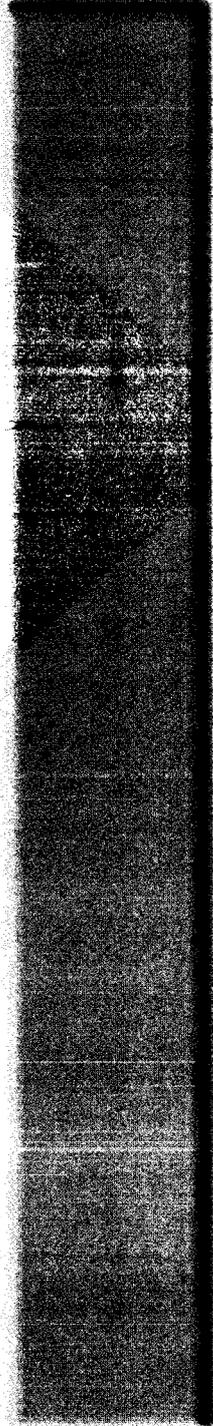
23 A. Yes. What I'm going to do now is talk a
24 little bit -- you see this little box here that talks
25 about development of concept plans. What I'd like to

● ● ●

Randall Palmer

Principal,
Environmental Planning Group, Inc.

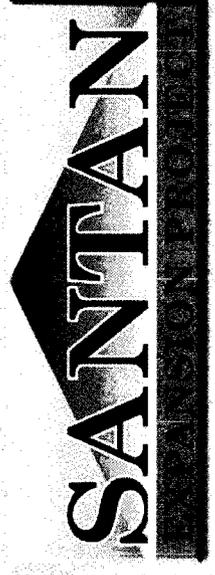
Business Address:
4350 East Camelback Road
Suite G-200
Phoenix, Arizona 85018



SANTAN

Land Use

- **Existing**
 - Existing 120-acre SRP Santan Generating Station
 - Residential areas (north, east, south)
 - Commercial/retail (west)
 - Minimal to low impacts
- **Future**
 - Gilbert General Plan
 - Multi-use employment
 - Proposed trail (east and south)
 - Commercial/retail (west)
 - Minimal to low impacts



TASK 1
Issues Identification

PROJECT DESCRIPTION

- Existing - No action
- Proposed expansion, including existing facilities

COMMITTED MITIGATION

- Best technologies

IDENTIFY ISSUES AND AREAS OF INFLUENCE

TASK 2
Inventory

ENVIRONMENTAL RESOURCES
Determine what could be affected

- **Human environment**
 - existing and planned land use
 - recreation
 - visual
 - noise
 - socioeconomics
- **Natural resources**
 - biology
 - water
 - air quality
- **Cultural resources**
 - archaeological
 - historic

TASK 3
Impact Assessment

IMPACT TYPES
Determine how the plant would affect each resource

- **Short term (temporary)**
 - construction
- **Long term (permanent)**
 - operation and maintenance

IMPACT LOCATIONS
Determine where the effect would occur

- **Site**
 - cultural
 - biological
- **Site and local**
 - existing/planned land use
 - noise
- **Site, local, regional**
 - air
 - water
 - recreation
 - visual
 - socioeconomics

INITIAL IMPACTS

- Determine degree to which environment would be affected

TASK 4
Mitigation Planning

MITIGATION SELECTION

- Recommend selective mitigation measure(s)
- Determine residual impacts after recommended mitigation is applied
- Selectively commit to recommended mitigation

MITIGATION ASSESSMENT

- Determine whether or not mitigation is warranted to address impacts (identify key areas where data refinement is needed)

ISSUES ASSESSMENT

- Determine whether or not other outstanding issues can be addressed (identify key areas where data refinement is needed)

ENVIRONMENTAL IMPROVEMENT SELECTION

- Identify areas of opportunity for environmental enhancements
- Evaluate enhancements based on issues, responsibility, and cost
- Review and endorse enhancements
- Establish Intergovernmental Agreement

• Develop concept alternatives

• Gilbert general plan review

• Select concepts for CEC submittal

TASK 5
Alternatives) Concepts



July 12, 2000
Impact Assessment and Mitigation Planning Process

Figure B-2



PRELIMINARY MITIGATION AND ENHANCEMENT ZONES

Figure G-1

Legend

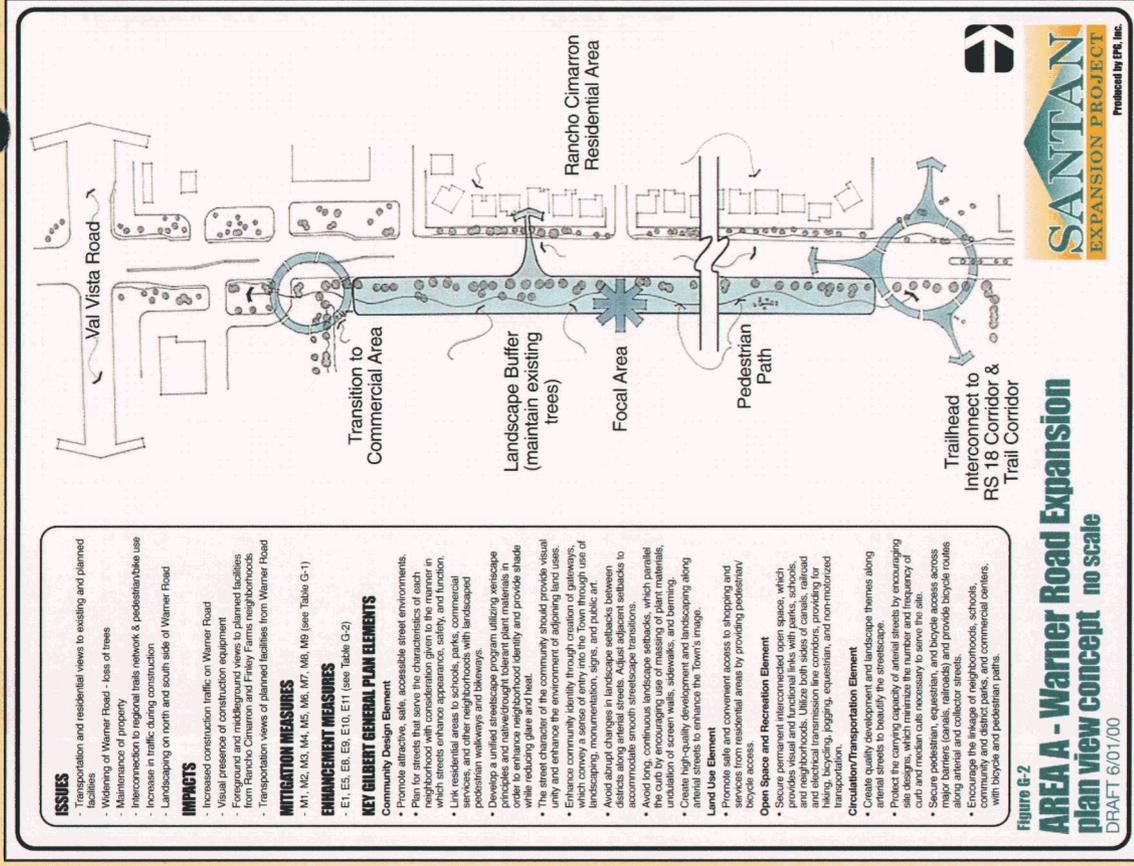
-  Project Site
-  Issue Areas
- A**
 - Warner Road Expansion
 - landscaping, walls
 - street treatment
 - pedestrian/bike trail
- B**
 - Trail Extension
 - pedestrian, bike, equestrian
 - landscaping, walls
 - trailhead
 - canal crossing
 - training tower removal
- C**
 - South Boundary Railroad and Open Space Corridor
 - landscaping
- D**
 - West Commercial Area
 - tank removal (2)
 - landscaping, walls
 - architectural treatments
 - paint remaining tank
- E**
 - Val Vista Drive Improvement
- F**
 - Re-route of Canal at Ray Road
- G**
 - Corridor
 - Re-vegetation of RS 18
 - in conjunction with future line



SANTAN EXPANSION PROJECT

Concept Considerations

- Issues
- Impacts
- Mitigation Measures
- Enhancement Measures
- Key Town of Gilbert General Plan Elements



AREA A: Warner Road Expansion

- **Concept Intent**
 - **Integrate site with future road expansion**
 - **Provide transition into neighborhood and commercial areas.**
 - **Landscape screening.**

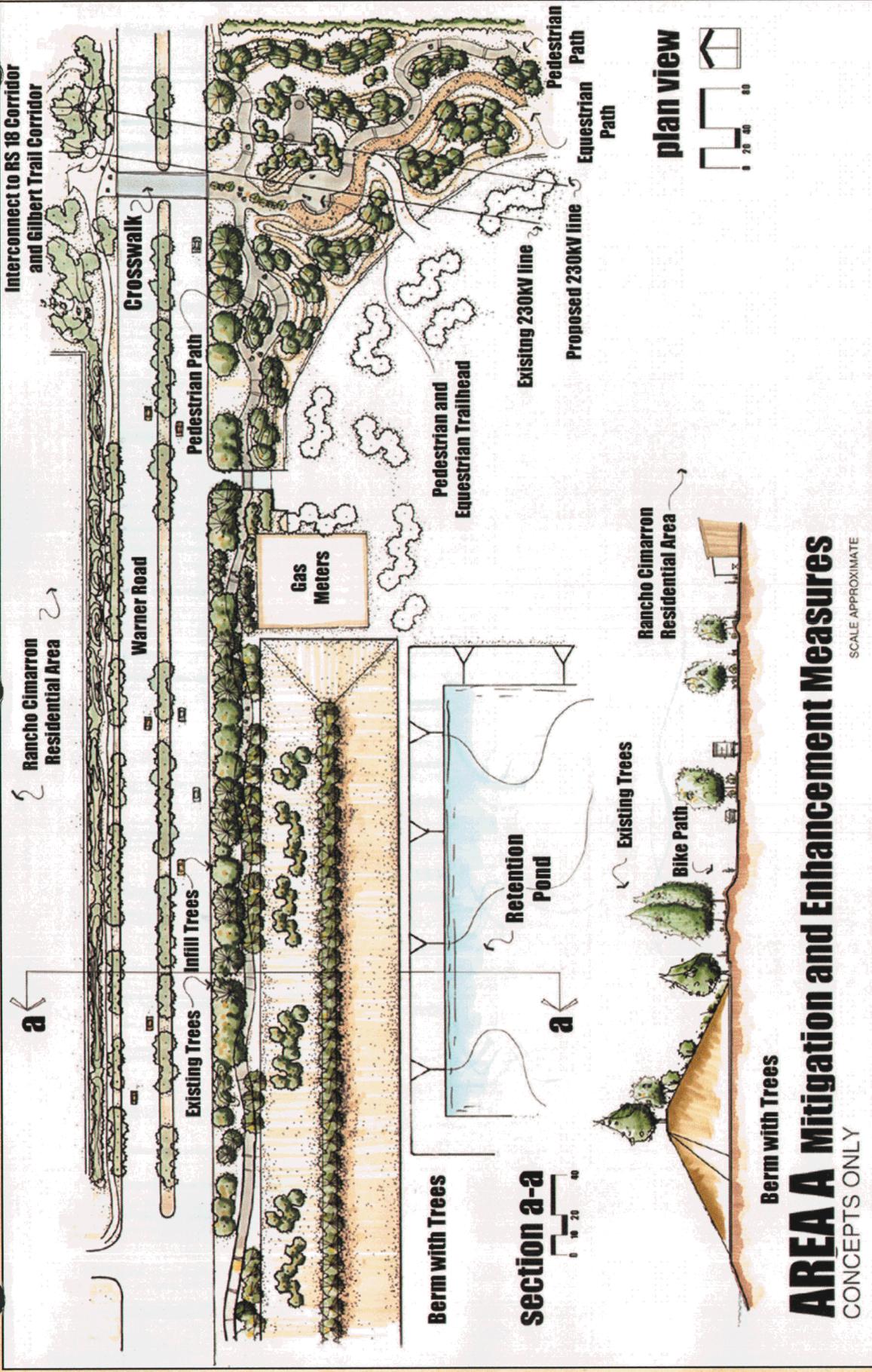


Area A: Existing Conditions



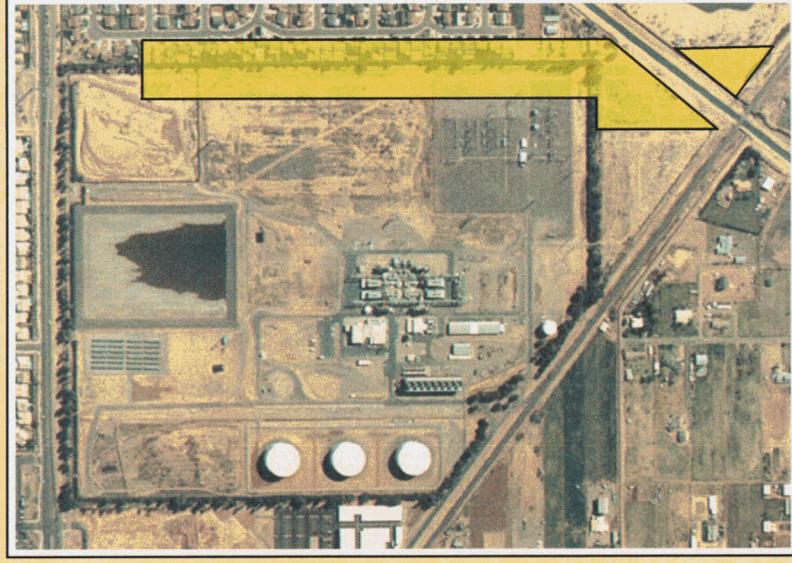
Area A: Existing Conditions





AREA B: Eastern Trail Extension

- **Concept Intent**
 - **Open space corridor**
 - **Integration with regional trail system**
 - **Interconnection to Crossroads Park**
 - **Multi-use trail.**



REGIONAL AREA

LEGEND

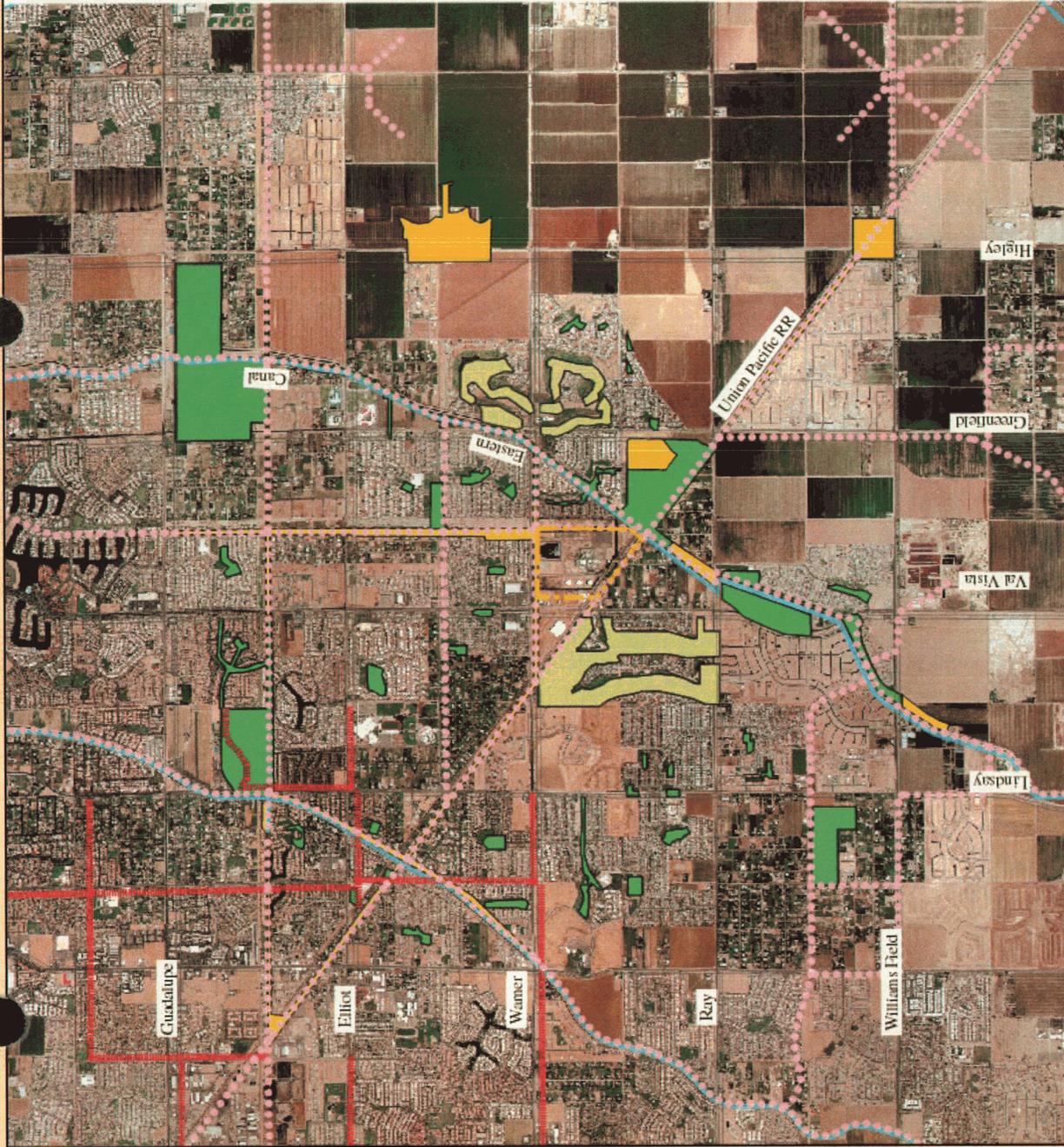
-  Planned Open Space/Greenbelt
-  Existing Golf Course
-  Existing Park/Recreation Complex/Greenbelt
-  Existing Bike Lanes
-  Proposed Trail Linkages
-  Canals
-  Major Arterials
-  Project Site

Sources:
Aerial Photography Provided by SRP
Gilbert, AZ, General Plan, May 1994



Map Produced by EPC, Inc.
www.epcinc.com/landmarks.asp

DATE: February 17, 2000



SANTAN EXPANSION PROJECT

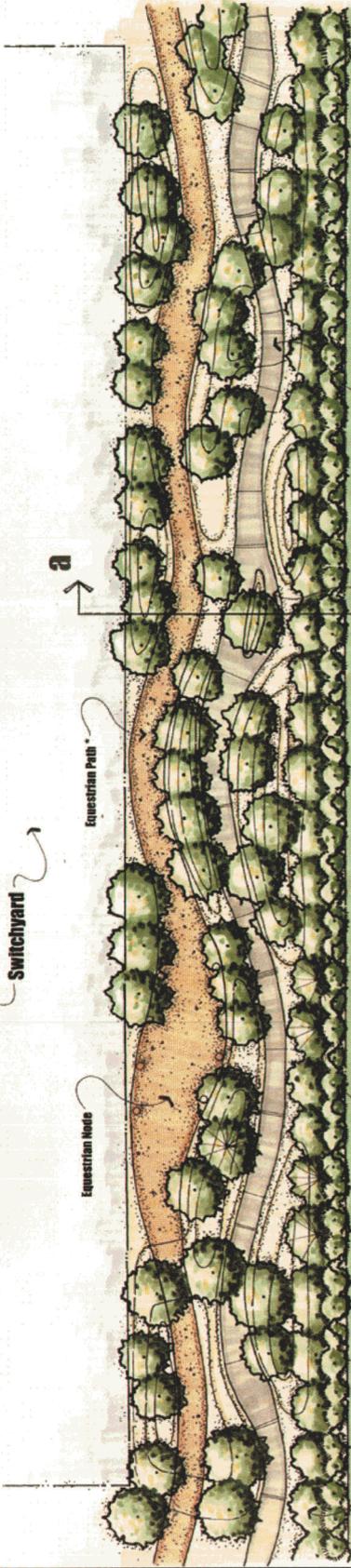
Area B: Existing Conditions



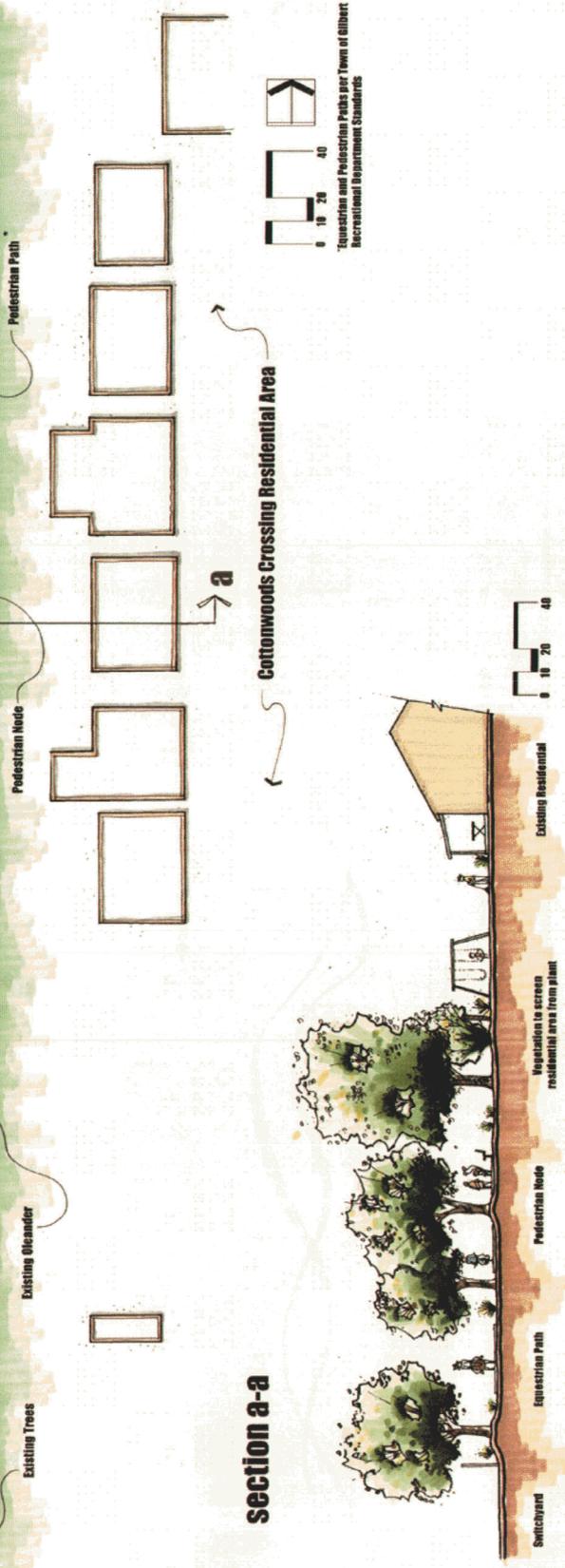
Area B: Existing Conditions



plan view



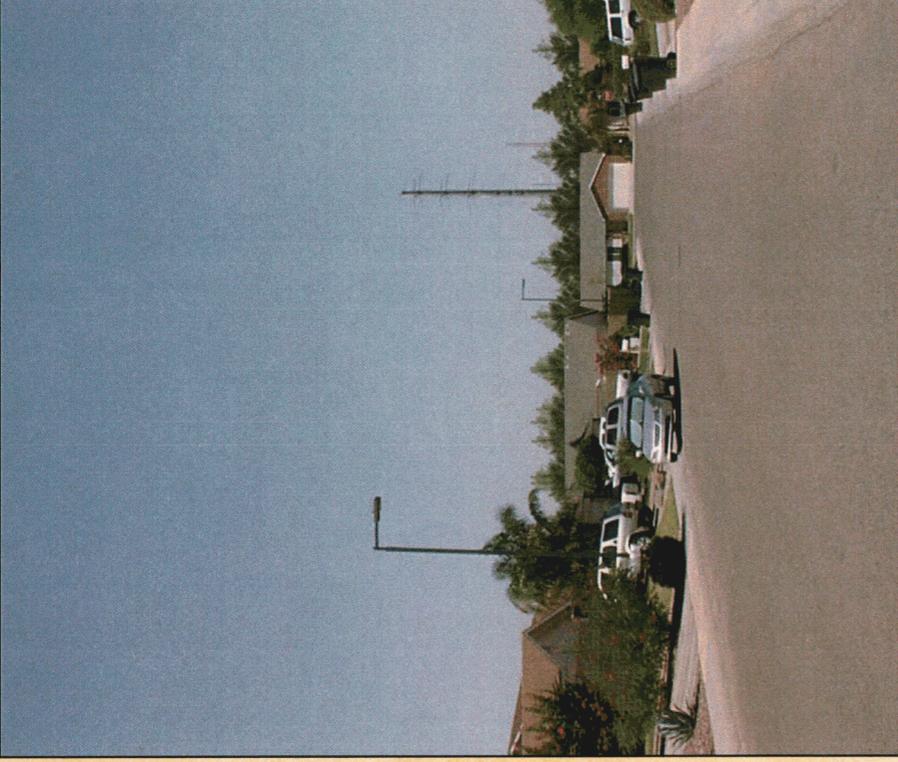
section a-a



AREA B Mitigation and Enhancement Measures
 CONCEPTS ONLY
 SCALE APPROXIMATE



Training Tower

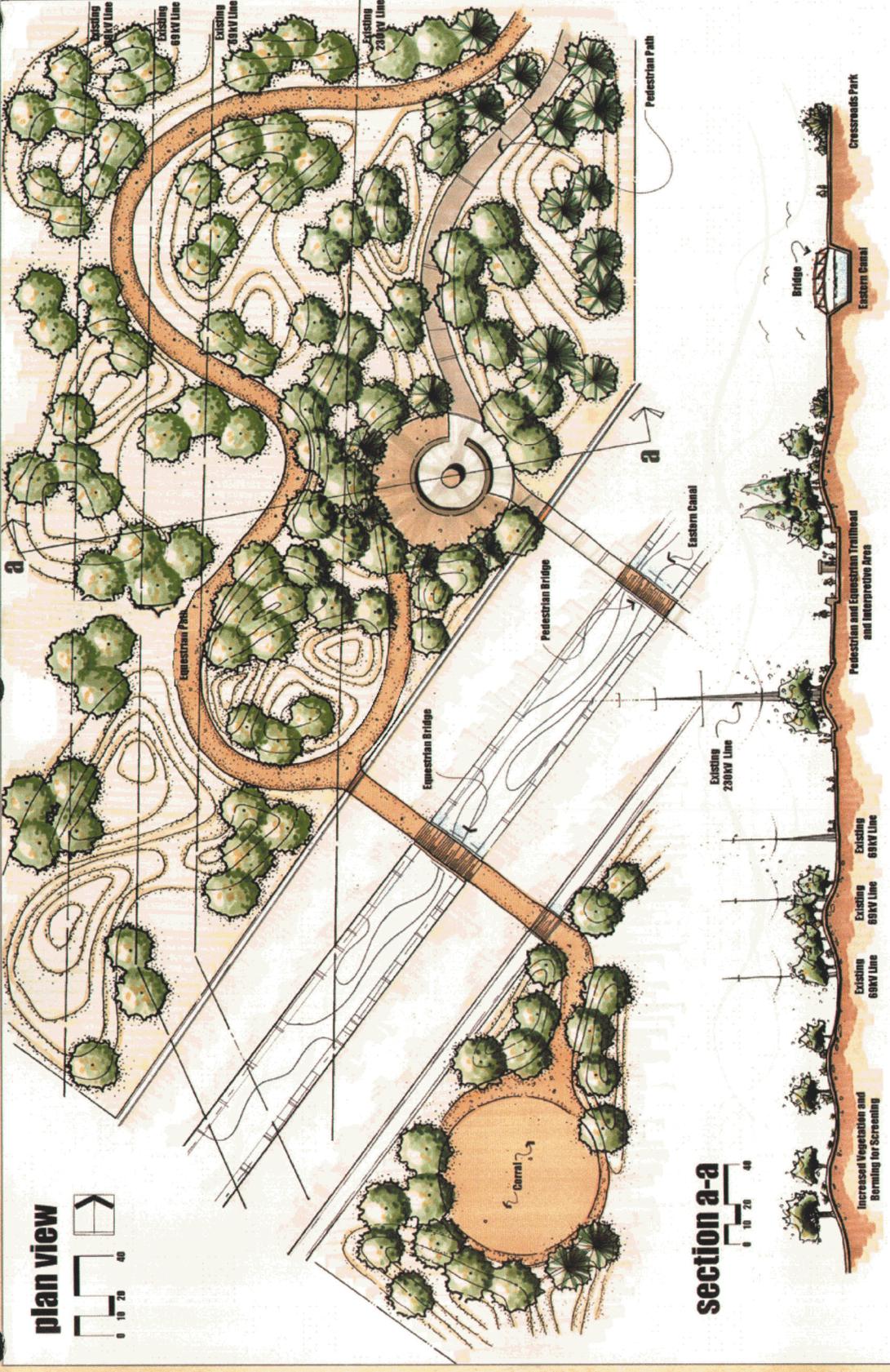


Training Tower Removed



Area B: Existing Conditions





plan view

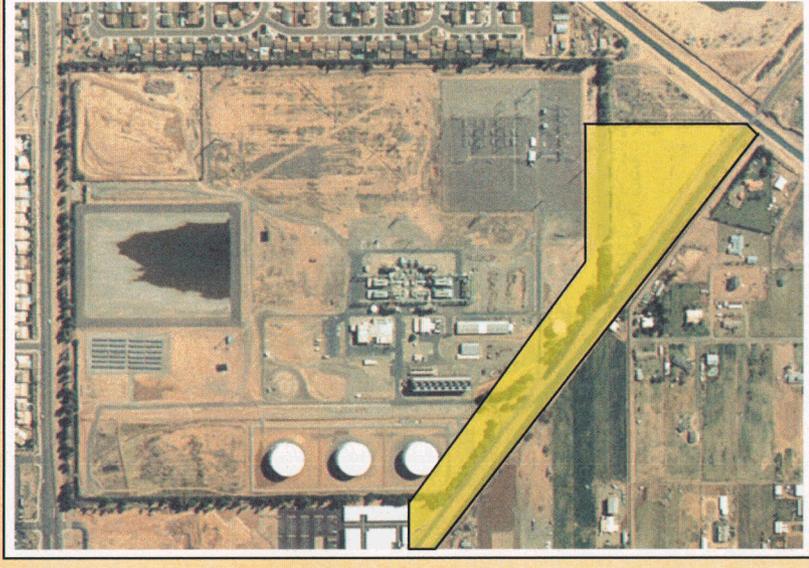
section a-a

AREA B Mitigation and Enhancement Measures
 CONCEPTS ONLY

SCALE APPROXIMATE

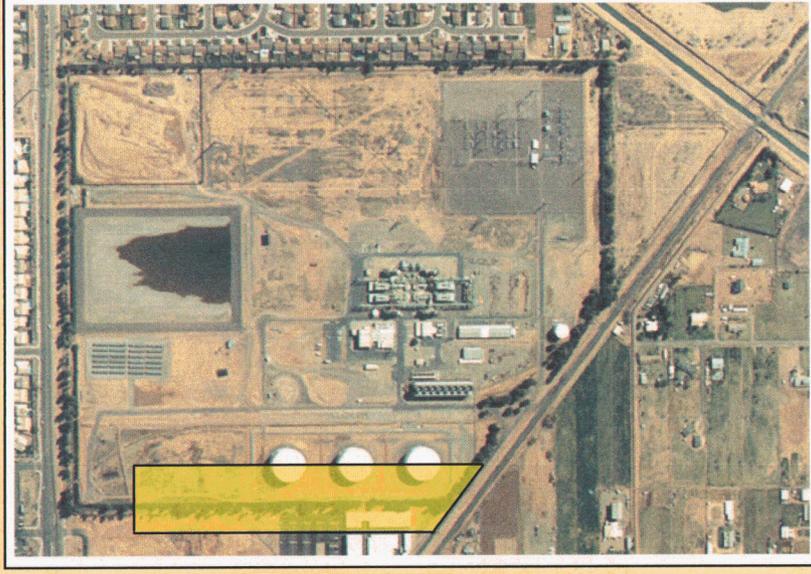
AREA C: Railroad Corridor

- **Concept Intent**
 - **Infill tree planting program to be developed to assist in screening of the plant.**
 - **Recognize future regional interconnection of trails along the railroad right-of-way.**

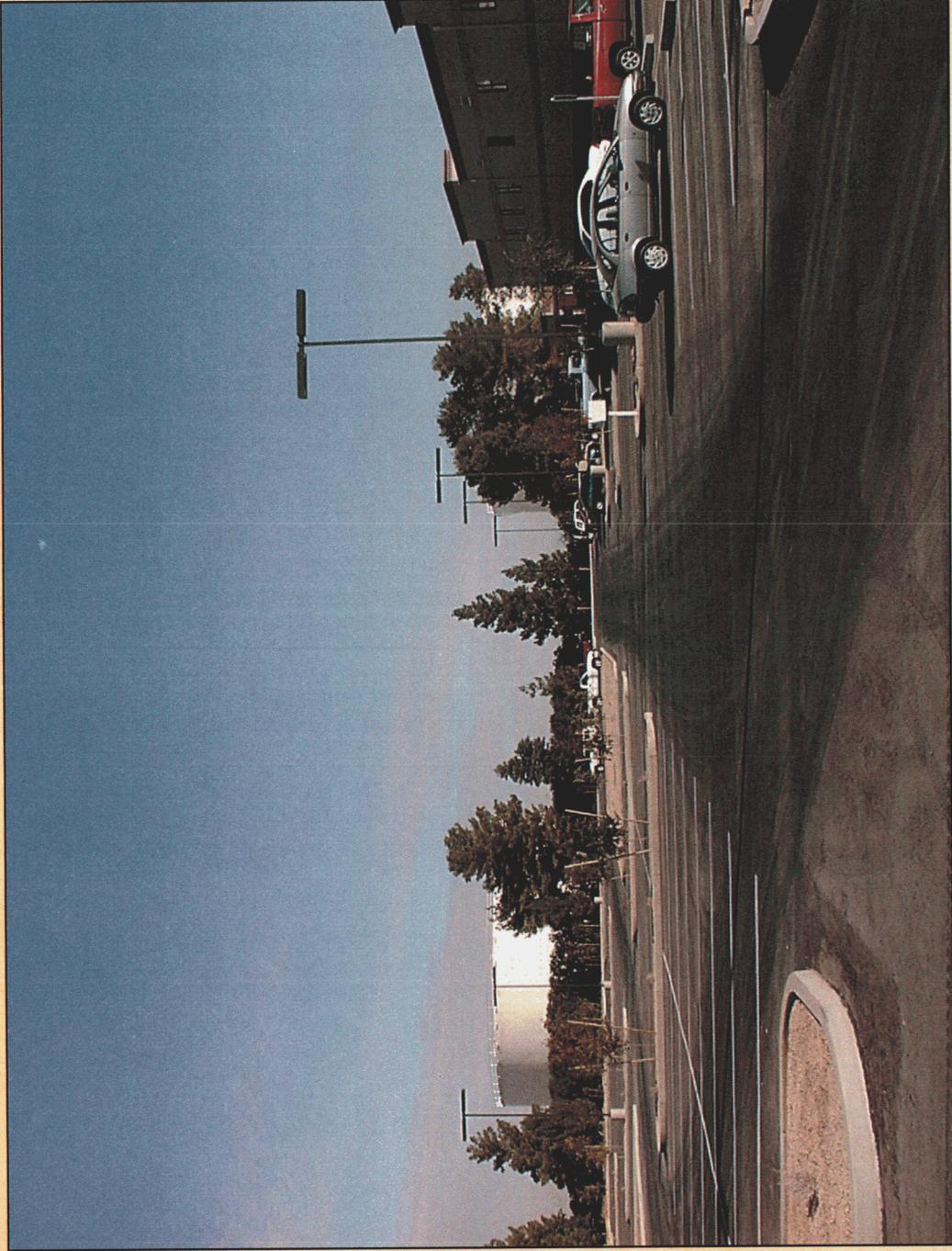


AREA D: Commercial Edge

- **Concept Intent**
 - Screening the plant to the west including the use of berms and vegetation.



Area D: Existing Conditions





Tanks Existing



**Tanks Removed and
Painted**



SANTAN
EXPANSION PROJECT

Gilbert General Plan



Visual Mitigation Planning Process

On-site Mitigation

- Facilities design
- Screening
- Contrast reduction

Off-site Mitigation

- Supplemental screening
- Enhanced local character

Facility Design: Location Alternatives

HRSGs and Stacks

Preferred



West

Central



East



West-Central



Facility Design: Configuration Alternatives

Stacks, Cooling Towers and Existing Tanks

Preferred



Single Stacks with North
Cooling Towers



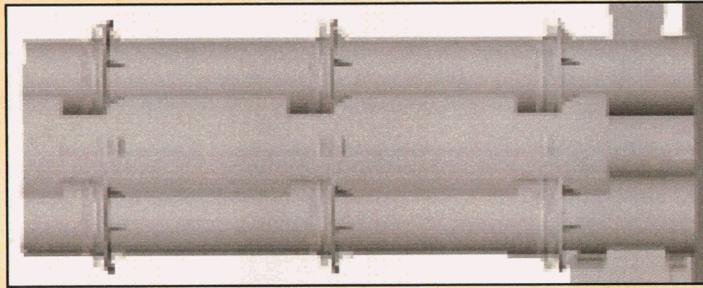
Single Stacks with South
Cooling Towers



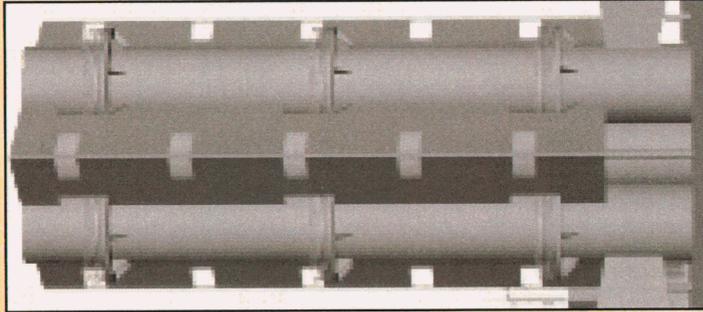
Clustered Stacks with
South Cooling Towers

Facility Design: Architectural Alternatives

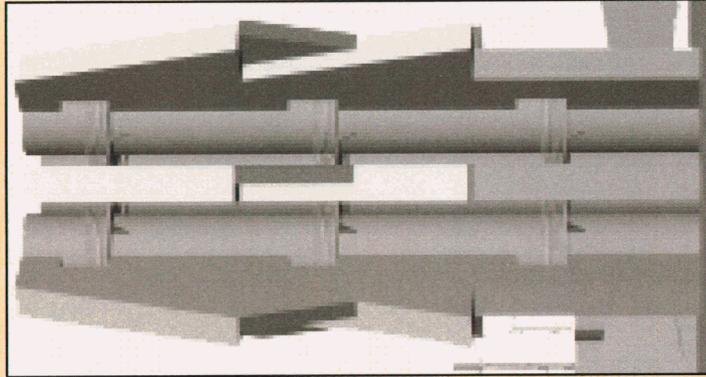
Stacks



Alternative A

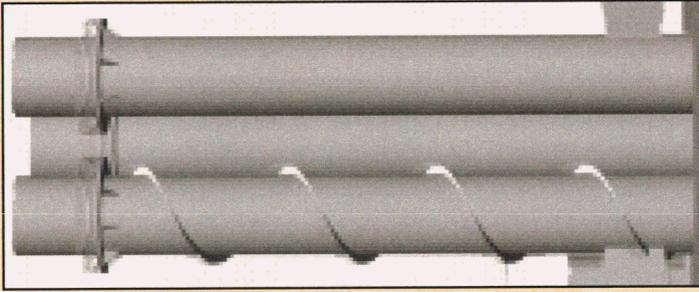


Alternative B



Alternative C

Preferred

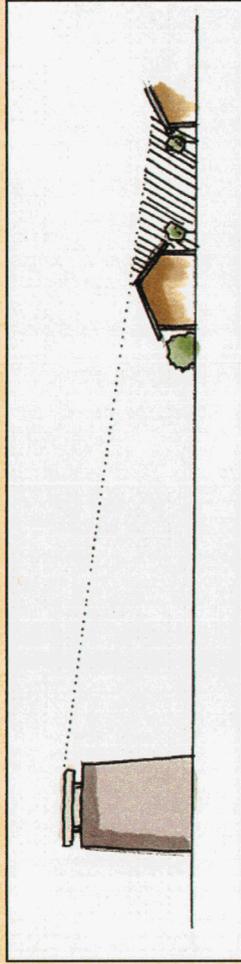
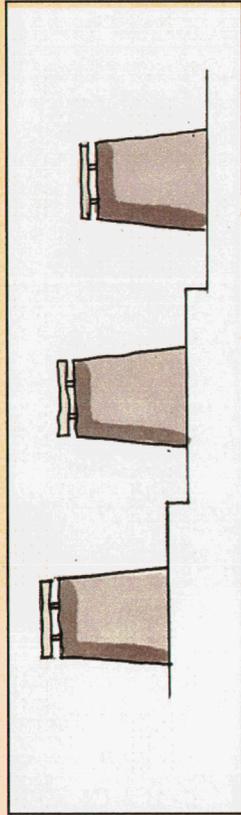


Clustered Stacks



On-site Screening

Height of HRSG



Visibility and Screening



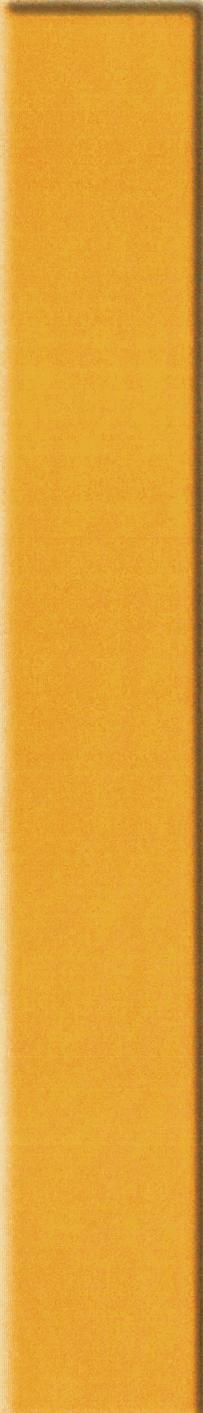
95' HRSG



90' HRSG

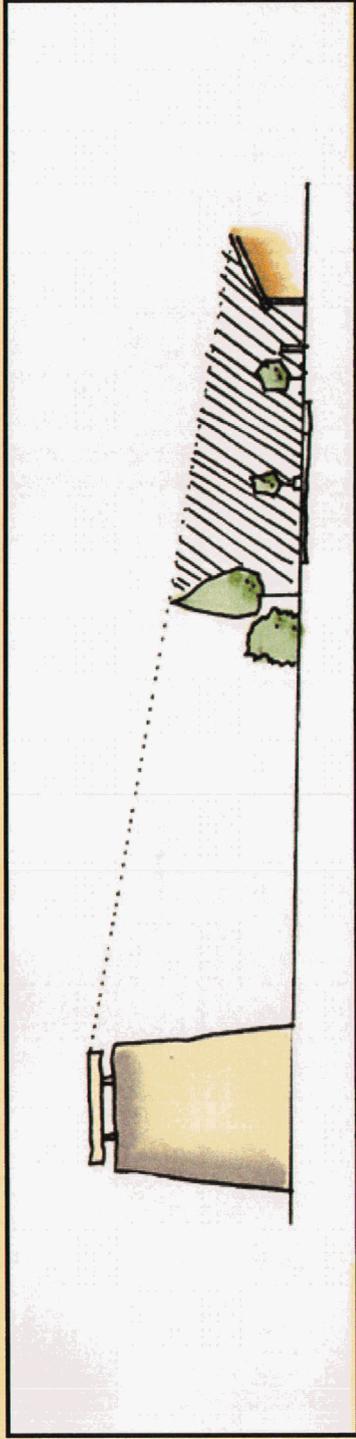


80' HRSG



On-site Screening

Existing Trees and Perimeter Infill Trees



Visibility and Screening



95' HRSG



90' HRSG

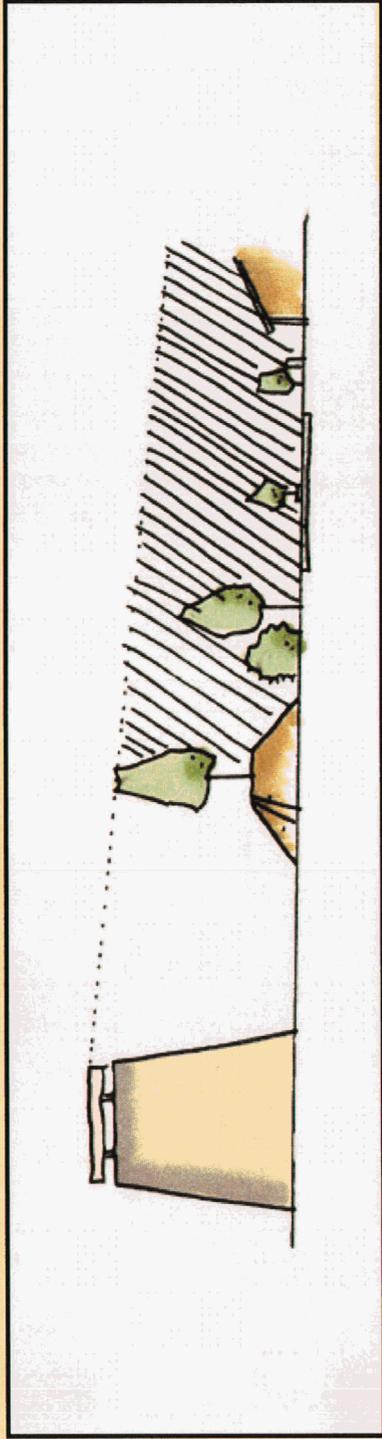


80' HRSG



On-site Screening

25' berm with vegetation including previous infill of trees



Visibility and Screening



95' HRSG



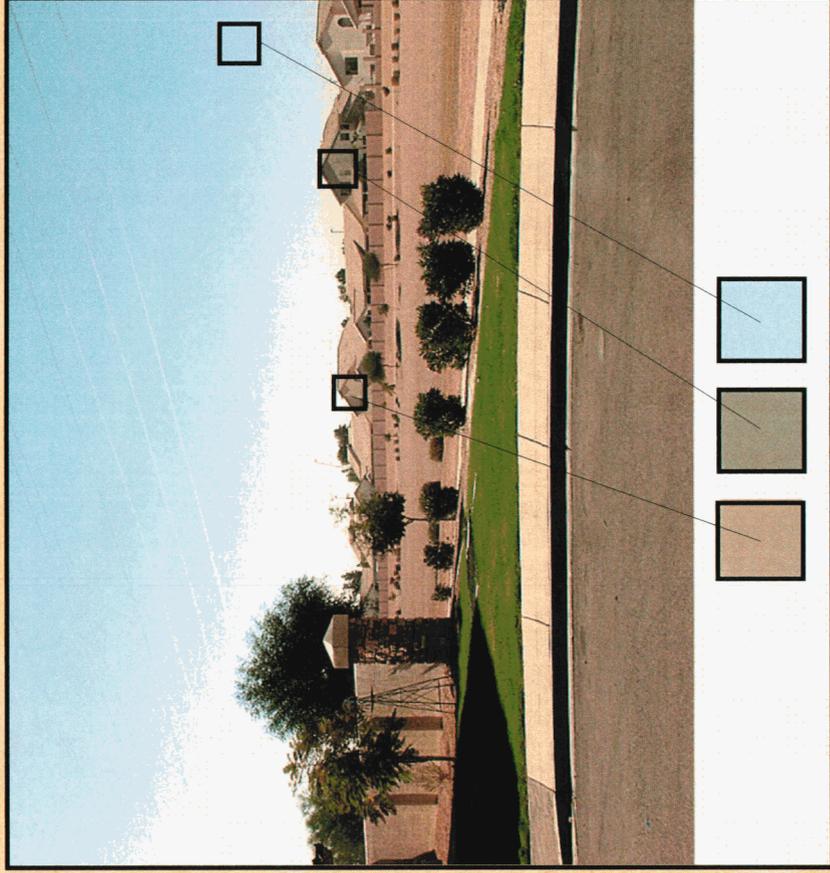
90' HRSG



80' HRSG

Color Contrast Reduction

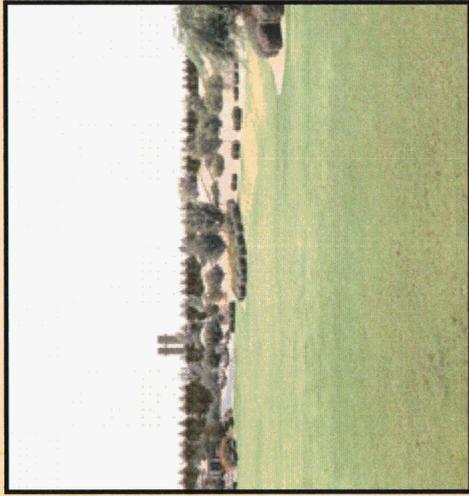
Use of Complementary Colors



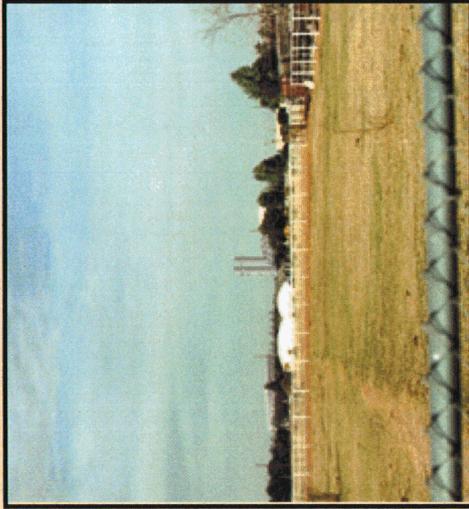
Tan Gray Blue

Color Selection

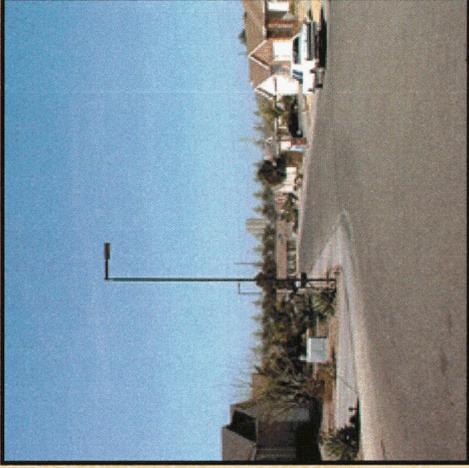
Considered: Orientation and Background Conditions



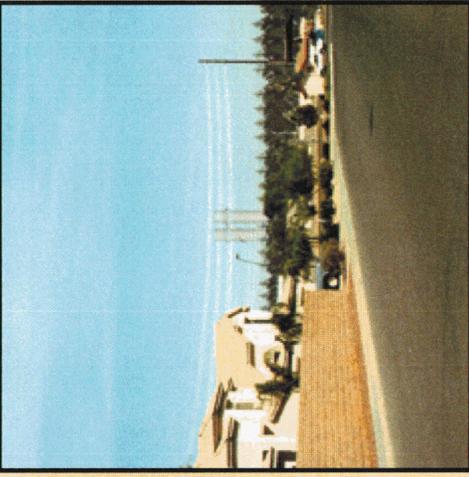
View From North



View From South



View From East



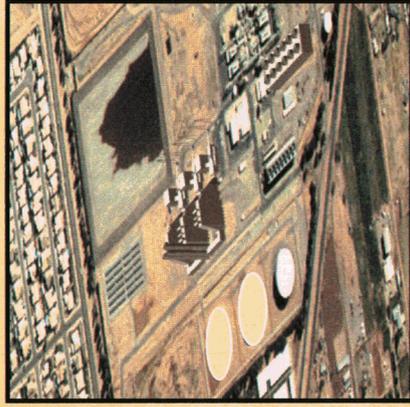
View From West



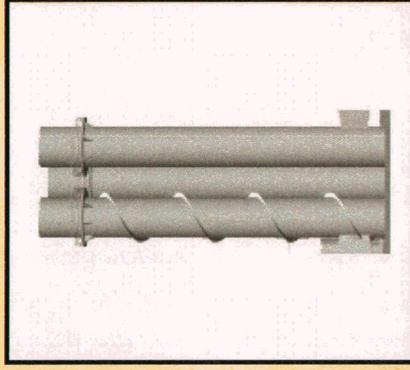
On-site Mitigation Summary



1. Location



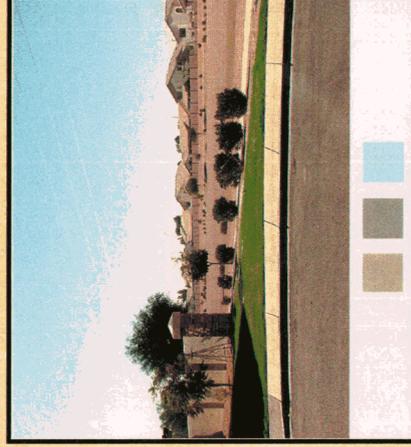
2. Configuration



3. Architectural Treatment



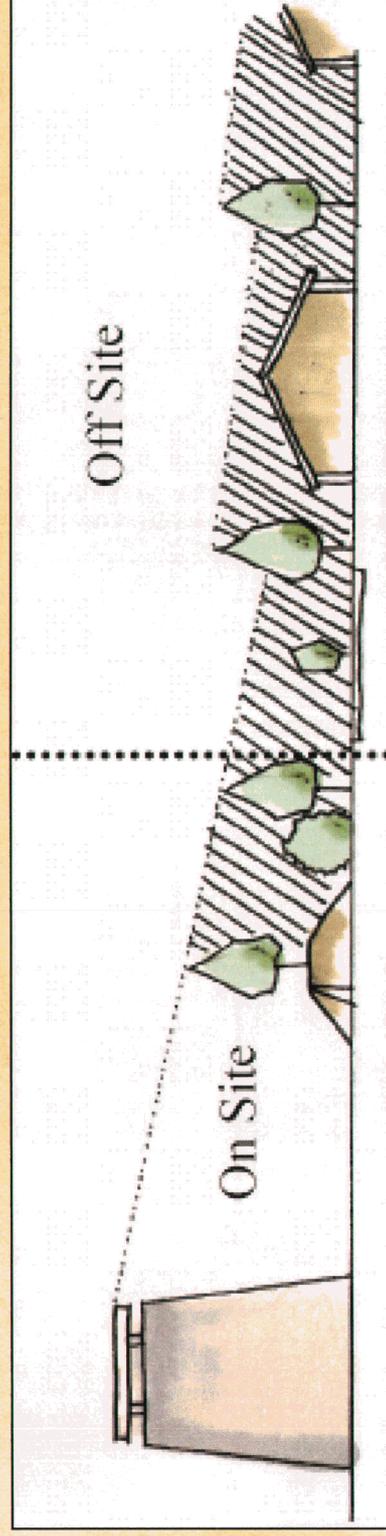
4. Screening



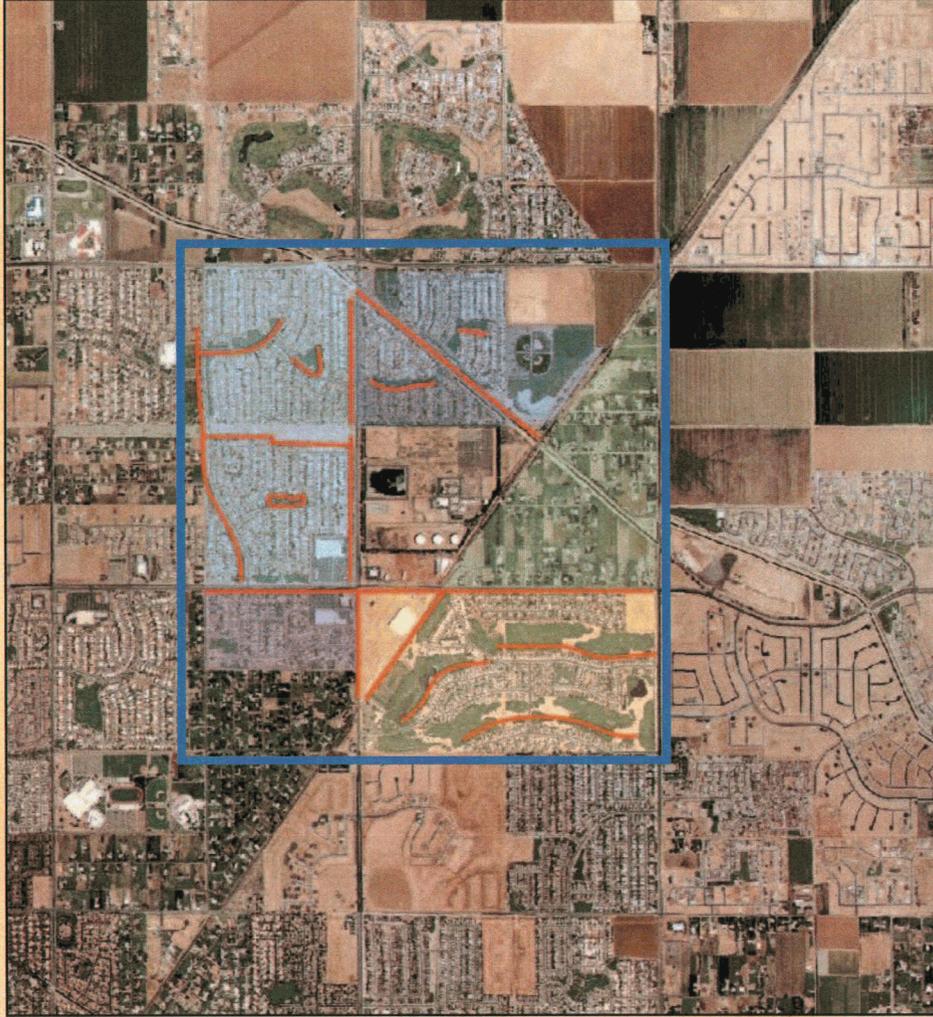
5. Color Contrast

Off-site Mitigation

- Additional screening through supplemental off-site plantings
- Enhanced local character



Visual Shelterbelt Concept



Approximate Tree Location



Finley Farms / Rancho Cimarron



Cottonwoods Crossing



Western Skies



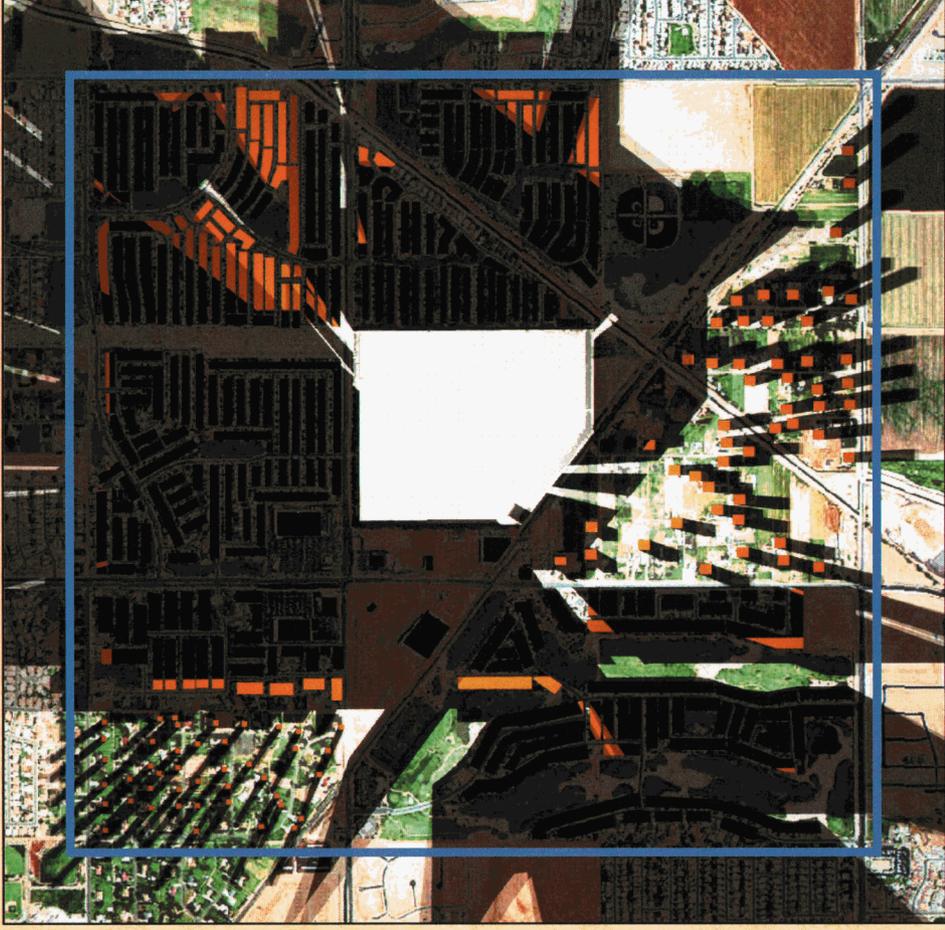
Residential Neighborhood



Residential Neighborhood



- **Combined On-site and Off-site Screening**

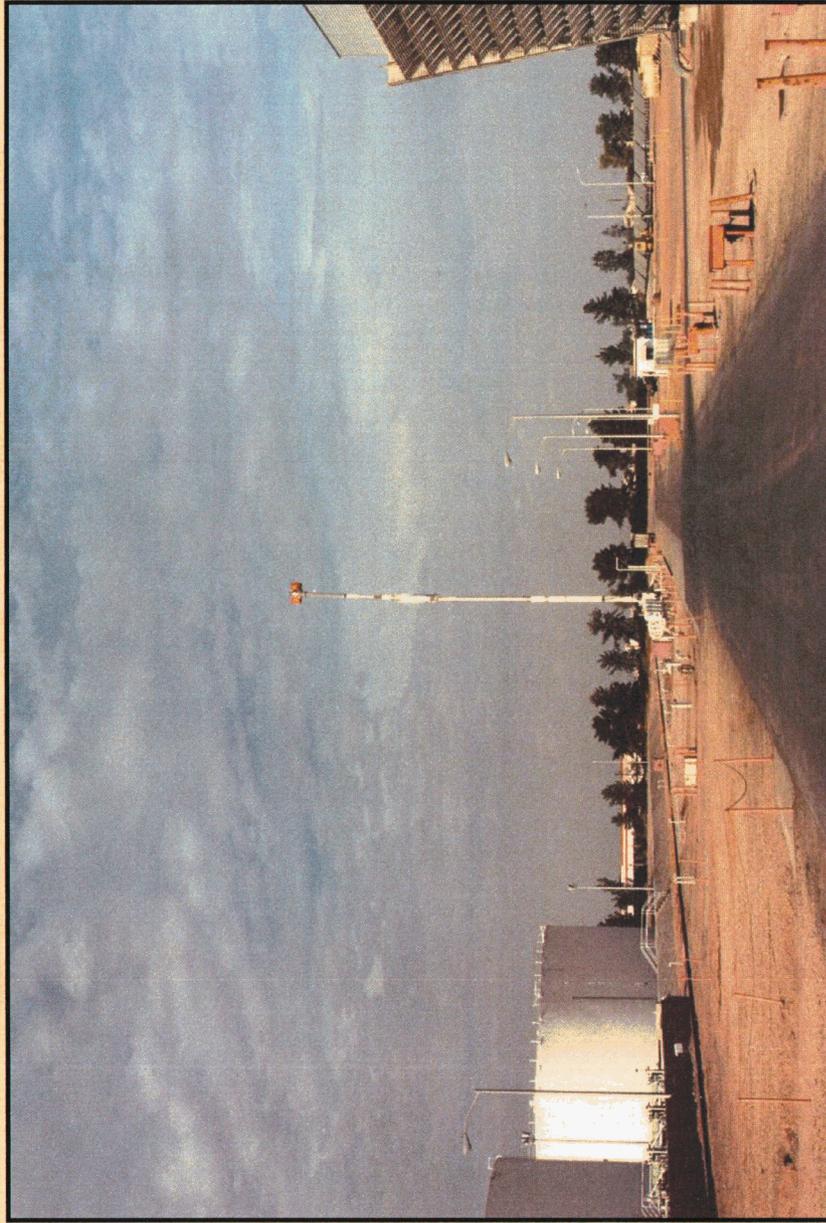


Assumes flat terrain

Selected Viewpoints / Concepts



Approximate Scaling

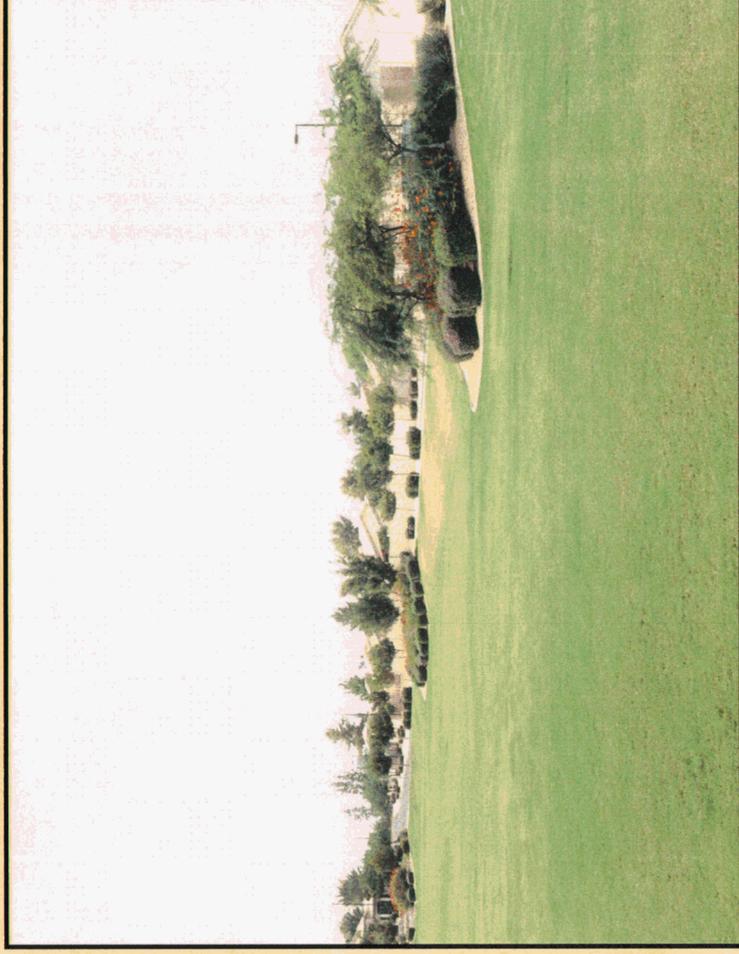


Crane Used to Identify Potential Stack Visibility at 150'



● ● Example From Finley Farms / Rancho Cimarron ●

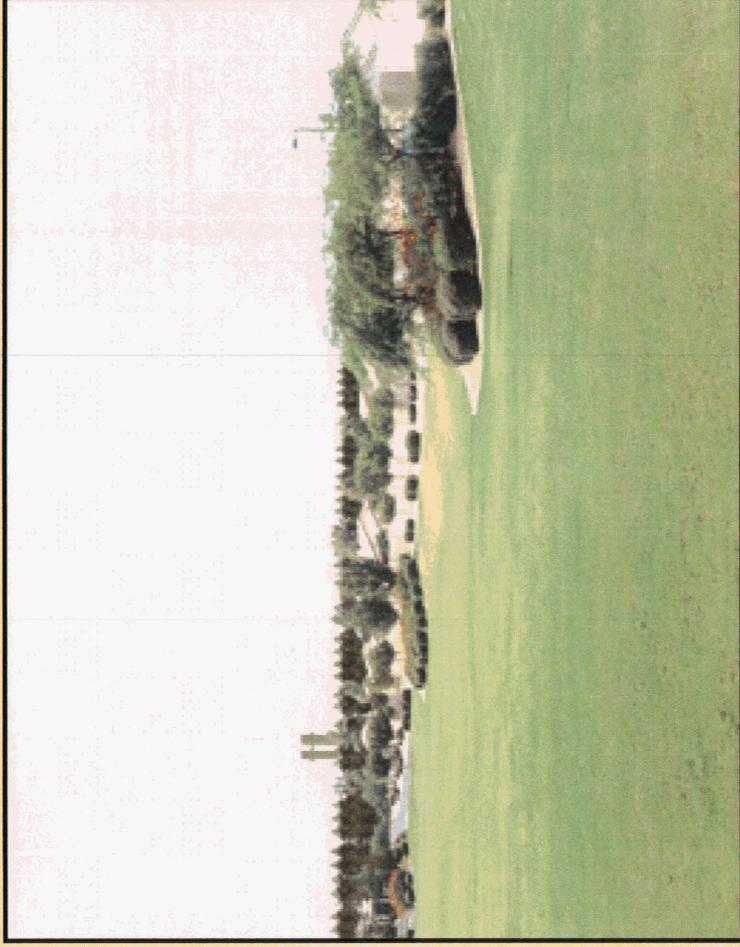
Viewpoint 57



Existing Conditions

Example From Finley Farms / Rancho Cimarron

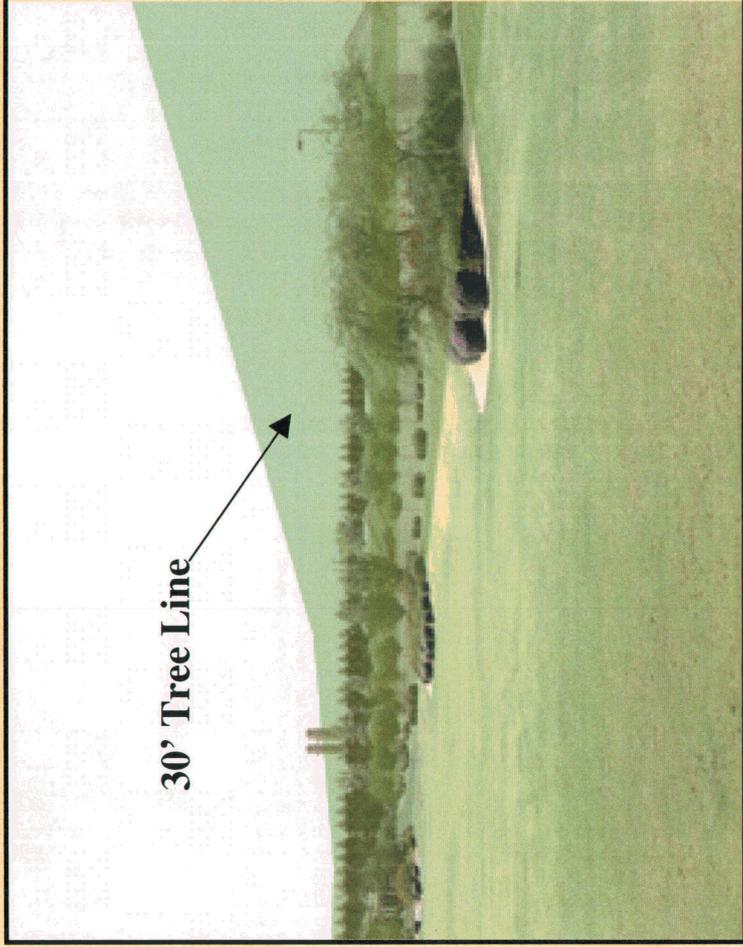
Viewpoint 57



On-site Mitigation

● ● Example From Finley Farms / Rancho Cimarron

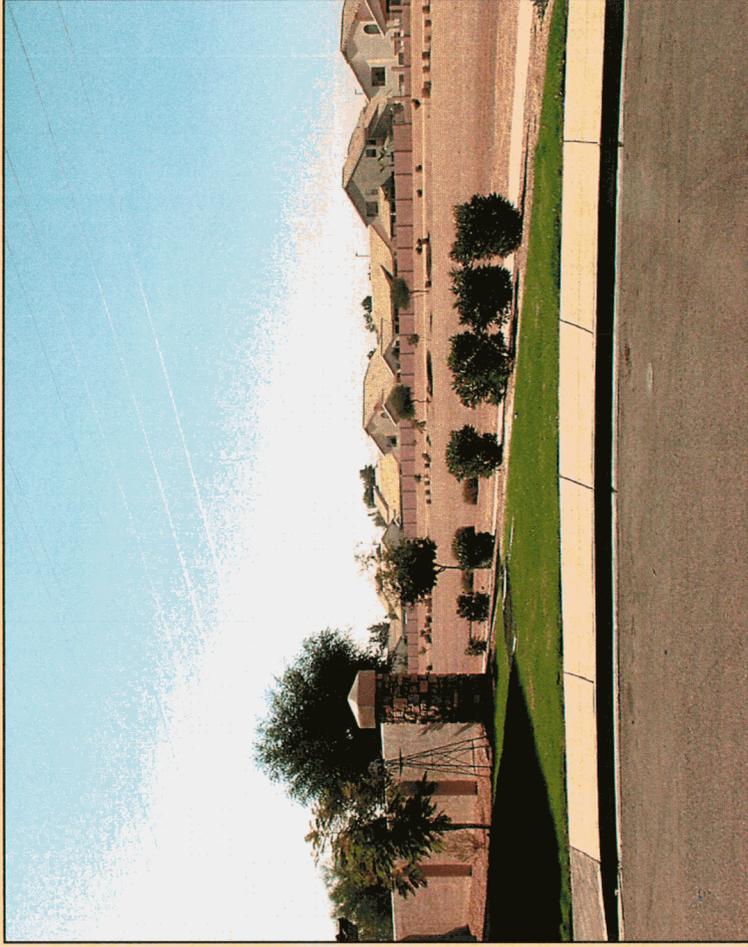
Viewpoint 57



On-site and Off-site Mitigation

● ● Example From Finley Farms / RS 18 Corridor

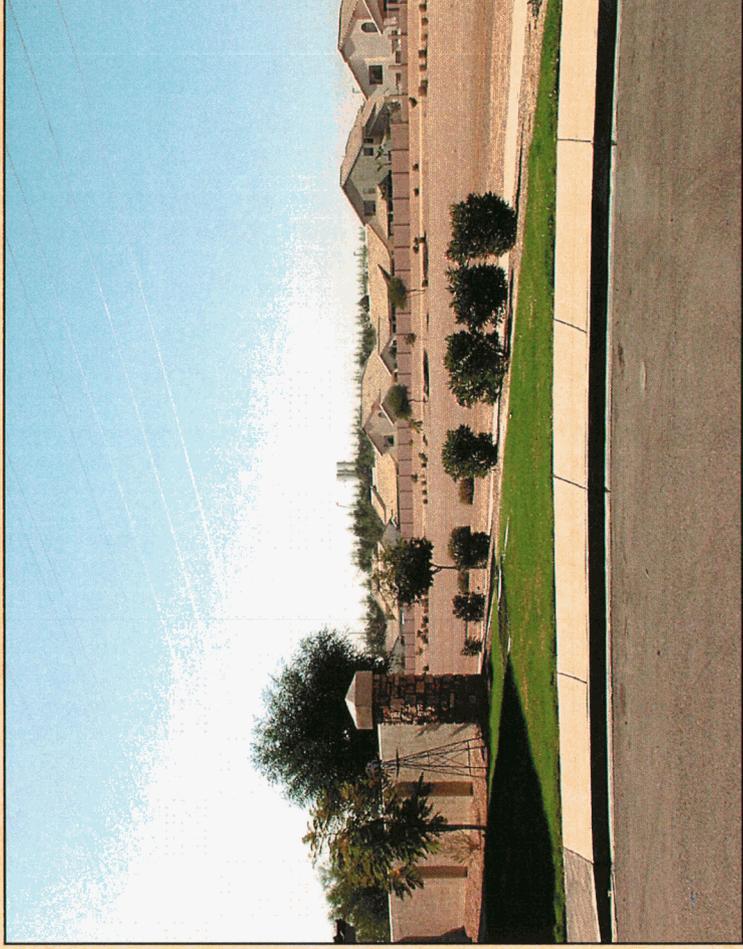
Viewpoint 48



Existing Conditions

● ● Example From Finley Farms / RS 18 Corridor

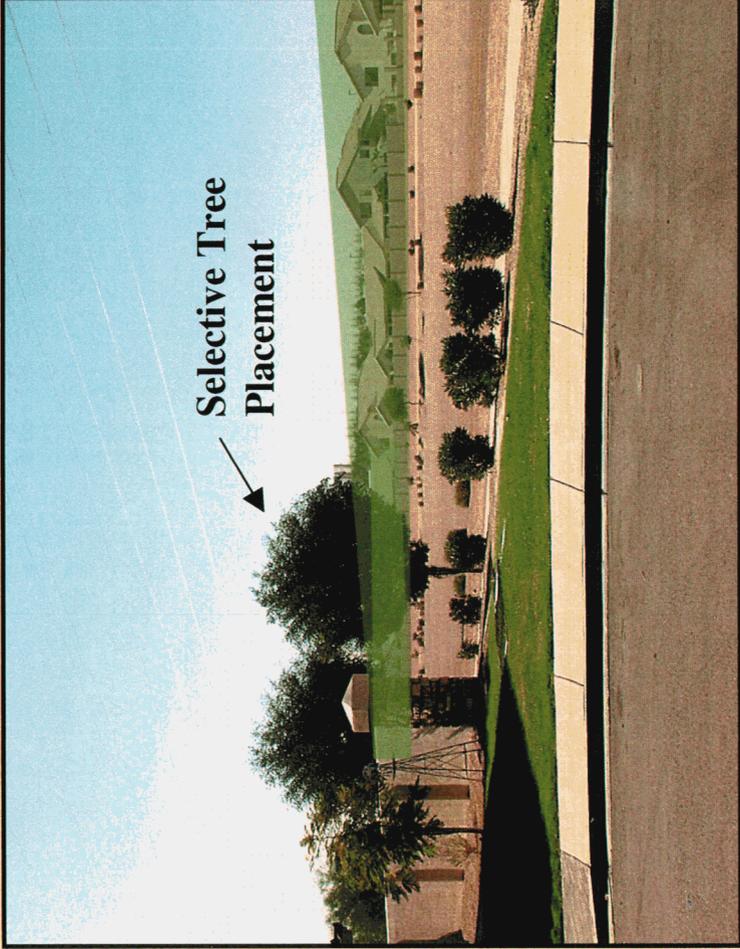
Viewpoint 48



On-site Mitigation

● ● Example From Finley Farms / RS 18 Corridor

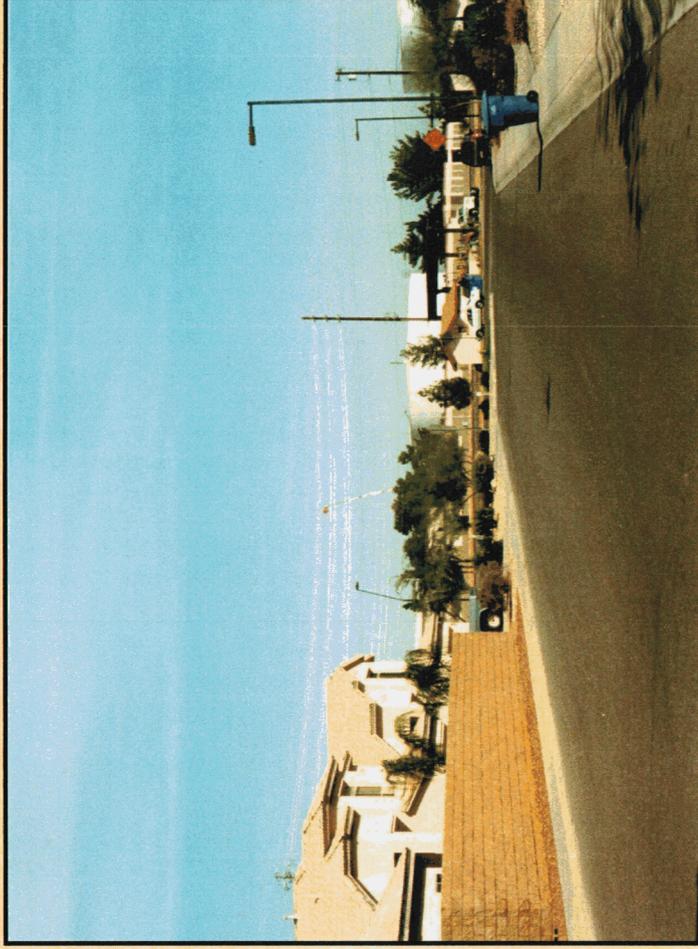
Viewpoint 48



On-site and Off-site Mitigation

Example From Entry to Western Skies Off Val Vista

Viewpoint 20



Existing Conditions

● ● Example From Entry to Western Skies Off Val Vista

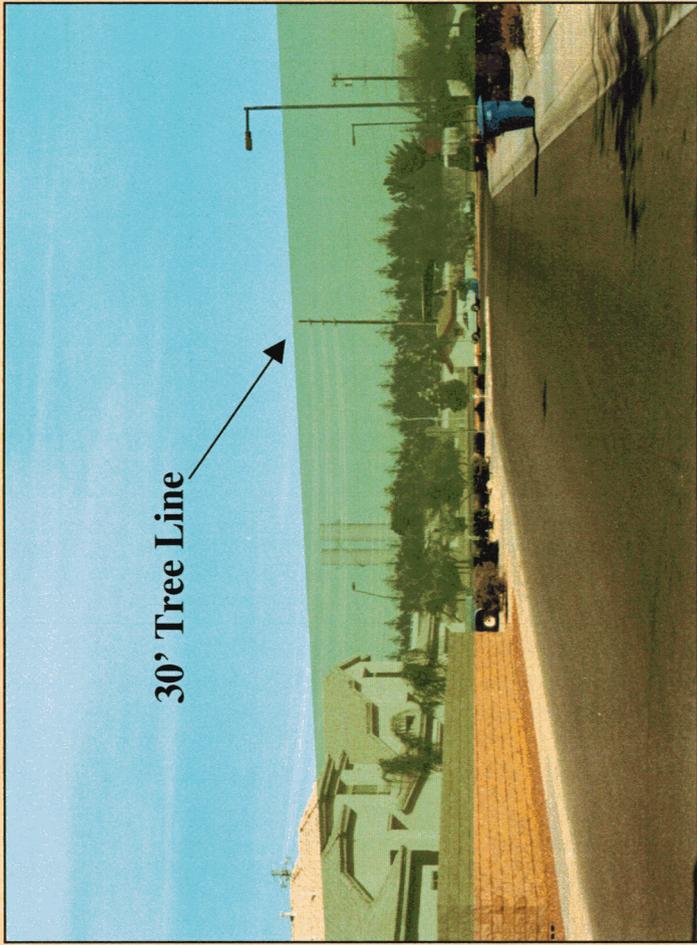
Viewpoint 20



On-site Mitigation

● ● Example From Entry to Western Skies Off Val Vista

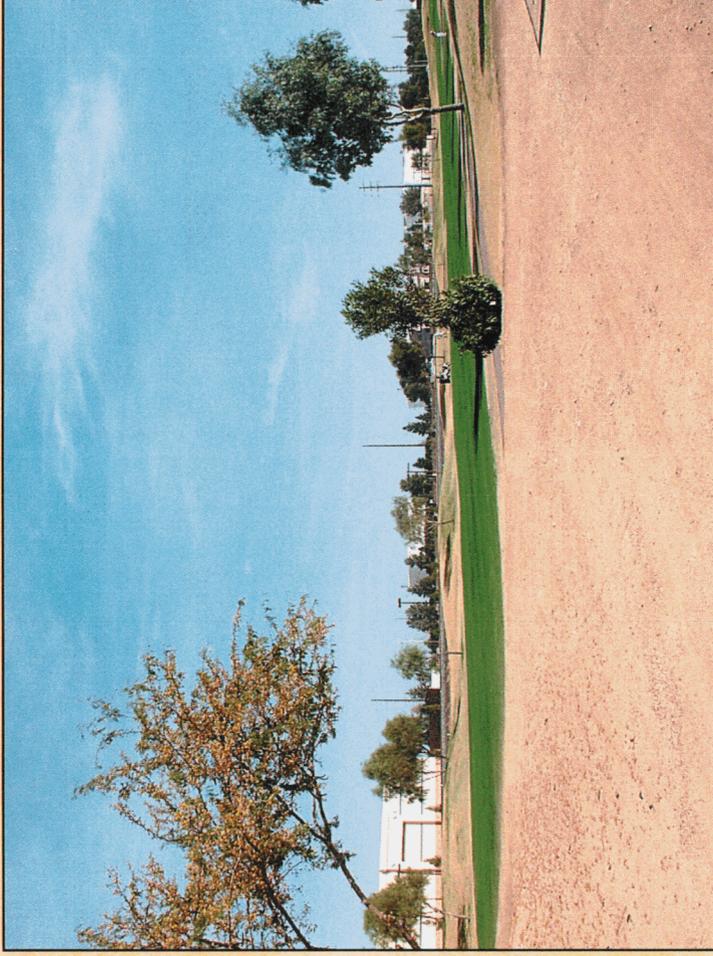
Viewpoint 20



On-site and Off-site Mitigation

● ● Example From Western Skies Golf Course

Viewpoint 19



Existing Conditions

● ● Example From Western Skies Golf Course

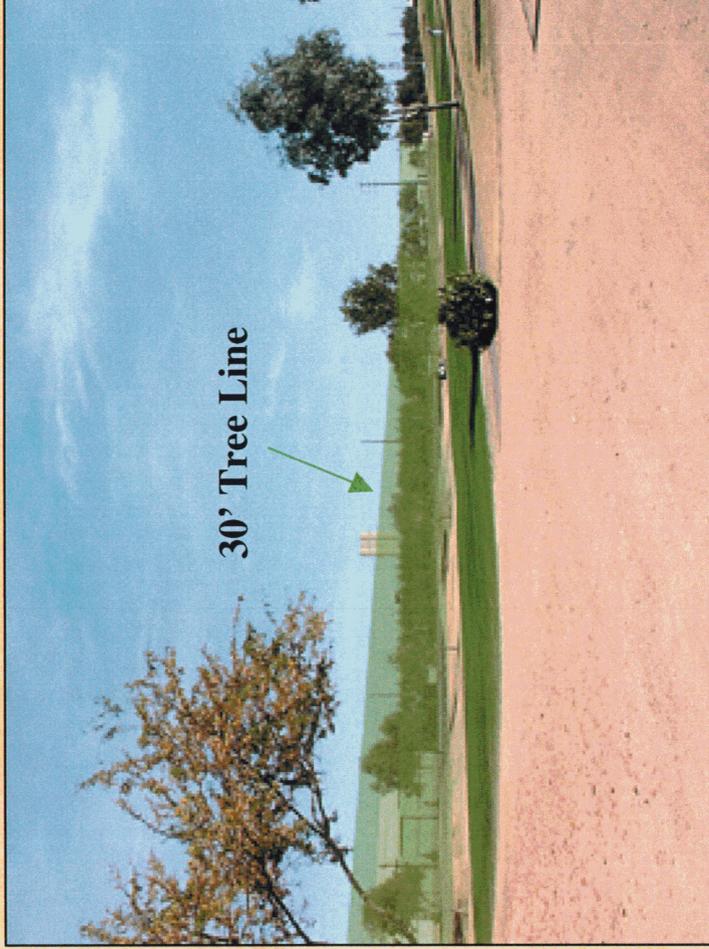
Viewpoint 19



On-site Mitigation

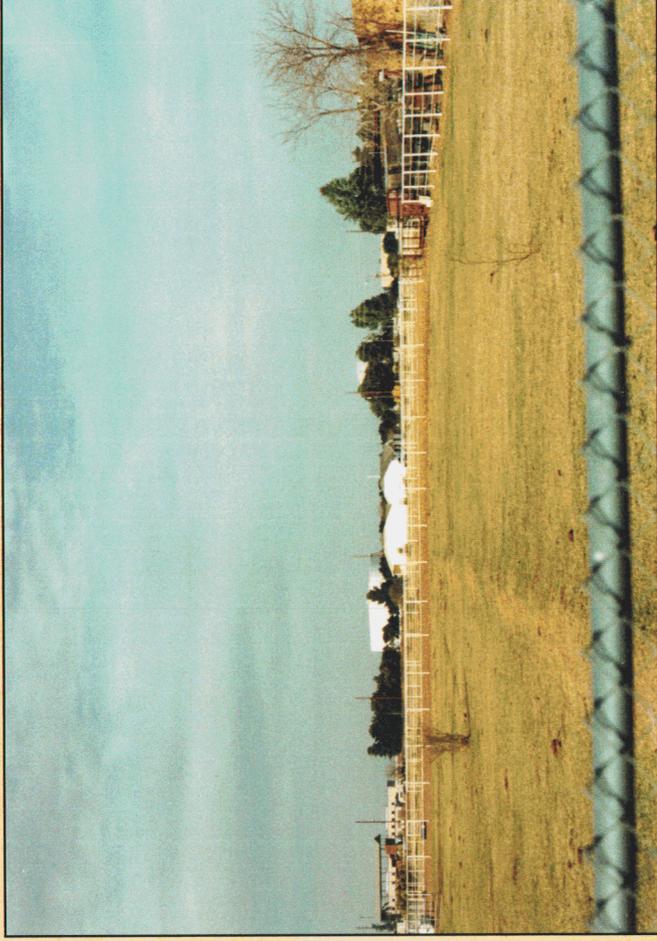
Example From Western Skies Golf Course

Viewpoint 19



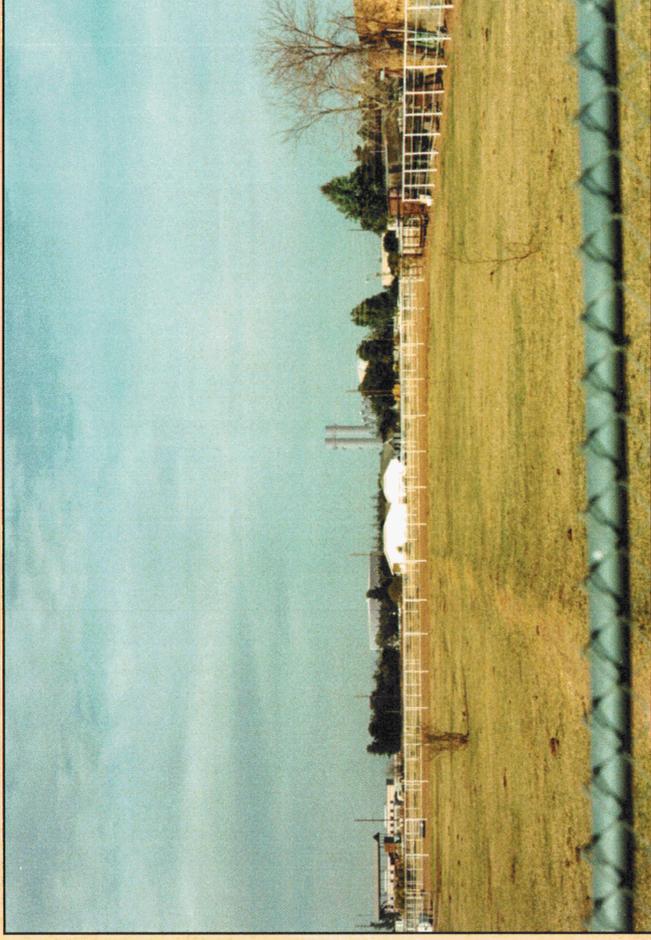
On-site and Off-site Mitigation

Example From Southern Residential Area



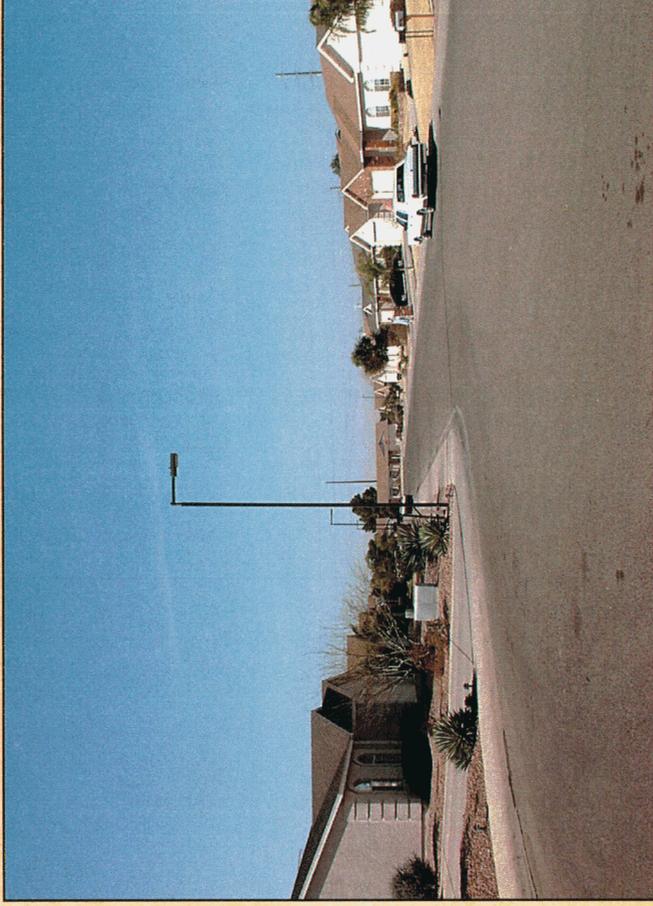
Existing Conditions

-
-
- **Example From Southern Residential Area**



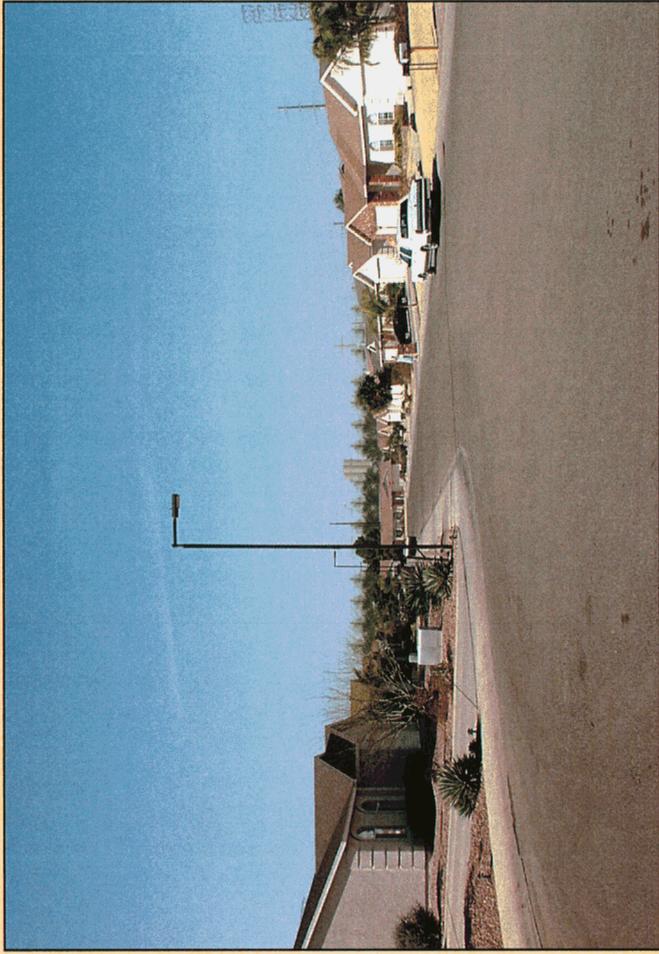
On-site Mitigation

Example From Cottonwoods Crossing



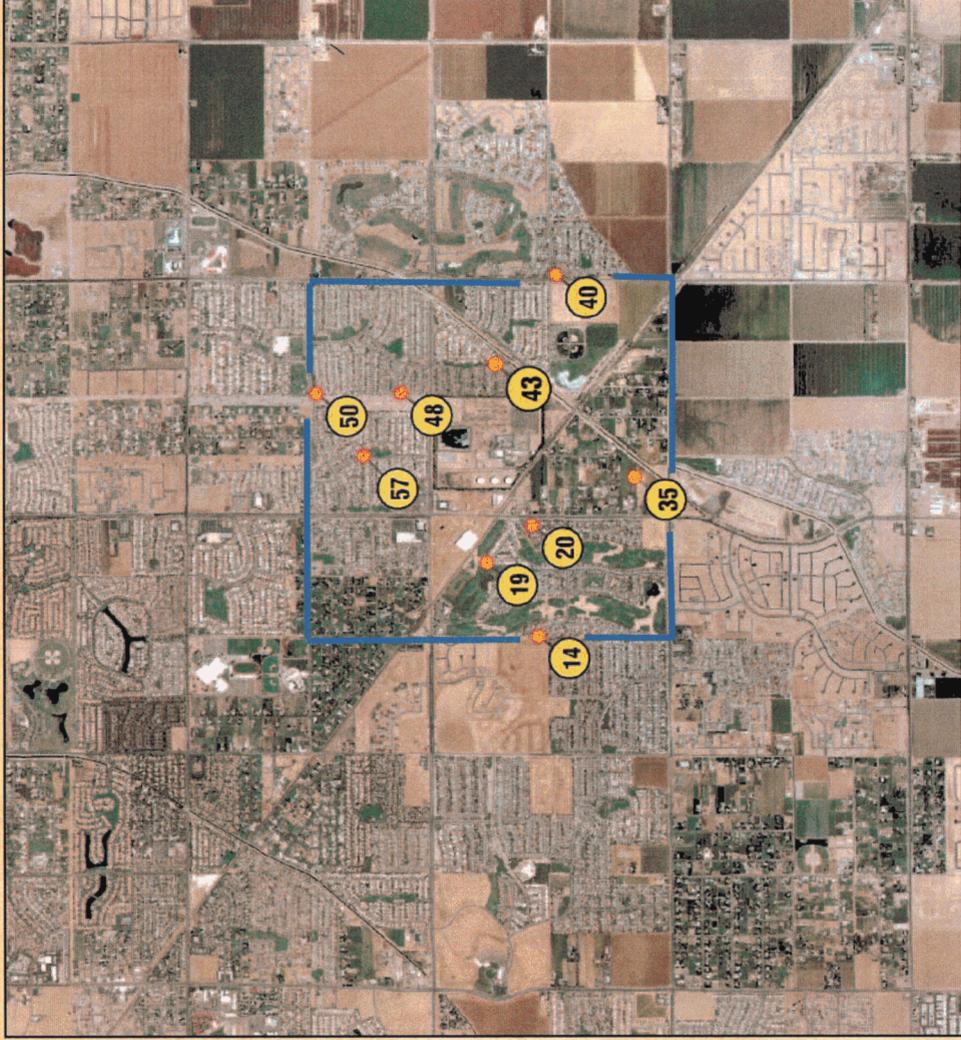
Existing Conditions

Example From Cottonwoods Crossing



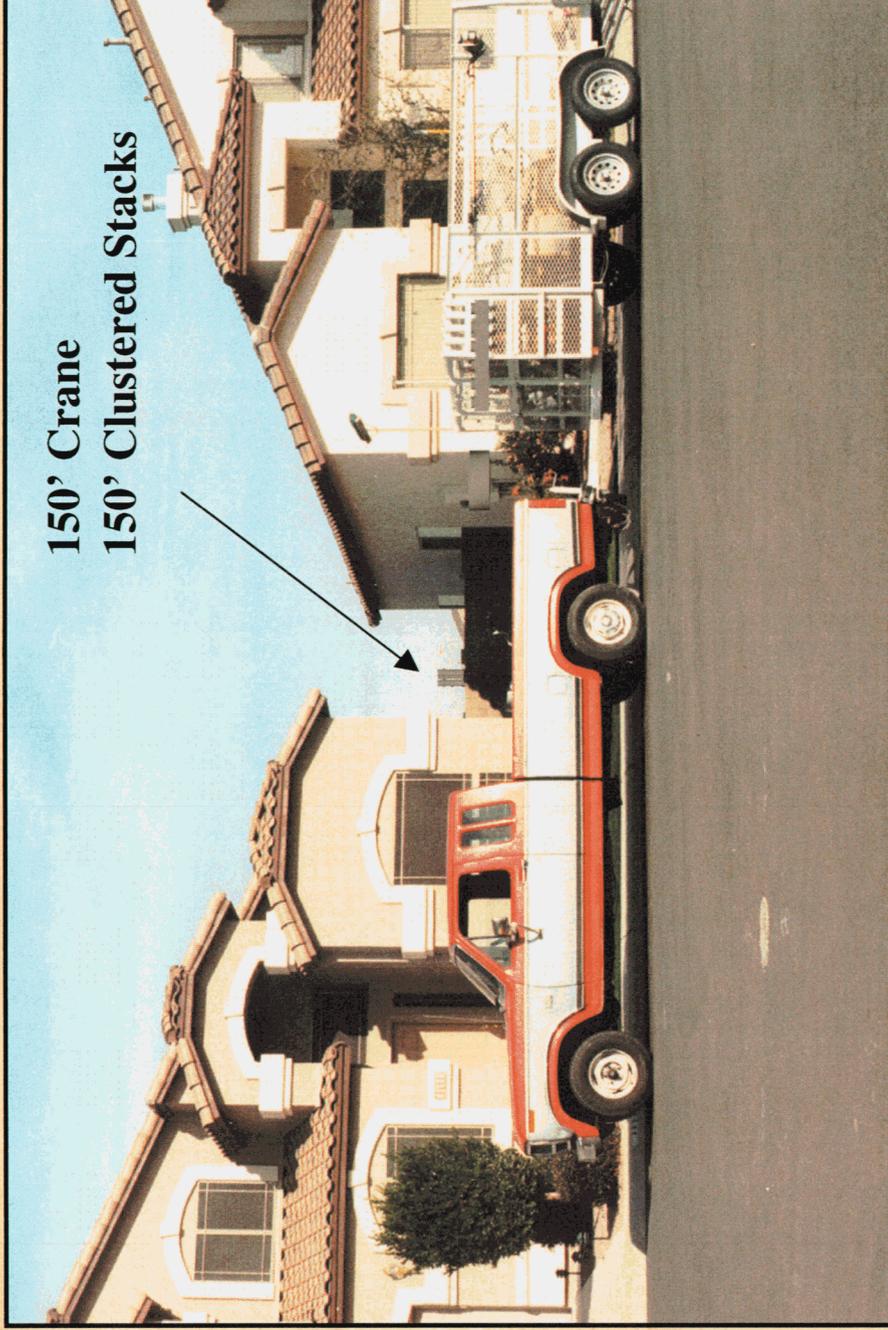
On-site Mitigation

Extended Views / Concepts



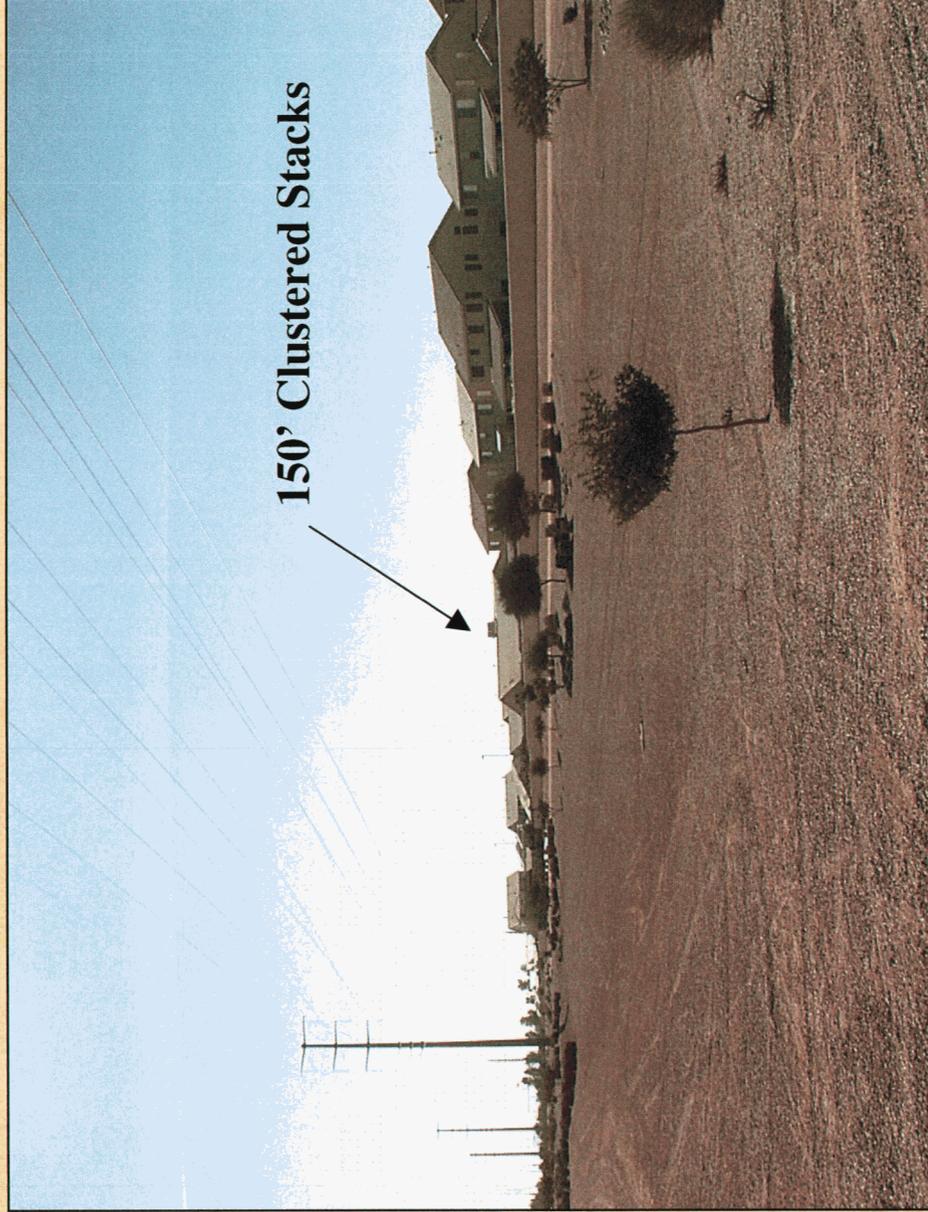
Example: Extended Views

Viewpoint 14: Edge of Western Skies



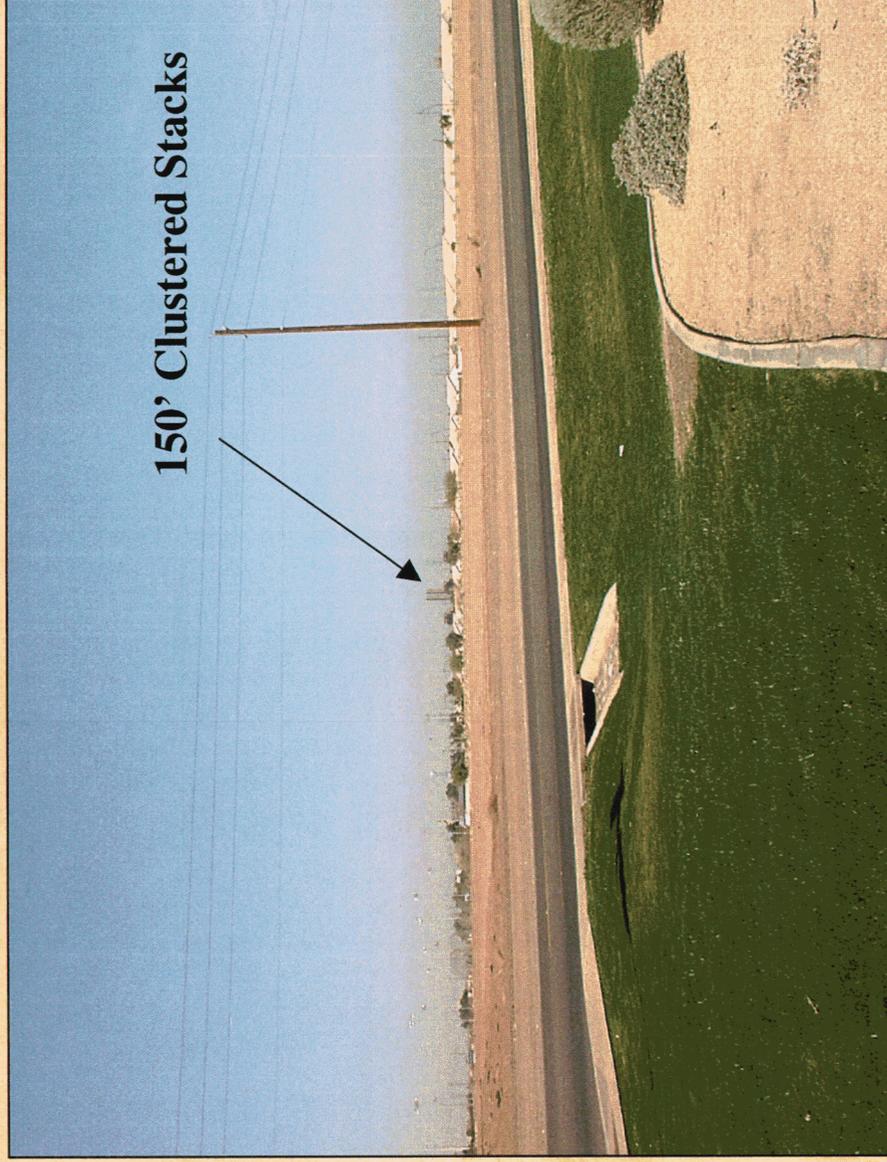
Example: Extended Views

Viewpoint 50: Edge of Finley Farms and RS18 Corridor



Example: Extended Views

Viewpoint 40: Greenfield Road. East of Crossroads Park



SUMMARY



1 BEFORE THE POWER PLANT AND TRANSMISSION
2 LINE SITING COMMITTEE

3
4 IN THE MATTER OF THE APPLICATION OF)
5 SALT RIVER PROJECT OR THEIR)
6 ASSIGNEE(S), IN CONFORMANCE WITH)
7 THE REQUIREMENTS OF THE ARIZONA)
8 REVISED STATUTES 40-360.03 AND)
9 40-360.06 FOR A CERTIFICATE OF) L-00000B-00-0105
10 ENVIRONMENTAL COMPATIBILITY)
11 AUTHORIZING THE CONSTRUCTION OF) CASE NO. 105
12 NATURAL GAS-FIRED, COMBINED CYCLE)
13 GENERATING FACILITIES AND)
14 ASSOCIATED INTRAPLANT TRANSMISSION)
15 LINES, SWITCHYARD IN GILBERT,)
16 ARIZONA LOCATED NEAR AND SOUTHEAST)
17 OF THE INTERSECTION OF Val Vista)
18 DRIVE AND WARNER ROAD.)
19)

13 At: Mesa, Arizona
14 Date: November 1, 2000
15 Filed:

16
17 REPORTER'S TRANSCRIPT OF PROCEEDINGS
18 VOLUME III
19 (Pages 520 through 777)

20 ARIZONA REPORTING SERVICE, INC.
21 Court Reporting
22 Suite Three
23 2627 North Third Street
24 Phoenix, Arizona 85004-1103

25 Prepared for: By: CECELIA BROOKMAN, RPR
 CCR No. 50154

1 Stanford. I've worked in the field of how chemicals
2 move through the environment pretty much most of my
3 professional career. I've been with Environ
4 Corporation for the last 11 years. For the last six
5 of those years I've been a principal or a partner in
6 that company.

7 Q. On the first page of Exhibit 74 is a short
8 form of your resume; is that correct?

9 A. Yes, it is.

10 Q. Dr. Libicki, what is the purpose of your
11 testimony here today?

12 A. My testimony provides information on the air
13 quality impacts of the proposed Santan expansion. And
14 in particular what I'll discuss in the context of how
15 to evaluate the air quality impact is an overview of
16 air quality permitting requirements. This is
17 important because it's the air quality permitting that
18 actually governs what is allowable and what kind of
19 air quality impacts the Santan expansion can have.

20 I'll discuss the Santan expansion
21 specifically and the air quality impacts that it has,
22 and I'll combine those two pieces of information to
23 look at the current air quality in the Gilbert area
24 right now and the future air quality if the proposed
25 Santan expansion is approved.

1 Maricopa County?

2 A. I've worked on air quality issues in Maricopa
3 County for pretty much the last 11 years.

4 Q. Could you tell us what resources are
5 available for you to look at with regard to air
6 quality in Maricopa County, the Phoenix valley?

7 A. There are a great number of air resources in
8 this area. Every area has air monitoring equipment
9 specified by the EPA in order to monitor its
10 attainment status, so Maricopa County has a great deal
11 of high quality monitoring information available.

12 Q. In the analysis that you conducted were you
13 satisfied that there was sufficient data available for
14 you to conduct the analysis in the way that you wanted
15 to?

16 A. Absolutely.

17 Q. In your opinion, and using the definition
18 that you stated in the record, is the air in the
19 Phoenix valley polluted?

20 A. I think the easiest way to talk about
21 pollution is to use the U.S. EPA definitions. And as
22 I mentioned earlier in my discussion, Maricopa County
23 is a nonattainment for three pollutants, and that
24 would be ozone, carbon monoxide, and dust. Certainly
25 for those three pollutants, the air quality is

1 air permitting regime is designed to allow it to do
2 that for nonattainment area.

3 I said earlier Maricopa County is also
4 nonattainment for ozone, dust, carbon monoxide. Any
5 new source of air pollution is required to install the
6 best control technology. It's required to offset
7 pollution increases. And I'll discuss offsets a
8 little later. It has to maintain local air quality.
9 In other words, it can't increase local air quality
10 and provide benefits to other areas. It has to
11 maintain the local air quality near the source. And
12 it has to provide methods for monitoring the
13 performance or the pollution emissions of any new
14 source.

15 As I mentioned earlier, the best pollution
16 controllers are required for pollutants which an area
17 is not currently in attainment. In the air quality
18 permitting lingo, this is known as the lowest
19 achievable emissions limit or LAER. It's required in
20 Maricopa County for nitrogen oxides and volatile
21 organic carbons. These two are precursors to ozone,
22 and that's why it's required for carbon monoxide and
23 dust. LAER is a requirement for the best demonstrated
24 air pollution control technology anywhere in the
25 country at the time of permitting. There is

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23 By: CECELIA BROOKMAN, RPR
24 Prepared for: CCR No. 50154

1 to air quality, we use the current actual emissions of
2 the existing equipment and then we use the maximum
3 possible emissions from the expansion equipment.

4 And the reason that this is done is because
5 in the air quality permitting process, unless you
6 understand the impacts of the full, fully operating
7 system, you can't have a permit for the fully
8 operating system. So even if the intention is not
9 right now to run it at 100 percent, if you want the
10 permit for 100 percent, you have to evaluate that.

11 As I mentioned earlier, in order to look at
12 the air quality we have a variety of monitors to look
13 at. What you see on the screen right now is a subset
14 of air quality monitors that are in Maricopa County.
15 Every monitor in Maricopa County does not monitor for
16 every pollutant. The most common pollutant monitored
17 for in Maricopa County is particulate matter or dust.
18 The other pollutants, CO, NOx, SO2 are not monitored
19 for every monitor. So what I put here are the
20 monitors for which the pollutants of interest are
21 looked at closest to the facility.

22 So there you see SRP's facility. The Gilbert
23 and the Higley monitor only monitor for dust. The
24 central Phoenix monitor monitors for most pollutants,
25 as does the West Phoenix monitor, and south Scottsdale

ENVIRON

Emeryville, California
510.420.2533
slibicki@environcorp.com



Expertise

Accidental Release

Ambient Modeling/Exposure Analysis

CEQA

Chemical Process Analysis

Dispersion Analysis

Emissions Estimation

Landfill Assessment

Proposition 65

RMP

Subsurface Gas Migration

Education

Ph.D., Chemical Engineering,
Stanford University, 1985

M.S., Chemical Engineering, Stanford
University, 1981

B.S.E., Chemical Engineering,
University of Michigan, 1979

Shari B. Libicki, Ph.D.

Principal, Air Science Practice

As a Principal at ENVIRON, Dr. Libicki specializes in analyzing the impacts of air emissions from industrial facilities and landfills. This includes emission testing and estimation using her chemical processing background; dispersion modeling; and the design of ambient monitoring programs. She uses this information to negotiate complex technical agreements and permits with agencies, assist facilities with compliance programs, and provide technical expertise to litigation teams. Dr. Libicki has lectured widely on estimating chemical exposures for use in risk assessments, and on methods to evaluate the impacts of accidental chemical releases.

Relevant Project Experience

- Provided air quality consulting services nationwide for a six-facility mini-mill steel producer. Services included preparation of air quality permits, including NSR and PSD permits, preparation of Title V permit applications, preparation of RACT proposals and strategic assistance.
- Worked as a technical advisor to the Imperial County Air Pollution Control District for the permitting, planning and enforcement.
- Provided expert assistance on a litigation case where an accidental airborne release from an industrial facility was alleged to have caused harm to thousands of plaintiffs.
- Gave an invited lecture series to senior environmental professionals in Mexico on estimation of the impacts of sudden releases of toxic and flammable materials, in the wake of the Guadalajara explosions.
- Provided expert assistance on a litigation case where ammonia was released from a refrigeration system. This included an analysis of the opposing expert's work, creation of a model to describe the release from the system, and evaluation of alternative scenarios.
- Designed a complex fourteen-station ambient air monitoring network to measure the concentrations of 19 toxic chemicals for risk assessment purposes and negotiated approval with local, state and federal regulators.
- Provided independent technical assistance to the court's mediator on landfill gas migration and control issues for a landfill toxic tort litigation involving a very large landfill (several square miles) in the Eastern United States.
- Provided technical support to attorneys for a litigation case evaluating the potential for cross-contamination via process exhausts, within an industrial facility.
- Provided impartial technical assistance to both the plaintiffs and defense in a toxic tort case involving air emissions from a large acid manufacturing facility in Arkansas.

**Human Expansion Project
Quality**

Shari Libicki, Ph. D.

Principal

Emeryville, California

ENVIRON

Air Quality Review of the Santan Expansion

- An overview of permitting requirements
- Santan expansion and air quality
- Current and future air quality in Gilbert

Air Permitting Goals

- Air quality permitting:
 - improves air quality for areas that do not meet the National Ambient Air Quality Standards (NAAQS)
 - maintains air quality for “clean” areas
 - allows agencies to monitor sources of pollution
 - allows public review of permitting decisions

- Maricopa County needs to decrease ozone, dust (PM₁₀) and carbon monoxide (CO) concentrations (non-attainment)

- Maricopa County needs to maintain its clean air status for nitrogen dioxide (NO₂) and sulfur dioxide (SO₂) (attainment)

Air Permitting Goals (Non-attainment)

- Install the best control technology
- Offset pollution emission increases
- Maintain local air quality
- Provide methods for monitoring performance

Best Pollution Control Required

- Lowest Achievable Emission Rate (LAER) required for NO_x, VOCs, carbon monoxide, and dust (PM₁₀)
- LAER is best demonstrated air pollution control *anywhere* in the country *at time of permitting*

To Improve Air Quality

- Each increase in emissions must be “offset” by emissions reductions that are:
 - enforceable
 - within the non-attainment area
 - surplus (not otherwise required)
 - real (actual existing emissions)
 - permanent

Where do the offsets come from?

- For ozone precursors (NO_x and VOCs), within the air basin (ozone is a valley-wide issue)
- For significant dust (PM₁₀) increases, must provide net air quality benefit
- For significant carbon monoxide increases, must provide net air quality benefit

Project Emissions

NOx

269 tons per year

CO

418 tons per year

PM₁₀

245 tons per year

SOx

16 tons per year

VOCs

105 tons per year

Pollution Reductions for the Project

Pollutant	Emissions	Offsets	Source
NOx	269	323	Santan
CO	418	418	Various locations
PM ₁₀	245	245	Southeast Valley paving
SO _x	16	Not required	Not required
VOC	105	126	Various locations

Santan Pollution Control Project

- Installation of Dry Low NOx (DLN) burners on existing equipment
- Reduces NOx emissions by 80% from existing equipment
- Hotter equipment exhaust will decrease local concentration of all pollutants
- Therefore, **decrease** in NOx emissions and local pollution concentrations

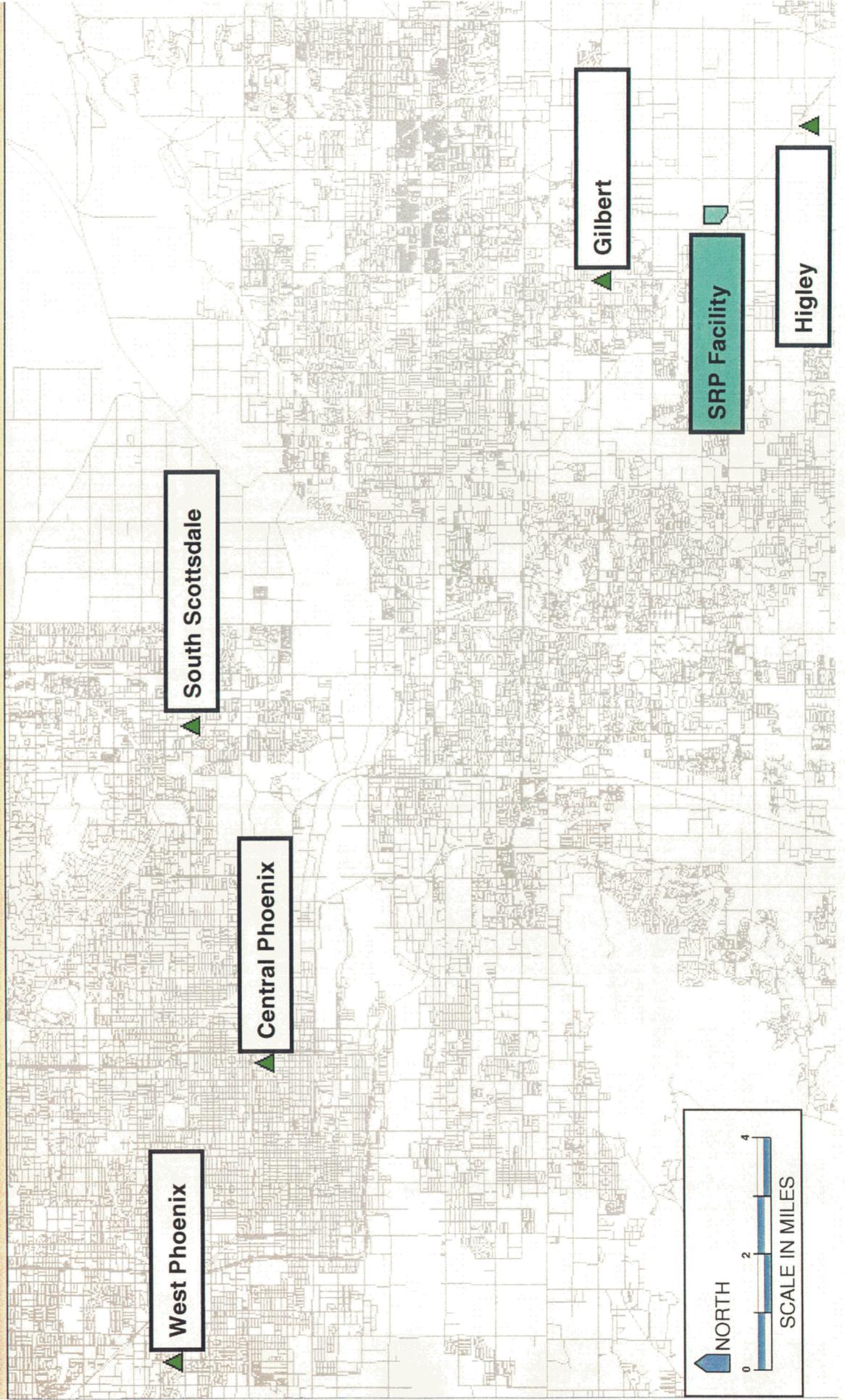
Other Pollution Control Projects SRP Is Considering

- “Green” diesel for Gilbert school buses
- Retrofitting local government vehicles to reduce emissions
- Retrofitting company vehicles to reduce emissions
- Increasing control of smaller local sources of emissions

Understanding the Effects on Air Quality

- Review current air quality
 - Valley-wide monitoring network
 - Focus on local monitors
- Use of U.S. EPA simulation tools to predict air quality changes
- To compare changes to air quality:
 - Use current actual emissions of existing equipment
 - Use maximum possible emissions of new equipment

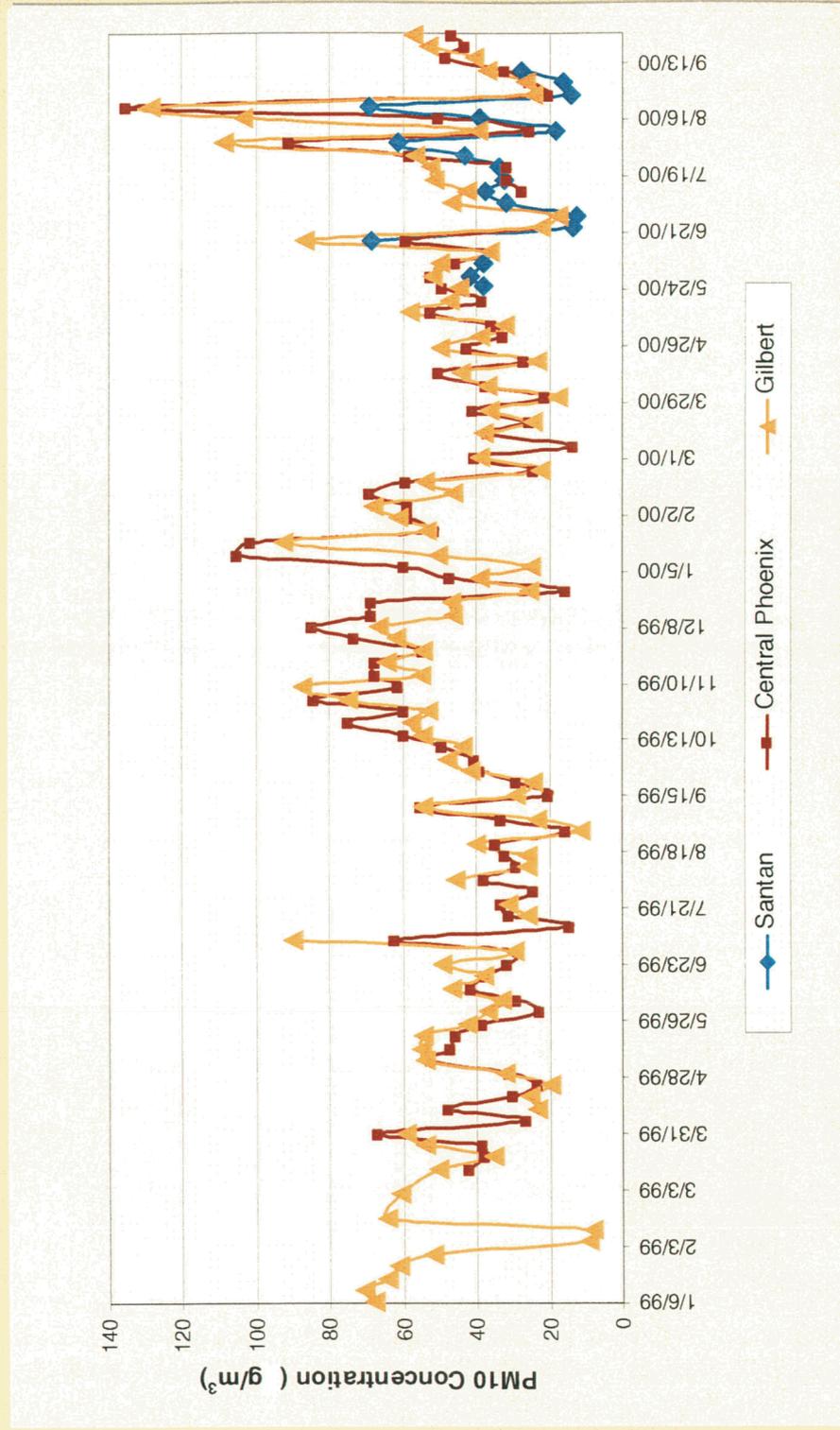
Maricopa County Air Monitoring



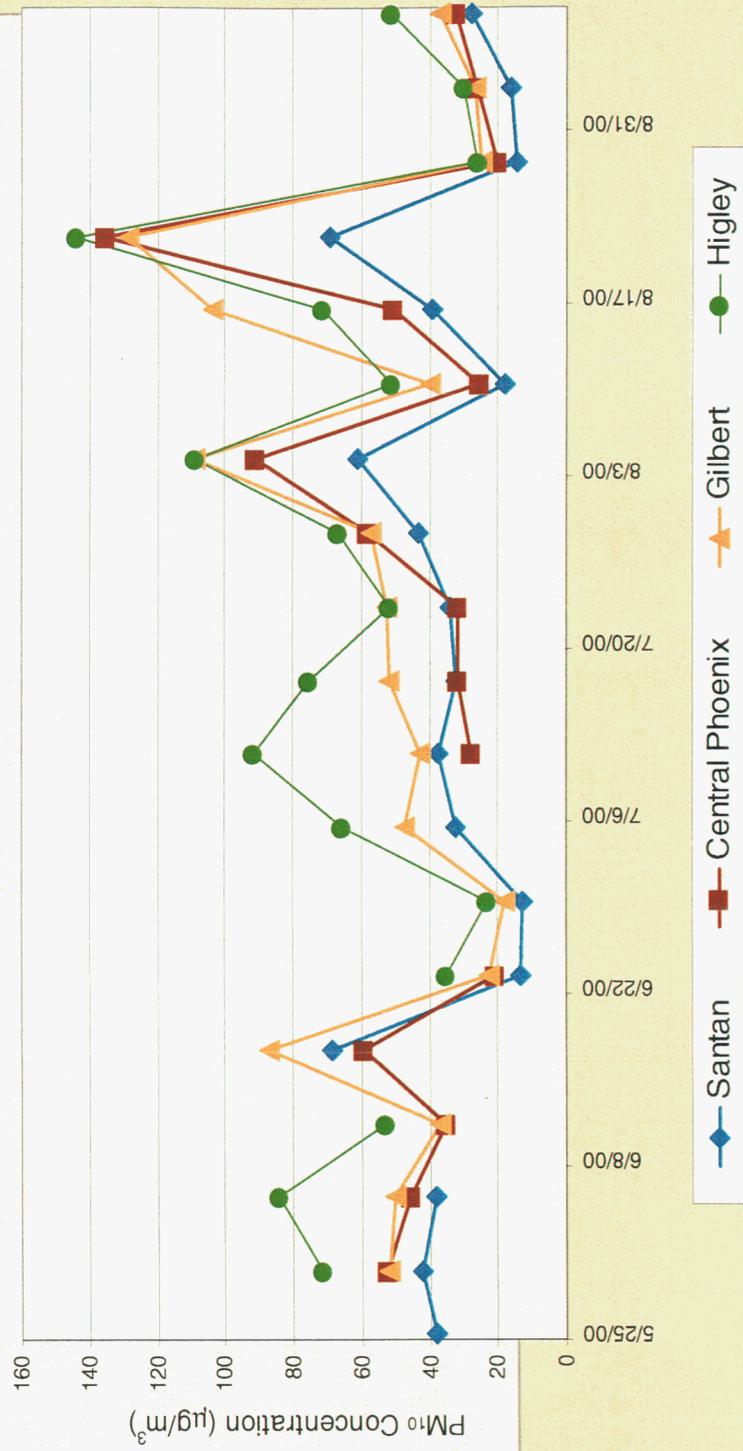
National Ambient Air Quality Standards (NAAQS)

Pollutant	NAAQS	Regional Monitoring (Maximum Reported in 1999 and 2000)
NOx (annual)	100 $\mu\text{g}/\text{m}^3$	64 $\mu\text{g}/\text{m}^3$
PM ₁₀ (daily)	150 $\mu\text{g}/\text{m}^3$	128 $\mu\text{g}/\text{m}^3$
PM ₁₀ (annual)	50 $\mu\text{g}/\text{m}^3$	46 $\mu\text{g}/\text{m}^3$
CO (1-hour average)	40 mg/m^3	14 mg/m^3
CO (8-hour average)	10 mg/m^3	9 mg/m^3

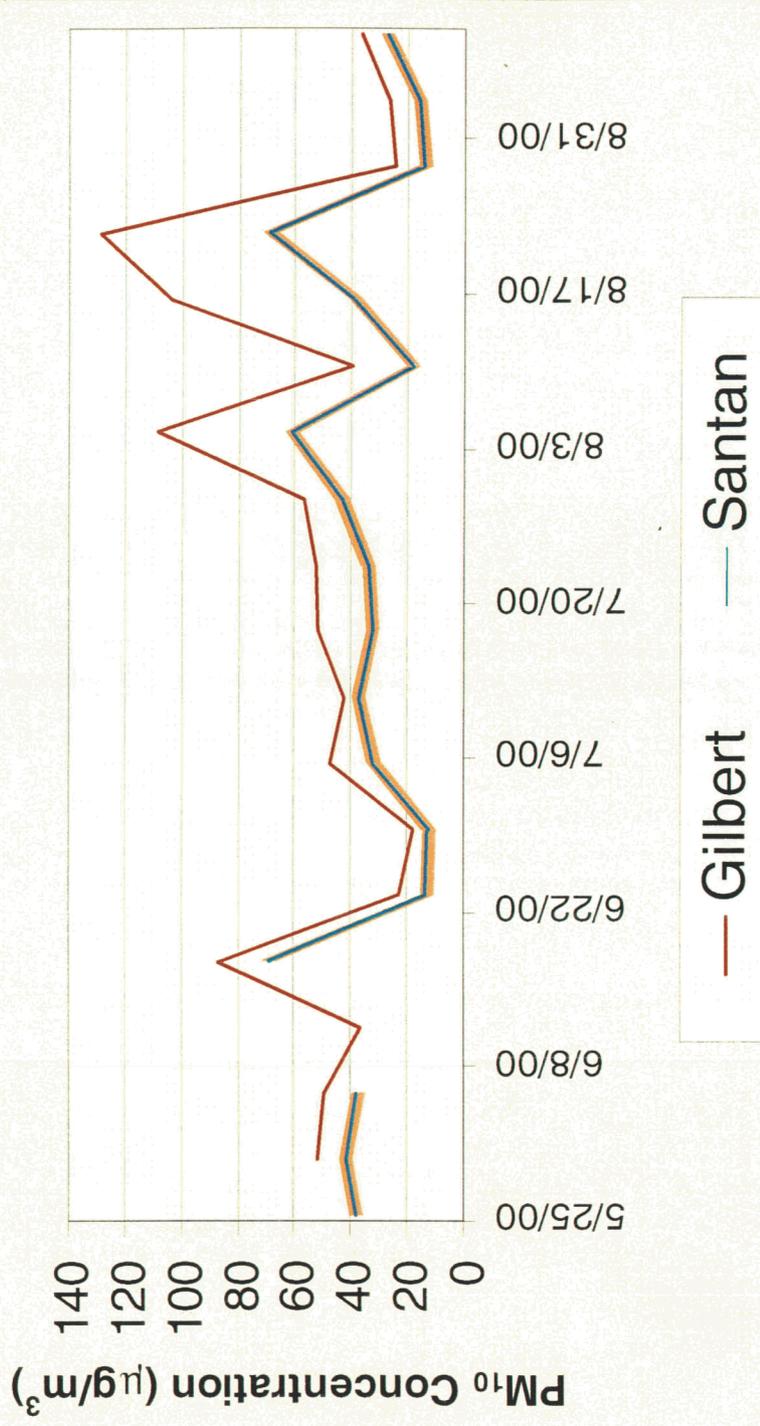
Comparison of Measured Dust (PM₁₀)



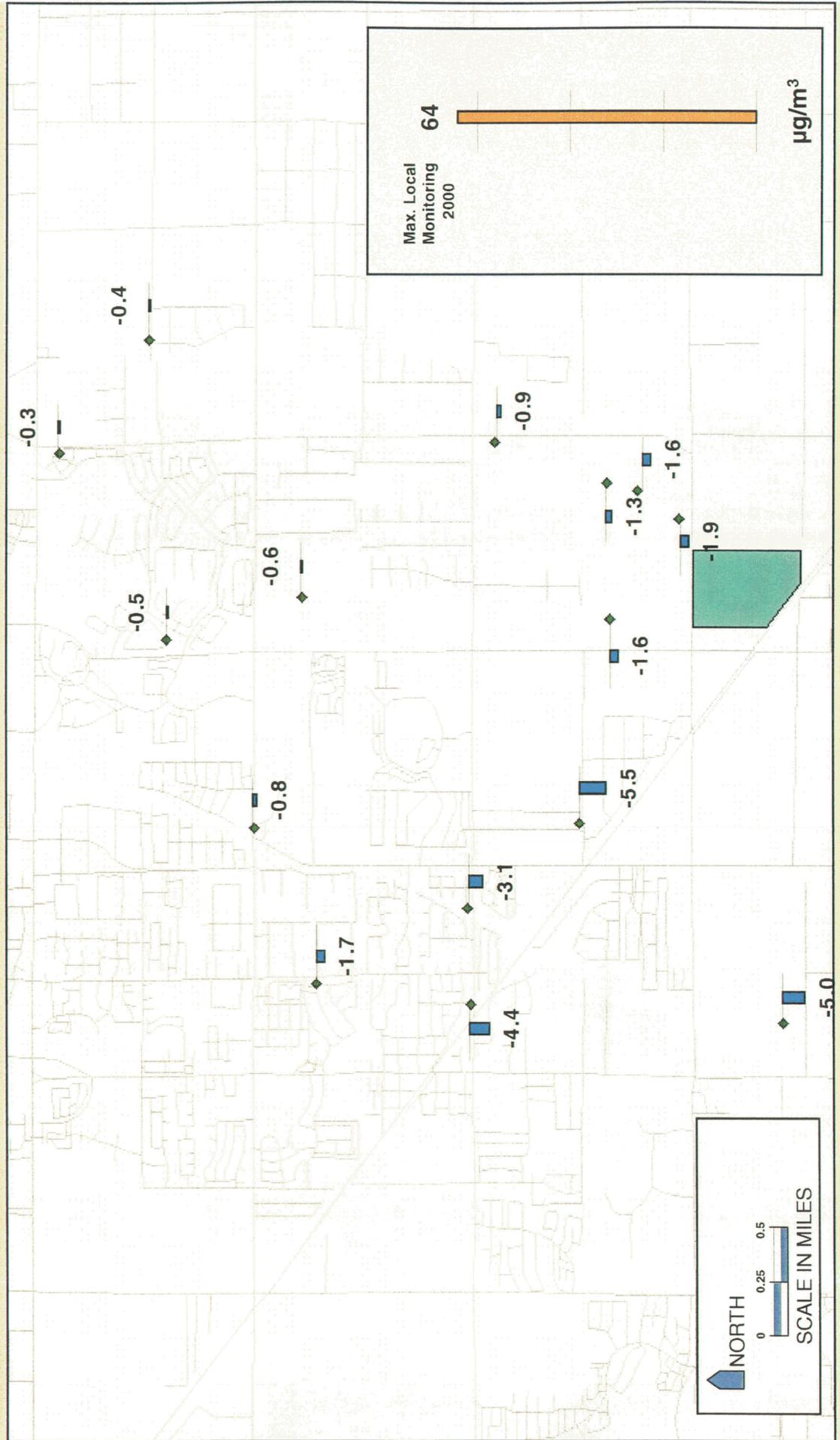
Comparison of Measured Dust (PM₁₀)



No Discernible Influence From Expansion



Local NOx Concentration Decreases



Air Permitting Process

- Maricopa County with U.S. EPA oversight issues the air permit
- Net air quality benefit must be demonstrated
- Best control technology must be applied
- Public review process
- U.S. EPA specifies requirements for monitoring emissions from Santan

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BEFORE THE POWER PLANT AND TRANSMISSION
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VOLUME III
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2627 North Third Street
Phoenix, Arizona 85004-1103

Prepared for: By: CECELIA BROOKMAN, RPR
CCR No. 50154

1 available ammonia. So what you have here is the worst
2 case.

3 Q. Can you explain to me where you think you're
4 going to be getting the offsets for the COs when you
5 say various locations, what's proposed?

6 A. I don't know where SRP is going to be getting
7 the offsets. I know that if they can't get them, they
8 can't have the permit.

9 Q. Right, I understand that. Would that be
10 within the half mile or mile from this neighborhood?

11 A. It would have to be within Maricopa County,
12 because there is no significant local impact.

13 Q. Okay. According to regulation?

14 A. According to regulation.

15 Q. The PM-10 offset, the source is the southeast
16 valley paving. Again, that does not have to come from
17 the immediate neighborhood; is that correct?

18 A. As I mentioned before, you have to have a
19 significant impact of PM before you have to have it at
20 the local site. Now, that's before you have to show
21 reduction of the local site, you have to have a
22 significant increase. Maricopa County rules define
23 that significant increase as five micrograms per meter
24 cubed. There is nowhere a significant increase above
25 that level to require it. However, I understand that

1 A. How did I get the data. I asked SRP, they
2 asked their consultant, and we got it. The consultant
3 keeps it. I don't keep it nor does SRP. It's the
4 monitoring consultant keeps the data.

5 Q. We've had conversations before with regards
6 to my concern on the air quality, because my son is
7 asthmatic and been on and off a breathing machine
8 since he's been born, and I have some grave concerns
9 regarding the emissions from this plant. Are you able
10 to tell me that I should have a comfort level with
11 regards to the emissions and the effect of those
12 emissions upon the residents in that area?

13 A. As you know, I'm not a health expert but an
14 air quality expert. In the analysis that I've
15 conducted, there is an imperceptible change in dust
16 concentrations in the local area.

17 Q. But you wouldn't be able to qualify to
18 testify as to what change or effect that may have on
19 children living within a half a mile from that plant;
20 is that correct?

21 A. As I'm not a health expert, I cannot opine as
22 to what impact it has. However, change is almost
23 beyond measurement that you would see on the worst
24 possible day. It is so small to be possibly
25 unmeasurable with the technology that we have.

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12 NATURAL GAS-FIRED, COMBINED CYCLE)
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17 OF THE INTERSECTION OF VAL VISTA)
18 DRIVE AND WARNER ROAD.)
19)

13 At: Mesa, Arizona
14 Date: November 27, 2000
15 Filed:

17 REPORTER'S TRANSCRIPT OF PROCEEDINGS
18 VOLUME VIII
19 (Pages 1709 through 1941)

20 ARIZONA REPORTING SERVICE, INC.
21 Court Reporting
22 Suite Three
23 2627 North Third Street
24 Phoenix, Arizona 85004-1103

23 Prepared for: By: CECELIA BROOKMAN, RPR
24 CCR No. 50154

1 Mr. Sundlof.

2 MR. SUNDLOF: Thank you. We have marked as
3 Exhibit A-83 Dr. Whipple's resume and presentation.
4 The court reporter pointed out to me that there was
5 already an 83, so we're going to call it 83A although
6 it is tabbed and punched as Exhibit 83.

7

8

CHRIS WHIPPLE,

9 called as a witness, having been previously duly sworn
10 by the Certified Court Reporter to speak the truth and
11 nothing but the truth, was examined and testified as
12 follows:

13

14

DIRECT EXAMINATION

15

16 Q. (BY MR. SUNDLOF) Would you please state your
17 name and your affiliation, please.

18 A. My name is Chris Whipple, and I work for
19 Environ International Corporation. My office is in
20 Emeryville, California.

21 Q. Dr. Whipple, can you describe your
22 professional background, specifically relating to the
23 health effects of power plants.

24 A. Yes. I finished graduate school in 1974, and
25 at that time the U.S. energy crisis had just been

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1 through several phases, and an organization called the
2 Electric Power Research Institute was just being
3 created in Palo Alto. I went to work there and stayed
4 there through 1990. During that time, a major area of
5 my work was with health and environmental impacts of
6 electricity production. In fact, my old boss, who was
7 the president of EPRI, and I taught a course at
8 Stanford on that topic back in, I think around 1980 or
9 so.

10 In connection with that work and with energy
11 being much more topical in the late '70s and early
12 '80s than it is today as a research issue, I was
13 involved in health studies and review of health
14 studies by the EPA and the Department of Energy at
15 that time.

16 In early 1983 or '4, I believe it was, I was
17 asked and served on a National Academy of Sciences
18 committee that reviewed studies on the health
19 environmental impacts of syn fuel industries, and that
20 was particularly coal gasification and oil shale.

21 Around the early 1980s a professional
22 organization called the Society for Risk Analysis was
23 organized. I was one of the charter members. I was
24 the second president of that society, and worked on a
25 variety of energy-related risk assessment issues over

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1 organic pollutants, volatiles, benzene and
2 formaldehyde, toluene, aromatic hydrocarbons as well
3 in the study.

4 I will shift gears now and talk about what
5 the national ambient air quality standards are meant
6 to do. These are standards that EPA set as required
7 by the Clean Air Act, and the goal for the, what are
8 called criteria air pollutants, and in this case, the
9 criteria air pollutants we're talking about are oxides
10 of nitrogen, ozone, carbon monoxide. I guess sulfur
11 dioxides are not an issue in this particular setting.
12 For those pollutants EPA was directed by Congress to
13 set ambient standards that protect all of the
14 population with an adequate margin of safety, taking
15 into account risks of sensitive groups and population.

16 The primary standards are to protect public
17 health, and again, EPA was to set secondary standards
18 where there was an economic effect or damage to
19 materials, the notion that acid rain would kill trees
20 or erode marble statues, that sort of thing.

21 What I wanted to do here is go through just
22 what the standards are for each of the criteria
23 pollutants that are at issue here, what the health
24 effects are that EPA used to set its criteria
25 pollutant standards, ambient standards, and then to

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19 materials, the notion that acid rain would kill trees
20 or erode marble statues, that sort of thing.

21 What I wanted to do here is go through just
22 what the standards are for each of the criteria
23 pollutants that are at issue here, what the health
24 effects are that EPA used to set its criteria
25 pollutant standards, ambient standards, and then to

1 indicate, using slides that Dr. Libicki prepared, what
2 her calculations show would be the impacts of the
3 incremental additions to the Santan plant in units
4 that are those regulated by EPA. That is in terms of
5 calculations of what would be the CO impacts, it would
6 be the eight-hour and one-hour average. Some of the
7 other emissions are in different units.

8 On the case of carbon monoxide, I think
9 probably most of you are somewhat familiar with that
10 chemical. It's why you don't bring your barbecue pit
11 indoors. If you burn a carbon source, you don't have
12 enough oxygen, you make CO. The health hazard of it
13 is that it binds to the blood just like oxygen does,
14 only much more effectively, and it selectively ties up
15 the hemoglobin in the blood, making the blood less
16 capable of delivering oxygen to the tissues that need
17 it. Obviously as you know, people with too high level
18 of CO₂ can be fatal.

19 The sensitivity here is people who, with
20 marginal circulatory systems and respiratory systems,
21 are at greater risk from CO as they are from all of
22 these pollutants. You find the sensitive groups it
23 mentions as we go through are those people with heart
24 trouble, the elderly, the young, asthmatics, and so
25 forth.

1 But in the case of CO, it takes a certain
2 amount of time for the blood concentration to
3 increase, it takes a certain amount of time for the
4 blood to restore its oxygen-carrying capacity. For
5 those reasons, EPA sets standards both at one-hour and
6 eight-hour. I think the eight-hour probably reflects
7 an effort to control occupational exposures as well.

8 This additional slide provides quotes from
9 the EPA criteria document for carbon monoxide,
10 pointing to the fact that 100 parts per million of CO
11 in the air can lead to carboxyhemoglobin. That's what
12 you have when your hemoglobin is bound up by carbon
13 monoxide, levels of 4 to 5 percent in the blood in an
14 hour, and 10 percent in eight hours. And it mentions
15 at a 5 percent level you can see some impaired
16 performance, psychomotor performance.

17 Again, this is in comparison to the standard
18 that EPA set, which is a one-hour standard of 35 parts
19 per million, and an eight-hour standard of nine parts
20 per million, so these references refer to what 100
21 parts per million CO does. These apply to outdoor
22 exposures where the primary sources of carbon monoxide
23 are automobiles. There's also significant indoor
24 sources of CO, the main one being cigarette smoking.
25 And even people who don't smoke but live with those

1 who do can get reasonably significant levels of CO
2 from indoor secondhand smoke.

3 Here is the result of the calculations that
4 Shari Libicki did. And again, this is for one-hour CO
5 effects where I remind you the standard value is 40
6 micrograms per cubic meter. As you can see, the
7 concentrations here on this slide are all on the
8 record of 1 percent of that, around .4 micrograms per
9 cubic meter.

10 Since the 40 is deemed by EPA to protect
11 sensitive populations with an adequate margin of
12 safety, I think most health professionals who have
13 worked on criteria pollutants would regard a 1 percent
14 increment as insignificant.

15 The eight-hour standard is 10 micrograms per
16 cubic meter, and here you can see the model eight-hour
17 effects within the vicinity of the Santan plant are
18 more in the .01 or .02 milligrams per kilogram --
19 milligrams per cubic meter concentrations. Again,
20 increments in exposure that are very small compared to
21 ambient and very small compared to the EPA ambient
22 standard.

23 On the fine particulates, there PM-10 refers
24 to particulates of 10 microns diameter or less.
25 There's two particulate standards at the present, an

1 annual average standard of 50 micrograms per cubic
2 meter, and a 24-hour average standard of 150
3 micrograms per cubic meter.

4 The health effects for particulates become
5 confused because they're thought to interact with
6 ozone and other criteria pollutants, but there are
7 several health effects. One is observations in
8 epidemiological studies of excess mortality and
9 morbidity, particularly in elderly populations, and
10 that's the basis for the annual average limit. And
11 the other would be effects in sensitive populations or
12 in people with other respiratory problems, for
13 example, asthma, where the short-term exposure is
14 meant to prevent adverse effects in asthmatics. And
15 you can see the list of sensitive populations that are
16 mentioned in EPA's criteria document for particulate
17 matter.

18 Again, here is the calculations of the air
19 dispersion modeling for particulate matter. If you
20 recall, the 24-hour average is 150 micrograms per
21 cubic meter, and here we're seeing numbers on the
22 order of one to two micrograms per cubic meter as an
23 increment. And again, I suspect most of the
24 particulate matter in this area is just dust, blowing
25 dust, because it's an arid region. Although it

1 depends where you are. In downtown San Francisco it's
2 vehicles. It depends where you are.

3 The ambient standards for NOx and ozone are,
4 you can see 100 micrograms per cubic meter as ambient,
5 annual mean level, and 235 micrograms per cubic meter
6 as a one-hour ozone standard. The reason I put these
7 on the same slide is NOx is regulated because it is
8 seen as a precursor to the production of ground level
9 ozone. So EPA's main purpose in setting a NOx ambient
10 air quality standard is to control exposure to ozone.

11 Again, the effect of ozone is the health end
12 point to be protected against, and even in healthy
13 adults, you'll find that among people doing vigorous
14 exercise, you find that declines in performance as
15 ozone levels are increased, I think this was the
16 exercising asthmatic, was the phrase one heard in a
17 number of years as this standard, as these standards
18 were being developed, as an end point. But again,
19 work has also continued to look at exposures to
20 children, and particularly asthmatic children as
21 another population that needs to be protected, and
22 that's what these standards are intended to do.

23 Again, this is the NOx slide, and again for
24 point of reference, the annual mean was 100 micrograms
25 per cubic meter, and the calculated increments in this

1 case are, these are decreases because as proposed, the
2 dry low NOx burner additions and control systems that
3 would be installed with the addition of the new plant,
4 coupled with the funneling of all the exhaust into a
5 single taller stack, lead to decreases in local NOx
6 concentration.

7 I think that's all the slides I prepared.
8 I'll be happy to answer any questions.

9 MR. SUNDLOF: Thank you, Dr. Whipple, I have
10 no further questions. I offer Exhibit 83A into
11 evidence.

12 CHMN. BULLIS: Thank you.

13 Any objections to 83A?

14 (No response.)

15 CHMN. BULLIS: Hearing none, so admitted.

16 MR. SUNDLOF: And I tender the witness for
17 cross-examination.

18 CHMN. BULLIS: Thank you.

19 Mr. Heyman.

20 MR. HEYMAN: Thank you, Mr. Bullis.

21

22 CROSS-EXAMINATION

23

24 Q. (BY MR. HEYMAN) Dr. Whipple, in your
25 experience, are people with medical degrees the only

1 ones who can analyze, evaluate, and reach conclusions
2 regarding the health impacts of emissions from power
3 plants?

4 A. No. I'll answer no for several reasons.
5 One, strictly on the health effects of exposures to
6 different concentrations, I'd say the best known
7 scientists in the country on that issue is John
8 Spangler at Harvard who has led the six city studies
9 for the last 25 years. My recollection is that John
10 is what's called an epidemiologist, but I don't think
11 he's an M.D. I could be wrong about that.

12 But the art in doing those studies is looking
13 at the health patterns of large populations and
14 looking for cause and effect associations between
15 exposures and adverse health outcomes. And that
16 doesn't necessarily require an M.D. degree. It often
17 requires a strong training in statistics.

18 It's something that is done by a mix of
19 people. In terms of looking more generally at the
20 health risks associated with making electricity,
21 there's a lot of aspects of the issue. You have
22 chemical engineers who typically provide the
23 information on what the emissions factors are. You
24 have all sorts of people involved in calculations of
25 how these materials move around in the environment,

1 how they disperse in the air, whether they build up in
2 food chain or not. That typically is not done by
3 M.D.s. And then the final stage is what are the
4 health risks associated with exposures. That is
5 probably done more often than not by toxicologists
6 than by M.D.s.

7 But again, this was -- this integrated risk
8 assessment was a field that didn't exist 25 years ago,
9 and a lot of people who came to do work in it, it came
10 from various backgrounds. There are many people who
11 do it without M.D.s who work on the health ends of
12 issues.

13 Q. Thank you.

14 How many years have you been involved in the
15 type of analysis that has been undertaken in
16 connection with the Santan expansion plant that you
17 testified to?

18 A. Well, in terms of looking at emissions
19 exposures and risks from power plants, I'd say roughly
20 25 years.

21 Q. Some mention has been made of the fact that
22 you were asked to come here and testify on relatively
23 short notice. Most of those comments were made before
24 you actually got here. Did you have ample time to
25 prepare your presentation and to verify the

1 conclusions that you presented to us?

2 A. Yes, I think I did. I'll tell you the
3 schedule. I got asked on Tuesday, remembering last
4 week had Thanksgiving in it, whether I could come to
5 Phoenix on Monday, and I said yes. And this is, this
6 was to get the yes before they tell you what they
7 really want, and on Wednesday I was saying by the way,
8 they might want you to make a brief presentation, and
9 I put this together Wednesday afternoon off of
10 documents that were in my office. Again, I relied
11 heavily on standard EPA reference documents, so I
12 didn't have to invent much here.

13 Q. If you had not had ample time to do the type
14 of analysis, evaluation, and conclusion that you would
15 have felt comfortable with from a professional
16 standpoint, would you have agreed to go under oath
17 today?

18 A. I might have, but I would have provided
19 certain caveats about the limit of what I had to say.
20 For example, I would have said I didn't have time to
21 look at this or that. But I feel I had plenty of time
22 to put together the material that I presented.

23 Q. Did you have sufficient information upon
24 which to analyze and draw your conclusions that you've
25 presented to us today?

1 A. I should say I relied on the exposure
2 calculations that Dr. Libicki did. I have not
3 reviewed those calculations. I didn't do them. If
4 you ask me an air dispersion question, I know what
5 model she used, I've used it once or twice in past
6 years, but I didn't see how it was used here, and I
7 would beg off saying I'm not the right person to
8 answer that question. If you ask me how sure am I
9 about these EPA standards, I think I'm pretty sure.

10 Q. Based upon your analysis, and acknowledging
11 that you relied upon the information that Dr. Libicki
12 had put together, is it your testimony that the air
13 emissions from the Santan Expansion Project will not
14 pose a health risk to the residents in the vicinity?

15 A. Yes.

16 Q. You indicated that the national ambient air
17 quality standards were devised in part to protect the
18 health of special conditions in people such as
19 children that are asthmatic; is that correct?

20 A. I think the language in the Clean Air Act is
21 sensitive populations, and they leave it to EPA to
22 define that for each specific chemical.

23 Q. With regard to the air emissions that would
24 come out of the Santan Expansion Project, would that
25 include particulates that would have an impact on

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1 it's also considered to be for organic compounds,
2 VOCs and for oxides of nitrogen which are the
3 precursors to ozone. It would be considered an
4 attainment area for sulfur dioxide emissions.

5 Before they can build a facility, they
6 have to send an application to Maricopa County to
7 obtain an air quality permit since Maricopa County
8 has legal responsibility for regulating air
9 pollutants within Maricopa County. The
10 requirements that they would have to meet for the
11 facility are set at the national level by the EPA
12 for major sources of air pollution and Maricopa
13 County also has requirements that in some cases are
14 more stringent than the federal requirements for
15 this type of facility.

16 If they are a major source of these
17 pollutants, they have to meet certain requirements
18 for PM-10s, CO, NOx and VOCs. Since they are going
19 to be a major source in a nonattainment area, they
20 will have to meet two things, basically, they will
21 have to install the lowest achievable emission rate
22 technology on facility. What that means is the
23 control devices and processes that they use will
24 have to be the best available, irregardless of what
25 the costs are. Secondly, if they are over what are

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1 known as significant levels, and these again are
2 fixed by federal requirements.

3 And to give you some examples, if they
4 are going to be a major source of PM-10, they would
5 have to apply LAER and offsets for PM-10.

6 And what offsets are are emission
7 reductions within the nonattainment area itself
8 that are used to offset the increase in, the
9 increase in emissions from the plant. In other
10 words, you actually reduce emissions in the
11 nonattainment area for what they currently are
12 before the facility can be built.

13 Now the ratios that they have to meet for
14 offsets depend on several things, one is would they
15 have what's known as a significant impact on the
16 area, and that's determined through using EPA
17 approved dispersion models and emissions that would
18 be there from the facility.

19 What they have to show is several
20 things. One is the area is already in an
21 attainment for particulate pollutants as shown by
22 monitoring stations that would be surrounding the
23 area that's run by the county, they would have to
24 show that will not cause that area to go into
25 nonattainment. That if the area that's been shown

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19 (Pages 4132 through 4405)

20

ARIZONA REPORTING SERVICE, INC.
Court Reporting
Suite Three
2627 North Third Street
Phoenix, Arizona 85004-1103

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23

Prepared for: By: JANICE SCHUTZMAN, RPR, RMR
 CCR No. 50353

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1 would attempt to follow their permit, but what
2 should happen if they violate one of their permit
3 conditions?

4 MR. LIEB: That's a very good question.
5 I just work in the permitting area. If you don't
6 mind, I'll turn that over to Mr. Peplau who's the
7 head of the air quality division.

8 MR. PEPLAU: Good morning, my name is
9 Steve Peplau, division manager, air qualify for
10 Maricopa County.

11 Certainly if and when the permit is
12 issued, that only starts the, kind of the journey
13 on this.

14 As Dale had mentioned, they would go
15 through extensive stack testing that's required by
16 that permit. If they don't complete that stack
17 testing or complete it in compliance, obviously
18 they would have to do additional corrective actions
19 on that or whatever additional controls, if
20 necessary, to meet the limits.

21 But say the permit got to the point of
22 being issued, what we would normally do in a case
23 like this with the continuous emission monitors,
24 those normally report to us quarterly, they do take
25 six minute numbers. So basically they're being

1 BEFORE THE POWER PLANT AND TRANSMISSION
2 LINE SITING COMMITTEE

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4 IN THE MATTER OF THE APPLICATION OF)
5 SALT RIVER PROJECT OR THEIR)
6 ASSIGNEE(S), IN CONFORMANCE WITH)
7 THE REQUIREMENTS OF THE ARIZONA)
8 REVISED STATUTES 40-360.03 AND)
9 40-360.06 FOR A CERTIFICATE OF) L-00000B-00-0105
10 ENVIRONMENTAL COMPATIBILITY) CASE NO. 105
11 AUTHORIZING THE CONSTRUCTION OF)
12 NATURAL GAS-FIRED, COMBINED CYCLE)
13 GENERATING FACILITIES AND)
14 ASSOCIATED INTRAPLANT TRANSMISSION)
15 LINES, SWITCHYARD IN GILBERT,)
16 ARIZONA LOCATED NEAR AND SOUTHEAST)
17 OF THE INTERSECTION OF VAL VISTA)
18 DRIVE AND WARNER ROAD.)
19 _____)

12

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18 VOLUME XX
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1 be way out of compliance to really be able to set
2 those kind of tools in motion.

3 But what we do try to do, if they are
4 nonattainment, is really to have them brought all
5 back if they still have to operate a little bit,
6 just so they at least minimize their emissions
7 during that period of time.

8 MEMBER TOBIN: Have you ever had problems
9 with SRP as far as permits and being responsive to
10 actions from Maricopa County with their other power
11 plants?

12 MR. PEPLAU: No, we have not. They have
13 acted very responsibly and we certainly wouldn't
14 anticipate them, you know, operating in a
15 noncompliant situation.

16 MEMBER TOBIN: Mr. Lieb, you said that a
17 significant impact would be a one percent increase
18 in NOx.

19 Now, if I heard you correctly, what
20 you're saying is they cannot have a significant
21 impact. Is that accurate, it would have to
22 ameliorate that?

23 MR. LIEB: Two clarifications. The one
24 percent was a example on the NOx side. The
25 significant impact numbers vary by pollutant to

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11 DRIVE AND WARNER ROAD.)
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15 Filed:

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REPORTER'S TRANSCRIPT OF PROCEEDINGS

17

18 VOLUME XIII
(Pages 2782 through 3067)

19

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22 Phoenix, Arizona 85004-1103

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23 Prepared for: By: JANICE SCHUTZMAN, RPR, RMR
CCR No. 50353

24

SITING COMMITTEE

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1 question when I was here on that particular day and
2 she had mentioned that no, she did not have the
3 figures. And this is on the record.

4 Q. Dr. Labban, you need to listen to my
5 question. My question was:

6 Do you have any basis upon which to
7 challenge her credentials to perform that study?

8 A. Yes.

9 Q. And what is that basis?

10 A. She does not live here, she doesn't have
11 all the stats. All these are looking at are the
12 figures presented to her. And there is a lot more
13 involved to that than simple pure numbers.

14 Q. Is that the only basis upon which you
15 challenge her credentials to perform that study?

16 A. At the present time I would say yes.

17 Q. So you don't have a problem with the
18 degree that she obtained?

19 A. No, I have no problems with her degree
20 per se.

21 Q. You don't have any problems with the past
22 experience that she's had in performing air quality
23 studies?

24 A. Well, I have some questions there also.

25 Q. What are those questions?

1 BEFORE THE POWER PLANT AND TRANSMISSION
2 LINE SITING COMMITTEE

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24 Phoenix, Arizona 85004-1103

25 Prepared for: By: JANICE SCHUTZMAN, RPR, RMR
 CCR No. 50353

25 SITING COMMITTEE

1 A. As I mentioned, you've had my answer to
2 that question. I feel that not enough information
3 had been presented. It had to do, obviously, with
4 what SRP is trying to prove. And it is going to be
5 a safe facility that's going to be operating here
6 in the greater Gilbert area and at this point I
7 think the studies do not document and do not
8 support what they're trying to prove.

9 MR. HEYMAN: Mr. Bullis, could you
10 instruct the witness to answer my question? I
11 don't think he knows. And if he doesn't know,
12 that's an acceptable answer. But I don't know if
13 he's trying to bluff it or just not answering my
14 question.

15 CHMN. BULLIS: Do you have any additional
16 information to provide in response to the
17 question?

18 THE WITNESS: No.

19 Q. (BY MR. HEYMAN) Let me ask it to you
20 then this way so there is no concern:

21 What was the subject matter of
22 Dr. Whipple's testimony?

23 A. SRP's expansion of the San Tan generating
24 station.

25 Q. If you don't know, you can say you don't

1 BEFORE THE POWER PLANT AND TRANSMISSION

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Prepared for: By: JANICE SCHUTZMAN, RPR, RMR
CCR No. 50353

24

SITING COMMITTEE

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1 know.

2 Is there anything more specific that you
3 recall about Dr. Whipple's testimony other than it
4 dealt with the expansion?

5 A. As I mentioned, I briefly reviewed the
6 information. I didn't have any other specifics.

7 Q. You don't recall what Dr. Whipple's
8 testimony dealt with?

9 A. I was not present for it. I had to look
10 at the information that was presented to me.

11 Q. Do you recall it or don't you recall it?

12 A. I've already answered that question.

13 CHMN. BULLIS: You can move on.

14 MEMBER SUNDIE: Mr. Chairman, I don't
15 ever remember seeing any written material from
16 Dr. Whipple. I think this was all verbal.

17 MR. SUNDLOF: There was an exhibit.

18 MEMBER SUNDIE: Is that available to the
19 doctor?

20 MR. SUNDLOF: It's in the book. And all
21 the Intervenors had access to the book.

22 THE WITNESS: I have the book.

23 MEMBER SUNDIE: Do you have a copy?

24 THE WITNESS: I have the book.

25 Q. (BY MR. HEYMAN) Dr. Labban, I do take it

1 A. I think I mentioned earlier that the basic
2 water treatment in the cooling loop is a type of acid
3 and a type of chlorine which is added to keep the pH
4 in balance and keep the algae down. The water in that
5 system does not come in contact with the generators.

6 Q. You said yesterday something about ammonia.
7 Am I correct?

8 MR. SUNDLOF: I just want to clarify. That
9 was not with respect to the water treatment, that was
10 with respect to the emissions control. But go ahead.

11 Q. (BY MS. PARRAULT) Okay, ammonia. You spoke
12 about ammonia yesterday?

13 A. Yes, I did.

14 Q. From my tour I remember you saying something
15 about that you were going to no longer use ammonia
16 because it was dangerous. Do you remember your
17 telling us something about that, what you said?

18 A. We do not -- the ammonia is not used in the
19 processes that we have today. I think I mentioned
20 yesterday that ammonia would be used associated with
21 the selected catalytic reduction process in the new
22 units, which is a NOx controlled process.

23 Q. Is that in great quantities? Is that a
24 dangerous substance when it's being transported?

25 A. The type of ammonia that we will be using is

1 not hazardous material.

2 Q. I know someone may have talked about this, I
3 just wanted to clarify. We talked about noise. If
4 each piece of equipment -- you talked about a soft
5 radio music, that it was -- it would be created, and
6 the noise would be in reference to the soft radio
7 music, and I just wanted to clarify. That is for each
8 one of those, let's say stacks or HRSGs, where that
9 would be handled, were you talking per unit, that it
10 would be the noise of a soft radio?

11 A. I think the exhibit which we looked at
12 yesterday indicated that the soft -- that a level of
13 40 db was consistent with the sound in a residential
14 area at night or soft music from a radio. Also, on
15 that chart and slightly above that level was an
16 indication of the acoustical design target that we've
17 set for the new plant.

18 Q. So I guess my bottom line is if we put all
19 these different stacks and HRSGs and everything
20 together, plus the old unit, would that be the --
21 would the sound be likened to soft radio music,
22 meaning all of it together?

23 A. I don't think I testified to that, no, it
24 would not.

25 Q. So in other words, it would be like many

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BEFORE THE POWER PLANT AND TRANSMISSION
LINE SITING COMMITTEE

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Prepared for: By: CECELIA BROOKMAN, RPR
CCR No. 50154
CAROLYN T. SULLIVAN, RPR
CCR No. 50528

1 Q. And who would have that information?

2 A. I'm sure our advertising group would have
3 that information.

4 Q. Did you have any discussions with the Town of
5 Gilbert regarding the zoning or land use jurisdiction
6 issues?

7 A. No, I did not.

8 Q. Do you know of any ten-story buildings around
9 that area?

10 A. I'm not aware of any ten-story buildings in
11 the area of the Santan plant, no.

12 Q. Do you know what type of chemicals the SCR
13 technology will take?

14 A. Generally there's ammonia used in that
15 process, aqueous ammonia.

16 Q. And where is that stored?

17 A. It will be stored in a tank that we would
18 site associated with the new project.

19 Q. And do you have emergency plans filed or are
20 you working on that?

21 A. We will have, yes. We will take all
22 necessary safety precautions for the storage and the
23 use of that chemical.

24 Q. And do you know what could happen if there
25 was an emergency? What type of evacuation or what

CHAPTER I—RESEARCH AND SPECIAL
PROGRAMS ADMINISTRATION, DEPARTMENT
OF TRANSPORTATION—Continued

SUBCHAPTER D—PIPELINE SAFETY

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SUBCHAPTER D—PIPELINE SAFETY

PART 190 —PIPELINE SAFETY PRO-GRAMS AND RULEMAKING PRO-CEDES

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190.9 Petitions for finding or approval.
190.11 Availability of informal guidance and interpretive assistance.

190.338 Appeals.
190.339 Direct final rulemaking.

AUTHORITY: 33 U.S.C. 1321; 49 U.S.C. 5101-5127, 60101 *et seq.*; Sec. 212-213, Pub. L. 104-121, 110 Stat. 857; 49 CFR 1.53.

SOURCE: 45 FR 20413, Mar. 27, 1980, unless otherwise noted.

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Subpart A—General

§ 190.1 Purpose and scope.

(a) This part prescribes procedures used by the Research and Special Pro- grams Administration in carrying out duties regarding pipeline safety under 49 U.S.C. 60101 *et seq.* (the pipeline safe- ty laws) and 49 U.S.C. 5101 *et seq.* (the hazardous material transportation laws).

(b) This subpart defines certain terms and prescribes procedures that are ap- plicable to each proceeding described in this part.

[45 FR 20413, Mar. 27, 1980, as amended by Amdt. 190-6, 61 FR 16512, Apr. 26, 1996]

§ 190.3 Definitions.

As used in this part:

Hearing means an informal con- ference or a proceeding for oral presen- tation. Unless otherwise specifically prescribed in this part, the use of "hearing" is not intended to require a hearing on the record in accordance with section 554 of title 5, U.S.C.

OPS means the Office of Pipeline Safety, which is part of the Research and Special Programs Administration, U.S. Department of Transportation.

Person means any individual, firm, joint venture, partnership, corporation, association, State, municipality, coop- erative association, or joint stock asso- ciation, and includes any trustee, re- ceiver, assignee, or personal represent- ative thereof.

Presiding Official means the person who conducts any hearing relating to

civil penalty assessments, compliance orders or hazardous facility orders.

Regional Director means the head of any one of the Regional Offices of the Office of Pipeline Safety, or a designee appointed by the Regional Director. Regional Offices are located in Washington, DC (Eastern Region); Atlanta, Georgia (Southern Region); Kansas City, Missouri (Central Region); Houston, Texas (Southwest Region); and Lakewood, Colorado (Western Region). *Respondent* means a person upon whom the OPS has served a notice of probable violation.

RSPA means the Research and Special Programs Administration of the United States Department of Transportation.

State means a State of the United States, the District of Columbia, and the Commonwealth of Puerto Rico.

[Amdt. 190-6, 61 FR 18513, Apr. 26, 1996]

§ 190.5 Service.

(a) Each order, notice, or other document required to be served under this part shall be served personally or by registered or certified mail.

(b) Service upon a person's duly authorized representative or agent constitutes service upon that person.

(c) Service by registered or certified mail is complete upon mailing. An official U. S. Postal Service receipt from the registered or certified mailing constitutes prima facie evidence of service.

§ 190.7 Subpoenas; witness fees.

(a) The Administrator, RSPA, the Chief Counsel, RSPA, or the official designated by the Administrator, RSPA, to preside over a hearing convened in accordance with this part, may sign and issue subpoenas individually on their own initiative or, upon request and adequate showing by any person participating in the proceeding that the information sought will materially advance the proceeding.

(b) A subpoena may require the attendance of a witness, or the production of documentary or other tangible evidence in the possession or under the control of person served, or both.

(c) A subpoena may be served personally by any person who is not an interested person and is not less than 18

years of age, or by certified or registered mail.

(d) Service of a subpoena upon the person named therein shall be made by delivering a copy of the subpoena to such person and by tendering the fees for one day's attendance and mileage as specified by paragraph (g) of this section. When a subpoena is issued at the instance of any officer or agency of the United States, fees and mileage need not be tendered at the time of service. Delivery of a copy of a subpoena and tender of the fees to a natural person may be made by handing them to the person, leaving them at the person's office with the person in charge thereof, leaving them at the person's dwelling place or usual place of abode with some person of suitable age and discretion then residing therein, by mailing them by registered or certified mail to the person at the last known address, or by any method whereby actual notice is given to the person and the fees are made available prior to the return date.

(e) When the person to be served is not a natural person, delivery of a copy of the subpoena and tender of the fees may be effected by handing them to a designated agent or representative for service, or to any officer, director, or agent in charge of any office of the person, or by mailing them by registered or certified mail to that agent or representative and the fees are made available prior to the return date.

(f) The original subpoena bearing a certificate of service shall be filed with the official having responsibility for the proceeding in connection with which the subpoena was issued.

(g) A subpoenaed witness shall be paid the same fees and mileage as would be paid to a witness in a proceeding in the district courts of the United States. The witness fees and mileage shall be paid by the person at whose instance the subpoena was issued.

(h) Notwithstanding the provisions of paragraph (g) of this section, and upon request, the witness fees and mileage may be paid by the RSPA if the official who issued the subpoena determines on the basis of good cause shown, that:

Research and Special Programs Administration, DOT

The presence of the subpoenaed witness will materially advance the proceeding; and

(2) The person at whose instance the subpoena was issued would suffer a serious hardship if required to pay the witness fees and mileage.

(1) Any person to whom a subpoena is directed may, prior to the time specified therein for compliance, but in no event more than 10 days after the date of service of such subpoena, apply to the official who issued the subpoena, or if the person is unavailable, to the Administrator, RSPA to quash or modify the subpoena. The application shall contain a brief statement of the reasons relied upon in support of the action sought therein. The Administrator, RSPA, or this issuing official, as the case may be, may:

(1) Deny the application;

(2) Quash or modify the subpoena; or

(3) Condition a grant or denial of the application to quash or modify the subpoena upon the satisfaction of certain just and reasonable requirements. The denial may be summary.

(1) Upon refusal to obey a subpoena served upon any person under the provisions of this section, the RSPA may request the Attorney General to seek the aid of the U. S. District Court for any District in which the person is found to compel that person, after notice, to appear and give testimony, or to appear and produce the subpoenaed documents before the RSPA, or both.

[45 FR 20413, Mar. 27, 1980, as amended by Amdt. 190-6, 61 FR 18513, Apr. 26, 1996; Amdt. 190-7, 63 FR 7722, Feb. 17, 1998]

§ 190.9 Petitions for finding or approval

(a) In circumstances where a rule contained in parts 192, 193 and 195 of this chapter authorizes the Administrator to make a finding or approval, an operator may petition the Administrator for such a finding or approval.

(b) Each petition must refer to the rule authorizing the action sought and contain information or arguments that justify the action. Unless otherwise specified, no public proceeding is held on a petition before it is granted or denied. After a petition is received, the Administrator or participating state agency notifies the petitioner of the

disposition of the petition or, if the request requires more extensive consideration or additional information or comments are requested and delay is expected, of the date by which action will be taken.

(1) For operators seeking a finding or approval involving intrastate pipeline transportation, petitions must be sent to:

(i) The State agency certified to participate under 49 U.S.C. 60105.

(ii) Where there is no state agency certified to participate, the Administrator, Research and Special Programs Administration, 400 7th Street SW., Washington, DC 20590.

(2) For operators seeking a finding or approval involving interstate pipeline transportation, petitions must be sent to the Administrator, Research and Special Programs Administration, 400 7th Street SW., Washington, DC 20590.

(c) All petitions must be received at least 90 days prior to the date by which the operator requests the finding or approval to be made.

(d) The Administrator will make all findings or approvals of petitions initiated under this section. A participating state agency receiving petitions initiated under this section shall provide the Administrator a written recommendation as to the disposition of any petition received by them. Where the Administrator does not reverse or modify a recommendation made by a state agency within 10 business days of its receipt, the recommended disposition shall constitute the Administrator's decision on the petition.

[Amdt. 190-5, 59 FR 17283, Apr. 12, 1994, as amended by Amdt. 190-6, 61 FR 18513, Apr. 26, 1996]

§ 190.11 Availability of informal guidance and interpretive assistance.

(a) *Availability of telephonic and Internet assistance.* (1) RSPA has established a website on the Internet and a telephone line at the Office of Pipeline Safety headquarters where small operators and others can obtain information on and advice about compliance with pipeline safety regulations, 49 CFR parts 190-199. The website and telephone line are staffed by personnel from RSPA's Office of Pipeline Safety

from 9:00 a.m. through 5:00 p.m., Eastern time, Monday through Friday, except Federal holidays. When the lines are not staffed, individuals may leave a recorded voicemail message, or post a message at the OPS website. All messages will receive a response by the following business day. The telephone number for the OPS information line is (202) 366-0918 and the OPS website can be accessed via the Internet at <http://ops.dot.gov>.

(2) RSPA's Office of the Chief Counsel (OCC) is available to answer questions concerning Federal pipeline safety law, 49 U.S.C. 60101 *et seq.* OCC may be contacted by telephone (202-366-4400) from 9:00 a.m. to 4:00 p.m. Eastern time, Monday through Friday, except Federal holidays. Information and guidance concerning Federal pipeline safety law may also be obtained by contacting OCC via the Internet at <http://rspa-attty.dot.gov>.

(b) *Availability of Written Interpretations.* (1) A written regulatory interpretation, response to a question, or an opinion concerning a pipeline safety issue may be obtained by submitting a written request to the Office of Pipeline Safety (DPS-10), RSPA, U.S. Department of Transportation, 400 Seventh Street, SW., Washington, DC 20590-0001. The requestor must include his or her return address and should also include a daytime telephone number.

(2) A written interpretation regarding Federal pipeline safety law, 49 U.S.C. 60101 *et seq.*, may be obtained from the Office of the Chief Counsel, RSPA, U.S. Department of Transportation, 400 Seventh Street, SW., Washington, DC 20590-0001. The requestor must include his or her return address and should also include a daytime telephone number.

[62 FR 24057, May 2, 1997; 62 FR 34415, June 26, 1997]

Subpart B—Enforcement

§ 190.201 Purpose and scope.

(a) This subpart describes the enforcement authority and sanctions exercised by the Associate Administrator, OPS for achieving and maintaining pipeline safety. It also prescribes the procedures governing the

exercise of that authority and the imposition of those sanctions.

(b) A person who is the subject of action pursuant to this subpart may be represented by legal counsel at all stages of the proceeding.

[45 FR 20413, Mar. 27, 1990, as amended by Amdt. 190-6, 61 FR 18513, Apr. 26, 1996]

§ 190.203 Inspections.

(a) Officers, employees, or agents authorized by the Associate Administrator for Pipeline Safety RSPA, upon presenting appropriate credentials, are authorized to enter upon, inspect, and examine, at reasonable times and in a reasonable manner, the records and properties of persons to the extent such records and properties are relevant to determining the compliance of such persons with the requirements of 49 U.S.C. 60101 *et seq.*, or regulations or orders issued thereunder.

(b) Inspections are ordinarily conducted pursuant to one of the following:

- (1) Routine scheduling by the Regional Director of the Region in which the facility is located;
- (2) A complaint received from a member of the public;
- (3) Information obtained from a previous inspection;
- (4) Report from a State Agency participating in the Federal Program under 49 U.S.C. 60105;
- (5) Pipeline accident or incident; or
- (6) Whenever deemed appropriate by the Administrator, RSPA or his designee.

(c) If, after an inspection, the Associate Administrator, OPS believes that further information is needed to determine appropriate action, the Associate Administrator, OPS may send the owner or operator a "Request for Specific Information" to be answered within 45 days after receipt of the letter.

(d) To the extent necessary to carry out the responsibilities under 49 U.S.C. 60101 *et seq.*, the Administrator, RSPA or the Associate Administrator, OPS may require testing of portions of pipeline facilities that have been involved in, or affected by, an accident. However, before exercising this authority, the Administrator, RSPA or the Associate Administrator, OPS shall make every effort to negotiate a mutually

acceptable plan with the owner of those facilities and, where appropriate, the National Transportation Safety Board for performing the testing.

(e) When the information obtained from an inspection or from other appropriate sources indicates that further OPS action is warranted, the OPS issues a warning letter under § 190.205 or initiates one or more of the enforcement proceedings prescribed in § 190.207 through 190.235.

[45 FR 20413, Mar. 17, 1990, as amended by Amdt. 190-3, 56 FR 31060, July 9, 1991; Amdt. 190-6, 61 FR 18513, Apr. 26, 1996; Amdt. 190-7, 61 FR 27792, June 3, 1996; Amdt. 190-7, 63 FR 772, Feb. 17, 1998]

§ 190.205 Warning letters.

Upon determining that a probable violation of 49 U.S.C. 60101 *et seq.* or any regulation or order issued thereunder has occurred, the Associate Administrator, OPS, may issue a Warning Letter notifying the owner or operator of the probable violation and advising the owner or operator to correct it or be subject to enforcement action under § 190.207 through 190.235.

[Amdt. 190-6, 61 FR 39403, July 24, 1996]

§ 190.207 Notice of probable violation.

(a) Except as otherwise provided by this subpart, a Regional Director begins an enforcement proceeding by serving a notice of probable violation on a person charging that person with a probable violation of 49 U.S.C. 60101 *et seq.* or any regulation or order issued thereunder.

(b) A notice of probable violation issued under this section shall include:

(1) Statement of the provisions of the laws, regulations or orders which the respondent is alleged to have violated and a statement of the evidence upon which the allegations are based;

(2) Notice of response options available to the respondent under § 190.209;

(3) If a civil penalty is proposed under § 190.221, the amount of the proposed civil penalty and the maximum civil penalty for which respondent is liable under law; and

(4) If a compliance order is proposed under § 190.217, a statement of the remedial action being sought in the form of a proposed compliance order.

(c) The Associate Administrator, OPS may amend a notice of probable violation at any time prior to issuance of a final order under § 190.213. If an amendment includes any new material allegations of fact or proposes an increased civil penalty amount or new or additional remedial action under § 190.217, the respondent shall have the opportunity to respond under § 190.209.

[45 FR 20413, Mar. 27, 1990, as amended by Amdt. 190-6, 61 FR 18513, Apr. 26, 1996]

§ 190.209 Response options.

Within 30 days of receipt of a notice of probable violation, the respondent shall respond to the Regional Director who issued the notice in the following way:

(a) When the notice contains a proposed civil penalty—

(1) Pay the proposed civil penalty as provided in § 190.227 and close the case with prejudice to the respondent;

(2) Submit written explanations, information or other materials in answer to the allegations or in mitigation of the proposed civil penalty; or

(3) Request a hearing under § 190.211.

(b) When the notice contains a proposed compliance order—

(1) Agree to the proposed compliance order;

(2) Request the execution of a consent order under § 190.219;

(3) Object to the proposed compliance order and submit written explanations, information or other materials in answer to the allegations in the notice of probable violation; or

(4) Request a hearing under § 190.211.

(c) Failure of the respondent to respond in accordance with paragraph (a) of this section or, when applicable, paragraph (c) of this section, constitutes a waiver of the right to contest the allegations in the notice of probable violation and authorizes the Associate Administrator, OPS, without further notice to the respondent, to find facts to be as alleged in the notice of probable violation and to issue a final order under § 190.213.

[45 FR 20413, Mar. 27, 1990, as amended by Amdt. 190-1, 53 FR 1635, Jan. 21, 1988; Amdt. 190-6, 61 FR 18513, Apr. 26, 1996; Amdt. 190-7, 61 FR 27792, June 3, 1996; Amdt. 190-7, 63 FR 772, Feb. 17, 1998]

§ 190.211 Hearing.

(a) A request for a hearing provided for in this part must be accompanied by a statement of the issues that the respondent intends to raise at the hearing. The issues may relate to the allegations in the notice, the proposed corrective action (including a proposed amendment, a proposed compliance order, or a proposed hazardous facility order), or the proposed civil penalty amount. A respondent's failure to specify an issue may result in waiver of the respondent's right to raise that issue at the hearing. The respondent's request must also indicate whether or not the respondent will be represented by counsel at the hearing.

(b) A telephone hearing will be held if the amount of the proposed civil penalty or the cost of the proposed corrective action is less than \$10,000, unless the respondent submits a written request for an in-person hearing. Hearings are held in a location agreed upon by the presiding official, OPS and the respondent.

(c) An attorney from the Office of the Chief Counsel, Research and Special Programs Administration, serves as the presiding official at the hearing.

(d) The hearing is conducted informally without strict adherence to rules of evidence. The respondent may submit any relevant information and material and call witnesses on the respondent's behalf. The respondent may also examine the evidence and witnesses presented by the government. No detailed record of a hearing is prepared.

(e) Upon request by respondent, and whenever practicable, the material in the case file pertinent to the issues to be determined is provided to the respondent 30 days before the hearing. The respondent may respond to or rebut this material at the hearing.

(f) During the hearing, the respondent may offer any facts, statements, explanations, documents, testimony or other items which are relevant to the issues under consideration.

(g) At the close of the respondent's presentation, the presiding official may present or allow the presentation of any OPS rebuttal information. The respondent may then respond to that information.

(h) After the evidence in the case has been presented, the presiding official shall permit argument on the issues under consideration.

(i) The respondent may also request an opportunity to submit further written material for inclusion in the case file. The presiding official shall allow a reasonable time for the submission of the material and shall specify the date by which it must be submitted. If the material is not submitted within the time prescribed, the case shall proceed to final action without the material.

(j) After submission of all materials during and after the hearing, the presiding official shall prepare a written recommendation as to final action in the case. This recommendation, along with any material submitted during and after the hearing, shall be included in the case file which is forwarded to the Associate Administrator, OPS for final administrative action.

[45 FR 20413, Mar. 17, 1980, as amended by Amdt. 190-3, 56 FR 31060, July 9, 1991; Amdt. 190-6, 61 FR 18514, Apr. 26, 1996; Amdt. 190-7, 61 FR 27782, June 3, 1996]

§ 190.213 Final order.

(a) After a hearing under § 190.211 or, if no hearing has been held, after expiration of the 30 day response period prescribed in § 190.209, the case file of an enforcement proceeding commenced under § 190.207 is forwarded to the Associate Administrator, OPS for issuance of a final order.

(b) The case file of an enforcement proceeding commenced under § 190.207 includes:

(1) The inspection reports and any other evidence of alleged violations;

(2) A copy of the notice of probable violation issued under § 190.207;

(3) Material submitted by the respondent in accord with § 190.209 in response to the notice of probable violation;

(4) The Regional Director's evaluation of response material submitted by the respondent and recommendation for final action to be taken under this section; and

(5) In cases involving a § 190.211 hearing, any material submitted during and after the hearing and the presiding official's recommendation for final action to be taken under this section.

(c) Based on a review of a case file described in paragraph (b) of this section, the Associate Administrator, OPS shall issue a final order that includes—

(1) A statement of findings and determinations on all material issues, including a determination as to whether each alleged violation has been proved;

(2) If a civil penalty is assessed, the amount of the penalty and the procedures for payment of the penalty, provided that the assessed civil penalty may not exceed the penalty proposed in the notice of probable violation; and

(3) If a compliance order is issued, a statement of the actions required to be taken by the respondent and the time by which such actions must be accomplished.

(d) Except as provided by § 190.215, an order issued under this section regarding an enforcement proceeding is considered final administrative action on that enforcement proceeding.

(e) It is the policy of the Associate Administrator, OPS to issue a final order under this section within 45 days of receipt of the case file, unless it is found impracticable to take action within that time. In cases where it is so found and the delay beyond that period is expected to be substantial, notice of that fact and the date by which it is expected that action will be taken is issued to the respondent.

[45 FR 20413, Mar. 27, 1980, as amended by Amdt. 190-6, 61 FR 18514, Apr. 26, 1996]

§ 190.215 Petitions for reconsideration.

(a) A respondent may petition the Associate Administrator, OPS for reconsideration of a final order issued under § 190.213. It is requested, but not required, that three copies be submitted. The petition must be received no later than 20 days after service of the final order upon the respondent. Petitions received after that time will not be considered. The petition must contain a brief statement of the complaint and an explanation as to why the effectiveness of the final order should be stayed.

(b) If the respondent requests the reconsideration of additional facts or arguments, the respondent must submit the reasons they were not presented prior to issuance of the final order.

(c) The Associate Administrator, OPS does not consider repetitious information, arguments, or petitions.

(d) The filing of a petition under this section stays the payment of any civil penalty assessed. However, unless the Associate Administrator, OPS otherwise provides, the order, including any required corrective action, is not stayed.

(e) The Associate Administrator, OPS may grant or deny, in whole or in part, any petition for reconsideration without further proceedings. In the event the Associate Administrator, OPS reconsiders a final order, a final decision on reconsideration may be issued without further proceedings, or, in the alternative, additional information, data, and comment may be requested by the Associate Administrator, OPS as deemed appropriate.

(f) It is the policy of the Associate Administrator, OPS to issue notice of the action taken on a petition for reconsideration within 20 days after receipt of the petition, unless it is found impracticable to take action within that time. In cases where it is so found and delay beyond that period is expected to be substantial, notice of that fact and the date by which it is expected that action will be taken is issued to the respondent.

[Amdt. 190-6, 61 FR 18514, Apr. 26, 1996, as amended by Amdt. 190-7, 61 FR 27782, June 3, 1996]

COMPLIANCE ORDERS

§ 190.217 Compliance orders generally.

When the Associate Administrator, OPS has reason to believe that a person is engaging in conduct which involves a violation of the 49 U.S.C. 60101 *et seq.* or any regulation issued thereunder, and if the nature of the violation, and the public interest warrant, the Associate Administrator, OPS may conduct proceedings under § 190.207 through § 190.213 of this part to determine the nature and extent of the violations and to issue an order directing compliance.

[Amdt. 190-6, 61 FR 18514, Apr. 26, 1996]

§ 190.219 Consent order.

(a) At any time before the issuance of a compliance order under § 190.213 the

fine of not more than \$5,000, imprisonment for a term not to exceed 1 year, or both.

(c) No person shall be subject to criminal penalties under paragraph (a) of this section for violation of any regulation and the violation of any order issued under § 190.217, § 190.219 or § 190.229 if both violations are based on the same act.

[45 FR 20413, Mar. 27, 1980, as amended by Amdt. 190-2, 54 FR 32344, Aug. 7, 1989; Amdt. 190-4, 56 FR 63770, Dec. 5, 1991; Amdt. 190-6, 61 FR 18515, Apr. 26, 1996]

§ 190.231 Referral for prosecution.

If an employee of the Research and Special Programs Administration becomes aware of any actual or possible activity subject to criminal penalties under § 190.229, the employee reports it to the Office of the Chief Counsel, Research and Special Programs Administration, U.S. Department of Transportation, Washington, DC 20590. The Chief Counsel refers the report to OPS for investigation. Upon completion of the investigation and if appropriate, the Chief Counsel refers the report to the Department of Justice for criminal prosecution of the offender.

[Amdt. 190-6, 61 FR 18515, Apr. 26, 1996]

SPECIFIC RELIEF

§ 190.233 Hazardous facility orders.

(a) Except as provided by paragraph (b) of this section, if the Associate Administrator, OPS finds, after reasonable notice and opportunity for hearing in accord with paragraph (c) of this section, and § 190.211(a), a particular pipeline facility to be hazardous to life or property, the Associate Administrator, OPS shall issue an order pursuant to this section requiring the owner or operator of the facility to take corrective action. Corrective action may include suspended or restricted use of the facility, physical inspection, testing, repair, replacement, or other action, as appropriate.

(b) The Associate Administrator, OPS may waive the requirement for notice and hearing under paragraph (a) of this section before issuing an order pursuant to this section when the Associate Administrator, OPS determines that the failure to do so would result in

\$25,000 for each violation, and if any such violation is a continuing one, each day of violation constitutes a separate offense.

(c) Any person who is determined to have violated any standard or order under 49 U.S.C. 60103 shall be subject to a civil penalty of not to exceed \$50,000, which penalty shall be in addition to any other penalties to which such person may be subject under paragraph (a) of this section.

(d) No person shall be subject to a civil penalty under this section for the violation of any requirement of this subchapter and an order issued under § 190.217, § 190.219 or § 190.233 if both violations are based on the same act.

[45 FR 20413, Mar. 27, 1980, as amended by Amdt. 190-2, 54 FR 32344, Aug. 7, 1989; Amdt. 190-6, 61 FR 18515, Apr. 26, 1996; 61 FR 39403, July 24, 1996]

§ 190.225 Assessment considerations.

The Associate Administrator, OPS assesses a civil penalty under this part only after considering:

(a) The nature, circumstances and gravity of the violation;

(b) The degree of the respondent's culpability;

(c) The respondent's history of prior offenses;

(d) The respondent's ability to pay;

(e) Any good faith by the respondent in attempting to achieve compliance;

(f) The effect on the respondent's ability to continue in business; and

(g) Such other matters as justice may require.

[45 FR 20413, Mar. 27, 1980, as amended by Amdt. 190-6, 61 FR 18515, Apr. 26, 1996]

§ 190.227 Payment of penalty.

(a) Except for payments exceeding \$10,000, payment of a civil penalty proposed or assessed under this subpart may be made by certified check or money order (containing the CPF Number for this case) payable to "U.S. Department of Transportation" to the Federal Aviation Administration, Mike Monroney Aeronautical Center, Financial Operations Division (AMZ-320), P.O. Box 25770, Oklahoma City, OK 73125, or by wire transfer through the Federal Reserve Communications System (Fedwire) to the account of the U.S. Treasury. Payments exceeding

Associate Administrator, OPS and the respondent may agree to dispose of the case by joint execution of a consent order. Upon such joint execution, the consent order shall be considered a final order under § 190.213.

(b) A consent order executed under paragraph (a) of this section shall include:

(1) An admission by the respondent of all jurisdictional facts;

(2) An express waiver of further procedural steps and of all right to seek judicial review or otherwise challenge or contest the validity of that order;

(3) An acknowledgement that the notice of probable violation may be used to construe the terms of the consent order; and

(4) A statement of the actions required of the respondent and the time by which such actions shall be accomplished.

[45 FR 20413, Mar. 27, 1980, as amended by Amdt. 190-6, 61 FR 18514, Apr. 26, 1996]

CIVIL PENALTIES

§ 190.221 Civil penalties generally.

When the Associate Administrator, OPS has reason to believe that a person has committed an act which is a violation of any provision of the 49 U.S.C. 60101 *et seq.* or any regulation or order issued thereunder, proceedings under §§ 190.207 through 190.213 may be conducted to determine the nature and extent of the violations and to assess and, if appropriate, compromise a civil penalty.

[Amdt. 190-6, 61 FR 18515, Apr. 26, 1996]

§ 190.223 Maximum penalties.

(a) Any person who is determined to have violated a provision of 49 U.S.C. 60101 *et seq.* or any regulation or order issued thereunder, is subject to a civil penalty not to exceed \$25,000 for each violation for each day the violation continues except that the maximum civil penalty may not exceed \$500,000 for any related series of violations.

(b) Any person who knowingly violates a regulation or order under this subchapter applicable to offshore gas gathering lines issued under the authority of 49 U.S.C. 5101 *et seq.* is liable for a civil penalty of not more than

\$10,000 must be made by wire transfer. Payments, or in the case of wire transfers, notices of payment, must be sent to the Chief, General Accounting Branch (M-96.2), Accounting Operations Division, Office of the Secretary, room 2228, Department of Transportation, 400 Seventh Street, SW, Washington, DC 20590.

(b) Payment of a civil penalty assessed in a final order issued under § 190.213 or affirmed in a decision on a petition for reconsideration must be made within 20 days after receipt of the final order or decision. Failure to do so will result in the initiation of collection action, including the accrual of interest and penalties, in accordance with 31 U.S.C. 3717 and 49 CFR part 89.

[Amdt. 190-7, 61 FR 27792, June 3, 1996]

CRIMINAL PENALTIES

§ 190.229 Criminal penalties generally.

(a) Any person who willfully and knowingly violates a provision of 49 U.S.C. 60101 *et seq.* or any regulation or order issued thereunder shall upon conviction be subject for each offense to a fine of not more than \$25,000 and imprisonment for not more than five years, or both.

(b) Any person who willfully violates a regulation or order under this subchapter issued under the authority of 49 U.S.C. 5101 *et seq.* as applied to offshore gas gathering lines shall upon conviction be subject for each offense to a fine of not more than \$25,000, imprisonment for a term not to exceed 5 years, or both.

(c) Any person who willfully and knowingly injures or destroys, or attempts to injure or destroy, any interstate transmission facility or any interstate pipeline facility (as those terms are defined in 49 U.S.C. 60101 *et seq.*) shall, upon conviction, be subject for each offense to a fine of not more than \$25,000, imprisonment for a term not to exceed 15 years, or both.

(d) Any person who willfully and knowingly defaces, damages, removes, destroys any pipeline sign, right-of-way marker, or marine buoy required by 49 U.S.C. 60101 *et seq.* or 49 U.S.C. 5101 *et seq.*, or any regulation or order issued thereunder shall, upon conviction, be subject for each offense to a

the likelihood of serious harm to life or property. However, the Associate Administrator, OPS shall include in the order an opportunity for hearing as soon as practicable after issuance of the order. The provisions of paragraph (c)(2) of this section apply to an owner or operator's decision to exercise such an opportunity for hearing. The purpose of such a post-order hearing is for the Associate Administrator, OPS to determine whether the order should remain in effect or be rescinded or suspended in accord with paragraph (g) of this section.

(c) Notice and hearing:

(1) Written notice that OPS intends to issue an order under this section shall be served in accordance with § 190.5, upon the owner or operator of an alleged hazardous facility. The notice shall allege the existence of a hazardous facility, stating the facts and circumstances supporting the issuance of a "hazardous facility order", and providing the owner or operator an opportunity for a hearing, identifying the time and location of the hearing.

(2) An owner or operator elects to exercise his opportunity for a hearing under this section, by notifying the Associate Administrator, OPS of that election in writing within 10 days of service of the notice provided under paragraph (c)(1) of this section or, under paragraph (b) of this section when applicable. Absence of such written notification waives an owner or operator's opportunity for a hearing and allows the Associate Administrator, OPS to proceed to issue a "hazardous facility order" in accordance with paragraphs (d) through (h) of this section.

(3) A hearing under this section shall be presided over by an attorney from the Office of Chief Counsel, Research and Special Programs Administration, acting as Presiding Official, and conducted without strict adherence to rules of evidence. The Presiding Official presents the allegations contained in the notice issued under this section. The owner or operator of the alleged hazardous facility may submit any relevant information or materials, call witnesses and present arguments on the issue of whether or not a "hazardous facility order" should be issued.

(4) Within 48 hours after conclusion of a hearing under this section, the Presiding Official shall submit a recommendation to the Associate Administrator, OPS as to whether or not a "hazardous facility order" is required. Upon receipt of the recommendation, the Associate Administrator, OPS shall proceed in accordance with paragraphs (d) through (h) of this section. If the Associate Administrator, OPS finds the facility to be hazardous to life or property the Associate Administrator, OPS shall issue an order in accordance with this section. If the Associate Administrator, OPS does not find the facility to be hazardous to life or property, the Associate Administrator, OPS shall dismiss the allegations contained in the notice, and promptly notify the owner or operator in writing by service as prescribed in § 190.5.

(d) The Associate Administrator, OPS may find a pipeline facility to be hazardous under paragraph (a) of this section:

(1) If under the facts and circumstances the Associate Administrator, OPS determines the particular facility is hazardous to life or property; or

(2) If the pipeline facility or a component thereof has been constructed or operated with any equipment, material, or technique which the Associate Administrator, OPS determines is hazardous to life or property, unless the operator involved demonstrates to the satisfaction of the Associate Administrator, OPS that, under the particular facts and circumstances involved, such equipment, material, or technique is not hazardous to life or property.

(e) In making a determination under paragraph (d) of this section, the Associate Administrator, OPS shall consider, if relevant:

(1) The characteristics of the pipe and other equipment used in the pipeline facility involved, including its age, manufacturer, physical properties (including its resistance to corrosion and deterioration), and the method of its manufacture, construction or assembly;

(2) The nature of the materials transported by such facility (including their corrosive and deteriorative qualities), the sequence in which such materials

are transported, and the pressure required for such transportation;

(3) The aspects of the areas in which the pipeline facility is located, in particular the climatic and geologic conditions (including soil characteristics) associated with such areas, and the population density and population and growth patterns of such areas;

(4) Any recommendation of the National Transportation Safety Board issued in connection with any investigation conducted by the Board; and

(5) Such other factors as the Associate Administrator, OPS may consider appropriate.

(f) The order shall contain the following information:

(1) A finding that the pipeline facility is hazardous to life or property;

(2) The relevant facts which form the basis for that finding;

(3) The legal basis for the order;

(4) The nature and description of particular corrective action required of the respondent;

(5) The date by which the required action must be taken, or completed and, where appropriate, the duration of the order;

(6) If a hearing has been waived pursuant to paragraph (b) of this section, a statement that an opportunity for a hearing is provided at a particular location and at a certain time after issuance of the order;

(g) The Associate Administrator, OPS shall rescind or suspend a hazardous facility order whenever the Associate Administrator, OPS determines that the facility is no longer hazardous to life or property. When appropriate, however, such a rescission or suspension may be accompanied by a notice of probable violation issued under § 190.207.

(h) At any time after an order issued under this section has become effective, the Associate Administrator, OPS may request the Attorney General to bring an action for appropriate relief in accordance with § 190.235.

(i) Upon petition by the Attorney General, the District Courts of the United States shall have jurisdiction,

to enforce orders issued under this section by appropriate means.

(45 FR 20413, Mar. 17, 1980, as amended by Amdt. 190-3, 56 FR 31060, July 9, 1991; Amdt. 190-6, 61 FR 18515, Apr. 26, 1996)

§ 190.235 Injunctive action.

Whenever it appears to the Associate Administrator, OPS that a person has engaged, is engaged, or is about to engage in any act or practice constituting a violation of any provision of 49 U.S.C. 60101 *et seq.*, or any regulations issued thereunder, the Administrator, RSPA, or the person to whom the authority has been delegated, may request the Attorney General to bring an action in the appropriate U.S. District Court for such relief as is necessary or appropriate, including mandatory or prohibitive injunctive relief, interim equitable relief, and punitive damages as provided under 49 U.S.C. 60120 and 49 U.S.C. 5123.

(Amdt. 190-6, 61 FR 18516, Apr. 26, 1996)

190.237 Amendment of plans or procedures.

(a) A Regional Director begins a proceeding to determine whether an operator's plans or procedures required under parts 192, 193, 195, and 199 of this subchapter are inadequate to assure safe operation of a pipeline facility by issuing a notice of amendment. The notice shall provide an opportunity for a hearing under § 190.211 of this part and shall specify the alleged inadequacies and the proposed action for revision of the plans or procedures. The notice shall allow the operator 30 days after receipt of the notice to submit written comments or request a hearing. After considering all material presented in writing or at the hearing, the Associate Administrator, OPS shall determine whether the plans or procedures are inadequate as alleged and order the required amendment if they are inadequate, or withdraw the notice if they are not. In determining the adequacy of an operator's plans or procedures, the Associate Administrator, OPS shall consider:

(1) Relevant available pipeline safety data;

(2) Whether the plans or procedures are appropriate for the particular type

of pipeline transportation or facility, and for the location of the facility.

(3) The reasonableness of the plans or procedures; and

(4) The extent to which the plans or procedures contribute to public safety.

(b) The amendment to an operator's plans or procedures prescribed in paragraph (a) of this section is in addition to, and may be used in conjunction with, the appropriate enforcement actions prescribed in this subpart.

[Amdt. 190-3, 56 FR 31090, July 9, 1991, as amended by Amdt. 190-6, 61 FR 18516, Apr. 26, 1996]

Subpart C—Procedures for Adoption of Rules

Source: Amdt. 190-8, 61 FR 50909, Sept. 27, 1996, unless otherwise noted.

§ 190.301 Scope.

This subpart prescribes general rulemaking procedures for the issue, amendment, and repeal of Pipeline Safety Program regulations of the Research and Special Programs Administration of the Department of Transportation.

§ 190.303 Delegations.

For the purposes of this subpart, *Administrator* means the Administrator, Research and Special Programs Administration, or his or her delegate.

§ 190.305 Regulatory dockets.

(a) Information and data considered relevant by the Administrator relating to rulemaking actions, including notices of proposed rulemaking; comments received in response to notices; petitions for rulemaking and reconsideration; denials of petitions for rulemaking and reconsideration; records of additional rulemaking proceedings under § 190.325; and final regulations are maintained by the Research and Special Programs Administration at 400 7th Street, SW, Washington, D.C. 20590-0001.

(b) Any person may examine any docketed material at the offices of the Research and Special Programs Administration at any time during regular business hours after the docket is established, except material which the

Administrator determines should be withheld from public disclosure under applicable provisions of any statute administered by the Administrator and Code, and may obtain a copy of it upon payment of a fee.

§ 190.307 Records.

Records of the Research and Special Programs Administration relating to rulemaking proceedings are available for inspection as provided in section 552(b) of title 5, United States Code, and part 7 of the Regulations of the Office of the Secretary of Transportation (part 7 of this title).

§ 190.309 Where to file petitions.

Petitions for extension of time to comment submitted under § 190.319, petitions for hearings submitted under § 190.327, petitions for rulemaking submitted under § 190.331, and petitions for reconsideration submitted under § 190.335 must be submitted to: Administrator, Research and Special Programs Administration, U.S. Department of Transportation, 400 7th Street, SW., Washington, D.C. 20590-0001.

§ 190.311 General.

Unless the Administrator, for good cause, finds that notice is impracticable, unnecessary or contrary to the public interest, and incorporates that finding and a brief statement of the reasons for it in the rule, a notice of proposed rulemaking is issued and interested persons are invited to participate in the rulemaking proceedings with respect to each substantive rule.

§ 190.313 Initiation of rulemaking.

The Administrator initiates rulemaking on his or her own motion; however, in so doing, the Administrator may use discretion to consider the recommendations of other agencies of the United States or of other interested persons including those of any technical advisory body established by statute for that purpose.

§ 190.315 Contents of notices of proposed rulemaking.

(a) Each notice of proposed rulemaking is published in the FEDERAL REGISTER, unless all persons subject to

it are named and are personally served with a copy of it.

(b) Each notice, whether published in the FEDERAL REGISTER or personally served, includes:

(1) A statement of the time, place, and nature of the proposed rulemaking proceeding;

(2) A reference to the authority under which it is issued;

(3) A description of the subjects and issues involved or the substance and terms of the proposed regulation;

(4) A statement of the time within which written comments must be submitted; and

(5) A statement of how and to what extent interested persons may participate in the proceeding.

§ 190.317 Participation by interested persons.

(a) Any interested person may participate in rulemaking proceedings by submitting comments in writing containing information, views or arguments in accordance with instructions for participation in the rulemaking document.

(b) The Administrator may invite any interested person to participate in the rulemaking proceedings described in § 190.325.

(c) For the purposes of this subpart, an interested person includes any Federal or State government agency or any political subdivision of a State.

§ 190.319 Petitions for extension of time to comment.

A petition for extension of the time to submit comments must be received not later than 10 days before expiration of the time stated in the notice. It is requested, but not required, that three copies be submitted. The filing of the petition does not automatically extend the time for petitioner's comments. A petition is granted only if the petitioner shows good cause for the extension, and if the extension is consistent with the public interest. If an extension is granted, it is granted to all persons, and it is published in the FEDERAL REGISTER.

§ 190.321 Contents of written comments.

All written comments must be in English. It is requested, but not required, that five copies be submitted. Any interested person should submit as part of written comments all material considered relevant to any statement of fact. Incorporation of material by reference should be avoided; however, where necessary, such incorporated material shall be identified by document title and page.

§ 190.323 Consideration of comments received.

All timely comments and the recommendations of any technical advisory body established by statute for the purpose of reviewing the proposed rule concerned are considered before final action is taken on a rulemaking proposal. Late filed comments are considered so far as practicable.

§ 190.325 Additional rulemaking proceedings.

The Administrator may initiate any further rulemaking proceedings that the Administrator finds necessary or desirable. For example, interested persons may be invited to make oral arguments, to participate in conferences between the Administrator or the Administrator's representative and interested persons, at which minutes of the conference are kept, to appear at informal hearings presided over by officials designated by the Administrator at which a transcript of minutes are kept, or participate in any other proceeding to assure informed administrative action and to protect the public interest.

§ 190.327 Hearings.

(a) If a notice of proposed rulemaking does not provide for a hearing, any interested person may petition the Administrator for an informal hearing. The petition must be received by the Administrator not later than 20 days before expiration of the time stated in the notice. The filing of the petition does not automatically result in the scheduling of a hearing. A petition is granted only if the petitioner shows good cause for a hearing. If a petition for a hearing is granted, notice of the

hearing is published in the FEDERAL REGISTER.

(b) Sections 556 and 557 of title 5, United States Code, do not apply to hearings held under this part. Unless otherwise specified, hearings held under this part are informal, non-adversary fact-finding proceedings, at which there are no formal pleadings or adverse parties. Any regulation issued in a case in which an informal hearing is held is not necessarily based exclusively on the record of the hearing.

(c) The Administrator designates a representative to conduct any hearing held under this subpart. The Chief Counsel designates a member of his or her staff to serve as legal officer at the hearing.

§ 190.329 Adoption of final rules.

Final rules are prepared by representatives of the Office of Pipeline Safety and the Office of the Chief Counsel. The regulation is then submitted to the Administrator for consideration. If the Administrator adopts the regulation, it is published in the FEDERAL REGISTER, unless all persons subject to it are named and are personally served with a copy of it.

§ 190.331 Petitions for rulemaking.

(a) Any interested person may petition the Associate Administrator for Pipeline Safety to establish, amend, or repeal a substantive regulation, or may petition the Chief Counsel to establish, amend, or repeal a procedural regulation.

(b) Each petition filed under this section must—

- (1) Summarize the proposed action and explain its purpose;
- (2) State the text of the proposed rule or amendment, or specify the rule proposed to be repealed;
- (3) Explain the petitioner's interest in the proposed action and the interest of any party the petitioner represents; and
- (4) Provide information and arguments that support the proposed action, including relevant technical, scientific or other data as available to the petitioner, and any specific known cases that illustrate the need for the proposed action.

(c) If the potential impact of the proposed action is substantial, and information and data related to that impact are available to the petitioner, the Associate Administrator or the Chief Counsel may request the petitioner to provide—

(1) The costs and benefits to society and identifiable groups within society, quantifiable and otherwise;

(2) The direct effects (including pre-emption effects) of the proposed action on States, on the relationship between the Federal Government and the States, and on the distribution of power and responsibilities among the various levels of government;

(3) The regulatory burden on small businesses, small organizations and small governmental jurisdictions;

(4) The recordkeeping and reporting requirements and to whom they would apply; and

(5) Impacts on the quality of the natural and social environments.

(d) The Associate Administrator or Chief Counsel may return a petition that does not comply with the requirements of this section, accompanied by a written statement indicating the deficiencies in the petition.

§ 190.333 Processing of petition.

(a) *General.* Unless the Associate Administrator or the Chief Counsel otherwise specifies, no public hearing, argument, or other proceeding is held directly on a petition before its disposition under this section.

(b) *Grants.* If the Associate Administrator or the Chief Counsel determines that the petition contains adequate justification, he or she initiates rulemaking action under this subpart.

(c) *Denials.* If the Associate Administrator or the Chief Counsel determines that the petition does not justify rulemaking, the petition is denied.

(d) *Notification.* The Associate Administrator or the Chief Counsel will notify a petitioner, in writing, of the decision to grant or deny a petition for rulemaking.

§ 190.335 Petitions for reconsideration.

(a) Except as provided in § 190.339(d), any interested person may petition the Associate Administrator for reconsideration of any regulation issued under

this subpart, or may petition the Chief Counsel for reconsideration of any procedural regulation issued under this subpart and contained in this subpart. It is requested, but not required, that three copies be submitted. The petition must be received not later than 30 days after publication of the rule in the FEDERAL REGISTER. Petitions filed after that time will be considered as petitions filed under § 190.331. The petition must contain a brief statement of the complaint and an explanation as to why compliance with the rule is not practicable, is unreasonable, or is not in the public interest.

(b) If the petitioner requests the consideration of additional facts, the petitioner must state the reason they were not presented to the Associate Administrator or the Chief Counsel within the prescribed time.

(c) The Associate Administrator or the Chief Counsel does not consider repetitive petitions.

(d) Unless the Associate Administrator or the Chief Counsel otherwise provides, the filing of a petition under this section does not stay the effectiveness of the rule.

§ 190.337 Proceedings on petitions for reconsideration.

(a) The Associate Administrator or the Chief Counsel may grant or deny, in whole or in part, any petition for reconsideration without further proceedings, except where a grant of the petition would result in issuance of a new final rule. In the event that the Associate Administrator or the Chief Counsel determines to reconsider any regulation, a final decision on reconsideration may be issued without further comment or information and data as deemed appropriate, may be provided. Whenever the Associate Administrator or the Chief Counsel determines that a petition should be granted or denied, the Office of the Chief Counsel prepares a notice of the grant or denial of a petition for reconsideration, for issuance to the petitioner, and the Associate Administrator or the Chief Counsel issues it to the petitioner. The Associate Administrator or the Chief Counsel may consolidate petitions relating to the same rules.

(b) It is the policy of the Associate Administrator or the Chief Counsel to issue notice of the action taken on a petition for reconsideration within 90 days after the date on which the regulation in question is published in the FEDERAL REGISTER, unless it is found impracticable to take action within that time. In cases where it is so found and the delay beyond that period is expected to be substantial, notice of that fact and the date by which it is expected that action will be taken is issued to the petitioner and published in the FEDERAL REGISTER.

§ 190.338 Appeals.

(a) Any interested person may appeal a denial of the Associate Administrator or the Chief Counsel, issued under § 190.333 or § 190.337, to the Administrator.

(b) An appeal must be received within 20 days of service of written notice to petitioner of the Associate Administrator's or the Chief Counsel's decision, or within 20 days from the date of publication of the decision in the FEDERAL REGISTER, and should set forth the contested aspects of the decision as well as any new arguments or information.

(c) It is requested, but not required, that three copies of the appeal be submitted to the Administrator.

(d) Unless the Administrator otherwise provides, the filing of an appeal under this section does not stay the effectiveness of any rule.

§ 190.339 Direct final rulemaking.

(a) Where practicable, the Administrator will use direct final rulemaking to issue the following types of rules:

- (1) Minor, substantive changes to regulations;
- (2) Incorporation by reference of the latest edition of technical or industry standards;
- (3) Extensions of compliance dates; and
- (4) Other noncontroversial rules where the Administrator determines that use of direct final rulemaking is in the public interest, and that a regulation is unlikely to result in adverse comment.

(b) The direct final rule will state an effective date. The direct final rule will

also state that unless an adverse comment or notice of intent to file an adverse comment is received within the specified comment period, generally 60 days after publication of the direct final rule in the FEDERAL REGISTER, the Administrator will issue a confirmation document, generally within 15 days after the close of the comment period, advising the public that the direct final rule will either become effective on the date stated in the direct final rule or at least 30 days after the publication date of the confirmation document, whichever is later.

(c) For purposes of this section, an adverse comment is one which explains why the rule would be inappropriate, including a challenge to the rule's underlying premise or approach, or would be ineffective or unacceptable without a change. Comments that are frivolous or insubstantial will not be considered adverse under this procedure. A comment recommending a rule change in addition to the rule will not be considered an adverse comment, unless the commenter states why the rule would be ineffective without the additional change.

(d) Only parties who filed comments to a direct final rule issued under this section may petition under §190.335 for reconsideration of that direct final rule.

(e) If an adverse comment or notice of intent to file an adverse comment is received, a timely document will be published in the FEDERAL REGISTER advising the public and withdrawing the direct final rule in whole or in part. The Administrator may then incorporate the adverse comment into a subsequent direct final rule or may publish a notice of proposed rulemaking. A notice of proposed rulemaking will provide an opportunity for public comment, generally a minimum of 60 days, and will be processed in accordance with §§190.311-190.329.

PART 191—TRANSPORTATION OF NATURAL AND OTHER GAS BY PIPELINE: ANNUAL REPORTS, INCIDENT REPORTS, AND SAFETY-RELATED CONDITION REPORTS

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- 191.3 Definitions.
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AUTHORITY: 49 U.S.C. 5121, 60102, 60103, 60104, 60108, 60117, 60118, and 60124; and 49 CFR 1.53.

§ 191.1 Scope.

(a) This part prescribes requirements for the reporting of incidents, safety-related conditions, and annual pipeline summary data by operators of gas pipeline facilities located in the United States or Puerto Rico, including pipelines within the limits of the Outer Continental Shelf as that term is defined in the Outer Continental Shelf Lands Act (43 U.S.C. 1331).

(b) This part does not apply to—
 (1) Offshore gathering of gas upstream from the outlet flange of each facility where hydrocarbons are produced or where produced hydrocarbons are first separated, dehydrated, or otherwise processed, whichever facility is farther downstream; or
 (2) Onshore gathering of gas outside of the following areas:

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meter or by other means, such as by rents;

Municipality means a city, county, or any other political subdivision of a State;

Offshore means beyond the line of ordinary low water along that portion of the coast of the United States that is in direct contact with the open seas and beyond the line marking the seaward limit of inland waters;

Operator means a person who engages in the transportation of gas;

Outer Continental Shelf means all submerged lands lying seaward and outside the area of lands beneath navigable waters as defined in Section 2 of the Submerged Lands Act (43 U.S.C. 1301) and of which the subsoil and seabed appertain to the United States and are subject to its jurisdiction and control.

Person means any individual, firm, joint venture, partnership, corporation, association, State, municipality, cooperative association, or joint stock association, and includes any trustee, receiver, assignee, or personal representative thereof;

Pipeline or Pipeline System means all parts of those physical facilities through which gas moves in transportation, including, but not limited to, pipe, valves, and other appurtenance attached to pipe, compressor units, metering stations, regulator stations, delivery stations, holders, and fabricated assemblies.

State includes each of the several States, the District of Columbia, and the Commonwealth of Puerto Rico;

Transportation of gas means the gathering, transmission, or distribution of gas by pipeline, or the storage of gas in or affecting interstate or foreign commerce.

[35 FR 320, Jan. 8, 1970, as amended by Amdt. 191-5, 49 FR 18980, May 3, 1994; Amdt. 191-10, 61 FR 18516, Apr. 26, 1996; Amdt. 191-12, 62 FR 61685, Nov. 19, 1997]

§ 191.5 Telephonic notice of certain incidents.

(a) At the earliest practicable moment following discovery, each operator shall give notice in accordance with paragraph (b) of this section of each incident as defined in §191.3.

(1) An area within the limits of any incorporated or unincorporated city, town, or village.

(1) Any designated residential or commercial area such as a subdivision, business or shopping center, or community development.

(3) On the Outer Continental Shelf upstream of the point at which operating responsibility transfers from a producing operator to a transporting operator.

[Amdt. 191-5, 49 FR 18980, May 3, 1994, as amended by Amdt. 191-6, 53 FR 24949, July 1, 1988; Amdt. 191-11, 61 FR 27793, June 3, 1996; Amdt. 191-12, 62 FR 61685, Nov. 19, 1997]

§ 191.3 Definitions.

As used in this part, and the RSPA Forms referenced in this part—

Administrator means the Administrator of the Research and Special Programs Administration or any person to whom authority in the matter concerned has been delegated by the Secretary of Transportation.

Gas means natural gas, flammable gas, or gas which is toxic or corrosive;

Incident means any of the following events:

(1) An event that involves a release of gas from a pipeline or of liquefied natural gas or gas from an LNG facility and

(1) A death, or personal injury necessitating in-patient hospitalization; or

(1) Estimated property damage, including cost of gas lost, of the operator or others, or both, of \$50,000 or more.

(2) An event that results in an emergency shutdown of an LNG facility.

(3) An event that is significant, in the judgement of the operator, even though it did not meet the criteria of paragraphs (1) or (2).

LNG facility means a liquefied natural gas facility as defined in §193.2007 of part 193 of this chapter;
Master Meter System means a pipeline system for distributing gas within, but not limited to, a definable area, such as a mobile home park, housing project, or apartment complex, where the operator purchases metered gas from an outside source for resale through a gas distribution pipeline system. The gas distribution pipeline system supplies the ultimate consumer who either purchases the gas directly through a

(b) Each notice required by paragraph (a) of this section shall be made by telephone to 800-424-8802 (in Washington, DC, 267-2676) and shall include the following information:

- (1) Names of operator and person making report and their telephone numbers.
- (2) The location of the incident.
- (3) The time of the incident.
- (4) The number of fatalities and personal injuries, if any.
- (5) All other significant facts that are known by the operator that are relevant to the cause of the incident or extent of the damages.

[Amdt. 191-4, 47 FR 32720, July 29, 1982, as amended by Amdt. 191-5, 49 FR 18960, May 3, 1984; Amdt. 191-3, 64 FR 40878, Oct. 4, 1999]

§ 191.7 Addressee for written reports.

Each written report required by this part must be made to the Information Resources Manager, Office of Pipeline Safety, Research and Special Programs Administration, U.S. Department of Transportation, Room 8417, 400 Seventh Street SW., Washington, DC 20590. However, incident and annual reports for intrastate pipeline transportation subject to the jurisdiction of a State agency pursuant to a certification under section 5(a) of the Natural Gas Pipeline Safety Act of 1968 may be submitted in duplicate to that State agency if the regulations of that agency require submission of these reports and provide for further transmittal of one copy within 10 days of receipt for incident reports and not later than March 15 for annual reports to the Information Resources Manager. Safety-related condition reports required by § 191.23 for intrastate pipeline transportation must be submitted concurrently to that State agency, and if that agency acts as an agent of the Secretary with respect to interstate transmission facilities, safety-related condition reports for these facilities must be submitted concurrently to that agency.

[Amdt. 191-6, 53 FR 24949, July 1, 1988]

§ 191.9 Distribution system: Incident report.

(a) Except as provided in paragraph (c) of this section, each operator of a distribution pipeline system shall sub-

mit Department of Transportation Form RSPA F 7100.1 as soon as practicable but not more than 30 days after detection of an incident required to be reported under § 191.5.

(b) When additional relevant information is obtained after the report is submitted under paragraph (a) of this section, the operator shall make supplementary reports as deemed necessary with a clear reference by date and subject to the original report.

(c) The incident report required by this section need not be submitted with respect to master meter systems or LNG facilities.

[Amdt. 191-5, 49 FR 18960, May 3, 1984]

§ 191.11 Distribution system: Annual report.

(a) Except as provided in paragraph (b) of this section, each operator of a distribution pipeline system shall submit an annual report for that system on Department of Transportation Form RSPA F 7100.1-1. This report must be submitted each year, not later than March 15, for the preceding calendar year.

(b) The annual report required by this section need not be submitted with respect to:

- (1) Petroleum gas systems which serve fewer than 100 customers from a single source;
- (2) Master meter systems; or
- (3) LNG facilities.

[Amdt. 191-5, 49 FR 18960, May 3, 1984]

§ 191.13 Distribution systems reporting transmission or gathering systems reporting distribution pipelines.

Each operator, primarily engaged in gas distribution, who also operates gas transmission or gathering pipelines shall submit separate reports for these pipelines as required by §§ 191.15 and 191.17. Each operator, primarily engaged in gas transmission or gathering, who also operates gas distribution pipelines shall submit separate reports for these pipelines as required by §§ 191.9 and 191.11.

[Amdt. 191-5, 49 FR 18961, May 3, 1984]

§ 191.15 Transmission and gathering systems: Incident report.

(a) Except as provided in paragraph (c) of this section, each operator of a transmission or a gathering pipeline system shall submit Department of Transportation Form RSPA F 7100.2 as soon as practicable but not more than 30 days after detection of an incident required to be reported under § 191.5.

(b) Where additional related information is obtained after a report is submitted under paragraph (a) of this section, the operator shall make a supplemental report as soon as practicable with a clear reference by date and subject to the original report.

(c) The incident report required by paragraph (a) of this section need not be submitted with respect to LNG facilities.

[35 FR 320, Jan. 8, 1970, as amended by Amdt. 191-5, 49 FR 18961, May 3, 1984]

§ 191.17 Transmission and gathering systems: Annual report.

(a) Except as provided in paragraph (b) of this section, each operator of a transmission or a gathering pipeline system shall submit an annual report for that system on Department of Transportation Form RSPA 7100.2-1. This report must be submitted each year, not later than March 15, for the preceding calendar year.

(b) The annual report required by paragraph (a) of this section need not be submitted with respect to LNG facilities.

[Amdt. 191-5, 49 FR 18961, May 3, 1984]

§ 191.19 Report forms.

Copies of the prescribed report forms are available without charge upon request from the address given in § 191.7. Additional copies in this prescribed format may be reproduced and used if in the same size and kind of paper. In addition, the information required by these forms may be submitted by any other means that is acceptable to the Administrator.

[Amdt. 191-10, 61 FR 18516, Apr. 26, 1996]

§ 191.21 OMB control number assigned to information collection.

This section displays the control number assigned by the Office of Man-

agement and Budget (OMB) to the gas pipeline information collection requirements of the Office of Pipeline Safety pursuant to the Paperwork Reduction Act of 1980, Public Law 96-511. It is the intent of this section to comply with the requirements of section 3507(f) of the Paperwork Reduction Act which requires that agencies display a current control number assigned by the Director of OMB for each agency information collection requirement.

OMB CONTROL NUMBER 2137-0522

Section of 49 CFR part 191 where identified	Form No.
191.5	Telephonic.
191.9	RSPA 7100.1
191.11	RSPA 7100.1-1
191.15	RSPA 7100.2
191.17	RSPA 7100.2-1.

[Amdt. 191-5, 49 FR 18961, May 3, 1984, as amended by Amdt. 191-13, 63 FR 7723, Feb. 17, 1998]

§ 191.23 Reporting safety-related conditions.

(a) Except as provided in paragraph (b) of this section, each operator shall report in accordance with § 191.25 the existence of any of the following safety-related conditions involving facilities in service:

- (1) In the case of a pipeline (other than an LNG facility) that operates at a hoop stress of 20 percent or more of its specified minimum yield strength, general corrosion that has reduced the wall thickness to less than that required for the maximum allowable operating pressure, and localized corrosion pitting to a degree where leakage might result.
- (2) Unintended movement or abnormal loading by environmental causes, such as an earthquake, landslide, or flood, that impairs the serviceability of a pipeline or the structural integrity or reliability of an LNG facility that contains, controls, or processes gas or LNG.
- (3) Any crack or other material defect that impairs the structural integrity or reliability of an LNG facility that contains, controls, or processes gas or LNG.
- (4) Any material defect or physical damage that impairs the serviceability of a pipeline that operates at a hoop

stress of 20 percent or more of its specified minimum yield strength, general corrosion that has reduced the wall thickness to less than that required for the maximum allowable operating pressure, and localized corrosion pitting to a degree where leakage might result.

(3) Any crack or other material defect that impairs the structural integrity or reliability of an LNG facility that contains, controls, or processes gas or LNG.

stress of 20 percent or more of its specified minimum yield strength.

(6) Any malfunction or operating error that causes the pressure of a pipeline or LNG facility that contains or processes gas or LNG to rise above its maximum allowable operating pressure (or working pressure for LNG facilities) plus the build-up allowed for operation of pressure limiting or control devices.

(6) A leak in a pipeline or LNG facility that contains or processes gas or LNG that constitutes an emergency.

(7) Inner tank leakage, ineffective insulation, or frost heave that impairs the structural integrity of an LNG storage tank.

(8) Any safety-related condition that could lead to an imminent hazard and causes (either directly or indirectly by remedial action of the operator), for purposes other than abandonment, a 20 percent or more reduction in operating pressure or shutdown of operation of a pipeline or an LNG facility that contains or processes gas or LNG.

(b) A report is not required for any safety-related condition that—

(1) Exists on a master meter system or a customer-owned service line;

(2) Is an incident or results in an incident before the deadline for filing the safety-related condition report;

(3) Exists on a pipeline (other than an LNG facility) that is more than 220 yards (200 meters) from any building intended for human occupancy or outdoor place of assembly, except that reports are required for conditions within the right-of-way of an active railroad, paved road, street, or highway; or

(4) Is corrected by repair or replacement in accordance with applicable safety standards before the deadline for filing the safety-related condition report, except that reports are required for conditions under paragraph (a)(1) of this section other than localized corrosion pitting on an effectively coated and cathodically protected pipeline.

[Amdt. 191-6, 53 FR 24949, July 1, 1988, as amended by Amdt. 191-14, 63 FR 37501, July 13, 1998]

§ 191.25 Filing safety-related condition reports.

(a) Each report of a safety-related condition under § 191.25(a) must be filed

(received by the Associate Administrator, OPS) in writing within five working days (not including Saturday, Sunday, or Federal Holidays) after the day a representative of the operator first determines that the condition exists, but not later than 10 working days after the day a representative of the operator discovers the condition. Separate conditions may be described in a single report if they are closely related. Reports may be transmitted by facsimile at (202) 366-7128.

(b) The report must be headed "Safety-Related Condition Report" and provide the following information:

(1) Name and principal address of operator.

(2) Date of report.

(3) Name, job title, and business telephone number of person submitting the report.

(4) Name, job title, and business telephone number of person who determined that the condition exists.

(5) Date condition was discovered and date condition was first determined to exist.

(6) Location of condition, with reference to the State (and town, city, or county) or offshore site, and as appropriate, nearest street address, offshore platform, survey station number, milepost, landmark, or name of pipeline.

(7) Description of the condition, including circumstances leading to its discovery, any significant effects of the condition on safety, and the name of the commodity transported or stored.

(8) The corrective action taken (including reduction of pressure or shutdown) before the report is submitted and the planned follow-up or future corrective action, including the anticipated schedule for starting and concluding such action.

[Amdt. 191-6, 53 FR 24949, July 1, 1988; 53 FR 29800, Aug. 8, 1988, as amended by Amdt. 191-7, 54 FR 32344, Aug. 7, 1989; Amdt. 191-8, 54 FR 40878, Oct. 4, 1989; Amdt. 191-10, 61 FR 18516, Apr. 26, 1996]

§ 191.27 Filing offshore pipeline condition reports.

(a) Each operator shall, within 60 days after completion of the inspection of all its underwater pipelines subject to § 192.61(a), report the following information:

(1) Name and principal address of operator.

(2) Date of report.

(3) Name, job title, and business telephone number of person submitting the report.

(4) Total length of pipeline inspected.

(5) Length and date of installation of each exposed pipeline segment, and location, including, if available, the location according to the Minerals Management Service or state offshore area and block number tract.

(6) Length and date of installation of each pipeline segment, if different from a pipeline segment identified under paragraph (a)(5) of this section, that is a hazard to navigation, and the location, including, if available, the location according to the Minerals Management Service or state offshore area and block number tract.

(b) The report shall be mailed to the Information Officer, Research and Special Programs Administration, Department of Transportation, 400 Seventh Street, SW., Washington, DC 20590.

[Amdt. 191-9, 56 FR 63770, Dec. 5, 1991, as amended by Amdt. 191-14, 63 FR 37501, July 13, 1998]

PART 192—TRANSPORTATION OF NATURAL AND OTHER GAS BY PIPELINE: MINIMUM FEDERAL SAFETY STANDARDS

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Subpart A—General

§ 192.1 Scope of part.

(a) This part prescribes minimum safety requirements for pipeline facilities and the transportation of gas, including pipeline facilities and the

transportation of gas within the limits of the outer continental shelf as that term is defined in the Outer Continental Shelf Lands Act (43 U.S.C. 1331). (b) This part does not apply to:

- (1) Offshore pipelines upstream from the outlet flange of each facility where hydrocarbons are produced or where produced hydrocarbons are first separated, dehydrated, or otherwise processed, whichever facility is farther downstream;
- (2) Onshore gathering of gas outside of the following areas:
 - (i) An area within the limits of any incorporated or unincorporated city, town, or village.
 - (ii) Any designated residential or commercial area such as a subdivision, business or shopping center, or community development.
- (3) Onshore gathering of gas within inlets of the Gulf of Mexico except as provided in § 192.612.
- (4) Any pipeline system that transports only petroleum gas or petroleum gas/air mixtures to—
 - (i) Fewer than 10 customers, if no portion of the system is located in a public place; or
 - (ii) A single customer, if the system is located entirely on the customer's premises (no matter if a portion of the system is located in a public place).
- (5) On the Outer Continental Shelf upstream of the point at which operating responsibility transfers from a producing operator to a transporting operator.

[35 FR 13257, Aug. 19, 1970, as amended by Amdt. 192-27, 41 FR 24605, Aug. 16, 1976; Amdt. 192-67, 56 FR 6371, Dec. 5, 1991; Amdt. 192-76, 61 FR 28782, June 6, 1996; Amdt. 192-81, 62 FR 61695, Nov. 19, 1997]

§ 192.3 Definitions.

As used in this part:
Abandoned means permanently removed from service.
Administrator means the Administrator of the Research and Special Programs Administration or any person to whom authority in the matter concerned has been delegated by the Secretary of Transportation.
Distribution line means a pipeline other than a gathering or transmission line.

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Exposed pipeline means a pipeline where the top of the pipe is protruding above the seabed in water less than 15 feet (4.6 meters) deep, as measured from the mean low water.

Gas means natural gas, flammable gas, or gas which is toxic or corrosive.
Gathering line means a pipeline that transports gas from a current production facility to a transmission line or main.

Gulf of Mexico and its inlets means the waters from the mean high water mark of the coast of the Gulf of Mexico and its inlets open to the sea (excluding rivers, tidal marshes, lakes, and canals) seaward to include the territorial sea and Outer Continental Shelf to a depth of 15 feet (4.6 meters), as measured from the mean low water.

Hazard to navigation means, for the purpose of this part, a pipeline where the top of the pipe is less than 12 inches (305 millimeters) below the seabed in water less than 15 feet (4.6 meters) deep, as measured from the mean low water.

High-pressure distribution system means a distribution system in which the gas pressure in the main is higher than the pressure provided to the customer.

Line section means a continuous run of transmission line between adjacent compressor stations, between a compressor station and storage facilities, between a compressor station and a block valve, or between adjacent block valves.

Listed specification means a specification listed in section I of appendix B of this part.

Low-pressure distribution system means a distribution system in which the gas pressure in the main is substantially the same as the pressure provided to the customer.

Main means a distribution line that serves as a common source of supply for more than one service line.

Maximum actual operating pressure means the maximum pressure that occurs during normal operations over a period of 1 year.

Maximum allowable operating pressure (MAOP) means the maximum pressure at which a pipeline or segment of a pipeline may be operated under this part.

Municipality means a city, county, or any other political subdivision of a State.

Offshore means beyond the line of ordinary low water along that portion of the coast of the United States that is in direct contact with the open seas and beyond the line marking the seaward limit of inland waters.

Operator means a person who engages in the transportation of gas.

Outer Continental Shelf means all submerged lands lying seaward and outside the area of lands beneath navigable waters as defined in Section 2 of the Submerged Lands Act (43 U.S.C. 1301) and of which the seabed and seabed appertain to the United States and are subject to its jurisdiction and control.

Person means any individual, firm, joint venture, partnership, corporation, association, State, municipality, cooperative association, or joint stock association, and including any trustee, receiver, assignee, or personal representative thereof.

Petroleum gas means propane, propylene, butane, (normal butane or isobutanes), and butylene (including isomers), or mixtures composed predominantly of these gases, having a vapor pressure not exceeding 208 psi (1434 kPa) gage at 100 °F (38 °C).

Pipe means any pipe or tubing used in the transportation of gas, including pipe-type holders.

Pipeline means all parts of those physical facilities through which gas moves in transportation, including pipe, valves, and other appurtenance attached to pipe, compressor units, metering stations, regulator stations, delivery stations, holders, and fabricated assemblies.

Pipeline facility means new and existing pipelines, rights-of-way, and any equipment, facility, or building used in the transportation of gas or in the treatment of gas during the course of transportation.

Service line means a distribution line that transports gas from a common source of supply to (1) a customer meter or the connection to a customer's piping, whichever is farther downstream, or (2) the connection to a customer's piping if there is no customer meter. A customer meter is the

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meter that measures the transfer of gas from an operator to a consumer.
SMYS means specified minimum yield strength is:

- (1) For steel pipe manufactured in accordance with a listed specification, the yield strength specified as a minimum in that specification; or
 - (2) For steel pipe manufactured in accordance with an unknown or unlisted specification, the yield strength determined in accordance with § 192.107(b).
- State** means each of the several States, the District of Columbia, and the Commonwealth of Puerto Rico.
Transmission line means a pipeline, other than a gathering line, that:

- (a) Transports gas from a gathering line or storage facility to a distribution center, storage facility, or large volume customer that is not downstream from a distribution center;
- (b) Operates at a hoop stress of 20 percent or more of SMYS; or
- (c) Transports gas within a storage field. A large volume customer may receive similar volumes of gas as a distribution center, and includes factories, power plants, and institutional users of gas.

Transportation of gas means the gathering, transmission, or distribution of gas by pipeline or the storage of gas, in or affecting interstate or foreign commerce.

[Amdt. 192-13, 38 FR 9084, Apr. 10, 1973, as amended by Amdt. 192-27, 41 FR 24605, Aug. 16, 1976; Amdt. 192-58, 53 FR 1635, Jan. 21, 1988; Amdt. 192-67, 56 FR 6371, Dec. 5, 1991; Amdt. 192-72, 59 FR 17281, Apr. 12, 1994; Amdt. 192-78, 61 FR 28783, June 6, 1996; Amdt. 192-81, 62 FR 61695, Nov. 19, 1997; Amdt. 192-85, 63 FR 37501, July 13, 1998; Amdt. 192-89, 65 FR 54443, Sept. 8, 2000]

EFFECTIVE DATE NOTE: At 65 FR 54443, Sept. 8, 2000, § 192.3 was amended by adding the definition of "Abandoned", effective Oct. 10, 2000.

§ 192.5 Class locations.

(a) This section classifies pipeline locations for purposes of this part. The following criteria apply to classifications under this section.

- (1) A "class location unit" is an onshore area that extends 220 yards (200 meters) on either side of the centerline of any continuous 1-mile (1.6 kilometers) length of pipeline.

(2) Each separate dwelling unit in a multiple dwelling unit building is counted as a separate building intended for human occupancy.

(b) Except as provided in paragraph (c) of this section, pipeline locations are classified as follows:

- (1) A Class 1 location is:
 - (i) An offshore area; or
 - (ii) Any class location unit that has 10 or fewer buildings intended for human occupancy.

(2) A Class 2 location is any class location unit that has more than 10 but fewer than 46 buildings intended for human occupancy.

(3) A Class 3 location is:

- (1) Any class location unit that has 46 or more buildings intended for human occupancy; or
- (ii) An area where the pipeline lies within 100 yards (91 meters) of either a building or a small, well-defined outside area (such as a playground, recreation area, outdoor theater, or other place of public assembly) that is occupied by 20 or more persons on at least 5 days a week for 10 weeks in any 12-month period. (The days and weeks need not be consecutive.)

(4) A Class 4 location is any class location unit where buildings with four or more stories above ground are prevalent.

(c) The length of Class locations 2, 3, and 4 may be adjusted as follows:

- (1) A Class 4 location ends 220 yards (200 meters) from the nearest building with four or more stories above ground.
- (2) When a cluster of buildings intended for human occupancy requires a Class 2 or 3 location, the class location ends 220 yards (200 meters) from the nearest building in the cluster.

[Amdt. 192-78, 61 FR 28783, June 6, 1996; 61 FR 35139, July 5, 1996, as amended by Amdt. 192-85, 63 FR 37502, July 13, 1998]

§ 192.7 Incorporation by reference.

(a) Any documents or portions thereof incorporated by reference in this part are included in this part as though set out in full. When only a portion of a document is referenced, the remainder is not incorporated in this part.

(b) All incorporated materials are available for inspection in the Research and Special Programs Administration, 400 Seventh Street, SW., Wash-

ington, DC, and at the Office of the Federal Register, 800 North Capitol Street, NW., suite 700, Washington, DC. These materials have been approved for incorporation by reference by the Director of the Federal Register in accordance with 5 U.S.C. 552(a) and 1 CFR part 51. In addition, the incorporated materials are available from the respective organizations listed in appendix A to this part.

(c) The full titles for the publications incorporated by reference in this part are provided in appendix A to this part. Numbers in parentheses indicate applicable editions. Earlier editions of documents listed or editions of documents formerly listed in previous editions of appendix A may be used for materials and components manufactured, designed, or installed in accordance with those earlier editions or earlier documents at the time they were listed. The user must refer to the appropriate previous edition of 49 CFR for a listing of the earlier listed editions or documents.

[35 FR 13257, Aug. 19, 1970, as amended by Amdt. 192-37, 46 FR 10159, Feb. 2, 1981; Amdt. 192-51, 51 FR 15334, Apr. 23, 1986; 58 FR 14521, Mar. 18, 1993; Amdt. 192-78, 61 FR 28783, June 6, 1996]

§ 192.9 Gathering lines.

Except as provided in § 192.1 and 192.150, each operator of a gathering line must comply with the requirements of this part applicable to transmission lines.

[Amdt. 192-72, 59 FR 17281, Apr. 12, 1994]

§ 192.10 Outer continental shelf pipelines.

Operators of transportation pipelines on the Outer Continental Shelf (as defined in the Outer Continental Shelf Lands Act, 43 U.S.C. 1331) must identify on all their respective pipelines the specific points at which operating responsibility transfers to a producing operator. For those instances in which the transfer points are not identifiable by a durable marking, each operator will have until September 15, 1998 to identify the transfer points. If it is not practicable to durably mark a transfer point and the transfer point is located above water, the operator must depict

the transfer point on a schematic located near the transfer point. If a transfer point is located subsea, then the operator must identify the transfer point on a schematic which must be maintained at the nearest upstream facility and provided to RSPA upon request. For those cases in which adjoining operators have not agreed on a transfer point by September 15, 1998 the Regional Director and the MMS Regional Supervisor will make a joint determination of the transfer point.

[Amdt. 192-81, 62 FR 61695, Nov. 19, 1997]

§ 192.11 Petroleum gas systems.

(a) Each plant that supplies petroleum gas by pipeline to a natural gas distribution system must meet the requirements of this part and ANS/NFPA 58 and 59.

(b) Each pipeline system subject to this part that transports only petroleum gas or petroleum gas-air mixtures must meet the requirements of this part and of ANS/NFPA 58 and 59.

(c) In the event of a conflict between this part and ANS/NFPA 58 and 59, ANS/NFPA 58 and 59 prevail.

[Amdt. 192-78, 61 FR 28783, June 6, 1996]

§ 192.13 General.

(a) No person may operate a segment of pipeline that is readied for service after March 12, 1971, or in the case of an offshore gathering line, after July 31, 1977, unless:

- (1) The pipeline has been designed, installed, constructed, initially inspected, and initially tested in accordance with this part; or
- (2) The pipeline qualifies for use under this part in accordance with § 192.14.

(b) No person may operate a segment of pipeline that is replaced, relocated, or otherwise changed after November 12, 1970, or in the case of an offshore gathering line, after July 31, 1977, unless that replacement, relocation, or change has been made in accordance with this part.

(c) Each operator shall maintain, modify as appropriate, and follow the

plans, procedures, and programs that it is required to establish under this part.

[35 FR 13257, Aug. 19, 1970, as amended by Amdt. 192-27, 41 FR 34605, Aug. 16, 1976; Amdt. 192-30, 42 FR 60148, Nov. 25, 1977]

§ 192.14 Conversion to service subject to this part.

(a) A steel pipeline previously used in service not subject to this part qualifies for use under this part if the operator prepares and follows a written procedure to carry out the following requirements:

(1) The design, construction, operation, and maintenance history of the pipeline must be reviewed and, where sufficient historical records are not available, appropriate tests must be performed to determine if the pipeline is in a satisfactory condition for safe operation.

(2) The pipeline right-of-way, all aboveground segments of the pipeline, and appropriately selected underground segments must be visually inspected for physical defects and operating conditions which reasonably could be expected to impair the strength or tightness of the pipeline.

(3) All known unsafe defects and conditions must be corrected in accordance with this part.

(4) The pipeline must be tested in accordance with subpart J of this part to substantiate the maximum allowable operating pressure permitted by subpart L of this part.

(b) Each operator must keep for the life of the pipeline a record of the investigations, tests, repairs, replacements, and alterations made under the requirements of paragraph (a) of this section.

[Amdt. 192-30, 42 FR 60148, Nov. 25, 1977]

§ 192.15 Rules of regulatory construction.

(a) As used in this part:

Includes means including but not limited to.

May means "is permitted to" or "is authorized to".

May not means "is not permitted to" or "is not authorized to".

Shall is used in the mandatory and imperative sense.

(b) In this part:

- (1) Words importing the singular include the plural;
- (2) Words importing the plural include the singular; and
- (3) Words importing the masculine gender include the feminine.

§ 192.16 Customer notification.

(a) This section applies to each operator of a service line who does not maintain the customer's buried piping up to entry of the first building downstream, or, if the customer's buried piping does not enter a building, up to the principal gas utilization equipment or the first fence (or wall) that surrounds that equipment. For the purpose of this section, "customer's buried piping" does not include branch lines that serve yard lanterns, pool heaters, or other types of secondary equipment. Also, "maintain" means monitor for corrosion according to § 192.465 if the customer's buried piping is metallic, survey for leaks according to § 192.723, and if an unsafe condition is found, shut off the flow of gas, advise the customer of the need to repair the unsafe condition, or repair the unsafe condition.

(b) Each operator shall notify each customer once in writing of the following information:

- (1) The operator does not maintain the customer's buried piping.
- (2) If the customer's buried piping is not maintained, it may be subject to the potential hazards of corrosion and leakage.
- (3) Buried gas piping should be—
 - (i) Periodically inspected for leaks;
 - (ii) Periodically inspected for corrosion if the piping is metallic; and
 - (iii) Repaired if any unsafe condition is discovered.
- (4) When excavating near buried gas piping, the piping should be located in advance, and the excavation done by hand.
- (5) The operator (if applicable), plumbing contractors, and heating contractors can assist in locating, inspecting, and repairing the customer's buried piping.
- (c) Each operator shall notify each customer not later than August 14, 1996, or 90 days after the customer first receives gas at a particular location, whichever is later. However, operators

of master meter systems may continuously post a general notice in a prominent location frequented by customers.

(d) Each operator must make the following records available for inspection by the Administrator or a State agency participating under 49 U.S.C. 60105 or 60106:

- (1) A copy of the notice currently in use; and
- (2) Evidence that notices have been sent to customers within the previous 3 years.

(Amdt. 192-74, 60 FR 41823, Aug. 14, 1995, as amended by Amdt. 192-74A, 60 FR 69451, Dec. 11, 1995; Amdt. 192-83, 63 FR 7723, Feb. 17, 1998)

Subpart B—Materials

§ 192.51 Scope.

This subpart prescribes minimum requirements for the selection and qualification of pipe and components for use in pipelines.

§ 192.53 General.

Materials for pipe and components must be:

- (a) Able to maintain the structural integrity of the pipeline under temperature and other environmental conditions that may be anticipated;
- (b) Chemically compatible with any gas that they transport and with any other material in the pipeline with which they are in contact; and
- (c) Qualified in accordance with the applicable requirements of this subpart.

§ 192.55 Steel pipe.

(a) New steel pipe is qualified for use under this part if:

- (1) It was manufactured in accordance with a listed specification;
- (2) It meets the requirements of—
 - (i) Section II of appendix B to this part; or
 - (ii) If it was manufactured before November 12, 1970, either section II or III of appendix B to this part; or
- (3) It is used in accordance with paragraph (c) or (d) of this section.

(b) Used steel pipe is qualified for use under this part if:

- (1) It was manufactured in accordance with a listed specification and it

meets the requirements of paragraph II-C of appendix B to this part;

(1) Section II of appendix B to this part; or

(ii) If it was manufactured before November 12, 1970, either section II or III of appendix B to this part;

- (3) It has been used in an existing line of the same or higher pressure and meets the requirements of paragraph II-C of appendix B to this part; or
- (4) It is used in accordance with paragraph (c) of this section.

(c) New or used steel pipe may be used at a pressure resulting in a hoop stress of less than 6,000 p.s.i. (41 MPa) where no close coiling or close bending is to be done, if visual examination indicates that the pipe is in good condition and that it is free of split seams and other defects that would cause leakage. If it is to be welded, steel pipe that has not been manufactured to a listed specification must also pass the weldability tests prescribed in paragraph II-B of appendix B to this part.

(d) Steel pipe that has not been previously used may be used as replacement pipe in a segment of pipeline if it has been manufactured prior to November 12, 1970, in accordance with the same specification as the pipe used in constructing that segment of pipeline.

(e) New steel pipe that has been cold expanded must comply with the mandatory provisions of API Specification 5L.

(35 FR 13257, Aug. 19, 1970, as amended by Amdt. 191-1, 35 FR 17660, Nov. 17, 1970; Amdt. 192-12, 38 FR 4761, Feb. 22, 1973; Amdt. 192-51, 51 FR 15385, Apr. 23, 1986; 56 FR 14521, Mar. 18, 1993; Amdt. 192-85, 63 FR 37502, July 13, 1998)

§ 192.57 [Reserved]

§ 192.59 Plastic pipe.

(a) New plastic pipe is qualified for use under this part if:

- (1) It is manufactured in accordance with a listed specification; and
- (2) It is resistant to chemicals with which contact may be anticipated.

(b) Used plastic pipe is qualified for use under this part if:

- (1) It was manufactured in accordance with a listed specification;

(2) It is resistant to chemicals with which contact may be anticipated;

(3) It has been used only in natural gas service;

(4) Its dimensions are still within the tolerances of the specification to which it was manufactured; and

(5) It is free of visible defects.

(c) For the purpose of paragraphs (a)(1) and (b)(1) of this section, where pipe of a diameter included in a listed specification is impractical to use, pipe of a diameter between the sizes included in a listed specification may be used if it:

- (1) Meets the strength and design criteria required of pipe included in that listed specification; and
- (2) Is manufactured from plastic compounds which meet the criteria for material required of pipe included in that listed specification.

(35 FR 13257, Aug. 19, 1970, as amended by Amdt. 192-19, 40 FR 10472, Mar. 6, 1975; Amdt. 192-58, 53 FR 1685, Jan. 21, 1988)

§ 192.61 [Reserved]

§ 192.63 Marking of materials.

- (a) Except as provided in paragraph (d) of this section, each valve, fitting, length of pipe, and other component must be marked—
 - (1) As prescribed in the specification or standard to which it was manufactured, except that thermoplastic fittings must be marked in accordance with ASTM D 2513; or
 - (2) To indicate size, material, manufacturer, pressure rating, and temperature rating, and as appropriate, type, grade, and model.
- (b) Surfaces of pipe and components that are subject to stress from internal pressure may not be field die stamped.
- (c) If any item is marked by die stamping, the die must have blunt or rounded edges that will minimize stress concentrations.
- (d) Paragraph (a) of this section does not apply to items manufactured before November 12, 1970, that meet all of the following:
 - (1) The item is identifiable as to type, manufacturer, and model.

(2) Specifications or standards giving pressure, temperature, and other appropriate criteria for the use of items are readily available.

[Amdt. 192-1, 35 FR 17660, Nov. 17, 1970, as amended by Amdt. 192-31, 43 FR 883, Apr. 3, 1978; Amdt. 192-61, 53 FR 3793, Sept. 22, 1988; Amdt. 192-62, 54 FR 5627, Feb. 6, 1989; Amdt. 192-61A, 54 FR 32942, Aug. 9, 1989; 58 FR 14521, Mar. 18, 1993; Amdt. 192-76, 61 FR 26123, May 24, 1996; 61 FR 36226, July 15, 1996]

§ 192.65 Transportation of pipe.

In a pipeline to be operated at a hoop stress of 20 percent or more of SMYS, an operator may not use pipe having an outer diameter to wall thickness ratio of 70 to 1, or more, that is transported by railroad unless:

- (a) The transportation is performed in accordance with API RP 5L1.
- (b) In the case of pipe transported before November 12, 1970, the pipe is tested in accordance with subpart J of this part to at least 1.25 times the maximum allowable operating pressure if it is to be installed in a class 1 location and to at least 1.5 times the maximum allowable operating pressure if it is to be installed in a class 2, 3, or 4 location. Notwithstanding any shorter time period permitted under subpart J of this part, the test pressure must be maintained for at least 8 hours.

[Amdt. 192-12, 38 FR 4761, Feb. 22, 1973, as amended by Amdt. 192-17, 40 FR 6346, Feb. 11, 1975; 58 FR 14521, Mar. 18, 1993]

Subpart C—Pipe Design

§ 192.101 Scope.

This subpart prescribes the minimum requirements for the design of pipe.

§ 192.103 General.

Pipe must be designed with sufficient wall thickness, or must be installed with adequate protection, to withstand anticipated external pressures and loads that will be imposed on the pipe after installation.

§ 192.105 Design formula for steel pipe.

(a) The design pressure for steel pipe is determined in accordance with the following formula:

$$P = (2 S/D) \times F \times E \times T$$

P=Design pressure in pounds per square inch (kPa) gauge.

S=Yield strength in pounds per square inch (kPa) determined in accordance with § 192.107.

D=Nominal outside diameter of the pipe in inches (millimeters).

F=Nominal wall thickness of the pipe in inches (millimeters). If this is unknown, it is determined in accordance with § 192.109. Additional wall thickness required for concurrent external loads included in computing design pressure.

F=Design factor determined in accordance with § 192.111.

E=Longitudinal joint factor determined in accordance with § 192.113.

T=Temperature derating factor determined in accordance with § 192.115.

(b) If steel pipe that has been subjected to cold expansion to meet the SMYS is subsequently heated, other than by welding or stress relieving as a part of welding, the design pressure is limited to 75 percent of the pressure determined under paragraph (a) of this section if the temperature of the pipe exceeds 900° F (482° C) at any time or is held above 600° F (316° C) for more than 1 hour.

[35 FR 13257, Aug. 19, 1970, as amended by Amdt. 192-47, 49 FR 7569, Mar. 1, 1984; Amdt. 192-86, 63 FR 37592, July 13, 1998]

§ 192.107 Yield strength (S) for steel pipe.

(a) For pipe that is manufactured in accordance with a specification listed in section I of appendix B of this part, the yield strength to be used in the design formula in § 192.105 is the SMYS stated in the listed specification, if that value is known.

(b) For pipe that is manufactured in accordance with a specification not listed in section I of appendix B to this part or whose specification or tensile properties are unknown, the yield strength to be used in the design formula in § 192.105 is one of the following:

- (1) If the pipe is tensile tested in accordance with section II-D of appendix B to this part, the lower of the following:
- (i) 80 percent of the average yield strength determined by the tensile tests.
- (ii) The lowest yield strength determined by the tensile tests.

(2) The lowest yield strength determined by the tensile tests.

(2) If the pipe is not tensile tested as provided in paragraph (b)(1) of this section, 24,000 p.s.i. (165 MPa).

[35 FR 13257, Aug. 19, 1970, as amended by Amdt. 192-78, 61 FR 28763, June 6, 1996; Amdt. 192-83, 63 FR 7723, Feb. 17, 1998; Amdt. 192-86, 63 FR 37592, July 13, 1998]

§ 192.109 Nominal wall thickness (t) for steel pipe.

(a) If the nominal wall thickness for steel pipe is not known, it is determined by measuring the thickness of each piece of pipe at quarter points on one end.

(b) However, if the pipe is of uniform grade, size, and thickness and there are more than 10 lengths, only 10 percent of the individual lengths, but not less than 10 lengths, need be measured. The thickness of the lengths that are not measured must be verified by applying a gauge set to the minimum thickness found by the measurement. The nominal wall thickness to be used in the design formula in § 192.105 is the next wall thickness found in commercial specifications that is below the average of all the measurements taken. However, the nominal wall thickness used may not be more than 1.14 times the smallest measurement taken on pipe less than 20 inches (508 millimeters) in outside diameter, nor more than 1.11 times the smallest measurement taken on pipe 20 inches (508 millimeters) or more in outside diameter.

[35 FR 13257, Aug. 19, 1970, as amended by Amdt. 192-86, 63 FR 37592, July 13, 1998]

§ 192.111 Design factor (F) for steel pipe.

(a) Except as otherwise provided in paragraphs (b), (c), and (d) of this section, the design factor to be used in the design formula in § 192.105 is determined in accordance with the following table:

Class location	Design factor (F)
1	0.72
2	0.60
3	0.50

(b) For Class 2 locations, a design factor of 0.50, or less, must be used in the design formula in § 192.105 for uncased steel pipe that crosses the right-of-way of a hard surfaced road, a highway, a public street, or a railroad.

(c) For Class 1 and Class 2 locations, a design factor of 0.50, or less, must be used in the design formula in § 192.105 for—

- (1) Steel pipe in a compressor station, regulating station, or measuring station; and
- (2) Steel pipe, including a pipe riser, on a platform located offshore or in inland navigable waters.

[35 FR 13257, Aug. 19, 1970, as amended by Amdt. 192-27, 41 FR 34605, Aug. 16, 1976]

§ 192.113 Longitudinal joint factor (E) for steel pipe.

The longitudinal joint factor to be used in the design formula in § 192.105 is determined in accordance with the following table:

Specification	Pipe class	Longitudinal joint factor (E)
ASTM A 53	Seamless	1.00
	Electric resistance welded	1.00
	Furnace butt welded	.80

Specification	Pipe class	Longitudinal joint factor (E)
ASTM A 106	Seamless	1.00
ASTM A 333/A 333M	Seamless	1.00
	Electric resistance welded	1.00
	Double submerged arc welded	1.00
ASTM A 381	Electric fusion-welded	1.00
ASTM A 671	Electric fusion-welded	1.00
ASTM A 672	Electric fusion-welded	1.00
ASTM A 691	Electric fusion-welded	1.00
API 5L	Seamless	1.00
	Electric resistance welded	1.00
	Electric flash welded	1.00
	Submerged arc welded	1.00
	Furnace butt welded	1.00
Other	Pipe over 4 inches (102 millimeters)	.80
Other	Pipe 4 inches (102 millimeters) or less	.60

If the type of longitudinal joint cannot be determined, the joint factor to be used must not exceed that designated for "Other."

[Amdt. 192-37, 46 FR 10159, Feb. 2, 1981, as amended by Amdt. 192-51, 51 FR 15335, Apr. 23, 1986; Amdt. 192-82, 54 FR 5627, Feb. 6, 1989; 58 FR 14521, Mar. 18, 1993; Amdt. 192-85, 63 FR 37502, July 13, 1998]

§ 192.115 Temperature derating factor (F) for steel pipe.

The temperature derating factor to be used in the design formula in § 192.105 is determined as follows:

Gas temperature in degrees Fahrenheit (Celsius)	Temperature derating factor (F)
250 °F (121 °C) or less	1.000
300 °F (149 °C)	0.967
350 °F (177 °C)	0.933
400 °F (204 °C)	0.900
450 °F (232 °C)	0.867

For intermediate gas temperatures, the derating factor is determined by interpolation.

[35 FR 13257, Aug. 19, 1970, as amended by Amdt. 192-85, 63 FR 37502, July 13, 1998]

§ 192.117 [Reserved]

§ 192.119 [Reserved]

§ 192.121 Design of plastic pipe.

Subject to the limitations of § 192.123, the design pressure for plastic pipe is determined in accordance with either of the following formulas:

§ 192.123 Design limitations for plastic pipe.

(a) The design pressure may not exceed a gauge pressure of 689 kPa (100 psig) for plastic pipe used in:

- (1) Distribution systems; or
 - (2) Classes 3 and 4 locations.
- (b) Plastic pipe may not be used where operating temperatures of the pipe will be:

- (1) Below -20°F (-29°C), or -40°F (-40°C) if all pipe and pipeline components whose operating temperature will be below -29°C (-20°F) have a temperature rating by the manufacturer consistent with that operating temperature; or
- (2) Above the following applicable temperatures:
 - (i) For thermoplastic pipe, the temperature at which the long-term hydrostatic strength used in the design formula under § 192.121 is determined. However, if the pipe was manufactured before May 18, 1978 and its long-term hydrostatic strength was determined at 73°F (23°C), it may be used at temperatures up to 100°F (38°C).
 - (ii) For reinforced thermosetting plastic pipe, 150°F (66°C).
- (c) The wall thickness for thermoplastic pipe may not be less than 0.062 inches (1.57 millimeters).
- (d) The wall thickness for reinforced thermosetting plastic pipe may not be less than that listed in the following table:

Nominal size in inches (millimeters)	Minimum wall thickness in inches (millimeters)
2 (51)	0.060 (1.52)
3 (76)	0.060 (1.52)
4 (102)	0.070 (1.78)
6 (152)	0.100 (2.54)

[35 FR 13257, Aug. 19, 1970, as amended by Amdt. 192-31, 43 FR 13883, Apr. 3, 1978; Amdt. 192-78, 61 FR 28783, June 6, 1996; Amdt. 192-85, 63 FR 37502, July 13, 1998]

§ 192.125 Design of copper pipe.

(a) Copper pipe used in mains must have a minimum wall thickness of 0.065 inches (1.65 millimeters) and must be hard drawn.

(b) Copper pipe used in service lines must have wall thickness not less than that indicated in the following table:

Standard O.D. inch (millimeter)	Wall thickness inch (millimeter)	
	Nominal	Tolerance
½ (13)	.040 (1.06)	.0035 (0.889)
¾ (16)	.042 (1.07)	.0035 (0.889)
1 (25)	.045 (1.14)	.004 (1.02)
1 ¼ (32)	.050 (1.27)	.004 (1.02)
1 ½ (38)	.055 (1.40)	.0045 (1.143)
	.060 (1.52)	.0045 (1.143)

(c) Copper pipe used in mains and service lines may not be used at pressures in excess of 100 p.s.i. (689 kPa) gage.

(d) Copper pipe that does not have an internal corrosion resistant lining may not be used to carry gas that has an average hydrogen sulfide content of more than 0.3 grains/100 ft³ (6.9/m³) under standard conditions. Standard conditions refers to 60°F and 14.7 psia (15.6°C and one atmosphere) of gas.

[35 FR 13257, Aug. 19, 1970, as amended by Amdt. 192-62, 54 FR 5623, Feb. 6, 1989; Amdt. 192-85, 63 FR 37502, July 13, 1998]

Subpart D—Design of Pipeline Components

§ 192.141 Scope.

This subpart prescribes minimum requirements for the design and installation of pipeline components and facilities. In addition, it prescribes requirements relating to protection against accidental overpressuring.

§ 192.143 General requirements.

Each component of a pipeline must be able to withstand operating pressures and other anticipated loadings without impairment of its serviceability with unit stresses equivalent to those allowed for comparable material in pipe in the same location and kind of service. However, if design based upon unit stresses is impractical for a particular component, design may be based upon a pressure rating established by the manufacturer by pressure testing that component or a prototype of the component.

[Amdt. 48, 49 FR 19824, May 10, 1984]

§ 192.144 Qualifying metallic components.

Notwithstanding any requirement of this subpart which incorporates by reference an edition of a document listed in appendix A of this part, a metallic component manufactured in accordance with any other edition of that document is qualified for use under this part if—

- (a) It can be shown through visual inspection of the cleaned component that no defect exists which might impair

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the strength or tightness of the component; and

(b) The edition of the document under which the component was manufactured has equal or more stringent requirements for the following as an edition of that document currently or previously listed in appendix A:

- (1) Pressure testing;
- (2) Materials; and
- (3) Pressure and temperature ratings.

[Amdt. 192-45, 49 FR 30639, July 5, 1983]

§ 192.145 Valves.

(a) Except for cast iron and plastic valves, each valve must meet the minimum requirements, or equivalent, of API 6D. A valve may not be used under operating conditions that exceed the applicable pressure-temperature ratings contained in those requirements.

(b) Each cast iron and plastic valve must comply with the following:

- (1) The valve must have a maximum service pressure rating for temperatures that equal or exceed the maximum service temperature.
- (2) The valve must be tested as part of the manufacturing, as follows:
 - (i) With the valve in the fully open position, the shell must be tested with no leakage to a pressure at least 1.5 times the maximum service rating.
 - (ii) After the shell test, the seat must be tested to a pressure not less than 1.5 times the maximum service pressure rating. Except for swing check valves, test pressure during the seat test must be applied successively on each side of the closed valve with the opposite side open. No visible leakage is permitted.
 - (iii) After the last pressure test is completed, the valve must be operated through its full travel to demonstrate freedom from interference.
- (c) Each valve must be able to meet the anticipated operating conditions.
- (d) No valve having shell components made of ductile iron may be used at pressures exceeding 80 percent of the pressure ratings for comparable steel valves at their listed temperature. However, a valve having shell components made of ductile iron may be used at pressures up to 80 percent of the pressure ratings for comparable steel valves at their listed temperature, if:

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(1) The temperature-adjusted service pressure does not exceed 1,000 p.s.i. (7 Mpa) gage; and

(2) Welding is not used on any ductile iron component in the fabrication of the valve shells or their assembly.

(e) No valve having pressure containing parts made of ductile iron may be used in the gas pipe components of compressor stations.

[35 FR 13257, Aug. 19, 1970, as amended by Amdt. 192-62, 54 FR 5628, Feb. 6, 1989; Amdt. 192-85, 63 FR 37502, July 13, 1998]

§ 192.147 Flanges and flange accessories.

(a) Each flange or flange accessory (other than cast iron) must meet the minimum requirements of ASME/ANSI B16.5, MSS SP-44, or the equivalent.

(b) Each flange assembly must be able to withstand the maximum pressure at which the pipeline is to be operated and to maintain its physical and chemical properties at any temperature to which it is anticipated that it might be subjected in service.

(c) Each flange on a flanged joint in cast iron pipe must conform in dimensions, drilling, face and gasket design to ASME/ANSI B16.1 and be cast integrally with the pipe, valve, or fitting.

[35 FR 13257, Aug. 19, 1970, as amended by Amdt. 192-62, 54 FR 5628, Feb. 6, 1989; 58 FR 14521, Mar. 18, 1993]

§ 192.149 Standard fittings.

(a) The minimum metal thickness of threaded fittings may not be less than specified for the pressures and temperatures in the applicable standards referenced in this part, or their equivalent.

(b) Each steel butt-welding fitting must have pressure and temperature ratings based on stresses for pipe of the same or equivalent material. The actual bursting strength of the fitting must at least equal the computed bursting strength of pipe of the designated material and wall thickness, as determined by a prototype that was tested to at least the pressure required for the pipeline to which it is being added.

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§ 192.150 Passage of internal inspection devices.

(a) Except as provided in paragraphs (b) and (c) of this section, each new transmission line and each line section of a transmission line where the line pipe, valve, fitting, or other line component is replaced must be designed and constructed to accommodate the passage of instrumented internal inspection devices.

(b) This section does not apply to: (1) Manifolds;

(2) Station piping such as at compressor stations, meter stations, or regulator stations;

(3) Piping associated with storage facilities, other than a continuous run of transmission line between a compressor station and storage facilities;

(4) Cross-overs;

(5) Sizes of pipe for which an instrumented internal inspection device is not commercially available;

(6) Transmission lines, operated in conjunction with a distribution system which are installed in Class 4 locations;

(7) Offshore pipelines, other than transmission lines 10 inches (254 millimeters) or greater in nominal diameter, that transport gas to onshore facilities; and

(8) Other piping that, under § 190.9 of this chapter, the Administrator finds in a particular case would be impracticable to design and construct to accommodate the passage of instrumented internal inspection devices.

(c) An operator encountering emergencies, construction time constraints or other unforeseen construction problems need not construct a new or replacement segment of a transmission line to meet paragraph (a) of this section, if the operator determines and documents why an impracticability prohibits compliance with paragraph (a) of this section. Within 90 days after discovering the emergency or construction problem the operator must petition, under § 190.9 of this chapter, for approval that design and construction to accommodate passage of instrumented internal inspection devices would be impracticable. If the petition is denied, within 1 year after the date of the notice of the denial, the operator must modify that segment to allow

passage of instrumented internal inspection devices.

[Amdt. 192-72, 59 FR 17281, Apr. 12, 1994, as amended by Amdt. 192-85, 63 FR 37502, July 13, 1998]

§ 192.151 Tapping.

(a) Each mechanical fitting used to make a hot tap must be designed for at least the operating pressure of the pipeline.

(b) Where a ductile iron pipe is tapped, the extent of full-thread engagement and the need for the use of outside-sealing service connections, tapping saddles, or other fixtures must be determined by service conditions.

(c) Where a threaded tap is made in cast iron or ductile iron pipe, the diameter of the tapped hole may not be more than 25 percent of the nominal diameter of the pipe unless the pipe is reinforced, except that

(1) Existing taps may be used for replacement service, if they are free of cracks and have good threads; and

(2) A 1¼-inch (32 millimeters) tap may be made in a 4-inch (102 millimeters) cast iron or ductile iron pipe, without reinforcement.

However, in areas where climate, soil, and service conditions may create unusual external stresses on cast iron pipe, unreinforced taps may be used only on 6-inch (152 millimeters) or larger pipe.

[35 FR 13257, Aug. 19, 1970, as amended by Amdt. 192-85, 63 FR 37502, July 13, 1998]

§ 192.153 Components fabricated by welding.

(a) Except for branch connections and assemblies of standard pipe and fittings joined by circumferential welds, the design pressure of each component fabricated by welding, whose strength cannot be determined, must be established in accordance with paragraph UG-101 of section VIII, Division 1, of the ASME Boiler and Pressure Vessel Code.

(b) Each prefabricated unit that uses plate and longitudinal seams must be designed, constructed, and tested in accordance with section I, section VIII, Division 1, or section VIII, Division 2 of the ASME Boiler and Pressure Vessel Code, except for the following:

- (1) Regularly manufactured butt-welding fittings.
- (2) Pipe that has been produced and tested under a specification listed in appendix B to this part.
- (3) Partial assemblies such as split rings or collars.
- (4) Prefabricated units that the manufacturer certifies have been tested to at least twice the maximum pressure to which they will be subjected under the anticipated operating conditions.

(c) Orange-peel bull plugs and orange-peel swages may not be used on pipelines that are to operate at a hoop stress of 20 percent or more of the SMYS of the pipe.

(d) Except for flat closures designed in accordance with section VIII of the ASME Boiler and Pressure Code, flat closures and fish tails may not be used on pipe that either operates at 100 p.s.i. (689 kPa) gage, or more, or is more than 3 inches (76 millimeters) nominal diameter.

[35 FR 13257, Aug. 19, 1970, as amended by Amdt. 192-1, 35 FR 17680, Nov. 17, 1970; 58 FR 14521, Mar. 18, 1993; Amdt. 192-68, 58 FR 45268, Aug. 27, 1993; Amdt. 192-85, 63 FR 37502, July 13, 1998]

§ 192.155 Welded branch connections.

Each welded branch connection made to pipe in the form of a single connection, or in a header or manifold as a series of connections, must be designed to ensure that the strength of the pipeline system is not reduced, taking into account the stresses in the remaining pipe wall due to the opening in the pipe or header, the shear stresses produced by the pressure acting on the area of the branch opening, and any external loadings due to thermal movement, weight, and vibration.

§ 192.157 Extruded outlets.

Each extruded outlet must be suitable for anticipated service conditions and must be at least equal to the design strength of the pipe and other fittings in the pipeline to which it is attached.

§ 192.159 Flexibility.

Each pipeline must be designed with enough flexibility to prevent thermal expansion or contraction from causing excessive stresses in the pipe or compo-

nents, excessive bending or unusual loads at joints, or undesirable forces or moments at points of connection to equipment, or at anchorage or guide points.

§ 192.161 Supports and anchors.

(a) Each pipeline and its associated equipment must have enough anchors or supports to:

- (1) Prevent undue strain on connected equipment;
- (2) Resist longitudinal forces caused by a bend or offset in the pipe; and
- (3) Prevent or damp out excessive vibration.

(b) Each exposed pipeline must have enough supports or anchors to protect the exposed pipe joints from the maximum end force caused by internal pressure and any additional forces caused by temperature expansion or contraction or by the weight of the pipe and its contents.

(c) Each support or anchor on an exposed pipeline must be made of durable, noncombustible material and must be designed and installed as follows:

- (1) Free expansion and contraction of the pipeline between supports or anchors may not be restricted.
- (2) Provision must be made for the service conditions involved.
- (3) Movement of the pipeline may not cause disengagement of the support equipment.

(d) Each support on an exposed pipeline operated at a stress level of 50 percent or more of SMYS must comply with the following:

- (1) A structural support may not be welded directly to the pipe.
- (2) The support must be provided by a member that completely encircles the pipe.
- (3) If an encircling member is welded to a pipe, the weld must be continuous and cover the entire circumference.

(e) Each underground pipeline that is connected to a relatively unyielding line or other fixed object must have enough flexibility to provide for possible movement, or it must have an anchor that will limit the movement of the pipeline.

(f) Except for offshore pipelines, each underground pipeline that is being connected to new branches must have a firm foundation for both the header

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and the branch to prevent detrimental lateral and vertical movement.

[35 FR 13257, Aug. 19, 1970, as amended by Amdt. 192-58, 53 FR 1685, Jan. 21, 1988]

§ 192.163 Compressor stations: Design and construction.

(a) *Location of compressor building.* Except for a compressor building on a platform located offshore or in inland navigable waters, each main compressor building of a compressor station must be located on property under the control of the operator. It must be far enough away from adjacent property, not under control of the operator, to minimize the possibility of fire being communicated to the compressor building from structures on adjacent property. There must be enough open space around the main compressor building to allow the free movement of fire-fighting equipment.

(b) *Building construction.* Each building on a compressor station site must be made of noncombustible materials if it contains either—

- (1) Pipe more than 2 inches (51 millimeters) in diameter that is carrying gas under pressure; or
 - (2) Gas handling equipment other than gas utilization equipment used for domestic purposes.
- (c) *Exits.* Each operating floor of a main compressor building must have at least two separated and unobstructed exits located so as to provide a convenient possibility of escape and an unobstructed passage to a place of safety. Each door latch on an exit must be of a type which can be readily opened from the inside without a key. Each swinging door located in an exterior wall must be mounted to swing outward.

(d) *Fenced areas.* Each fence around a compressor station must have at least two gates located so as to provide a convenient opportunity for escape to a place of safety, or have other facilities affording a similarly convenient exit from the area. Each gate located within 200 feet (61 meters) of any compressor plant building must open outward and, when occupied, must be openable from the inside without a key.

(e) *Electrical facilities.* Electrical equipment and wiring installed in com-

pressor stations must conform to the National Electrical Code, ANSI/NFPA 70, so far as that code is applicable.

[35 FR 13257, Aug. 19, 1970, as amended by Amdt. 192-27, 41 FR 34605, Aug. 16, 1976; Amdt. 192-37, 46 FR 10139, Feb. 2, 1981; 58 FR 14521, Mar. 18, 1993; Amdt. 192-85, 63 FR 37502, July 13, 1998]

§ 192.165 Compressor stations: Liquid removal.

(a) Where entrained vapors in gas may liquefy under the anticipated pressure and temperature conditions, the compressor must be protected against the introduction of those liquids in quantities that could cause damage.

(b) Each liquid separator used to remove entrained liquids at a compressor station must:

- (1) Have a manually operable means of removing these liquids.
- (2) Where slugs of liquid could be carried into the compressors, have either automatic liquid removal facilities, an automatic compressor shutdown device, or a high liquid level alarm; and
- (3) Be manufactured in accordance with section VIII of the ASME Boiler and Pressure Vessel Code, except that liquid separators constructed of pipe and fittings without internal welding must be fabricated with a design factor of 0.4, or less.

§ 192.167 Compressor stations: Emergency shutdown.

(a) Except for unattended field compressor stations of 1,000 horsepower (746 kilowatts) or less, each compressor station must have an emergency shutdown system that meets the following:

- (1) It must be able to block gas out of the station and blow down the station piping.
- (2) It must discharge gas from the blowdown piping at a location where the gas will not create a hazard.
- (3) It must provide means for the shutdown of gas compressing equipment, gas fires, and electrical facilities in the vicinity of gas headers and in the compressor building, except that:

- (i) Electrical circuits that supply emergency lighting required to assist station personnel in evacuating the compressor building and the area in the vicinity of the gas headers must remain energized; and

(ii) Electrical circuits needed to protect equipment from damage may remain energized.
 (4) It must be operable from at least two locations, each of which is:

- (i) Outside the gas area of the station;
- (ii) Near the exit gates, if the station is fenced, or near emergency exits, if not fenced; and
- (iii) Not more than 500 feet (153 meters) from the limits of the station.

(b) If a compressor station supplies gas directly to a distribution system with no other adequate source of gas available, the emergency shutdown system must be designed so that it will not function at the wrong time and cause an unintended outage on the distribution system.

(c) On a platform located offshore or in inland navigable waters, the emergency shutdown system must be designed and installed to actuate automatically by each of the following events:

- (1) In the case of an unattended compressor station:
 - (i) When the gas pressure equals the maximum allowable operating pressure plus 15 percent; or
 - (ii) When an uncontrolled fire occurs on the platform; and
- (2) In the case of a compressor station in a building:
 - (i) When an uncontrolled fire occurs in the building; or
 - (ii) When the concentration of gas in air reaches 50 percent or more of the lower explosive limit in a building which has a source of ignition.

For the purpose of paragraph (c)(2)(ii) of this section, an electrical facility which conforms to Class 1, Group D, of the National Electrical Code is not a source of ignition.

[35 FR 13257, Aug. 19, 1970, as amended by Amdt. 192-27, 41 FR 34605, Aug. 16, 1976; Amdt. 192-85, 63 FR 37503, July 13, 1998]

§ 192.169 Compressor stations: Pressure limiting devices.

(a) Each compressor station must have pressure relief or other suitable protective devices of sufficient capacity and sensitivity to ensure that the maximum allowable operating pressure of the station piping and equipment is not exceeded by more than 10 percent.

(b) Each vent line that exhausts gas from the pressure relief valves of a compressor station must extend to a location where the gas may be discharged without hazard.

§ 192.171 Compressor stations: Additional safety equipment.

(a) Each compressor station must have adequate fire protection facilities. If fire pumps are a part of these facilities, their operation may not be affected by the emergency shutdown system.

(b) Each compressor station prime mover, other than an electrical induction or synchronous motor, must have an automatic device to shut down the unit before the speed of either the prime mover or the driven unit exceeds a maximum safe speed.

(c) Each compressor unit in a compressor station must have a shutdown or alarm device that operates in the event of inadequate cooling or lubrication of the unit.

(d) Each compressor station gas engine that operates with pressure gas injection must be equipped so that stoppage of the engine automatically shuts off the fuel and vents the engine distribution manifold.

(e) Each muffler for a gas engine in a compressor station must have vent slots or holes in the baffles of each compartment to prevent gas from being trapped in the muffler.

§ 192.173 Compressor stations: Ventilation.

Each compressor station building must be ventilated to ensure that employees are not endangered by the accumulation of gas in rooms, sumps, attics, pits, or other enclosed places.

§ 192.175 Pipe-type and bottle-type holders.

(a) Each pipe-type and bottle-type holder must be designed so as to prevent the accumulation of liquids in the holder, in connecting pipe, or in auxiliary equipment, that might cause corrosion or interfere with the safe operation of the holder.

(b) Each pipe-type or bottle-type holder must have minimum clearance from other holders in accordance with the following formula:

Installation as required by subpart J of this part.

[35 FR 13257, Aug. 19, 1970, as amended by Amdt. 192-38, 53 FR 1635, Jan. 21, 1988; Amdt. 192-52, 54 FR 5628, Feb. 6, 1989; 58 FR 14521, Mar. 18, 1993; Amdt. 192-85, 63 FR 37503, July 13, 1998]

§ 192.179 Transmission line valves.

(a) Each transmission line, other than offshore segments, must have sectionalizing block valves spaced as follows, unless in a particular case the Administrator finds that alternative spacing would provide an equivalent level of safety:

- (1) Each point on the pipeline in a Class 4 location must be within 2½ miles (4 kilometers) of a valve.
- (2) Each point on the pipeline in a Class 3 location must be within 4 miles (6.4 kilometers) of a valve.
- (3) Each point on the pipeline in a Class 2 location must be within 7½ miles (12 kilometers) of a valve.
- (4) Each point on the pipeline in a Class 1 location must be within 10 miles (16 kilometers) of a valve.

(b) Each sectionalizing block valve on a transmission line, other than offshore segments, must comply with the following:

- (1) The valve and the operating device to open or close the valve must be readily accessible and protected from tampering and damage.
- (2) The valve must be supported to prevent settling of the valve or movement of the pipe to which it is attached.

(c) Each section of a transmission line, other than offshore segments, between main line valves must have a blowdown valve with enough capacity to allow the transmission line to be blown down as rapidly as practicable. Each blowdown discharge must be located so the gas can be blown to the atmosphere without hazard and, if the transmission line is adjacent to an overhead electric line, so that the gas is directed away from the electrical conductors.

(d) Offshore segments of transmission lines must be equipped with valves or other components to shut off the flow

$C = (D \times P \times F) / 48.33$ ($C = 3D \times P \times F / 1,000$)

in which:

C = Minimum clearance between pipe containers or bottles in inches (millimeters).

D = Outside diameter of pipe containers or bottles in inches (millimeters).

P = Maximum allowable operating pressure, p.s.i. (kPa) gage.

F = Design factor as set forth in § 192.111 of this part.

[35 FR 13257, Aug. 19, 1970, as amended by Amdt. 192-35, 63 FR 37503, July 13, 1998]

§ 192.177 Additional provisions for bottle-type holders.

(a) Each bottle-type holder must be—

- (1) Located on a site entirely surrounded by fencing that prevents access by unauthorized persons and with minimum clearance from the fence as follows:

Maximum allowable operating pressure	Minimum clearance (feet) (meters)
Less than 1,000 p.s.i. (7 MPa) gage	25 (7.6)
1,000 p.s.i. (7 MPa) gage or more	100 (31)

(2) Designed using the design factors set forth in § 192.111; and

(3) Buried with a minimum cover in accordance with § 192.327.

(b) Each bottle-type holder manufactured from steel that is not weldable under field conditions must comply with the following:

(1) A bottle-type holder made from alloy steel must meet the chemical and tensile requirements for the various grades of steel in ASTM A 372/A 372M.

(2) The actual yield-tensile ratio of the steel may not exceed 0.85.

(3) Welding may not be performed on the holder after it has been heat treated or stress relieved, except that copier wires may be attached to the small diameter portion of the bottle end closure for cathodic protection if a localized thermit welding process is used.

(4) The holder must be given a mill hydrostatic test at a pressure that produces a hoop stress at least equal to 85 percent of the SMYS.

(5) The holder, connection pipe, and components must be leak tested after

of gas to an offshore platform in an emergency.

[35 FR 13257, Aug. 19, 1970, as amended by Amdt. 192-27, 41 FR 34606, Aug. 16, 1976; Amdt. 192-78, 61 FR 28784, June 6, 1996; Amdt. 192-85, 63 FR 37503, July 13, 1998]

§ 192.181 Distribution line valves.

(a) Each high-pressure distribution system must have valves spaced so as to reduce the time to shut down a section of main in an emergency. The valve spacing is determined by the operating pressure, the size of the mains, and the local physical conditions.

(b) Each regulator station controlling the flow or pressure of gas in a distribution system must have a valve installed on the inlet piping at a distance from the regulator station sufficient to permit the operation of the valve during an emergency that might preclude access to the station.

(c) Each valve on a main installed for operating or emergency purposes must comply with the following:

- (1) The valve must be placed in a readily accessible location so as to facilitate its operation in an emergency.
- (2) The operating stem or mechanism must be readily accessible.
- (3) If the valve is installed in a buried box or enclosure, the box or enclosure must be installed so as to avoid transmitting external loads to the main.

§ 192.183 Valves: Structural design requirements.

(a) Each underground vault or pit for valves, pressure relieving, pressure limiting, or pressure regulating stations, must be able to meet the loads which may be imposed upon it, and to protect installed equipment.

(b) There must be enough working space so that all of the equipment required in the vault or pit can be properly installed, operated, and maintained.

(c) Each pipe entering, or within, a regulator vault or pit must be steel for sizes 10 inch (254 millimeters), and less, except that control and gage piping may be copper. Where pipe extends through the vault or pit structure, provision must be made to prevent the passage of gases or liquids through the

opening and to avert strains in the pipe.

[35 FR 13257, Aug. 19, 1970, as amended by Amdt. 192-85, 63 FR 37503, July 13, 1998]

§ 192.185 Valves: Accessibility.

Each vault must be located in an accessible location and, so far as practical, away from:

- (a) Street intersections or points where traffic is heavy or dense;
- (b) Points of minimum elevation, catch basins, or places where the access cover will be in the course of surface waters; and
- (c) Water, electric, steam, or other facilities.

§ 192.187 Valves: Sealing, venting, and ventilation.

Each underground vault or closed top pit containing either a pressure regulating or reducing station, or a pressure limiting or relieving station, must be sealed, vented or ventilated as follows:

- (a) When the internal volume exceeds 200 cubic feet (5.7 cubic meters):
 - (1) The vault or pit must be vented with two ducts, each having at least the ventilating effect of a pipe 4 inches (102 millimeters) in diameter.
 - (2) The ventilation must be enough to minimize the formation of combustible atmosphere in the vault or pit; and
 - (3) The ducts must be high enough above grade to disperse any gas-air mixtures that might be discharged.
- (b) When the internal volume is more than 75 cubic feet (2.1 cubic meters) but less than 200 cubic feet (5.7 cubic meters):
 - (1) If the vault or pit is sealed, each opening must have a tight fitting cover without open holes through which an explosive mixture might be ignited, and there must be a means for testing the internal atmosphere before removing the cover;
 - (2) If the vault or pit is vented, there must be a means of preventing external sources of ignition from reaching the vault atmosphere; or
 - (3) If the vault or pit is ventilated, paragraph (a) or (c) of this section applies.
- (c) If a vault or pit covered by paragraph (b) of this section is ventilated by openings in the covers or gratings

and the ratio of the internal volume, in cubic feet, to the effective ventilating area of the cover or grating, in square feet, is less than 20 to 1, no additional ventilation is required.

[35 FR 13257, Aug. 19, 1970, as amended by Amdt. 192-85, 63 FR 37503, July 13, 1998]

§ 192.189 Valves: Drainage and water-proofing.

(a) Each vault must be designed so as to minimize the entrance of water.

(b) A vault containing gas piping may not be connected by means of a drain connection to any other underground structure.

(c) Electrical equipment in vaults must conform to the applicable requirements of Class I, Group D, of the National Electrical Code, ANSI/NFPA 70.

[35 FR 13257, Aug. 19, 1970, as amended by Amdt. 192-76, 61 FR 26122, May 24, 1996]

§ 192.191 Design pressure of plastic fittings.

(a) Thermosetting fittings for plastic pipe must conform to ASTM D 2517.

(b) Thermoplastic fittings for plastic pipe must conform to ASTM D 2513.

[35 FR 13257, Aug. 19, 1970, as amended by Amdt. 192-38, 53 FR 1633, Jan. 21, 1988]

§ 192.193 Valve installation in plastic pipe.

Each valve installed in plastic pipe must be designed so as to protect the plastic material against excessive torsional or shearing loads when the valve or shutoff is operated, and from any other secondary stresses that might be exerted through the valve or its enclosure.

§ 192.195 Protection against accidental overpressuring.

(a) *General requirements.* Except as is provided in § 192.197, each pipeline that is connected to a gas source so that the maximum allowable operating pressure could be exceeded as the result of pressure control failure or of some other type of failure, must have pressure relieving or pressure limiting devices that meet the requirements of §§ 192.199 and 192.201.

(b) *Additional requirements for distribution systems.* Each distribution system

that is supplied from a source of gas that is at a higher pressure than the maximum allowable operating pressure for the system must—

(1) Have pressure regulation devices capable of meeting the pressure, load, and other service conditions that will be experienced in normal operation of the system, and that could be activated in the event of failure of some portion of the system; and

(2) Be designed so as to prevent accidental overpressuring.

§ 192.197 Control of the pressure of gas delivered from high-pressure distribution systems.

(a) If the maximum actual operating pressure of the distribution system is under 60 p.s.i. (414 kPa) gage and a service regulator having the following characteristics is used, no other pressure limiting device is required:

(1) A regulator capable of reducing distribution line pressure to pressures recommended for household appliances.

(2) A single port valve with proper orifice for the maximum gas pressure at the regulator inlet.

(3) A valve seat made of resilient material designed to withstand abrasion of the gas, impurities in gas, cutting by the valve, and to resist permanent deformation when it is pressed against the valve port.

(4) Pipe connections to the regulator not exceeding 2 inches (51 millimeters) in diameter.

(5) A regulator that, under normal operating conditions, is able to regulate the downstream pressure within the necessary limits of accuracy and to limit the build-up of pressure under no-flow conditions to prevent a pressure that would cause the unsafe operation of any connected and properly adjusted gas utilization equipment.

(6) A self-contained service regulator with no external static or control lines.

(b) If the maximum actual operating pressure of the distribution system is 60 p.s.i. (414 kPa) gage, or less, and a service regulator that does not have all of the characteristics listed in paragraph (a) of this section is used, or if the gas contains materials that seriously interfere with the operation of

service regulators, there must be suitable protective devices to prevent unsafe overpressuring of the customer's appliances if the service regulator fails.

(c) If the maximum actual operating pressure of the distribution system exceeds 60 p.s.i. (414 kPa) gage, one of the following methods must be used to regulate and limit, to the maximum safe value, the pressure of gas delivered to the customer:

(1) A service regulator having the characteristics listed in paragraph (a) of this section, and another regulator located upstream from the service regulator. The upstream regulator may not be set to maintain a pressure higher than 60 p.s.i. (414 kPa) gage. A device must be installed between the upstream regulator and the service regulator to limit the pressure on the inlet of the service regulator to 60 p.s.i. (414 kPa) gage or less in case the upstream regulator fails to function properly. This device may be either a relief valve or an automatic shutoff that shuts, if the pressure on the inlet of the service regulator exceeds the set pressure (60 p.s.i. (414 kPa) gage or less), and remains closed until manually reset.

(2) A service regulator and a monitoring regulator set to limit, to a maximum safe value, the pressure of the gas delivered to the customer.

(3) A service regulator with a relief valve vented to the outside atmosphere, with the relief valve set to open so that the pressure of gas going to the customer does not exceed a maximum safe value. The relief valve may either be built into the service regulator or it may be a separate unit installed downstream from the service regulator. This combination may be used alone only in those cases where the inlet pressure on the service regulator does not exceed the manufacturer's safe working pressure rating of the service regulator, and may not be used where the inlet pressure on the service regulator exceeds 125 p.s.i. (862 kPa) gage. For higher inlet pressures, the methods in paragraph (c) (1) or (2) of this section must be used.

(4) A service regulator and an automatic shutoff device that closes upon a rise in pressure downstream from the

regulator and remains closed until manually reset.

[35 FR 13257, Aug. 19, 1970, as amended by Amdt. 192-1, 35 FR 17660, Nov. 7, 1970; Amdt. 192-45, 63 FR 37503, July 13, 1998]

§ 192.199 Requirements for design of pressure relief and limiting devices.

Except for rupture discs, each pressure relief or pressure limiting device must:

(a) Be constructed of materials such that the operation of the device will not be impaired by corrosion;

(b) Have valves and valve seats that are designed not to stick in a position that will make the device inoperative;

(c) Be designed and installed so that it can be readily operated to determine if the valve is free, can be tested to determine the pressure at which it will operate, and can be tested for leakage when in the closed position;

(d) Have support made of noncombustible material;

(e) Have discharge stacks, vents, or outlet ports designed to prevent accumulation of water, ice, or snow, located where gas can be discharged into the atmosphere without undue hazard;

(f) Be designed and installed so that the size of the openings, pipe, and fittings located between the system to be protected and the pressure relieving device, and the size of the vent line, are adequate to prevent hammering of the valve and to prevent impairment of relief capacity;

(g) Where installed at a district regulator station to protect a pipeline system from overpressuring, be designed and installed to prevent any single incident such as an explosion in a vault or damage by a vehicle from affecting the operation of both the overpressure protective device and the district regulator; and

(h) Except for a valve that will isolate the system under protection from its source of pressure, be designed to prevent unauthorized operation of any stop valve that will make the pressure relief valve or pressure limiting device inoperative.

[35 FR 13257, Aug. 19, 1970, as amended by Amdt. 192-1, 35 FR 17660, Nov. 17, 1970]

§ 192.201 Required capacity of pressure relieving and limiting stations.

(a) Each pressure relief station or pressure limiting station or group of those stations installed to protect a pipeline must have enough capacity, and must be set to operate, to insure the following:

(1) In a low pressure distribution system, the pressure may not cause the unsafe operation of any connected and properly adjusted gas utilization equipment.

(2) In pipelines other than a low pressure distribution system:

(i) If the maximum allowable operating pressure is 60 p.s.i. (414 kPa) gage or more, the pressure may not exceed the maximum allowable operating pressure plus 10 percent, or the pressure that produces a hoop stress of 75 percent of SMYS, whichever is lower;

(ii) If the maximum allowable operating pressure is 12 p.s.i. (83 kPa) gage or more, but less than 60 p.s.i. (414 kPa) gage, the pressure may not exceed the maximum allowable operating pressure plus 6 p.s.i. (41 kPa) gage; or

(iii) If the maximum allowable operating pressure is less than 12 p.s.i. (83 kPa) gage, the pressure may not exceed the maximum allowable operating pressure plus 50 percent.

(b) When more than one pressure regulating or compressor station feeds into a pipeline, relief valves or other protective devices must be installed at each station to ensure that the complete failure of the largest capacity regulator or compressor, or any single run of lesser capacity regulators or compressors in that station, will not impose pressures on any part of the pipeline or distribution system in excess of those for which it was designed, or against which it was protected, whichever is lower.

(c) Relief valves or other pressure limiting devices must be installed at or near each regulator station in a low pressure distribution system, with a capacity to limit the maximum pressure in the main to a pressure that will not exceed the safe operating pressure for any connected and properly adjusted gas utilization equipment.

[35 FR 13257, Aug. 19, 1970, as amended by Amdt. 192-9, 37 FR 20827, Oct. 4, 1972; Amdt. 192-85, 63 FR 37503, July 13, 1998]

§ 192.203 Instrument, control, and sampling pipe and components.

(a) *Applicability.* This section applies to the design of instrument, control, and sampling pipe and components. It does not apply to permanently closed systems, such as fluid-filled temperature-responsive devices.

(b) *Materials and design.* All materials employed for pipe and components must be designed to meet the particular conditions of service and the following:

(1) Each takeoff connection and attaching boss, fitting, or adapter must be made of suitable material, be able to withstand the maximum service pressure and temperature of the pipe or equipment to which it is attached, and be designed to satisfactorily withstand all stresses without failure by fatigue.

(2) Except for takeoff lines that can be isolated from sources of pressure by other valving, a shutoff valve must be installed in each takeoff line as near as practicable to the point of takeoff. Blowdown valves must be installed where necessary.

(3) Brass or copper material may not be used for metal temperatures greater than 400° F (204°C).

(4) Pipe or components that may contain liquids must be protected by heating or other means from damage due to freezing.

(5) Pipe or components in which liquids may accumulate must have drains or drips.

(6) Pipe or components subject to clogging from solids or deposits must have suitable connections for cleaning.

(7) The arrangement of pipe, components, and supports must provide safety under anticipated operating stresses.

(8) Each joint between sections of pipe, and between pipe and valves or fittings, must be made in a manner suitable for the anticipated pressure and temperature condition. Slip type expansion joints may not be used. Expansion joints may be allowed for by providing flexibility within the system itself.

(9) Each control line must be protected from anticipated causes of damage and must be designed and installed to prevent damage to any one control line from making both the regulator

and the over-pressure protective device inoperative.

[35 FR 13257, Aug. 19, 1970, as amended by Amdt. 192-78, 61 FR 28784, June 6, 1996; Amdt. 192-85, 63 FR 37503, July 13, 1998]

Subpart E—Welding of Steel in Pipelines

§ 192.221 Scope.

- (a) This subpart prescribes minimum requirements for welding steel materials in pipelines.
- (b) This subpart does not apply to welding that occurs during the manufacture of steel pipe or steel pipeline components.

§ 192.225 Welding—General.

(a) Welding must be performed by a qualified welder in accordance with welding procedures qualified to produce welds meeting the requirements of this subpart. The quality of the test welds used to qualify the procedure shall be determined by destructive testing.

(b) Each welding procedure must be recorded in detail, including the results of the qualifying tests. This record must be retained and followed whenever the procedure is used.

[Amdt. 192-52, 51 FR 20287, June 4, 1986]

§ 192.227 Qualification of welders.

(a) Except as provided in paragraph (b) of this section, each welder must be qualified in accordance with section 3 of API Standard 1104 or section IX of the ASME Boiler and Pressure Vessel Code. However, a welder qualified under an earlier edition than listed in appendix A may weld but may not re-qualify under that earlier edition.

(b) A welder may qualify to perform welding on pipe to be operated at a pressure that produces a hoop stress of less than 20 percent of SMYS by performing an acceptable test weld, for the process to be used, under the test set forth in section I of Appendix C of this part. Each welder who is to make a welded service line connection to a main must first perform an acceptable test weld under section II of Appendix

C of this part as a requirement of the qualifying test.

[35 FR 13257, Aug. 19, 1970, as amended by Amdt. 192-43, 47 FR 46651, Oct. 21, 1982; Amdt. 192-52, 51 FR 20287, June 4, 1986; Amdt. 192-78, 61 FR 28784, June 6, 1996]

§ 192.229 Limitations on welders.

(a) No welder whose qualification is based on nondestructive testing may weld compressor station pipe and components.

(b) No welder may weld with a particular welding process unless, within the preceding 6 calendar months, he has engaged in welding with that process.

(c) A welder qualified under § 192.227(a)—

- (1) May not weld on pipe to be operated at a pressure that produces a hoop stress of 20 percent or more of SMYS unless within the preceding 6 calendar months the welder has had one weld tested and found acceptable under section 3 or 6 of API Standard 1104, except that a welder qualified under an earlier edition previously listed in Appendix A of this part may weld but may not re-qualify under that earlier edition; and
- (2) May not weld on pipe to be operated at a pressure that produces a hoop stress of less than 20 percent of SMYS unless the welder is tested in accordance with paragraph (c)(1) of this section or requalifies under paragraph (d)(1) or (d)(2) of this section.

(d) A welder qualified under § 192.227(b) may not weld unless—

- (1) Within the preceding 15 calendar months, but at least once each calendar year, the welder has requalified under § 192.227(b); or
- (2) Within the preceding 7½ calendar months, but at least twice each calendar year, the welder has had—

- (i) A production weld cut out, tested, and found acceptable in accordance with the qualifying test; or
- (ii) For welders who work only on service lines 2 inches (51 millimeters) or smaller in diameter, two sample welds tested and found acceptable in accordance with the test in section III of Appendix C of this part.

[35 FR 13257, Aug. 19, 1970, as amended by Amdt. 192-37, 46 FR 10159, Feb. 2, 1981; Amdt. 192-78, 61 FR 28784, June 6, 1996; Amdt. 192-85, 63 FR 37503, July 13, 1998]

§ 192.231 Protection from weather.

The welding operation must be protected from weather conditions that would impair the quality of the completed weld.

§ 192.233 Miter joints.

(a) A miter joint on steel pipe to be operated at a pressure that produces a hoop stress of 30 percent or more of SMYS may not deflect the pipe more than 3°.

(b) A miter joint on steel pipe to be operated at a pressure that produces a hoop stress of less than 30 percent, but more than 10 percent, of SMYS may not deflect the pipe more than 12½° and must be a distance equal to one pipe diameter or more away from any other miter joint, as measured from the crotch of each joint.

(c) A miter joint on steel pipe to be operated at a pressure that produces a hoop stress of 10 percent or less of SMYS may not deflect the pipe more than 90°.

§ 192.235 Preparation for welding.

Before beginning any welding, the welding surfaces must be clean and free of any material that may be detrimental to the weld, and the pipe or component must be aligned to provide the most favorable condition for depositing the root bead. This alignment must be preserved while the root bead is being deposited.

§ 192.241 Inspection and test of welds.

(a) Visual inspection of welding must be conducted to insure that:

- (1) The welding is performed in accordance with the welding procedure; and
 - (2) The weld is acceptable under paragraph (c) of this section.
- (b) The welds on a pipeline to be operated at a pressure that produces a hoop stress of 20 percent or more of SMYS must be nondestructively tested in accordance with § 192.243, except that welds that are visually inspected and approved by a qualified welding inspector need not be nondestructively tested if:

- (1) The pipe has a nominal diameter of less than 6 inches (152 millimeters); or

(2) The pipeline is to be operated at a pressure that produces a hoop stress of less than 40 percent of SMYS and the welds are so limited in number that nondestructive testing is impractical.

(c) The acceptability of a weld that is nondestructively tested or visually inspected is determined according to the standards in section 6 of API Standard 1104. However, if a girth weld is unacceptable under those standards for a reason other than a crack, and if the Appendix to API Standard 1104 applies to the weld, the acceptability of the weld may be further determined under that Appendix.

[35 FR 13257, Aug. 19, 1970, as amended by Amdt. 192-37, 46 FR 10160, Feb. 2, 1981; Amdt. 192-78, 61 FR 28784, June 6, 1996; Amdt. 192-85, 63 FR 37503, July 13, 1998]

§ 192.243 Nondestructive testing.

(a) Nondestructive testing of welds must be performed by any process, other than trepanning, that will clearly indicate defects that may affect the integrity of the weld.

(b) Nondestructive testing of welds must be performed:

- (1) In accordance with written procedures; and
- (2) By persons who have been trained and qualified in the established procedures and with the equipment employed in testing.

(c) Procedures must be established for the proper interpretation of each nondestructive test of a weld to ensure the acceptability of the weld under § 192.241(c).

(d) When nondestructive testing is required under § 192.241(b), the following percentages of each day's field butt welds, selected at random by the operator, must be nondestructively tested over their entire circumference:

- (1) In Class 1 locations, except offshore, at least 10 percent.
- (2) In Class 2 locations, at least 15 percent.
- (3) In Class 3 and Class 4 locations, at crossings of major or navigable rivers, offshore, and within railroad or public highway rights-of-way, including tunnels, bridges, and overhead road crossings, 100 percent unless impracticable, in which case at least 90 percent. Nondestructive testing must be impracticable for each girth weld not tested.

(4) At pipeline tie-ins, including tie-ins of replacement sections, 100 percent.

(e) Except for a welder whose work is isolated from the principal welding activity, a sample of each welder's work for each day must be nondestructively tested, when nondestructive testing is required under § 192.241(b).

(f) When nondestructive testing is required under § 192.241(b), each operator must retain, for the life of the pipeline, a record showing by milepost, engineering station, or by geographic feature, the number of girth welds made, the number nondestructively tested, the number rejected, and the disposition of the rejects.

[35 FR 13257, Aug. 19, 1970, as amended by Amdt. 192-27, 41 FR 34606, Aug. 16, 1976; Amdt. 192-50, 50 FR 37192, Sept. 12, 1985; Amdt. 192-78, 61 FR 28784, June 6, 1996]

§ 192.245 Repair or removal of defects.

(a) Each weld that is unacceptable under § 192.241(c) must be removed or repaired. Except for welds on an offshore pipeline being installed from a pipeline vessel, a weld must be removed if it has a crack that is more than 8 percent of the weld length.

(b) Each weld that is repaired must have the defect removed down to sound metal and the segment to be repaired must be preheated if conditions exist which would adversely affect the quality of the weld repair. After repair, the segment of the weld that was repaired must be inspected to ensure its acceptability.

(c) Repair of a crack, or of any defect in a previously repaired area must be in accordance with written weld repair procedures that have been qualified under § 192.225. Repair procedures must provide that the minimum mechanical properties specified for the welding procedure used to make the original weld are met upon completion of the final weld repair.

[Amdt. 192-46, 49 FR 48674, Oct. 20, 1983]

Subpart F—Joining of Materials Other Than by Welding

§ 192.271 Scope.

(a) This subpart prescribes minimum requirements for joining materials in pipelines, other than by welding.

(b) This subpart does not apply to joining during the manufacture of pipe or pipeline components.

§ 192.273 General.

(a) The pipeline must be designed and installed so that each joint will sustain the longitudinal pullout or thrust forces caused by contraction or expansion of the piping or by anticipated external or internal loading.

(b) Each joint must be made in accordance with written procedures that have been proven by test or experience to produce strong gastight joints.

(c) Each joint must be inspected to insure compliance with this subpart.

§ 192.275 Cast iron pipe.

(a) Each caulked bell and spigot joint in cast iron pipe must be sealed with mechanical leak clamps.

(b) Each mechanical joint in cast iron pipe must have a gasket made of a resilient material as the sealing medium. Each gasket must be suitably confined and retained under compression by a separate gland or follower ring.

(c) Cast iron pipe may not be joined by threaded joints.

(d) Cast iron pipe may not be joined by brazing.

[35 FR 13257, Aug. 19, 1970, as amended by Amdt. 192-62, 54 FR 5628, Feb. 6, 1989]

§ 192.277 Ductile iron pipe.

(a) Ductile iron pipe may not be joined by threaded joints.

(b) Ductile iron pipe may not be joined by brazing.

[35 FR 13257, Aug. 19, 1970, as amended by Amdt. 192-62, 54 FR 5628, Feb. 6, 1989]

§ 192.279 Copper pipe.

Copper pipe may not be threaded except that copper pipe used for joining screw fittings or valves may be threaded if the wall thickness is equivalent to the comparable size of Schedule 40 or heavier wall pipe listed in Table C1 of ASME/ANSI B16.5.

[Amdt. 192-62, 54 FR 5628, Feb. 6, 1989, as amended at 58 FR 14521, Mar. 18, 1993]

§ 192.281 Plastic pipe.

(a) *General.* A plastic pipe joint that is joined by solvent cement, adhesive, or heat fusion may not be disturbed until it has properly set. Plastic pipe may not be joined by a threaded joint or miter joint.

(b) *Solvent cement joints.* Each solvent cement joint on plastic pipe must comply with the following:

(1) The mating surfaces of the joint must be clean, dry, and free of material which might be detrimental to the joint.

(2) The solvent cement must conform to ASTM Designation D 2513.

(3) The joint may not be heated to accelerate the setting of the cement.

(c) *Heat-fusion joints.* Each heat-fusion joint on plastic pipe must comply with the following:

(1) A butt heat-fusion joint must be joined by a device that holds the heater element square to the ends of the piping, compresses the heated ends together, and holds the pipe in proper alignment while the plastic hardens.

(2) A socket heat-fusion joint must be joined by a device that heats the mating surfaces of the joint uniformly and simultaneously to essentially the same temperature.

(3) An electrofusion joint must be joined utilizing the equipment and techniques of the fittings manufacturer or equipment and techniques shown, by testing joints to the requirements of § 192.283(a)(1)(iii), to be at least equivalent to those of the fittings manufacturer.

(4) Heat may not be applied with a torch or other open flame.

(d) *Adhesive joints.* Each adhesive joint on plastic pipe must comply with the following:

(1) The adhesive must conform to ASTM Designation D 2517.

(2) The materials and adhesive must be compatible with each other.

(e) *Mechanical joints.* Each compression type mechanical joint on plastic pipe must comply with the following:

(1) The gasket material in the coupling must be compatible with the plastic.

(2) A rigid internal tubular stiffener, other than a split tubular stiffener, must be used in conjunction with the coupling.

[35 FR 13257, Aug. 19, 1970, as amended by Amdt. 192-34, 44 FR 42973, July 23, 1979; Amdt. 192-58, 53 FR 1635, Jan. 21, 1988; Amdt. 192-61, 53 FR 36793, Sept. 22, 1988; 58 FR 14521, Mar. 18, 1993; Amdt. 192-78, 61 FR 28784, June 6, 1996]

§ 192.283 Plastic pipe: qualifying joining procedures.

(a) *Heat fusion, solvent cement, and adhesive joints.* Before any written procedure established under § 192.273(b) is used for making plastic pipe joints by a heat fusion, solvent cement, or adhesive method, the procedure must be qualified by subjecting specimen joints made according to the procedure to the following tests:

(1) The burst test requirements of—
(i) In the case of thermoplastic pipe, paragraph 6.6 (Sustained Pressure Test) or paragraph 6.7 (Minimum Hydrostatic Burst Pressure (Quick Burst)) of ASTM D 2513;

(ii) In the case of thermosetting plastic pipe, paragraph 8.5 (Minimum Hydrostatic Burst Pressure) or paragraph 8.9 (Sustained Static Pressure Test) of ASTM D2517; or

(iii) In the case of electrofusion fittings for polyethylene pipe and tubing, paragraph 9.1 (Minimum Hydraulic Burst Pressure Test), paragraph 9.2 (Sustained Pressure Test), paragraph 9.3 (Tensile Strength Test), or paragraph 9.4 (Joint Integrity Tests) of ASTM Designation F1055.

(2) For procedures intended for lateral pipe connections, subject a specimen joint made from pipe sections joined at right angles according to the procedure to a force on the lateral pipe until failure occurs in the specimen. If failure initiates outside the joint area, the procedure qualifies for use; and

(3) For procedures intended for non-lateral pipe connections, follow the

tensile test requirements of ASTM D638, except that the test may be conducted at ambient temperature and humidity. If the specimen elongates no less than 25 percent or failure initiates outside the joint area, the procedure qualifies for use.

(b) **Mechanical joints.** Before any written procedure established under §192.273(b) is used for making mechanical plastic pipe joints that are designed to withstand tensile forces, the procedure must be qualified by subjecting 5 specimen joints made according to the procedure to the following tensile test:

- (1) Use an apparatus for the test as specified in ASTM D 638 (except for conditioning).
- (2) The specimen must be of such length that the distance between the grips of the apparatus and the end of the stiffener does not affect the joint strength.
- (3) The speed of testing is 0.20 in (5.0 mm) per minute, plus or minus 25 percent.
- (4) Pipe specimens less than 4 inches (102 mm) in diameter are qualified if the pipe yields to an elongation of no less than 25 percent or failure initiates outside the joint area.
- (5) Pipe specimens 4 inches (102 mm) and larger in diameter shall be pulled until the pipe is subjected to a tensile stress equal to or greater than the maximum thermal stress that would be produced by a temperature change of 100°F (38°C) or until the pipe is pulled from the fitting. If the pipe pulls from the fitting, the lowest value of the five test results or the manufacturer's rating, whichever is lower must be used in the design calculations for stress.
- (6) Each specimen that fails at the grips must be retested using new pipe.
- (7) Results obtained pertain only to the specific outside diameter, and material of the pipe tested, except that testing of a heavier wall pipe may be used to qualify pipe of the same material but with a lesser wall thickness.
- (c) A copy of each written procedure being used for joining plastic pipe must be available to the persons making and inspecting joints.
- (d) Pipe or fittings manufactured before July 1, 1980, may be used in accordance with procedures that the

manufacturer certifies will produce a joint as strong as the pipe.

[Amdt. 192-34A, 45 FR 9935, Feb. 14, 1980, as amended by Amdt. 192-34B, 46 FR 39, Jan. 2, 1981; 47 FR 52720, July 29, 1982; 47 FR 49973, Nov. 4, 1982; 58 FR 14521, Mar. 18, 1993; Amdt. 192-78, 61 FR 28794, June 6, 1996; Amdt. 192-85, 63 FR 37503, July 13, 1998]

§192.285 Plastic pipe: qualifying persons to make joints.

(a) No person may make a plastic pipe joint unless that person has been qualified under the applicable joining procedure by:

- (1) Appropriate training or experience in the use of the procedure; and
- (2) Making a specimen joint from pipe sections joined according to the procedure that passes the inspection and test set forth in paragraph (b) of this section.

(b) The specimen joint must be:

- (i) Visually examined during and after assembly or joining and found to have the same appearance as a joint or photographs of a joint that is acceptable under the procedure; and
- (2) In the case of a heat fusion, solvent cement, or adhesive joint:
 - (i) Tested under any one of the test methods listed under §192.283(a) applicable to the type of joint and material being tested;
 - (ii) Examined by ultrasonic inspection and found not to contain flaws that would cause failure; or
 - (iii) Cut into at least 3 longitudinal strips, each of which is:
 - (A) Visually examined and found not to contain voids or discontinuities on the cut surfaces of the joint area; and
 - (B) Deformed by bending, torque, or impact, and if failure occurs, it must not initiate in the joint area.
 - (c) A person must be requalified under an applicable procedure, if during any 12-month period that person:
 - (1) Does not make any joints under that procedure; or
 - (2) Has 3 joints or 3 percent of the joints made, whichever is greater, under that procedure that are found unacceptable by testing under §192.513.
 - (d) Each operator shall establish a method to determine that each person making joints in plastic pipelines in

his system is qualified in accordance with this section.

[Amdt. 192-34A, 45 FR 9935, Feb. 14, 1980, as amended by Amdt. 192-34B, 46 FR 39, Jan. 2, 1981]

§ 192.287 Plastic pipe: inspection of joints.

No person may carry out the inspection of joints in plastic pipes required by §§192.273(c) and 192.285(b) unless that person has been qualified by appropriate training or experience in evaluating the acceptability of plastic pipe joints made under the applicable joining procedure.

[Amdt. 192-34, 44 FR 42974, July 23, 1979]

Subpart G—General Construction Requirements for Transmission Lines and Mains

§ 192.301 Scope.

This subpart prescribes minimum requirements for constructing transmission lines and mains.

§ 192.303 Compliance with specifications or standards.

Each transmission line or main must be constructed in accordance with comprehensive written specifications or standards that are consistent with this part.

§ 192.305 Inspection: General.

Each transmission line or main must be inspected to ensure that it is constructed in accordance with this part.

§ 192.307 Inspection of materials.

Each length of pipe and each other component must be visually inspected at the site of installation to ensure that it has not sustained any visually determinable damage that could impair its serviceability.

§ 192.309 Repair of steel pipe.

(a) Each imperfection or damage that impairs the serviceability of a length of steel pipe must be repaired or removed. If a repair is made by grinding, the remaining wall thickness must at least be equal to either:

- (1) The minimum thickness required by the tolerances in the specification to which the pipe was manufactured; or

(2) The nominal wall thickness required for the design pressure of the pipeline.

(b) Each of the following dents must be removed from steel pipe to be operated at a pressure that produces a hoop stress of 20 percent, or more, of SMYS, unless the dent is repaired by a method that reliable engineering tests and analyses show can permanently restore the serviceability of the pipe:

- (1) A dent that contains a stress concentrator such as a scratch, gouge, groove, or arc burn.
- (2) A dent that affects the longitudinal weld or a circumferential weld.
- (3) In pipe to be operated at a pressure that produces a hoop stress of 40 percent or more of SMYS, a dent that has a depth of:
 - (i) More than ¼ inch (6.4 millimeters) or in pipe 12½ inches (324 millimeters) or less in outer diameter; or
 - (ii) More than 2 percent of the nominal pipe diameter in pipe over 12½ inches (324 millimeters) in outer diameter.

For the purpose of this section a "dent" is a depression that produces a gross disturbance in the curvature of the pipe wall without reducing the pipe-wall thickness. The depth of a dent is measured as the gap between the lowest point of the dent and a prolongation of the original contour of the pipe.

(c) Each arc burn on steel pipe to be operated at a pressure that produces a hoop stress of 40 percent, or more, of SMYS must be repaired or removed. If a repair is made by grinding, the arc burn must be completely removed and the remaining wall thickness must be at least equal to either:

- (1) The minimum wall thickness required by the tolerances in the specification to which the pipe was manufactured; or
- (2) The nominal wall thickness required for the design pressure of the pipeline.
- (d) A gouge, groove, arc burn, or dent may not be repaired by insert patching or by pounding out.
- (e) Each gouge, groove, arc burn, or dent that is removed from a length of

pipe must be removed by cutting out the damaged portion as a cylinder.

[35 FR 13257, Aug. 19, 1970, as amended by Amdt. 192-1, 35 FR 17660, Nov. 17, 1970; Amdt. 192-85, 63 FR 37503, July 13, 1998; Amdt. 192-88, 64 FR 68664, Dec. 14, 1999]

§ 192.311 Repair of plastic pipe.

Each imperfection or damage that would impair the serviceability of plastic pipe must be repaired by a patching saddle or removed.

§ 192.313 Bends and elbows.

(a) Each field bend in steel pipe, other than a wrinkle bend made in accordance with § 192.315, must comply with the following:

(1) A bend must not impair the serviceability of the pipe.

(2) Each bend must have a smooth contour and be free from buckling, cracks, or any other mechanical damage.

(3) On pipe containing a longitudinal weld, the longitudinal weld must be as near as practicable to the neutral axis of the bend unless:

(i) The bend is made with an internal bending mandrel, or

(ii) The pipe is 12 inches (305 millimeters) or less in outside diameter or has a diameter to wall thickness ratio less than 70.

(b) Each circumferential weld of steel pipe which is located where the stress during bending causes a permanent deformation in the pipe must be non-destructively tested either before or after the bending process.

(c) Wrought-steel welding elbows and transverse segments of these elbows may not be used for changes in direction on steel pipe that is 2 inches (51 millimeters) or more in diameter unless the arc length, as measured along the crotch, is at least 1 inch (25 millimeters).

[Amdt. No. 192-26, 41 FR 26018, June 24, 1976, as amended by Amdt. 192-29, 42 FR 42866, Aug. 25, 1977; Amdt. 192-29, 42 FR 60148, Nov. 25, 1977; Amdt. 192-49, 50 FR 13225, Apr. 3, 1985; Amdt. 192-85, 63 FR 37503, July 13, 1998]

§ 192.315 Wrinkle bends in steel pipe.

(a) A wrinkle bend may not be made on steel pipe to be operated at a pressure that produces a hoop stress of 30 percent, or more, of SMYS.

(b) Each wrinkle bend on steel pipe must comply with the following:

(1) The bend must not have any sharp kinks.

(2) When measured along the crotch of the bend, the wrinkles must be a distance of at least one pipe diameter.

(3) On pipe 16 inches (406 millimeters) or larger in diameter, the bend may not have a deflection of more than 1½ for each wrinkle.

(4) On pipe containing a longitudinal weld the longitudinal seam must be as near as practicable to the neutral axis of the bend.

[35 FR 13257, Aug. 19, 1970, as amended by Amdt. 192-85, 63 FR 37503, July 13, 1998]

§ 192.317 Protection from hazards.

(a) The operator must take all practicable steps to protect each transmission line or main from washouts, floods, unstable soil, landslides, or other hazards that may cause the pipe-line to move or to sustain abnormal loads. In addition, the operator must take all practicable steps to protect offshore pipelines from damage by mud slides, water currents, hurricanes, ship anchors, and fishing operations.

(b) Each aboveground transmission line or main, not located offshore or in inland navigable water areas, must be protected from accidental damage by vehicular traffic or other similar causes, either by being placed at a safe distance from the traffic or by installing barricades.

(c) Pipelines, including pipe risers, on each platform located offshore or in inland navigable waters must be protected from accidental damage by vessels.

[Amdt. 192-27, 41 FR 34606, Aug. 16, 1976, as amended by Amdt. 192-78, 61 FR 28784, June 6, 1996]

§ 192.319 Installation of pipe in a ditch.

(a) When installed in a ditch, each transmission line that is to be operated at a pressure producing a hoop stress of 20 percent or more of SMYS must be installed so that the pipe fits the ditch so as to minimize stresses and protect the pipe coating from damage.

(b) When a ditch for a transmission line or main is backfilled, it must be backfilled in a manner that:

(g) Uncased plastic pipe may be temporarily installed above ground level under the following conditions:

(1) The operator must be able to demonstrate that the cumulative above-ground exposure of the pipe does not exceed the manufacturer's recommended maximum period of exposure or 2 years, whichever is less.

(2) The pipe either is located where damage by external forces is unlikely or is otherwise protected against such damage.

(3) The pipe adequately resists exposure to ultraviolet light and high and low temperatures.

[35 FR 13257, Aug. 19, 1970, as amended by Amdt. 192-78, 61 FR 28784, June 6, 1996; Amdt. 192-85, 63 FR 37503, July 13, 1998]

§ 192.323 Casing.

Each casing used on a transmission line or main under a railroad or highway must comply with the following:

(a) The casing must be designed to withstand the superimposed loads.

(b) If there is a possibility of water entering the casing, the ends must be sealed.

(c) If the ends of an unvented casing are sealed and the sealing is strong enough to retain the maximum allowable operating pressure of the pipe, the casing must be designed to hold this pressure at a stress level of not more than 72 percent of SMYS.

(d) If vents are installed on a casing, the vents must be protected from the weather to prevent water from entering the casing.

§ 192.325 Underground clearance.

(a) Each transmission line must be installed with at least 12 inches (305 millimeters) of clearance from any other underground structure not associated with the transmission line. If this clearance cannot be attained, the transmission line must be protected from damage that might result from the proximity of the other structure.

(b) Each main must be installed with enough clearance from any other underground structure to allow proper maintenance and to protect against damage that might result from proximity to other structures.

(c) In addition to meeting the requirements of paragraph (a) or (b) of

(1) Provides firm support under the pipe; and

(2) Prevents damage to the pipe and pipe coating from equipment or from the backfill material.

(c) All offshore pipe in water at least 12 feet (3.7 meters) deep but not more than 200 feet (61 meters) deep, as measured from the mean low tide, except pipe in the Gulf of Mexico and its inlets under 15 feet (4.6 meters) of water, must be installed so that the top of the pipe is below the natural bottom unless the pipe is supported by stanchions, held in place by anchors or heavy concrete coating, or protected by an equivalent means. Pipe in the Gulf of Mexico and its inlets under 15 feet (4.6 meters) of water must be installed so that the top of the pipe is 36 inches (914 millimeters) below the seabed for normal excavation or 18 inches (457 millimeters) for rock excavation.

[35 FR 13257, Aug. 19, 1970, as amended by Amdt. 192-27, 41 FR 34606, Aug. 16, 1976; Amdt. 192-78, 61 FR 28784, June 6, 1996; Amdt. 192-85, 63 FR 37503, July 13, 1998]

§ 192.321 Installation of plastic pipe.

(a) Plastic pipe must be installed below ground level unless otherwise permitted by paragraph (g) of this section.

(b) Plastic pipe that is installed in a vault or any other below grade enclosure must be completely encased in gas-tight metal pipe and fittings that are adequately protected from corrosion.

(c) Plastic pipe must be installed so as to minimize shear or tensile stresses.

(d) Thermoplastic pipe that is not encased must have a minimum wall thickness of 0.090 inch (2.29 millimeters), except that pipe with an outside diameter of 0.875 inch (22.3 millimeters) or less may have a minimum wall thickness of 0.062 inch (1.58 millimeters).

(e) Plastic pipe that is not encased must have an electrically conductive wire or other means of locating the pipe while it is underground.

(f) Plastic pipe that is being encased must be inserted into the casing pipe in a manner that will protect the plastic. The leading end of the plastic must be closed before insertion.

this section, each plastic transmission line or main must be installed with sufficient clearance, or must be insulated, from any source of heat so as to prevent the heat from impairing the serviceability of the pipe.

(d) Each pipe-type or bottle-type holder must be installed with a minimum clearance from any other holder as prescribed in § 192.175(b).

[35 FR 13257, Aug. 19, 1970, as amended by Amdt. 192-85, 63 FR 37503, July 13, 1998]

§ 192.327 Cover.

(a) Except as provided in paragraphs (c), (e), (f), and (g) of this section, each buried transmission line must be installed with a minimum cover as follows:

Location	Normal soil	Consolidated rock
Inches (Millimeters)		
Class 1 locations	30 (762)	18 (457)
Class 2, 3, and 4 locations	36 (914)	24 (610)
Drainage ditches of public roads and railroad crossings	36 (914)	24 (610)

(b) Except as provided in paragraphs (c) and (d) of this section, each buried main must be installed with at least 24 inches (610 millimeters) of cover.

(c) Where an underground structure prevents the installation of a transmission line or main with the minimum cover, the transmission line or main may be installed with less cover if it is provided with additional protection to withstand anticipated external loads.

(d) A main may be installed with less than 24 inches (610 millimeters) of cover if the law of the State or municipality:

- (1) Establishes a minimum cover of less than 24 inches (610 millimeters);
- (2) Requires that mains be installed in a common trench with other utility lines; and
- (3) Provides adequately for prevention of damage to the pipe by external forces.

(e) Except as provided in paragraph (c) of this section, all pipe installed in a navigable river, stream, or harbor must be installed with a minimum cover of 48 inches (1219 millimeters) in soil or 24 inches (610 millimeters) in consolidated rock between the top of the pipe and the natural bottom.

§ 192.359 Customer meter installations: Operating pressure.

(a) A meter may not be used at a pressure that is more than 87 percent of the manufacturer's shell test pressure.

(b) Each newly installed meter manufactured after November 12, 1970, must have been tested to a minimum of 10 p.s.i. (69 kPa) gage.

(c) A rebuilt or repaired tinned steel case meter may not be used at a pressure that is more than 50 percent of the pressure used to test the meter after rebuilding or repairing.

[35 FR 13257, Aug. 19, 1970, as amended by Amdt. 192-1, 35 FR 17680, Nov. 17, 1970; Amdt. 192-85, 63 FR 37503, July 13, 1998]

§ 192.361 Service lines: Installation.

(a) *Depth.* Each buried service line must be installed with at least 12 inches (305 millimeters) of cover in private property and at least 18 inches (457 millimeters) of cover in streets and roads. However, where an underground structure prevents installation at those depths, the service line must be able to withstand any anticipated external load.

(b) *Support and backfill.* Each service line must be properly supported on undisturbed or well-compacted soil, and material used for backfill must be free of materials that could damage the pipe or its coating.

(c) *Grading for drainage.* Where condensate in the gas might cause interruption in the gas supply to the customer, the service line must be graded so as to drain into the main or into drips at the low points in the service line.

(d) *Protection against piping strain and external loading.* Each service line must be installed so as to minimize anticipated piping strain and external loading.

(e) *Installation of service lines into buildings.* Each underground service line installed below grade through the outer foundation wall of a building must:

- (1) In the case of a metal service line, be protected against corrosion;
- (2) In the case of a plastic service line, be protected from shearing action and backfill settlement; and

millimeters) from any source of ignition or any source of heat which might damage the meter.

(d) Where feasible, the upstream regulator in a series must be located outside the building, unless it is located in a separate metering or regulating building.

[35 FR 13257, Aug. 19, 1970, as amended by Amdt. 192-85, 63 FR 37503, July 13, 1998]

§ 192.355 Customer meters and regulators: Protection from damage.

(a) *Protection from vacuum or back pressure.* If the customer's equipment might create either a vacuum or a back pressure, a device must be installed to protect the system.

(b) *Service regulator vents and relief vents.* Service regulator vents and relief vents must terminate outdoors, and the outdoor terminal must—

- (1) Be rain and insect resistant;
- (2) Be located at a place where gas from the vent can escape freely into the atmosphere and away from any opening into the building; and
- (3) Be protected from damage caused by submergence in areas where flooding may occur.

(c) *Pits and vaults.* Each pit or vault that houses a customer meter or regulator at a place where vehicular traffic is anticipated, must be able to support that traffic.

[35 FR 13257, Aug. 19, 1970, as amended by Amdt. 192-58, 53 FR 1635, Jan. 21, 1988]

§ 192.357 Customer meters and regulators: Installation.

(a) Each meter and each regulator must be installed so as to minimize anticipated stresses upon the connecting piping and the meter.

(b) When close all-thread nipples are used, the wall thickness remaining after the threads are cut must meet the minimum wall thickness requirements of this part.

(c) Connections made of lead or other easily damaged material may not be used in the installation of meters or regulators.

(d) Each regulator that might release gas in its operation must be vented to the outside atmosphere.

Subpart H—Customer Meters, Service Regulators, and Service Lines

§ 192.351 Scope.

This subpart prescribes minimum requirements for installing customer meters, service regulators, service lines, service line valves, and service line connections to mains.

§ 192.353 Customer meters and regulators: Location.

(a) Each meter and service regulator, whether inside or outside of a building, must be installed in a readily accessible location and be protected from corrosion and other damage. However, the upstream regulator in a series may be buried.

(b) Each service regulator installed within a building must be located as near as practical to the point of service line entrance.

(c) Each meter installed within a building must be located in a ventilated place and not less than 3 feet (914

(3) Be sealed at the foundation wall to prevent leakage into the building.
 (f) *Installation of service lines under buildings.* Where an underground service line is installed under a building:

(1) It must be encased in a gas tight conduit;

(2) The conduit and the service line must, if the service line supplies the building it underlies, extend into a normally usable and accessible part of the building; and

(3) The space between the conduit and the service line must be sealed to prevent gas leakage into the building and, if the conduit is sealed at both ends, a vent line from the annular space must extend to a point where gas would not be a hazard, and extend above grade, terminating in a rain and insect resistant fitting.

[35 FR 13257, Aug. 19, 1970, as amended by Amdt. 192-75, 61 FR 18517, Apr. 26, 1996; Amdt. 192-85, 63 FR 37503, July 13, 1998]

\$ 192.363 Service lines: Valve requirements.

(a) Each service line must have a service-line valve that meets the applicable requirements of subparts B and D of this part. A valve incorporated in a meter bar, that allows the meter to be bypassed, may not be used as a service-line valve.

(b) A soft seat service line valve may not be used if its ability to control the flow of gas could be adversely affected by exposure to anticipated heat.

(c) Each service-line valve on a high-pressure service line, installed above ground or in an area where the blowing of gas would be hazardous, must be designed and constructed to minimize the possibility of the removal of the core of the valve with other than specialized tools.

\$ 192.365 Service lines: Location of valves.

(a) *Relation to regulator or meter.* Each service-line valve must be installed upstream of the regulator or, if there is no regulator, upstream of the meter.

(b) *Outside valves.* Each service line must have a shut-off valve in a readily accessible location that, if feasible, is outside of the building.

(c) *Underground valves.* Each underground service-line valve must be lo-

(b) If cast iron pipe or ductile iron pipe is installed for use as a service line, the part of the service line which extends through the building wall must be of steel pipe.

(c) A cast iron or ductile iron service line may not be installed in unstable soil or under a building.

[35 FR 13257, Aug. 19, 1970, as amended by Amdt. 192-85, 63 FR 37503, July 13, 1998]

\$ 192.375 Service lines: Plastic.

(a) Each plastic service line outside a building must be installed below ground level, except that—

(1) It may be installed in accordance with § 192.321(g), and

(2) It may terminate above ground level and outside the building, if—

(i) The above ground level part of the plastic service line is protected against deterioration and external damage; and

(ii) The plastic service line is not used to support external loads.

(b) Each plastic service line inside a building must be protected against external damage.

[35 FR 13257, Aug. 19, 1970, as amended by Amdt. 192-78, 61 FR 28785, June 6, 1996]

\$ 192.377 Service lines: Copper.

Each copper service line installed within a building must be protected against external damage.

\$ 192.379 New service lines not in use.

Each service line that is not placed in service upon completion of installation must comply with one of the following until the customer is supplied with gas:

(a) The valve that is closed to prevent the flow of gas to the customer must be provided with a locking device or other means designed to prevent the opening of the valve by persons other than those authorized by the operator.

(b) A mechanical device or fitting that will prevent the flow of gas must be installed in the service line or in the meter assembly.

(c) The customer's piping must be physically disconnected from the gas supply and the open pipe ends sealed.

[Amdt. 192-8, 37 FR 20694, Oct. 3, 1972]

\$ 192.381 Service lines: Excess flow valve performance standards.

(a) Excess flow valves to be used on single residence service lines that operate continuously throughout the year at a pressure not less than 10 p.s.i. (69 kPa) gage must be manufactured and tested by the manufacturer according to an industry specification, or the manufacturer's written specification, to ensure that each valve will:

(1) Function properly up to the maximum operating pressure at which the valve is rated;

(2) Function properly at all temperatures reasonably expected in the operating environment of the service line;

(3) At 10 p.s.i. (69 kPa) gage:

(i) Close at, or not more than 50 percent above, the rated closure flow rate specified by the manufacturer; and

(ii) Upon closure, reduce gas flow—

(A) For an excess flow valve designed to allow pressure to equalize across the valve, to no more than 5 percent of the manufacturer's specified closure flow rate, up to a maximum of 20 cubic feet per hour (0.57 cubic meters per hour); or

(B) For an excess flow valve designed to prevent equalization of pressure across the valve, to no more than 0.4 cubic feet per hour (0.1 cubic meters per hour); and

(4) Not close when the pressure is less than the manufacturer's minimum specified operating pressure and the flow rate is below the manufacturer's minimum specified closure flow rate.

(b) An excess flow valve must meet the applicable requirements of Subparts B and D of this part.

(c) An operator must mark or otherwise identify the presence of an excess flow valve in the service line.

(d) An operator shall locate an excess flow valve as near as practical to the fitting connecting the service line to its source of gas supply.

(e) An operator should not install an excess flow valve on a service line where the operator has prior experience with contaminants in the gas stream, where these contaminants could be expected to cause the excess flow valve to malfunction or where the excess flow valve would interfere with necessary operation and maintenance

activities on the service, such as blowing liquids from the line.

[Amdt. 192-79, 61 FR 31459, June 20, 1996, as amended by Amdt. 192-80, 62 FR 2619, Jan. 17, 1997; Amdt. 192-85, 63 FR 37594, July 13, 1998]

§ 192.383 Excess flow valve customer notification.

(a) *Definitions.* As used in this section:

Costs associated with installation means the costs directly connected with installing an excess flow valve, for example, costs of parts, labor, inventory and procurement. It does not include maintenance and replacement costs until such costs are incurred.

Replaced service line means a natural gas service line where the fitting that connects the service line to the main is replaced or the piping connected to this fitting is replaced.

Service line customer means the person who pays the gas bill, or where service has not yet been established, the person requesting service.

(b) *Which customers must receive notification.* Notification is required on each newly installed service line or replaced service line that operates continuously throughout the year at a pressure not less than 68.9 kPa (10 psig) and that serves a single residence. On these lines an operator of a natural gas distribution system must notify the service line customer once in writing.

(c) *What to put in the written notice.*

- (1) An explanation for the customer that an excess flow valve meeting the performance standards prescribed under § 192.381 is available for the operator to install if the customer bears the costs associated with installation;
- (2) An explanation for the customer of the potential safety benefits that may be derived from installing an excess flow valve. The explanation must include that an excess flow valve is designed to shut off flow of natural gas automatically if the service line breaks;
- (3) A description of installation, maintenance, and replacement costs. The notice must explain that if the customer requests the operator to install an EFV, the customer bears all costs associated with installation, and what those costs are. The notice must alert the customer that the costs for

maintaining and replacing an EFV may later be incurred, and what those costs will be, to the extent known.

(d) *When notification and installation must be made.* (1) After February 3, 1989 an operator must notify each service line customer set forth in paragraph (b) of this section:

(i) On new service lines when the customer applies for service.

(ii) On replaced service lines when the operator determines the service line will be replaced.

(2) If a service line customer requests installation an operator must install the EFV at a mutually agreeable date.

(e) *What records are required.* (1) An operator must make the following records available for inspection by the Administrator or a State agency participating under 49 U.S.C. 60105 or 60106:

(i) A copy of the notice currently in use; and

(ii) Evidence that notice has been sent to the service line customers set forth in paragraph (b) of this section, within the previous three years.

(2) [Reserved]

(f) *When notification is not required.* The notification requirements do not apply if the operator can demonstrate—

(1) That the operator will voluntarily install an excess flow valve or that the state or local jurisdiction requires installation;

(2) That excess flow valves meeting the performance standards in § 192.381 are not available to the operator;

(3) That the operator has prior experience with contaminants in the gas stream that could interfere with the operation of an excess flow valve, cause loss of service to a residence, or interfere with necessary operation or maintenance activities, such as blowing liquids from the line.

(4) That an emergency or short time notice replacement situation made it impractical for the operator to notify a service line customer before replacing a service line. Examples of these situations would be where an operator has to replace a service line quickly because of—

(i) Third party excavation damage;

(ii) Grade 1 leaks as defined in the Appendix G-192-11 of the Gas Piping

Technology Committee guide for gas transmission and distribution systems; (iii) A short notice service line relocation request.

[Amdt. 192-82, 63 FR 5471, Feb. 3, 1998; Amdt. 192-83, 63 FR 20135, Apr. 23, 1998]

Subpart I—Requirements for Corrosion Control

SOURCE: Amdt. 192-4, 36 FR 12302, June 30, 1971, unless otherwise noted.

§ 192.451 Scope.

(a) This subpart prescribes minimum requirements for the protection of metallic pipelines from external, internal, and atmospheric corrosion.

(b) [Reserved]

[Amdt. 192-4, 36 FR 12302, June 30, 1971, as amended by Amdt. 192-27, 41 FR 34906, Aug. 16, 1976; Amdt. 192-33, 43 FR 39389, Sept. 5, 1978]

§ 192.452 Applicability to converted pipelines.

Notwithstanding the date the pipeline was installed or any earlier deadlines for compliance, each pipeline which qualifies for use under this part in accordance with § 192.14 must meet the requirements of this subpart specifically applicable to pipelines installed before August 1, 1971, and all other applicable requirements within 1 year after the pipeline is readied for service. However, the requirements of this subpart specifically applicable to pipelines installed after July 31, 1971, apply if the pipeline substantially meets those requirements before it is readied for service or it is a segment which is replaced, relocated, or substantially altered.

[Amdt. 192-30, 42 FR 60148, Nov. 25, 1977]

§ 192.453 General.

The corrosion control procedures required by § 192.605(b)(2), including those for the design, installation, operation, and maintenance of cathodic protection systems, must be carried out by, or under the direction of, a person qualified in pipeline corrosion control methods.

[Amdt. 192-71, 59 FR 6584, Feb. 11, 1994]

§ 192.455 External corrosion control: Buried or submerged pipelines installed after July 31, 1971.

(a) Except as provided in paragraphs (b), (c), and (f) of this section, each buried or submerged pipeline installed after July 31, 1971, must be protected against external corrosion, including the following:

(1) It must have an external protective coating meeting the requirements of § 192.461.

(2) It must have a cathodic protection system designed to protect the pipeline in accordance with this subpart, installed and placed in operation within 1 year after completion of construction.

(b) An operator need not comply with paragraph (a) of this section, if the operator can demonstrate by tests, investigation, or experience in the area of application, including, as a minimum, soil resistivity measurements and tests for corrosion accelerating bacteria, that a corrosive environment does not exist. However, within 6 months after an installation made pursuant to the preceding sentence, the operator shall conduct tests, including pipe-to-soil potential measurements with respect to either a continuous reference electrode or an electrode using close spacing, not to exceed 20 feet (6 meters), and soil resistivity measurements at potential profile peak locations, to adequately evaluate the potential profile along the entire pipeline. If the tests made indicate that a corrosive condition exists, the pipeline must be cathodically protected in accordance with paragraph (a)(2) of this section.

(c) An operator need not comply with paragraph (a) of this section, if the operator can demonstrate by tests, investigation, or experience that—

(1) For a copper pipeline, a corrosive environment does not exist; or

(2) For a temporary pipeline with an operating period of service not to exceed 5 years beyond installation, corrosion during the 5-year period of service of the pipeline will not be detrimental to public safety.

(d) Notwithstanding the provisions of paragraph (b) or (c) of this section, if a pipeline is externally coated, it must

be cathodically protected in accordance with paragraph (a)(2) of this section.

(e) Aluminum may not be installed in a buried or submerged pipeline if that aluminum is exposed to an environment with a natural pH in excess of 8, unless tests or experience indicate its suitability in the particular environment involved.

(f) This section does not apply to electrically isolated, metal alloy fittings in plastic pipelines, if:

(1) For the size fitting to be used, an operator can show by test, investigation, or experience in the area of application that adequate corrosion control is provided by the alloy composition; and

(2) The fitting is designed to prevent leakage caused by localized corrosion pitting.

[Amdt. 192-4, 36 FR 12302, June 30, 1971, as amended by Amdt. 192-28, 42 FR 35654, July 11, 1977; Amdt. 192-38, 47 FR 9844, Mar. 8, 1982; Amdt. 192-78, 61 FR 28785, June 6, 1996; Amdt. 192-85, 63 FR 87504, July 13, 1998]

§ 192.457 External corrosion control: Buried or submerged pipelines installed before August 1, 1971.

(a) Except for buried piping at compressor, regulator, and measuring stations, each buried or submerged transmission line installed before August 1, 1971, that has an effective external coating must be cathodically protected along the entire area that is effectively coated, in accordance with this subpart. For the purposes of this subpart, a pipeline does not have an effective external coating if its cathodic protection current requirements are substantially the same as if it were bare. The operator shall make tests to determine the cathodic protection current requirements.

(b) Except for cast iron or ductile iron, each of the following buried or submerged pipelines installed before August 1, 1971, must be cathodically protected in accordance with this subpart in areas in which active corrosion is found:

(1) Bare or ineffectively coated transmission lines.

(2) Bare or coated pipes at compressor, regulator, and measuring stations.

(3) Bare or coated distribution lines. The operator shall determine the areas of active corrosion by electrical survey, or where electrical survey is impractical, by the study of corrosion and leak history records, by leak detection survey, or by other means.

(c) For the purpose of this subpart, active corrosion means continuing corrosion which, unless controlled, could result in a condition that is detrimental to public safety.

[Amdt. 192-4, 36 FR 12302, June 30, 1971, as amended by Amdt. 192-33, 43 FR 39390, Sept. 5, 1978]

§ 192.459 External corrosion control: Examination of buried pipeline when exposed.

Whenever an operator has knowledge that any portion of a buried pipeline is exposed, the exposed portion must be examined for evidence of external corrosion if the pipe is bare, or if the coating is deteriorated. If external corrosion requiring remedial action under §§ 192.483 through 192.489 is found, the operator shall investigate circumferentially and longitudinally beyond the exposed portion (by visual examination, indirect method, or both) to determine whether additional corrosion requiring remedial action exists in the vicinity of the exposed portion.

[Amdt. 192-87, 64 FR 56981, Oct. 22, 1999]

§ 192.461 External corrosion control: Protective coating.

(a) Each external protective coating, whether conductive or insulating, applied for the purpose of external corrosion control must—

(1) Be applied on a properly prepared surface;

(2) Have sufficient adhesion to the metal surface to effectively resist underfilm migration of moisture;

(3) Be sufficiently ductile to resist cracking;

(4) Have sufficient strength to resist damage due to handling and soil stress; and

(5) Have properties compatible with any supplemental cathodic protection.

(b) Each external protective coating which is an electrically insulating type must also have low moisture absorption and high electrical resistance.

(c) Each external protective coating must be inspected just prior to lowering the pipe into the ditch and backfilling, and any damage detrimental to effective corrosion control must be repaired.

(d) Each external protective coating must be protected from damage resulting from adverse ditch conditions or damage from supporting blocks.

(e) If coated pipe is installed by boring, driving, or other similar method, precautions must be taken to minimize damage to the coating during installation.

§ 192.463 External corrosion control: Cathodic protection.

(a) Each cathodic protection system required by this subpart must provide a level of cathodic protection that complies with one or more of the applicable criteria contained in appendix D of this part. If none of these criteria is applicable, the cathodic protection system must provide a level of cathodic protection at least equal to that provided by compliance with one or more of these criteria.

(b) If amphoteric metals are included in a buried or submerged pipeline containing a metal of different anodic potential—

(1) The amphoteric metals must be electrically isolated from the remainder of the pipeline and cathodically protected; or

(2) The entire buried or submerged pipeline must be cathodically protected at a cathodic potential that meets the requirements of appendix D of this part for amphoteric metals.

(c) The amount of cathodic protection must be controlled so as not to damage the protective coating or the pipe.

§ 192.465 External corrosion control: Monitoring.

(a) Each pipeline that is under cathodic protection must be tested at least once each calendar year, but with intervals not exceeding 15 months, to determine whether the cathodic protection meets the requirements of § 192.463. However, if tests at those intervals are impractical for separately protected short sections of mains or transmission lines, not in excess of 100

feet (30 meters), or separately protected service lines, these pipelines may be surveyed on a sampling basis. At least 10 percent of these protected structures, distributed over the entire system must be surveyed each calendar year, with a different 10 percent checked each subsequent year, so that the entire system is tested in each 10-year period.

(b) Each cathodic protection rectifier or other impressed current power source must be inspected six times each calendar year, but with intervals not exceeding 2½ months, to insure that it is operating.

(c) Each reverse current switch, each diode, and each interference bond whose failure would jeopardize structure protection must be electrically checked for proper performance six times each calendar year, but with intervals not exceeding 2½ months. Each other interference bond must be checked at least once each calendar year, but with intervals not exceeding 15 months.

(d) Each operator shall take prompt remedial action to correct any deficiencies indicated by the monitoring.

(e) After the initial evaluation required by paragraphs (b) and (c) of § 192.465 and paragraph (b) of § 192.467, each operator shall, at intervals not exceeding 3 years, reevaluate its unprotected pipelines and cathodically protect them in accordance with this subpart in areas in which active corrosion is found. The operator shall determine the areas of active corrosion by electrical survey, or where electrical survey is impractical, by the study of corrosion and leak history records, by leak detection survey, or by other means.

[Amdt. 192-4, 36 FR 12302, June 30, 1971, as amended by Amdt. 192-33, 43 FR 39390, Sept. 5, 1978; Amdt. 192-35A, 45 FR 23441, Apr. 7, 1980; Amdt. 192-85, 63 FR 37504, July 13, 1998]

§ 192.467 External corrosion control: Electrical isolation.

(a) Each buried or submerged pipeline must be electrically isolated from other underground metallic structures, unless the pipeline and the other structures are electrically interconnected and cathodically protected as a single unit.

(b) One or more insulating devices must be installed where electrical isolation of a portion of a pipeline is necessary to facilitate the application of corrosion control.

(c) Except for unprotected copper in-ferred in ferrous pipe, each pipeline must be electrically isolated from metallic casings that are a part of the underground system. However, if isolation is not achieved because it is impractical, other measures must be taken to minimize corrosion of the pipeline inside the casing.

(d) Inspection and electrical tests must be made to assure that electrical isolation is adequate.

(e) An insulating device may not be installed in an area where a combustible atmosphere is anticipated unless precautions are taken to prevent arcing.

(f) Where a pipeline is located in close proximity to electrical transmission tower footings, ground cables or counterpoise, or in other areas where fault currents or unusual risk of lightning may be anticipated, it must be provided with protection against damage due to fault currents or lightning, and protective measures must also be taken at insulating devices.

[Amdt. 192-4, 36 FR 12302, June 30, 1971, as amended by Amdt. 192-33, 43 FR 39390, Sept. 5, 1978]

§ 192.469 External corrosion control: Test stations.

Each pipeline under cathodic protection required by this subpart must have sufficient test stations or other contact points for electrical measurement to determine the adequacy of cathodic protection.

[Amdt. 192-27, 41 FR 34606, Aug. 16, 1976]

§ 192.471 External corrosion control: Test leads.

(a) Each test lead wire must be connected to the pipeline so as to remain mechanically secure and electrically conductive.

(b) Each test lead wire must be attached to the pipeline so as to minimize stress concentration on the pipe.

(c) Each bared test lead wire and bared metallic area at point of connection to the pipeline must be coated with an electrical insulating material

compatible with the pipe coating and the insulation on the wire.

§ 192.473 External corrosion control: Interference currents.

(a) Each operator whose pipeline system is subjected to stray currents shall have in effect a continuing program to minimize the detrimental effects of such currents.

(b) Each impressed current type cathodic protection system or galvanic anode system must be designed and installed so as to minimize any adverse effects on existing adjacent underground metallic structures.

[Amdt. 192-4, 36 FR 12302, June 30, 1971, as amended by Amdt. 192-33, 43 FR 39390, Sept. 5, 1978]

§ 192.475 Internal corrosion control: General.

(a) Corrosive gas may not be transported by pipeline, unless the corrosive effect of the gas on the pipeline has been investigated and steps have been taken to minimize internal corrosion.

(b) Whenever any pipe is removed from a pipeline for any reason, the internal surface must be inspected for evidence of corrosion. If internal corrosion is found—

(1) The adjacent pipe must be investigated to determine the extent of internal corrosion;

(2) Replacement must be made to the extent required by the applicable paragraphs of §§ 192.485, 192.487, or 192.489; and

(3) Steps must be taken to minimize the internal corrosion.

(c) Gas containing more than 0.25 grain of hydrogen sulfide per 100 cubic feet (5.8 milligrams/m³) at standard conditions (4 parts per million) may not be stored in pipe-type or bottle-type holders.

[Amdt. 192-4, 36 FR 12302, June 30, 1971, as amended by Amdt. 192-33, 43 FR 39390, Sept. 5, 1978; Amdt. 192-78, 61 FR 28785, June 6, 1996; Amdt. 192-85, 63 FR 37604, July 13, 1998]

§ 192.477 Internal corrosion control: Monitoring.

If corrosive gas is being transported, coupons or other suitable means must be used to determine the effectiveness of the steps taken to minimize internal corrosion. Each coupon or other means

of monitoring internal corrosion must be checked two times each calendar year, but with intervals not exceeding 7½ months.

[Amdt. 192-33, 43 FR 39390, Sept. 5, 1978]

§ 192.479 Atmospheric corrosion control: General.

(a) Pipelines installed after July 31, 1971. Each aboveground pipeline or portion of a pipeline installed after July 31, 1971 that is exposed to the atmosphere must be cleaned and either coated or jacketed with a material suitable for the prevention of atmospheric corrosion. An operator need not comply with this paragraph, if the operator can demonstrate by test, investigation, or experience in the area of application, that a corrosive atmosphere does not exist.

(b) Pipelines installed before August 1, 1971. Each operator having an aboveground pipeline or portion of a pipeline installed before August 1, 1971 that is exposed to the atmosphere, shall—

(1) Determine the areas of atmospheric corrosion on the pipeline;

(2) If atmospheric corrosion is found, take remedial measures to the extent required by the applicable paragraphs of §§ 192.485, 192.487, or 192.489; and

(3) Clean and either coat or jacket the areas of atmospheric corrosion on the pipeline with a material suitable for the prevention of atmospheric corrosion.

[Amdt. 192-4, 36 FR 12302, June 30, 1971, as amended by Amdt. 192-33, 43 FR 39390, Sept. 5, 1978]

§ 192.481 Atmospheric corrosion control: Monitoring.

After meeting the requirements of § 192.479 (a) and (b), each operator shall, at intervals not exceeding 3 years for onshore pipelines and at least once each calendar year, but with intervals not exceeding 15 months, for offshore pipelines, reevaluate each pipeline that is exposed to the atmosphere and take remedial action whenever necessary to maintain protection against atmospheric corrosion.

[Amdt. 192-33, 43 FR 39390, Sept. 5, 1978]

§ 192.483 Remedial measures: General. (a) Each segment of metallic pipe that replaces pipe removed from a buried or submerged pipeline because of external corrosion must have a properly prepared surface and must be provided with an external protective coating that meets the requirements of § 192.461.

(b) Each segment of metallic pipe that replaces pipe removed from a buried or submerged pipeline because of external corrosion must be cathodically protected in accordance with this subpart.

(c) Except for cast iron or ductile iron pipe, each segment of buried or submerged pipe that is required to be repaired because of external corrosion must be cathodically protected in accordance with this subpart.

§ 192.485 Remedial measures: Transmission lines.

(a) General corrosion. Each segment of transmission line with general corrosion and with a remaining wall thickness less than that required for the MAOP of the pipeline must be replaced or the operating pressure reduced commensurate with the strength of the pipe based on actual remaining wall thickness. However, corroded pipe may be repaired by a method that reliable engineering tests and analyses show can permanently restore the serviceability of the pipe. Corrosion pitting so closely grouped as to affect the overall strength of the pipe is considered general corrosion for the purpose of this paragraph.

(b) Localized corrosion pitting. Each segment of transmission line pipe with localized corrosion pitting to a degree where leakage might result must be replaced or repaired, or the operating pressure must be reduced commensurate with the strength of the pipe, based on the actual remaining wall thickness in the pits.

(c) Under paragraphs (a) and (b) of this section, the strength of pipe based on actual remaining wall thickness may be determined by the procedure in ASME/ANSI B31G or the procedure in AGA Pipeline Research Committee Project PR 3-805 (with RSTRENG disk). Both procedures apply to corroded regions that do not penetrate the

pipe wall, subject to the limitations prescribed in the procedures.

(Amdt. 192-4, 36 FR 12302, June 30, 1971, as amended by Amdt. 192-33, 43 FR 88390, Sept. 5, 1978; Amdt. 192-78, 61 FR 28785, June 6, 1996; Amdt. 192-88, 64 FR 68664, Dec. 14, 1999)

§ 192.487 Remedial measures: Distribution lines other than cast iron or ductile iron lines.

(a) *General corrosion.* Except for cast iron or ductile iron pipe, each segment of generally corroded distribution line pipe with a remaining wall thickness less than that required for the MAOP of the pipeline, or a remaining wall thickness less than 30 percent of the nominal wall thickness, must be replaced. However, corroded pipe may be repaired by a method that reliable engineering tests and analyses show can permanently restore the serviceability of the pipe. Corrosion pitting so closely grouped as to affect the overall strength of the pipe is considered general corrosion for the purpose of this paragraph.

(b) *Localized corrosion pitting.* Except for cast iron or ductile iron pipe, each segment of distribution line pipe with localized corrosion pitting to a degree where leakage might result must be replaced or repaired.

(Amdt. 192-4, 36 FR 12302, June 30, 1971, as amended by Amdt. 192-88, 64 FR 68665, Dec. 14, 1999)

§ 192.489 Remedial measures: Cast iron and ductile iron pipelines.

(a) *General graphitization.* Each segment of cast iron or ductile iron pipe on which general graphitization is found to a degree where a fracture or any leakage might result, must be replaced.

(b) *Localized graphitization.* Each segment of cast iron or ductile iron pipe on which localized graphitization is found to a degree where any leakage might result, must be replaced or repaired, or sealed by internal sealing methods adequate to prevent or arrest any leakage.

§ 192.491 Corrosion control records.

(a) Each operator shall maintain records or maps to show the location of cathodically protected piping, cathodic protection facilities, galvanic anodes, and neighboring structures bonded to

the cathodic protection system. Records or maps showing a stated number of anodes, installed in a stated manner or spacing, need not show specific distances to each buried anode.

(b) Each record or map required by paragraph (a) of this section must be retained for as long as the pipeline remains in service.

(c) Each operator shall maintain a record of each test, survey, or inspection required by this subpart in sufficient detail to demonstrate the adequacy of corrosion control measures or that a corrosive condition does not exist. These records must be retained for at least 5 years, except that records related to §§192.465 (a) and (e) and 192.475(b) must be retained for as long as the pipeline remains in service.

(Amdt. 192-78, 61 FR 28785, June 6, 1996)

Subpart J—Test Requirements

§ 192.501 Scope.

This subpart prescribes minimum leak-test and strength-test requirements for pipelines.

§ 192.503 General requirements.

(a) No person may operate a new segment of pipeline, or return to service a segment of pipeline that has been relocated or replaced, until—

(1) It has been tested in accordance with this subpart and § 192.619 to substantiate the maximum allowable operating pressure; and

(2) Each potentially hazardous leak has been located and eliminated.

(b) The test medium must be liquid, air, natural gas, or inert gas that is—

(1) Compatible with the material of which the pipeline is constructed;

(2) Relatively free of sedimentary materials; and

(3) Except for natural gas, nonflammable.

(c) Except as provided in § 192.505(a), if air, natural gas, or inert gas is used as the test medium, the following maximum hoop stress limitations apply:

Class location	Maximum hoop stress allowed as percentage of SMYS	
	Natural gas	Air or inert gas
1	80	80
2	50	75
3	30	50

Class location	Maximum hoop stress allowed as percentage of SMYS	
	Natural gas	Air or inert gas
4	30	40

(d) Each joint used to tie in a test segment of pipeline is excepted from the specific test requirements of this subpart, but each non-welded joint must be leak tested at not less than its operating pressure.

(§ 5 FR 13257, Aug. 19, 1970, as amended by Amdt. 192-58, 53 FR 1635, Jan. 21, 1988; Amdt. 192-60, 53 FR 36023, Sept. 16, 1988; Amdt. 192-60A, 54 FR 5485, Feb. 3, 1989)

§ 192.505 Strength test requirements for steel pipeline to operate at a hoop stress of 30 percent or more of SMYS.

(a) Except for service lines, each segment of a steel pipeline that is to operate at a hoop stress of 30 percent or more of SMYS must be strength tested in accordance with this section to substantiate the proposed maximum allowable operating pressure. In addition, in a Class 1 or Class 2 location, if there is a building intended for human occupancy within 300 feet (91 meters) of a pipeline, a hydrostatic test must be conducted to a test pressure of at least 125 percent of maximum operating pressure on that segment of the pipeline within 300 feet (91 meters) of such a building, but in no event may the test section be less than 600 feet (183 meters) unless the length of the newly installed or relocated pipe is less than 600 feet (183 meters). However, if the buildings are evacuated while the hoop stress exceeds 50 percent of SMYS, air or inert gas may be used as the test medium.

(b) In a Class 1 or Class 2 location, each compressor station regulator station, and measuring station, must be tested to at least Class 3 location test requirements.

(c) Except as provided in paragraph (e) of this section, the strength test must be conducted by maintaining the pressure at or above the test pressure for at least 8 hours.

(d) If a component other than pipe is the only item being replaced or added to a pipeline, a strength test after installation is not required, if the manu-

factor of the component certifies that—

(1) The component was tested to at least the pressure required for the pipeline to which it is being added; or

(2) The component was manufactured under a quality control system that ensures that each item manufactured is at least equal in strength to a prototype and that the prototype was tested to at least the pressure required for the pipeline to which it is being added.

(e) For fabricated units and short sections of pipe, for which a post installation test is impractical, a pre-installation strength test must be conducted by maintaining the pressure at or above the test pressure for at least 4 hours.

(§ 5 FR 13257, Aug. 19, 1970, as amended by Amdt. 192-85, 63 FR 37504, July 13, 1998)

§ 192.507 Test requirements for pipelines to operate at a hoop stress less than 30 percent of SMYS and at or above 100 p.s.i. (689 kPa) gage.

Except for service lines and plastic pipelines, each segment of a pipeline that is to be operated at a hoop stress less than 30 percent of SMYS and at or above 100 p.s.i. (689 kPa) gage must be tested in accordance with the following:

(a) The pipeline operator must use a test procedure that will ensure discovery of all potentially hazardous leaks in the segment being tested.

(b) If, during the test, the segment is to be stressed to 20 percent or more of SMYS and natural gas, inert gas, or air is the test medium—

(1) A leak test must be made at a pressure between 100 p.s.i. (689 kPa) gage and the pressure required to produce a hoop stress of 20 percent of SMYS; or

(2) The line must be walked to check for leaks while the hoop stress is held at approximately 20 percent of SMYS.

(c) The pressure must be maintained at or above the test pressure for at least 1 hour.

(§ 5 FR 13257, Aug. 19, 1970, as amended by Amdt. 192-58, 53 FR 1635, Jan. 21, 1988; Amdt. 192-85, 63 FR 37504, July 13, 1998)

§ 192.509 Test requirements for pipelines to operate below 100 p.s.i. (689 kPa) gage.

Except for service lines and plastic pipelines, each segment of a pipeline that is to be operated below 100 p.s.i. (689 kPa) gage must be leak tested in accordance with the following:

(a) The test procedure used must ensure discovery of all potentially hazardous leaks in the segment being tested.

(b) Each main that is to be operated at less than 1 p.s.i. (6.9 kPa) gage must be tested to at least 10 p.s.i. (69 kPa) gage and each main to be operated at or above 1 p.s.i. (6.9 kPa) gage must be tested to at least 90 p.s.i. (621 kPa) gage.

[35 FR 13257, Aug. 19, 1970, as amended by Amdt. 192-58, 53 FR 1635, Jan. 21, 1988; Amdt. 192-85, 63 FR 37504, July 13, 1998]

§ 192.511 Test requirements for service lines.

(a) Each segment of a service line (other than plastic) must be leak tested in accordance with this section before being placed in service. If feasible, the service line connection to the main must be included in the test; if not feasible, it must be given a leakage test at the operating pressure when placed in service.

(b) Each segment of a service line (other than plastic) intended to be operated at a pressure of at least 1 p.s.i. (6.9 kPa) gage but not more than 40 p.s.i. (276 kPa) gage must be given a leak test at a pressure of not less than 50 p.s.i. (345 kPa) gage.

(c) Each segment of a service line (other than plastic) intended to be operated at pressures of more than 40 p.s.i. (276 kPa) gage must be tested to at least 90 p.s.i. (621 kPa) gage, except that each segment of a steel service line stressed to 20 percent or more of SMYS must be tested in accordance with § 192.507 of this subpart.

[35 FR 13257, Aug. 19, 1970, as amended by Amdt. 192-74, 61 FR 18517, Apr. 26, 1996; Amdt. 192-85, 63 FR 37504, July 13, 1998]

§ 192.513 Test requirements for plastic pipelines.

(a) Each segment of a plastic pipeline must be tested in accordance with this section.

(b) The test procedure must insure discovery of all potentially hazardous leaks in the segment being tested.

(c) The test pressure must be at least 150 percent of the maximum operating pressure or 50 p.s.i. (345 kPa) gage, whichever is greater. However, the maximum test pressure may not be more than three times the pressure determined under § 192.121, at a temperature not less than the pipe temperature during the test.

(d) During the test, the temperature of thermoplastic material may not be more than 100°F (38°C), or the temperature at which the material's long-term hydrostatic strength has been determined under the listed specification, whichever is greater.

[35 FR 13257, Aug. 19, 1970, as amended by Amdt. 192-77, 61 FR 27793, June 3, 1996; 61 FR 45905, Aug. 30, 1996; Amdt. 192-85, 63 FR 37504, July 13, 1998]

§ 192.515 Environmental protection and safety requirements.

(a) In conducting tests under this subpart, each operator shall insure that every reasonable precaution is taken to protect its employees and the general public during the testing. Whenever the hoop stress of the segment of the pipeline being tested will exceed 50 percent of SMYS, the operator shall take all practicable steps to keep persons not working on the testing operation outside of the testing area until the pressure is reduced to or below the proposed maximum allowable operating pressure.

(b) The operator shall insure that the test medium is disposed of in a manner that will minimize damage to the environment.

§ 192.517 Records.

Each operator shall make, and retain for the useful life of the pipeline, a record of each test performed under §§ 192.505 and 192.507. The record must contain at least the following information:

- The operator's name, the name of the operator's employee responsible for making the test, and the name of any test company used.
- Test medium used.
- Test pressure.
- Test duration.

(e) Pressure recording charts, or other record of pressure readings.

(f) Elevation variations, whenever significant for the particular test.

(g) Leaks and failures noted and their disposition.

Subpart K—Uprating

§ 192.551 Scope.

This subpart prescribes minimum requirements for increasing maximum allowable operating pressures (uprating) for pipelines.

§ 192.553 General requirements.

(a) Pressure increases. Whenever the requirements of this subpart require that an increase in operating pressure be made in increments, the pressure must be increased gradually, at a rate that can be controlled, and in accordance with the following:

(1) At the end of each incremental increase, the pressure must be held constant while the entire segment of pipeline that is affected is checked for leaks.

(2) Each leak detected must be repaired before a further pressure increase is made, except that a leak determined not to be potentially hazardous need not be repaired, if it is monitored during the pressure increase and it does not become potentially hazardous.

(b) Records. Each operator who uprates a segment of pipeline shall retain for the life of the segment a record of each investigation required by this subpart, of all work performed, and of each pressure test conducted, in connection with the uprating.

(c) Written plan. Each operator who uprates a segment of pipeline shall establish a written procedure that will ensure that each applicable requirement of this subpart is complied with.

(d) Limitation on increase in maximum allowable operating pressure. Except as provided in § 192.555(c), a new maximum allowable operating pressure established under this subpart may not exceed the maximum that would be allowed under this part for a new segment of pipeline constructed of the same materials in the same location. However, when uprating a steel pipeline, if any variable necessary to deter-

mine the design pressure under the design formula (§ 192.105) is unknown, the MAOP may be increased as provided in § 192.619(a)(1).

[35 FR 13257, Aug. 10, 1970, as amended by Amdt. 192-78, 61 FR 28785, June 6, 1996]

§ 192.555 Uprating to a pressure that will produce a hoop stress of 30 percent or more of SMYS in steel pipelines.

(a) Unless the requirements of this section have been met, no person may subject any segment of a steel pipeline to an operating pressure that will produce a hoop stress of 30 percent or more of SMYS and that is above the established maximum allowable operating pressure.

(b) Before increasing operating pressure above the previously established maximum allowable operating pressure the operator shall:

(1) Review the design, operating, and maintenance history and previous testing of the segment of pipeline and determine whether the proposed increase is safe and consistent with the requirements of this part; and

(2) Make any repairs, replacements, or alterations in the segment of pipeline that are necessary for safe operation at the increased pressure.

(c) After complying with paragraph (b) of this section, an operator may increase the maximum allowable operating pressure of a segment of pipeline constructed before September 12, 1970, to the highest pressure that is permitted under § 192.619, using as test pressure the highest pressure to which the segment of pipeline was previously subjected (either in a strength test or in actual operation).

(d) After complying with paragraph (b) of this section, an operator that does not qualify under paragraph (c) of this section may increase the previously established maximum allowable operating pressure if at least one of the following requirements is met:

(1) The segment of pipeline is successfully tested in accordance with the requirements of this part for a new line of the same material in the same location.

(2) An increased maximum allowable operating pressure may be established for a segment of pipeline in a Class 1

location if the line has not previously been tested, and if:

- (1) It is impractical to test it in accordance with the requirements of this part;
- (ii) The new maximum operating pressure does not exceed 80 percent of that allowed for a new line of the same design in the same location; and
- (iii) The operator determines that the new maximum allowable operating pressure is consistent with the condition of the segment of pipeline and the design requirements of this part.

(e) Where a segment of pipeline is uprated in accordance with paragraph (c) or (d)(2) of this section, the increase in pressure must be made in increments that are equal to:

- (1) 10 percent of the pressure before the uprating; or
 - (2) 25 percent of the total pressure increase,
- whichever produces the fewer number of increments.

§ 192.557 Uprating: Steel pipelines to a pressure that will produce a hoop stress less than 30 percent of SMYS: plastic, cast iron, and ductile iron pipelines.

(a) Unless the requirements of this section have been met, no person may subject:

- (1) A segment of steel pipeline to an operating pressure that will produce a hoop stress less than 30 percent of SMYS and that is above the previously established maximum allowable operating pressure; or
- (2) A plastic, cast iron, or ductile iron pipeline segment to an operating pressure that is above the previously established maximum allowable operating pressure.

(b) Before increasing operating pressure above the previously established maximum allowable operating pressure the operator shall:

- (1) Review the design, operating, and maintenance history of the segment of pipeline;
- (2) Make a leakage survey (if it has been more than 1 year since the last survey) and repair any leaks that are found, except that a leak determined not to be potentially hazardous need not be repaired, if it is monitored dur-

ing the pressure increase and it does not become potentially hazardous;

(3) Make any repairs, replacements, or alterations in the segment of pipeline that are necessary for safe operation at the increased pressure;

(4) Reinforce or anchor offsets, bends and dead ends in pipe joined by compression couplings or bell and spigot joints to prevent failure of the pipe joint, if the offset, bend, or dead end is exposed in an excavation;

(5) Isolate the segment of pipeline in which the pressure is to be increased from any adjacent segment that will continue to be operated at a lower pressure; and

(6) If the pressure in mains or service lines, or both, is to be higher than the pressure delivered to the customer, install a service regulator on each service line and test each regulator to determine that it is functioning. Pressure may be increased as necessary to test each regulator, after a regulator has been installed on each pipeline subject to the increased pressure.

(c) After complying with paragraph (b) of this section, the increase in maximum allowable operating pressure must be made in increments that are equal to 10 p.s.i. (69 kPa) gage or 25 percent of the total pressure increase, whichever produces the fewer number of increments. Whenever the requirements of paragraph (b)(6) of this section apply, there must be at least two approximately equal incremental increases.

(d) If records for cast iron or ductile iron pipeline facilities are not complete enough to determine stresses produced by internal pressure, trench loading, rolling loads, beam stresses, and other bending loads, in evaluating the level of safety of the pipeline when operating at the proposed increased pressure, the following procedures must be followed:

(1) In estimating the stresses, if the original laying conditions cannot be ascertained, the operator shall assume that cast iron pipe was supported on blocks with tamped backfill and that ductile iron pipe was laid without blocks with tamped backfill.

(2) Unless the actual maximum cover depth is known, the operator shall measure the actual cover in at least

three places where the cover is most likely to be greatest and shall use the greatest cover measured.

(3) Unless the actual nominal wall thickness is known, the operator shall determine the wall thickness by cutting and measuring coupons from at

Pipe size inches (millimeters)	Allowance inches (millimeters)			Ductile iron pipe
	Cast iron pipe		Centrifugally cast pipe	
	Pit cast pipe	0.075 (1.91)		
3 to 8 (76 to 203)	0.065 (1.65)	0.065 (1.65)	0.07 (1.78)	0.065 (1.65)
10 to 12 (254 to 305)	0.08 (2.03)	0.07 (1.78)	0.08 (2.03)	0.075 (1.91)
14 to 24 (356 to 610)	0.08 (2.03)	0.08 (2.03)	0.08 (2.03)	0.075 (1.91)
30 to 42 (762 to 1067)	0.09 (2.29)	0.09 (2.29)	0.09 (2.29)	0.08 (2.03)
48 (1219)	0.09 (2.29)	0.09 (2.29)	0.09 (2.29)	0.08 (2.03)
54 to 60 (1372 to 1524)	0.09 (2.29)	0.09 (2.29)	0.09 (2.29)	0.08 (2.03)

(4) For cast iron pipe, unless the pipe manufacturing process is known, the operator shall assume that the pipe is pit cast pipe with a bursting tensile strength of 11,000 p.s.i. (76 MPa) gage and a modulus of rupture of 31,000 p.s.i. (214 MPa) gage.

(35 FR 13257, Aug. 19, 1970, as amended by Amdt. 192-37, 46 FR 10160, Feb. 2, 1981; Amdt. 192-52, 54 FR 5628, Feb. 6, 1989; Amdt. 195-45, 63 FR 37504, July 13, 1998)

Subpart L—Operations

§ 192.601 Scope.

This subpart prescribes minimum requirements for the operation of pipeline facilities.

§ 192.603 General provisions.

(a) No person may operate a segment of pipeline unless it is operated in accordance with this subpart.

(b) Each operator shall keep records necessary to administer the procedures established under § 192.605.

(c) The Administrator or the State Agency that has submitted a current certification under the pipeline safety laws, (49 U.S.C. 60101 et seq.) with respect to the pipeline facility governed by an operator's plans and procedures may, after notice and opportunity for hearing as provided in 49 CFR 190.237 or the relevant State procedures, require the operator to amend its plans and

procedures as necessary to provide a reasonable level of safety.

(35 FR 13257, Aug. 19, 1970, as amended by Amdt. 192-66, 56 FR 31090, July 9, 1991; Amdt. 192-71, 59 FR 6584, Feb. 11, 1994; Amdt. 192-75, 61 FR 18517, Apr. 26, 1996)

§ 192.605 Procedural manual for operations, maintenance, and emergencies.

(a) General. Each operator shall prepare and follow for each pipeline, a manual of written procedures for conducting operations and maintenance activities and for emergency response. For transmission lines, the manual must also include procedures for handling abnormal operations. This manual must be reviewed and updated by the operator at intervals not exceeding 15 months, but at least once each calendar year. This manual must be prepared before operations of a pipeline system commence. Appropriate parts of the manual must be kept at locations where operations and maintenance activities are conducted.

(b) Maintenance and normal operations. The manual required by paragraph (a) of this section must include procedures for the following, if applicable, to provide safety during maintenance and operations:

- (1) Operating, maintaining, and repairing the pipeline in accordance with each of the requirements of this subpart and subpart M of this part.

(2) Controlling corrosion in accordance with the operations and maintenance requirements of subpart I of this part.

(3) Making construction records, maps, and operating history available to appropriate operating personnel.

(4) Gathering of data needed for reporting incidents under Part 191 of this chapter in a timely and effective manner.

(5) Starting up and shutting down any part of the pipeline in a manner designed to assure operation within the MAOP limits prescribed by this part, plus the build-up allowed for operation of pressure-limiting and control devices.

(6) Maintaining compressor stations, including provisions for isolating units or sections of pipe and for purging before returning to service.

(7) Starting, operating and shutting down gas compressor units.

(8) Periodically reviewing the work done by operator personnel to determine the effectiveness, and adequacy of the procedures used in normal operation and maintenance and modifying the procedures when deficiencies are found.

(9) Taking adequate precautions in excavated trenches to protect personnel from the hazards of unsafe accumulations of vapor or gas, and making available when needed at the excavation, emergency rescue equipment, including a breathing apparatus and, a rescue harness and line.

(10) Systematic and routine testing and inspection of pipe-type or bottle-type holders including—

(i) Provision for detecting external corrosion before the strength of the container has been impaired;

(ii) Periodic sampling and testing of gas in storage to determine the dew point of vapors contained in the stored gas which, if condensed, might cause internal corrosion or interfere with the safe operation of the storage plant; and

(iii) Periodic inspection and testing of pressure limiting equipment to determine that it is in safe operating condition and has adequate capacity.

(c) **Abnormal operation.** For transmission lines, the manual required by paragraph (a) of this section must include procedures for the following to

provide safety when operating design limits have been exceeded:

- (1) Responding to, investigating, and correcting the cause of:
 - (i) Unintended closure of valves or shutdowns;
 - (ii) Increase or decrease in pressure or flow rate outside normal operating limits;
 - (iii) Loss of communications;
 - (iv) Operation of any safety device; and
 - (v) Any other foreseeable malfunction of a component, deviation from normal operation, or personnel error, which may result in a hazard to persons or property.
- (2) Checking variations from normal operation after abnormal operation has ended at sufficient critical locations in the system to determine continued integrity and safe operation.
- (3) Notifying responsible operator personnel when notice of an abnormal operation is received.
- (4) Periodically reviewing the response of operator personnel to determine the effectiveness of the procedures controlling abnormal operation and taking corrective action where deficiencies are found.
- (5) The requirements of this paragraph (c) do not apply to natural gas distribution operators that are operating transmission lines in connection with their distribution system.
- (d) **Safety-related condition reports.** The manual required by paragraph (a) of this section must include instructions enabling personnel who perform operation and maintenance activities to recognize conditions that potentially may be safety-related conditions that are subject to the reporting requirements of § 191.23 of this subchapter.
- (e) **Surveillance, emergency response, and accident investigation.** The procedures required by §§ 192.613(a), 192.615, and 192.617 must be included in the manual required by paragraph (a) of this section.

[Amdt. 192-71, 59 FR 6584, Feb. 11, 1994, as amended by Amdt. 192-71A, 60 FR 14381, Mar. 17, 1995]

Class 3 locations, or 0.555 times the test pressure in Class 4 locations. The corresponding hoop stress may not exceed 72 percent of the SMYS of the pipe in Class 2 locations, 60 percent of SMYS in Class 3 locations, or 50 percent of SMYS in Class 4 locations.

(2) The maximum allowable operating pressure of the segment involved must be reduced so that the corresponding hoop stress is not more than that allowed by this part for new segments of pipelines in the existing class location.

(3) The segment involved must be tested in accordance with the applicable requirements of subpart J of this part, and its maximum allowable operating pressure must then be established according to the following criteria:

- (i) The maximum allowable operating pressure after the requalification test is 0.8 times the test pressure for Class 2 locations, 0.667 times the test pressure for Class 3 locations, and 0.555 times the test pressure for Class 4 locations.
- (ii) The corresponding hoop stress may not exceed 72 percent of the SMYS of the pipe in Class 2 locations, 60 percent of SMYS in Class 3 locations, or 50 percent of SMYS in Class 4 locations.
- (b) The maximum allowable operating pressure confirmed or revised in accordance with this section, may not exceed the maximum allowable operating pressure established before the confirmation or revision.
- (c) Confirmation or revision of the maximum allowable operating pressure of a segment of pipeline in accordance with this section does not preclude the application of §§ 192.553 and 192.556.
- (d) Confirmation or revision of the maximum allowable operating pressure that is required as a result of a study under § 192.609 must be completed within 18 months of the change in class location. Pressure reduction under paragraph (a) (1) or (2) of this section with- must be confirmed or revised according to one of the following requirements:
 - (1) If the segment involved has been previously tested in place for a period of not less than 8 hours, the maximum allowable operating pressure is 0.8 times the test pressure in Class 2 locations, 0.667 times the test pressure in

[Amdt. 192-63A, 54 FR 24174, June 6, 1989 as amended by Amdt. 192-78, 61 FR 28785, June 6, 1996]

§ 192.607 [Reserved]

§ 192.609 **Change in class location: Re-qualification study.**

Whenever an increase in population density indicates a change in class location for a segment of an existing steel pipeline operating at hoop stress that is more than 40 percent of SMYS, or indicates that the hoop stress corresponding to the established maximum allowable operating pressure for a segment of existing pipeline is not commensurate with the present class location, the operator shall immediately make a study to determine:

- (a) The present class location for the segment involved.
- (b) The design, construction, and testing procedures followed in the original construction, and a comparison of these procedures with those required for the present class location by the applicable provisions of this part.
- (c) The physical condition of the segment to the extent it can be ascertained from available records;
- (d) The operating and maintenance history of the segment;
- (e) The maximum actual operating pressure and the corresponding operating hoop stress, taking pressure gradient into account, for the segment of pipeline involved; and
- (f) The actual area affected by the population density increase, and physical barriers or other factors which may limit further expansion of the more densely populated area.

§ 192.611 **Change in class location: Confirmation or revision of maximum allowable operating pressure.**

- (a) If the hoop stress corresponding to the established maximum allowable operating pressure of a segment of pipeline is not commensurate with the present class location, and the segment is in satisfactory physical condition, the maximum allowable operating pressure of that segment of pipeline must be confirmed or revised according to one of the following requirements:
 - (1) If the segment involved has been previously tested in place for a period of not less than 8 hours, the maximum allowable operating pressure is 0.8 times the test pressure in Class 2 loca-

tions, 0.667 times the test pressure in

§ 192.612 Underwater inspection and re-burial of pipelines in the Gulf of Mexico and its inlets.

(a) Each operator shall, in accordance with this section, conduct an underwater inspection of its pipelines in the Gulf of Mexico and its inlets. The inspection must be conducted after October 3, 1989 and before November 16, 1992.

(b) If, as a result of an inspection under paragraph (a) of this section, or upon notification by any person, an operator discovers that a pipeline it operates is exposed on the seabed or constitutes a hazard to navigation, the operator shall—

- (1) Promptly, but not later than 24 hours after discovery, notify the National Response Center, telephone: 1-800-424-8802 of the location, and, if available, the geographic coordinates of that pipeline;
- (2) Promptly, but not later than 7 days after discovery, mark the location of the pipeline in accordance with 33 CFR part 64 at the ends of the pipeline segment and at intervals of not over 500 yards (457 meters) long, except that a pipeline segment less than 200 yards (183 meters) long need only be marked at the center; and
- (3) Within 6 months after discovery, or not later than November 1 of the following year if the 6 month period is later than November 1 of the year the discovery is made, place the pipeline so that the top of the pipe is 36 inches (914 millimeters) below the seabed for normal excavation or 18 inches (457 millimeters) for rock excavation.

[Amdt. 192-67, 56 FR 63771, Dec. 5, 1991, as amended by Amdt. 192-66, 63 FR 37504, July 13, 1998]

§ 192.613 Continuing surveillance.

(a) Each operator shall have a procedure for continuing surveillance of its facilities to determine and take appropriate action concerning changes in class location, failures, leakage history, corrosion, substantial changes in cathodic protection requirements, and other unusual operating and maintenance conditions.

(b) If a segment of pipeline is determined to be in unsatisfactory condition but no immediate hazard exists, the operator shall initiate a program to re-

condition or phase out the segment involved, or, if the segment cannot be re-conditioned or phased out, reduce the maximum allowable operating pressure in accordance with § 192.619 (a) and (b).

§ 192.614 Damage prevention program.

(a) Except as provided in paragraphs (d) and (e) of this section, each operator of a buried pipeline must carry out, in accordance with this section, a written program to prevent damage to that pipeline from excavation activities. For the purposes of this section, the term "excavation activities" includes excavation, blasting, boring, tunneling, backfilling, the removal of aboveground structures by either explosive or mechanical means, and other earthmoving operations.

(b) An operator may comply with any of the requirements of paragraph (c) of this section through participation in a public service program, such as a one-call system, but such participation does not relieve the operator of responsibility for compliance with this section. However, an operator must perform the duties of paragraph (c)(3) of this section through participation in a one-call system, if that one-call system is a qualified one-call system. In areas that are covered by more than one qualified one-call system, an operator need only join one of the qualified one-call systems if there is a central telephone number for excavators to call for excavation activities, or if the one-call systems in those areas communicate with one another. An operator's pipeline system must be covered by a qualified one-call system where there is one in place. For the purpose of this section, a one-call system is considered a "qualified one-call system" if it meets the requirements of section (b)(1) or (b)(2) of this section.

(1) The state has adopted a one-call damage prevention program under § 198.37 of this chapter; or

(2) The one-call system:

- (i) Is operated in accordance with § 198.39 of this chapter;
- (ii) Provides a pipeline operator an opportunity similar to a voluntary participant to have a part in management responsibilities; and
- (iii) Assesses a participating pipeline operator a fee that is proportionate to

the costs of the one-call system's coverage of the operator's pipeline.

(c) The damage prevention program required by paragraph (a) of this section must, at a minimum:

(1) Include the identity, on a current basis, of persons who normally engage in excavation activities in the area in which the pipeline is located.

(2) Provides for notification of the public in the vicinity of the pipeline and actual notification of the persons identified in paragraph (c)(1) of this section of the following as often as needed to make them aware of the damage prevention program:

(i) The program's existence and purpose; and

(ii) How to learn the location of underground pipelines before excavation activities are begun.

(3) Provide a means of receiving and recording notification of planned excavation activities.

(4) If the operator has buried pipelines in the area of excavation activity, provide for actual notification of persons who give notice of their intent to excavate of the type of temporary marking to be provided and how to identify the markings.

(5) Provide for temporary marking of buried pipelines in the area of excavation activity before, as far as possible, the activity begins.

(6) Provide as follows for inspection of pipelines that an operator has reason to believe could be damaged by excavation activities:

(i) The inspection must be done as frequently as necessary during and after the activities to verify the integrity of the pipeline; and

(ii) In the case of blasting, any inspection must include leakage surveys.

(d) A damage prevention program under this section is not required for the following pipelines:

(1) Pipelines located offshore.

(2) Pipelines, other than those located offshore, in Class 1 or 2 locations until September 20, 1995.

(3) Pipelines to which access is physically controlled by the operator.

(e) Pipelines operated by persons other than municipalities (including operators of master meters) whose primary activity does not include the

transportation of gas need not comply with the following:

(1) The requirement of paragraph (a) of this section that the damage prevention program be written; and

(2) The requirements of paragraphs (c)(1) and (c)(2) of this section.

[Amdt. 192-40, 47 FR 13824, Apr. 1, 1982, as amended by Amdt. 192-57, 52 FR 92800, Aug. 31, 1987; Amdt. 192-73, 60 FR 14680, Mar. 20, 1995; Amdt. 192-78, 61 FR 28786, June 6, 1996; Amdt. 192-82, 62 FR 61699, Nov. 19, 1997; Amdt. 192-84, 63 FR 38758, July 20, 1998]

§ 192.615 Emergency plans.

(a) Each operator shall establish written procedures to minimize the hazard resulting from a gas pipeline emergency. At a minimum, the procedures must provide for the following:

(1) Receiving, identifying, and classifying notices of events which require immediate response by the operator.

(2) Establishing and maintaining adequate means of communication with appropriate fire, police, and other public officials.

(3) Prompt and effective response to a notice of each type of emergency, including the following:

(i) Gas detected inside or near a building.

(ii) Fire located near or directly involving a pipeline facility.

(iii) Explosion occurring near or directly involving a pipeline facility.

(iv) Natural disaster.

(4) The availability of personnel, equipment, tools, and materials, as needed at the scene of an emergency.

(5) Actions directed toward protecting people first and then property.

(6) Emergency shutdown and pressure reduction in any section of the operator's pipeline system necessary to minimize hazards to life or property.

(7) Making safe any actual or potential hazard to life or property.

(8) Notifying appropriate fire, police, and other public officials of gas pipeline emergencies and coordinating with them both planned responses and actual responses during an emergency.

(9) Safely restoring any service outage.

(10) Beginning action under § 192.617, if applicable, as soon after the end of the emergency as possible.

§ 192.616

(b) Each operator shall:

(1) Furnish its supervisors who are responsible for emergency action a copy of that portion of the latest edition of the emergency procedures established under paragraph (a) of this section as necessary for compliance with those procedures.

(2) Train the appropriate operating personnel to assure that they are knowledgeable of the emergency procedures and verify that the training is effective.

(3) Review employee activities to determine whether the procedures were effectively followed in each emergency.

(c) Each operator shall establish and maintain liaison with appropriate fire, police, and other public officials to:

(1) Learn the responsibility and resources of each government organization that may respond to a gas pipeline emergency.

(2) Acquaint the officials with the operator's ability in responding to a gas pipeline emergency;

(3) Identify the types of gas pipeline emergencies of which the operator notifies the officials; and

(4) Plan how the operator and officials can engage in mutual assistance to minimize hazards to life or property.

[Amdt. 192-24, 41 FR 13587, Mar. 31, 1976, as amended by Amdt. 192-71, 59 FR 6585, Feb. 11, 1994]

§ 192.616 Public education.

Each operator shall establish a continuing educational program to enable customers, the public, appropriate government organizations, and persons engaged in excavation related activities to recognize a gas pipeline emergency for the purpose of reporting it to the operator or the appropriate public officials. The program and the media used must be as comprehensive as necessary to reach all areas in which the operator transports gas. The program must be conducted in English and in other languages commonly understood by a significant number and concentration of the non-English speaking population in the operator's area.

[Amdt. 192-71, 59 FR 6585, Feb. 11, 1994]

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§ 192.617 Investigation of failures.

Each operator shall establish procedures for analyzing accidents and failures, including the selection of samples of the failed facility or equipment for laboratory examination, where appropriate, for the purpose of determining the causes of the failure and minimizing the possibility of a recurrence.

§ 192.619 Maximum allowable operating pressure: Steel or plastic pipelines.

(a) Except as provided in paragraph (c) of this section, no person may operate a segment of steel or plastic pipeline at a pressure that exceeds the lowest of the following:

(1) The design pressure of the weakest element in the segment, determined in accordance with subparts C and D of this part. However, for steel pipe in pipelines being converted under § 192.14 or uprated under subpart K of this part, if any variable necessary to determine the design pressure under the design formula (§ 192.105) is unknown, one of the following pressures is to be used as design pressure:

(i) Eighty percent of the first test pressure that produces yield under section N5.0 of Appendix N of ASME B31.8, reduced by the appropriate factor in paragraph (a)(2)(ii) of this section; or

(ii) If the pipe is 12½ inches (324 mm) or less in outside diameter and is not tested to yield under this paragraph, 200 p.s.i. (1379 kPa).

(2) The pressure obtained by dividing the pressure to which the segment was tested after construction as follows:

(i) For plastic pipe in all locations, the test pressure is divided by a factor of 1.5.

(ii) For steel pipe operated at 100 p.s.i. (689 kPa) gage or more, the test pressure is divided by a factor determined in accordance with the following table:

Class location	Factors ¹ , segment—	
	Installed before (Nov. 12, 1970)	Converted under § 192.14
1	1.1	1.1
2	1.25	1.25
3	1.4	1.5

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§ 192.625

(1) The design pressure of the weakest element in the segment, determined in accordance with subparts C and D of this part.

(2) 60 p.s.i. (414 kPa) gage, for a segment of a distribution system otherwise designed to operate at over 60 p.s.i. (414 kPa) gage, unless the service lines in the segment are equipped with service regulators or other pressure limiting devices in series that meet the requirements of § 192.197(c).

(3) 25 p.s.i. (172 kPa) gage in segments of cast iron pipe in which there are unreinforced bell and spigot joints.

(4) The pressure limits to which a joint could be subjected without the possibility of its parting.

(5) The pressure determined by the operator to be the maximum safe pressure after considering the history of the segment, particularly known corrosion and the actual operating pressures.

(b) No person may operate a segment of pipeline to which paragraph (a)(6) of this section applies, unless overpressure protective devices are installed on the segment in a manner that will prevent the maximum allowable operating pressure from being exceeded, in accordance with § 192.195.

[35 FR 13257, Aug. 19, 1970, as amended by Amdt 192-65, 63 FR 37504, July 13, 1998]

§ 192.623 Maximum and minimum allowable operating pressure; Low-pressure distribution systems.

(a) No person may operate a low-pressure distribution system at a pressure high enough to make unsafe the operation of any connected and properly adjusted low-pressure gas burning equipment.

(b) No person may operate a low-pressure distribution system at a pressure lower than the minimum pressure at which the safe and continuing operation of any connected and properly adjusted low-pressure gas burning equipment can be assured.

§ 192.625 Odorization of gas.

(a) A combustible gas in a distribution line must contain a natural odorant or be odorized so that at a concentration in air of one-fifth of the lower explosive limit, the gas is readily

Class location	Factors ¹ , segment—	
	Installed before (Nov. 12, 1970)	Converted under § 192.14
4	1.4	1.5

¹ For offshore segments installed, uprated or converted after July 31, 1977, that are not located on an offshore platform, the factor is 1.5. For segments installed, uprated or converted after July 31, 1977, that are located on an offshore platform or on platforms, including navigable waters, including a pipe riser, the factor is 1.5.

(3) The highest actual operating pressure to which the segment was subjected during the 5 years preceding July 1, 1970 (or in the case of offshore gathering lines, July 1, 1976), unless the segment was tested in accordance with paragraph (a)(2) of this section after July 1, 1965 (or in the case of offshore gathering lines, July 1, 1971), or the segment was uprated in accordance with subpart K of this part.

(4) The pressure determined by the operator to be the maximum safe pressure after considering the history of the segment, particularly known corrosion and the actual operating pressure.

(b) No person may operate a segment to which paragraph (a)(4) of this section is applicable, unless overpressure protective devices are installed on the segment in a manner that will prevent the maximum allowable operating pressure from being exceeded, in accordance with § 192.195.

(c) Notwithstanding the other requirements of this section, an operator may operate a segment of pipeline found to be in satisfactory condition, considering its operating and maintenance history, at the highest actual operating pressure to which the segment was subjected during the 5 years preceding July 1, 1970, or in the case of offshore gathering lines, July 1, 1976, subject to the requirements of § 192.611.

[35 FR 13257, Aug. 19, 1970]

EDITORIAL NOTE: For FEDERAL REGISTER citations affecting § 192.619, see the List of CFR Sections Affected in the Finding Aids section of this volume.

§ 192.621 Maximum allowable operating pressure: High-pressure distribution systems.

(a) No person may operate a segment of a high pressure distribution system at a pressure that exceeds the lowest of the following pressures, as applicable:

detectable by a person with a normal sense of smell.

(b) After December 31, 1976, a combustible gas in a transmission line in a Class 3 or Class 4 location must comply with the requirements of paragraph (a) of this section unless:

(1) At least 50 percent of the length of the line downstream from that location is in a Class 1 or Class 2 location;

(2) The line transports gas to any of the following facilities which received gas without an odorant from that line before May 5, 1975:

- (i) An underground storage field;
- (ii) A gas processing plant;
- (iii) A gas dehydration plant; or
- (iv) An industrial plant using gas in a process where the presence of an odorant.

(A) Makes the end product unfit for the purpose for which it is intended;

(B) Reduces the activity of a catalyst; or

(C) Reduces the percentage completion of a chemical reaction;

(3) In the case of a lateral line which transports gas to a distribution center, at least 50 percent of the length of that line is in a Class 1 or Class 2 location; or

(4) The combustible gas is hydrogen intended for use as a feedstock in a manufacturing process.

(c) In the concentrations in which it is used, the odorant in combustible gases must comply with the following:

(1) The odorant may not be deleterious to persons, materials, or pipe.

(2) The products of combustion from the odorant may not be toxic when breathed nor may they be corrosive or harmful to those materials to which the products of combustion will be exposed.

(d) The odorant may not be soluble in water to an extent greater than 2.5 parts to 100 parts by weight.

(e) Equipment for odorization must introduce the odorant without wide variations in the level of odorant.

(f) Each operator shall conduct periodic sampling of combustible gases to assure the proper concentration of odorant in accordance with this section. Operators of master meter systems may comply with this requirement by—

(1) Receiving written verification from their gas source that the gas has the proper concentration of odorant; and

(2) Conducting periodic "sniff" tests at the extremities of the system to confirm that the gas contains odorant.

[35 FR 13257, Aug. 19, 1970]

EDITORIAL NOTE: For FEDERAL REGISTER citations affecting § 192.625, see the List of CFR Sections Affected in the Finding Aids section of this volume.

§ 192.627 Tapping pipelines under pressure.

Each tap made on a pipeline under pressure must be performed by a crew qualified to make hot taps.

§ 192.629 Purging of pipelines.

(a) When a pipeline is being purged of air by use of gas, the gas must be released into one end of the line in a moderately rapid and continuous flow. If gas cannot be supplied in sufficient quantity to prevent the formation of a hazardous mixture of gas and air, a slug of inert gas must be released into the line before the gas.

(b) When a pipeline is being purged of gas by use of air, the air must be released into one end of the line in a moderately rapid and continuous flow. If air cannot be supplied in sufficient quantity to prevent the formation of a hazardous mixture of gas and air, a slug of inert gas must be released into the line before the air.

Subpart M—Maintenance

§ 192.701 Scope.

This subpart prescribes minimum requirements for maintenance of pipeline facilities.

§ 192.703 General.

(a) No person may operate a segment of pipeline, unless it is maintained in accordance with this subpart.

(b) Each segment of pipeline that becomes unsafe must be replaced, repaired, or removed from service.

(c) Hazardous leaks must be repaired promptly.

§ 192.705 Transmission lines: Patroling.

(a) Each operator shall have a patrol program to observe surface conditions on and adjacent to the transmission line right-of-way for indications of leaks, construction activity, and other factors affecting safety and operation.

(b) The frequency of patrols is determined by the size of the line, the operating pressures, the class location, terrain, weather, and other relevant factors, but intervals between patrols may not be longer than prescribed in the following table:

Class location of line	Maximum interval between patrols	
	At highway and railroad crossings	At all other places
1, 2	7½ months; but at least twice each calendar year.	15 months; but at least once each calendar year.
3	4½ months; but at least four times each calendar year.	7½ months; but at least twice each calendar year.
4	4½ months; but at least four times each calendar year.	4½ months; but at least four times each calendar year.

(c) Methods of patrolling include walking, driving, flying or other appropriate means of traversing the right-of-way.

[Amdt. 192-21, 40 FR 20283, May 9, 1975, as amended by Amdt. 192-43, 47 FR 46851, Oct. 21, 1982; Amdt. 192-78, 61 FR 28786, June 6, 1996]

§ 192.706 Transmission lines: Leakage surveys.

Leakage surveys of a transmission line must be conducted at intervals not exceeding 15 months, but at least once each calendar year. However, in the case of a transmission line which transports gas in conformity with § 192.625 without an odor or odorant, leakage surveys using leak detector equipment must be conducted—

(a) In Class 3 locations, at intervals not exceeding 7½ months, but at least twice each calendar year; and

(b) In Class 4 locations, at intervals not exceeding 4½ months, but at least four times each calendar year.

[Amdt. 192-21, 40 FR 20283, May 9, 1975, as amended by Amdt. 192-43, 47 FR 46851, Oct. 21, 1982; Amdt. 192-71, 59 FR 6585, Feb. 11, 1994]

§ 192.707 Line markers for mains and transmission lines.

(a) Buried pipelines. Except as provided in paragraph (b) of this section, a line marker must be placed and maintained as close as practical over each buried main and transmission line:

(1) At each crossing of a public road and railroad; and

(2) Wherever necessary to identify the location of the transmission line or main to reduce the possibility of damage or interference.

(b) Exceptions for buried pipelines. Line markers are not required for the following pipelines:

(1) Mains and transmission lines located offshore, or at crossings of or under waterways and other bodies of water.

(2) Mains in Class 3 or Class 4 locations where a damage prevention program is in effect under § 192.614.

(3) Transmission lines in Class 3 or 4 locations until March 20, 1996.

(4) Transmission lines in Class 3 or 4 locations where placement of a line marker is impractical.

(c) Pipelines aboveground. Line markers must be placed and maintained along each section of a main and transmission line that is located aboveground in an area accessible to the public.

(d) Marker warning. The following must be written legibly on a background of sharply contrasting color on each line marker:

(1) The word "Warning," "Caution," or "Danger" followed by the words "Gas (or name of gas transported) Pipeline" all of which, except for markers in heavily developed urban areas, must be in letters at least 1 inch (25 millimeters) high with ¼ inch (6.4 millimeters) stroke.

(2) The name of the operator and the telephone number (including area code) where the operator can be reached at all times.

[Amdt. 192-20, 40 FR 13505, Mar. 27, 1975; Amdt. 192-27, 41 FR 39752, Sept. 16, 1976, as amended by Amdt. 192-20A, 41 FR 58808, Dec. 30, 1976; Amdt. 192-44, 48 FR 25208, June 6, 1983; Amdt. 192-73, 60 FR 14650, Mar. 20, 1995; Amdt. 192-85, 63 FR 37504, July 13, 1998]

§ 192.709 Transmission lines: Record keeping.

Each operator shall maintain the following records for transmission lines for the periods specified:

- (a) The date, location, and description of each repair made to pipe (including pipe-to-pipe connections) must be retained for as long as the pipe remains in service.
- (b) The date, location, and description of each repair made to parts of the pipeline system other than pipe must be retained for at least 5 years. However, repairs generated by patrols, surveys, inspections, or tests required by subparts L and M of this part must be retained in accordance with paragraph (c) of this section.
- (c) A record of each patrol, survey, inspection, and test required by subparts L and M of this part must be retained for at least 5 years or until the next patrol, survey, inspection, or test is completed, whichever is longer.

[Amdt. 192-78, 61 FR 28786, June 6, 1996]

§ 192.711 Transmission lines: General requirements for repair procedures.

(a) Each operator shall take immediate temporary measures to protect the public whenever:

- (1) A leak, imperfection, or damage that impairs its serviceability is found in a segment of steel transmission line operating at or above 40 percent of the SMYS; and
- (2) It is not feasible to make a permanent repair at the time of discovery.

As soon as feasible, the operator shall make permanent repairs.

- (b) Except as provided in § 192.717(b)(3), no operator may use a welded patch as a means of repair.

[35 FR 13257, Aug. 19, 1970, as amended by Amdt. 192-27B, 45 FR 3272, Jan. 17, 1980; Amdt. 192-48, 64 FR 69665, Dec. 14, 1999]

§ 192.713 Transmission lines: Permanent field repair of imperfections and damages.

(a) Each imperfection or damage that impairs the serviceability of pipe in a steel transmission line operating at or above 40 percent of SMYS must be—

- (1) Removed by cutting out and replacing a cylindrical piece of pipe; or

- (2) Repaired by a method that reliable engineering tests and analyses show can permanently restore the serviceability of the pipe.
- (b) Operating pressure must be at a safe level during repair operations.

[Amdt. 192-88, 64 FR 69665, Dec. 14, 1999]

§ 192.715 Transmission lines: Permanent field repair of welds.

Each weld that is unacceptable under § 192.241(c) must be repaired as follows:

- (a) If it is feasible to take the segment of transmission line out of service, the weld must be repaired in accordance with the applicable requirements of § 192.245.
- (b) A weld may be repaired in accordance with § 192.245 while the segment of transmission line is in service if:

- (1) The weld is not leaking;
- (2) The pressure in the segment is reduced so that it does not produce a stress that is more than 20 percent of the SMYS of the pipe; and
- (3) Grinding of the defective area can be limited so that at least 3/8-inch (3.2 millimeters) thickness in the pipe weld remains.

(c) A defective weld which cannot be repaired in accordance with paragraph (a) or (b) of this section must be repaired by installing a full encirclement welded split sleeve of appropriate design.

[35 FR 13257, Aug. 19, 1970, as amended by Amdt. 192-85, 63 FR 37504, July 13, 1998]

§ 192.717 Transmission lines: Permanent field repair of leaks.

Each permanent field repair of a leak on a transmission line must be made by—

- (a) Removing the leak by cutting out and replacing a cylindrical piece of pipe; or
- (b) Repairing the leak by one of the following methods:

- (1) Install a full encirclement welded split sleeve of appropriate design, unless the transmission line is joined by mechanical couplings and operates at less than 40 percent of SMYS.
- (2) If the leak is due to a corrosion pit, install a properly designed bolt-on leak clamp.
- (3) If the leak is due to a corrosion pit and on pipe of not more than 40,000 psi (267 Mpa) SMYS, fillet weld over

the pitted area a steel plate patch with rounded corners, of the same or greater thickness than the pipe, and not more than one-half of the diameter of the pipe in size.

- (4) If the leak is on a submerged offshore pipeline or submerged pipeline in inland navigable waters, mechanically apply a full encirclement split sleeve of appropriate design.
- (5) Apply a method that reliable engineering tests and analyses show can permanently restore the serviceability of the pipe.

[Amdt. 192-88, 64 FR 69665, Dec. 14, 1999]

§ 192.719 Transmission lines: Testing of repairs.

(a) *Testing of replacement pipe.* If a segment of transmission line is repaired by cutting out the damaged portion of the pipe as a cylinder, the replacement pipe must be tested to the pressure required for a new line installed in the same location. This test may be made on the pipe before it is installed.

(b) *Testing of repairs made by welding.* Each repair made by welding in accordance with §§ 192.713, 192.715, and 192.717 must be examined in accordance with § 192.241.

[35 FR 13257, Aug. 19, 1970, as amended by Amdt. 192-54, 51 FR 41635, Nov. 18, 1986]

§ 192.721 Distribution systems: Patrolling.

(a) The frequency of patrolling mains must be determined by the severity of the conditions which could cause failure or leakage, and the consequent hazards to public safety.

(b) Mains in places or on structures where anticipated physical movement or external loading could cause failure or leakage must be patrolled—

- (1) In business districts, at intervals not exceeding 4 1/2 months, but at least four times each calendar year; and
- (2) Outside business districts, at intervals not exceeding 7 1/2 months, but at least twice each calendar year.

[35 FR 13257, Aug. 19, 1970, as amended by Amdt. 192-43, 47 FR 46851, Oct. 21, 1982; Amdt. 192-78, 61 FR 28786, June 6, 1996]

§ 192.723 Distribution systems: Leakage surveys.

(a) Each operator of a distribution system shall conduct periodic leakage surveys in accordance with this section.

- (b) The type and scope of the leakage control program must be determined by the nature of the operations and the local conditions, but it must meet the following minimum requirements:

(1) A leakage survey with leak detector equipment must be conducted in business districts, including tests of the atmosphere in gas, electric, telephone, sewer, and water system manholes, at cracks in pavement and sidewalks, and at other locations providing an opportunity for finding gas leaks, at intervals not exceeding 15 months, but at least once each calendar year.

(2) A leakage survey with leak detector equipment must be conducted outside business districts as frequently as necessary, but at intervals not exceeding 5 years. However, for cathodically unprotected distribution lines subject to § 192.465(e) on which electrical surveys for corrosion are impractical, surveys intervals may not exceed 3 years.

[35 FR 13257, Aug. 19, 1970, as amended by Amdt. 192-43, 47 FR 46851, Oct. 21, 1982; Amdt. 192-70, 58 FR 54258, 54539, Oct. 22, 1993; Amdt. 192-71, 59 FR 6585, Feb. 11, 1994]

§ 192.725 Test requirements for reinstating service lines.

(a) Except as provided in paragraph (b) of this section, each disconnected service line must be tested in the same manner as a new service line, before being reinstated.

(b) Each service line temporarily disconnected from the main must be tested from the point of disconnection to the service line valve in the same manner as a new service line, before reconnecting. However, if provisions are made to maintain continuous service, such as by installation of a bypass, any part of the original service line used to maintain continuous service need not be tested.

§ 192.727 Abandonment or deactivation of facilities.

(a) Each operator shall conduct abandonment or deactivation of pipelines in

accordance with the requirements of this section.

- (b) Each pipeline abandoned in place must be disconnected from all sources and supplies of gas; purged of gas; in the case of offshore pipelines, filled with water or inert materials; and sealed at the ends. However, the pipeline need not be purged when the volume of gas is so small that there is no potential hazard.
- (c) Except for service lines, each inactive pipeline that is not being maintained under this part must be disconnected from all sources and supplies of gas; purged of gas; in the case of offshore pipelines, filled with water or inert materials; and sealed at the ends. However, the pipeline need not be purged when the volume of gas is so small that there is no potential hazard.
- (d) Whenever service to a customer is discontinued, one of the following must be complied with:
 - (1) The valve that is closed to prevent the flow of gas to the customer must be provided with a locking device or other means designed to prevent the opening of the valve by persons other than those authorized by the operator.
 - (2) A mechanical device or fitting that will prevent the flow of gas must be installed in the service line or in the meter assembly.
 - (3) The customer's piping must be physically disconnected from the gas supply and the open pipe ends sealed.
 - (e) If air is used for purging, the operator shall insure that a combustible mixture is not present after purging.
 - (f) Each abandoned vault must be filled with a suitable compacted material.
 - (g) For each abandoned offshore pipeline facility or each abandoned onshore pipeline facility that crosses over, under or through a commercially navigable waterway, the last operator of that facility must file a report upon abandonment of that facility.

(1) The preferred method to submit data on pipeline facilities abandoned after October 10, 2000 is to the National Pipeline Mapping System (NPMS) in accordance with the NPMS "Standards for Pipeline and Liquefied Natural Gas

Operator Submissions." To obtain a copy of the NPMS Standards, please refer to the NPMS homepage at www.npms.sspa.dot.gov or contact the NPMS National Repository at 703-317-3073. A digital data format is preferred, but hard copy submissions are acceptable if they comply with the NPMS Standards. In addition to the NPMS-required attributes, operators must submit the date of abandonment, diameter, method of abandonment, and certification that, to the best of the operator's knowledge, all of the reasonably available information requested was provided and, to the best of the operator's knowledge, the abandonment was completed in accordance with applicable laws. Refer to the NPMS Standards for details in preparing your data for submission. The NPMS Standards also include details of how to submit data. Alternatively, operators may submit reports by mail, fax or e-mail to the Information Officer, Research and Special Programs Administration, Department of Transportation, Room 7128, 400 Seventh Street, SW, Washington DC 20590; fax (202) 366-4566; e-mail, roger.little@rspa.dot.gov. The information in the report must contain all reasonably available information related to the facility, including information in the possession of a third party. The report must contain the location, size, date, method of abandonment, and a certification that the facility has been abandoned in accordance with all applicable laws.

(2) Data on pipeline facilities abandoned before October 10, 2000 must be filed by before April 10, 2001. Operators may submit reports by mail, fax or e-mail to the Information Officer, Research and Special Programs Administration, Department of Transportation, Room 7128, 400 Seventh Street, SW, Washington DC 20590; fax (202) 366-4566; e-mail, roger.little@rspa.dot.gov. The information in the report must contain all reasonably available information related to the facility, including information in the possession of a third party.

The report must contain the location, size, date, method of abandonment, and a certification that the facility has been abandoned in accordance with all applicable laws.

(Amdt. 192-8, 37 FR 20695, Oct. 3, 1972, as amended by Amdt. 192-27, 41 FR 34607, Aug. 16, 1976; Amdt. 192-71, 59 FR 6586, Feb. 11, 1994; Amdt. 192-89, 65 FR 44443, Sept. 8, 2000; 65 FR 57681, Sept. 26, 2000)

EFFECTIVE DATE NOTE: At 65 FR 54443, Sept. 8, 2000, §192.727 was amended by adding paragraph (g), effective Oct. 10, 2000. At 65 FR 57681, Sept. 26, 2000, paragraph (g)(2) was corrected by revising "April 10, 2000" to read "April 10, 2001".

§ 192.731 Compressor stations: Inspection and testing of relief devices.

(a) Except for rupture discs, each pressure relieving device in a compressor station must be inspected and tested in accordance with §192.739 and 192.743, and must be operated periodically to determine that it opens at the correct set pressure.

(b) Any defective or inadequate equipment found must be promptly repaired or replaced.

(c) Each remote control shutdown device must be inspected and tested at intervals not exceeding 15 months, but at least once each calendar year, to determine that it functions properly.

[35 FR 13257, Aug. 19, 1970, as amended by Amdt. 192-43, 47 FR 46851, Oct. 21, 1982]

§ 192.735 Compressor stations: Storage of combustible materials.

(a) Flammable or combustible materials in quantities beyond those required for everyday use, or other than those normally used in compressor buildings, must be stored in a safe distance from the compressor building.

(b) Aboveground oil or gasoline storage tanks must be protected in accordance with National Fire Protection Association Standard No. 30.

§ 192.736 Compressor stations: Gas detection.

(a) Not later than September 16, 1996, each compressor building in a compressor station must have a fixed gas detection and alarm system, unless the building is—

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(1) Constructed so that at least 50 percent of its upright side area is permanently open; or

(2) Located in an unattended field compressor station of 1,000 horsepower (746 kW) or less.

(b) Except when shutdown of the system is necessary for maintenance under paragraph (c) of this section, each gas detection and alarm system required by this section must—

- (1) Continuously monitor the compressor building for a concentration of gas in air of not more than 25 percent of the lower explosive limit; and
- (2) If that concentration of gas is detected, warn persons about to enter the building and persons inside the building of the danger.

(c) Each gas detection and alarm system required by this section must be maintained to function properly. The maintenance must include performance tests.

[58 FR 48464, Sept. 16, 1993, as amended by Amdt. 192-35, 63 FR 37504, July 13, 1998]

§ 192.739 Pressure limiting and regulating stations: Inspection and testing.

Each pressure limiting station, relief device (except rupture discs), and pressure regulating station and its equipment must be subjected at intervals not exceeding 15 months, but at least once each calendar year, to inspections and tests to determine that it is—

- (a) In good mechanical condition;
- (b) Adequate from the standpoint of capacity and reliability of operation for the service in which it is employed;
- (c) Set to function at the correct pressure; and
- (d) Properly installed and protected from dirt, liquids, or other conditions that might prevent proper operation.

[35 FR 13257, Aug. 19, 1970, as amended by Amdt. 192-43, 47 FR 46851, Oct. 21, 1982]

§ 192.741 Pressure limiting and regulating stations: Telemetering or recording gauges.

(a) Each distribution system supplied by more than one district pressure regulating station must be equipped with telemetering or recording pressure gauges to indicate the gas pressure in the district.

(b) On distribution systems supplied by a single district pressure regulating station, the operator shall determine the necessity of installing telemetering or recording gauges in the district, taking into consideration the number of customers supplied, the operating pressures, the capacity of the installation, and other operating conditions.

(c) If there are indications of abnormally high or low pressure, the regulator and the auxiliary equipment must be inspected and the necessary measures employed to correct any unsatisfactory operating conditions.

§ 192.743 Pressure limiting and regulating stations: Testing of relief devices.

(a) If feasible, pressure relief devices (except rupture discs) must be tested in place, at intervals not exceeding 15 months, but at least once each calendar year, to determine that they have enough capacity to limit the pressure on the facilities to which they are connected to the desired maximum pressure.

(b) If a test is not feasible, review and calculation of the required capacity of the relieving device at each station must be made at intervals not exceeding 15 months, but at least once each calendar year, and these required capacities compared with the rated or experimentally determined relieving capacity of the device for the operating conditions under which it works. After the initial calculations, subsequent calculations are not required if the review documents that parameters have not changed in a manner which would cause the capacity to be less than required.

(c) If the relieving device is of insufficient capacity, a new or additional device must be installed to provide the additional capacity required.

[35 FR 13257, Aug. 19, 1970, as amended by Amdt. 192-43, 47 FR 46851, Oct. 21, 1982; Amdt. 192-55, 51 FR 41634, Nov. 18, 1986]

§ 192.745 Valve maintenance: Transmission lines.

Each transmission line valve that might be required during any emergency must be inspected and partially operated at intervals not exceeding 15

months, but at least once each calendar year.

[Amdt. 192-43, 47 FR 46851, Oct. 21, 1982]

§ 192.747 Valve maintenance: Distribution systems.

Each valve, the use of which may be necessary for the safe operation of a distribution system, must be checked and serviced at intervals not exceeding 15 months, but at least once each calendar year.

[Amdt. 192-43, 47 FR 46851, Oct. 21, 1982]

§ 192.749 Vault maintenance.

(a) Each vault housing pressure regulating and pressure limiting equipment, and having a volumetric internal content of 200 cubic feet (5.66 cubic meters) or more, must be inspected at intervals not exceeding 15 months, but at least once each calendar year, to determine that it is in good physical condition and adequately ventilated.

(b) If gas is found in the vault, the equipment in the vault must be inspected for leaks, and any leaks found must be repaired.

(c) The ventilating equipment must also be inspected to determine that it is functioning properly.

(d) Each vault cover must be inspected to assure that it does not present a hazard to public safety.

[35 FR 13257, Aug. 19, 1970, as amended by Amdt. 192-43, 47 FR 46851, Oct. 21, 1982; Amdt. 192-85, 63 FR 37504, July 13, 1998]

§ 192.751 Prevention of accidental ignition.

Each operator shall take steps to minimize the danger of accidental ignition of gas in any structure or area where the presence of gas constitutes a hazard of fire or explosion, including the following:

(a) When a hazardous amount of gas is being vented into open air, each potential source of ignition must be removed from the area and a fire extinguisher must be provided.

(b) Gas or electric welding or cutting may not be performed on pipe or on pipe components that contain a combustible mixture of gas and air in the area of work.

(c) Post warning signs, where appropriate.

§ 192.753 Caulked bell and spigot joints.

(a) Each cast-iron caulked bell and spigot joint that is subject to pressures of 25 p.s.i. (172 kPa) gage or more must be sealed with:

(1) A mechanical leak clamp; or

(2) A material or device which:

(i) Does not reduce the flexibility of the joint;

(ii) Permanently bonds, either chemically or mechanically, or both, with the bell and spigot metal surfaces or adjacent pipe metal surfaces; and

(iii) Seals and bonds in a manner that meets the strength, environmental, and chemical compatibility requirements of §§ 192.53 (a) and (b) and 192.143.

(b) Each cast iron caulked bell and spigot joint that is subject to pressures of less than 25 p.s.i. (172 kPa) gage and is exposed for any reason, must be sealed by a means other than caulking.

[35 FR 13257, Aug. 19, 1970, as amended by Amdt. 192-28, 41 FR 23680, June 11, 1976; Amdt. 192-35, 63 FR 37504, July 13, 1998]

§ 192.755 Protecting cast-iron pipelines.

When an operator has knowledge that the support for a segment of a buried cast-iron pipeline is disturbed:

(a) That segment of the pipeline must be protected, as necessary, against damage during the disturbance by:

(1) Vibrations from heavy construction equipment, trains, trucks, buses, or blasting;

(2) Impact forces by vehicles;

(3) Earth movement;

(4) Apparent future excavations near the pipeline; or

(5) Other foreseeable outside forces which may subject that segment of the pipeline to bending stress.

(b) As soon as feasible, appropriate steps must be taken to provide permanent protection for the disturbed segment from damage that might result from external loads, including compliance with applicable requirements of §§ 192.317(a), 192.319, and 192.361(b)-(d).

[Amdt. 192-23, 41 FR 13589, Mar. 31, 1976]

Subpart N

SOURCE: Amdt. 192-46, 64 FR 46865, Aug. 27, 1999, unless otherwise noted.

192.801 Scope.
(a) This subpart prescribes the minimum requirements for operator qualification of individuals performing covered tasks on a pipeline facility.

(b) For the purpose of this subpart, a covered task is an activity, identified by the operator, that:

(1) Is performed on a pipeline facility;

(2) Is an operations or maintenance task;

(3) Is performed as a requirement of this part; and

(4) Affects the operation or integrity of the pipeline.

§ 192.803 Definitions.

Abnormal operating condition means a condition identified by the operator that may indicate a malfunction of a component or deviation from normal operations that may:

(a) Indicate a condition exceeding design limits; or

(b) Result in a hazard(s) to persons, property, or the environment.

Evaluation means a process, established and documented by the operator, to determine an individual's ability to perform a covered task by any of the following:

(a) Written examination;

(b) Oral examination;

(c) Work performance history review;

(d) Observation during:

(e) Performance on the job,

(f) On the job training, or

(g) Simulations; or

(h) Other forms of assessment.

Qualified means that an individual has been evaluated and can:

(a) Perform assigned covered tasks; and

(b) Recognize and react to abnormal operating conditions.

§ 192.805 Qualification program.

Each operator shall have and follow a written qualification program. The program shall include provisions to:

(a) Identify covered tasks;

(b) Ensure thorough evaluation that individuals performing covered tasks are qualified;

(c) Allow individuals that are not qualified pursuant to this subpart to perform a covered task if directed and observed by an individual that is qualified;

(d) Evaluate an individual if the operator has reason to believe that the individual's performance of a covered task contributed to an incident as defined in Part 191;

(e) Evaluate an individual if the operator has reason to believe that the individual is no longer qualified to perform a covered task;

(f) Communicate changes that affect covered tasks to individuals performing those covered tasks; and

(g) Identify those covered tasks and the intervals at which evaluation of the individual's qualifications is needed.

§ 192.807 Recordkeeping.

Each operator shall maintain records that demonstrate compliance with this subpart.

(a) Qualification records shall include:

- (1) Identification of qualified individual(s);
- (2) Identification of the covered tasks the individual is qualified to perform;
- (3) Date(s) of current qualification; and
- (4) Qualification method(s).

(b) Records supporting an individual's current qualification shall be maintained while the individual is performing the covered task. Records of prior qualification and records of individuals no longer performing covered tasks shall be retained for a period of five years.

§ 192.809 General.

(a) Operators must have a written qualification program by April 27, 2001.

(b) Operators must complete the qualification of individuals performing covered tasks by October 28, 2002.

(c) Work performance history review may be used as a sole evaluation method for individuals who were performing a covered task prior to August 27, 1999.

(d) After October 28, 2002, work performance history may not be used as a sole evaluation method.

**APPENDIX A TO PART 192—
INCORPORATED BY REFERENCE**

I. List of Organizations and Addresses

A. American Gas Association (AGA), 1515 Wilson Boulevard, Arlington, VA 22209.

B. American National Standards Institute (ANSI), 11 West 42nd Street, New York, NY 10036.

C. American Petroleum Institute (API), 1220 L Street, NW, Washington, DC 20006.

D. The American Society of Mechanical Engineers (ASME), United Engineering Center, 345 East 47th Street, New York, NY 10017.

E. American Society for Testing and Materials (ASTM), 100 Barr Harbor Drive, West Conshohocken, PA 19380.

F. Manufacturers Standardization Society of the Valve and Fittings Industry, Inc. (MSS), 127 Park Street, NW., Vienna, VA 22180.

G. National Fire Protection Association (NFPA), 1 Batterymarch Park, P.O. 9101, Quincy, MA 02269-9101.

II. Documents Incorporated by Reference (Numbers in Parentheses Indicate Applicable Editions)

A. American Gas Association (AGA):

- (1) AGA Pipeline Research Committee, Project PR-3-806, "A Modified Criterion for Evaluating the Remaining Strength of Corroded Pipe" (December 22, 1989).

B. American Petroleum Institute (API):

- (1) API Specification 5L "Specification for Line Pipe (1st edition, 1985).
- (2) API Recommended Practice 5L1 "Recommended Practice for Railroad Transportation of Line Pipe" (4th edition, 1990).
- (3) API Specification 6D "Specification for Pipeline Valves (Gate, Plug, Ball, and Check Valves)" (21st edition, 1994).
- (4) API Standard 1104 "Welding of Pipelines and Related Facilities" (18th edition, 1994).

C. American Society for Testing and Materials (ASTM):

- (1) ASTM Designation: A 53 "Standard Specification for Pipe, Steel, Black and Hot-Dipped, Zinc-Coated, Welded and Seamless" (A53-96).
- (2) ASTM Designation A 106 "Standard Specification for Seamless Carbon Steel Pipe for High-Temperature Service" (A106-96).
- (3) ASTM Designation: A 332/A 333M "Standard Specification for Seamless and Welded Steel Pipe for Low-Temperature Service" (A 332/A 333M-94).
- (4) ASTM Designation: A 372/A 372M "Standard Specification for Carbon and Alloy Steel Forgings for Thin-Walled Pressure Vessels" (A 372/A 372M-95).
- (5) ASTM Designation: A 381 "Standard Specification for Metal-Arc-Welded Steel Pipe for Use With High-Pressure Transmission Systems (A 381-93).
- (6) ASTM Designation: A 671 "Standard Specification for Electric-Fusion-Welded Steel Pipe for Atmospheric and Lower Temperatures" (A 671-94).
- (7) ASTM Designation: A 672 "Standard Specification for Electric-Fusion-Welded

Steel Pipe for High-Pressure Service at Moderate Temperatures" (A 672-94).

(8) ASTM Designation A 691 "Standard Specification for Carbon and Alloy Steel Pipe, Electric-Fusion-Welded for High-Pressure Service at High Temperatures" (A 691-93).

(9) ASTM Designation D638 "Standard Test Method for Tensile Properties of Plastics" (D638-96).

(10) ASTM Designation D2513 "Standard Specification for Thermoplastic Gas Pressure Pipe, Tubing and Fittings" (D 2513-87 edition for § 192.65(a)(1), otherwise D 2513-96a).

(11) ASTM Designation D 2517 "Standard Specification for Reinforced Epoxy Resin Gas Pressure Pipe and Fittings" (D 2517-94).

(12) ASTM Designation: F1055 "Standard Specification for Electrofusion Type Polyethylene Fittings for Outside Diameter Controlled Polyethylene Pipe and Tubing" (F1055-95).

D. The American Society of Mechanical Engineers (ASME):

- (1) ASME/ANSI B16.1 "Cast Iron Pipe Flanges and Flanged Fittings" (1989).
- (2) ASME/ANSI B16.5 "Pipe Flanges and Flanged Fittings" (1968 with October 1988 Errata and ASME/ANSI B16.5a-1992 Addenda).
- (3) ASME/ANSI B31G "Manual for Determining the Remaining Strength of Corroded Pipelines" (1991).
- (4) ASME/ANSI B31.8 "Gas Transmission and Distribution Piping Systems" (1995).
- (5) ASME Boiler and Pressure Vessel Code, Section I "Power Boilers" (1995 edition with 1995 Addenda).
- (6) ASME Boiler and Pressure Vessel Code, Section VIII, Division 1 "Pressure Vessels" (1995 edition with 1995 Addenda).
- (7) ASME Boiler and Pressure Vessel Code, Section VIII, Division 2 "Pressure Vessels: Alternative Rules" (1995 edition with 1995 Addenda).
- (8) ASME Boiler and Pressure Vessel Code, Section IX "Welding and Brazing Qualifications" (1995 edition with 1995 Addenda).
- (9) Manufacturers Standardization Society of the Valve and Fittings Industry, Inc. (MSS):
- (1) MSS SP44-96 "Steel Pipe Line Flanges" (includes 1996 errata) (1996).
- (2) [Reserved]
- (3) National Fire Protection Association (NFPA):
- (1) NFPA 30 "Flammable and Combustible Liquids Code" (1996).
- (2) ANS/NFPA 58 "Standard for the Storage and Handling of Liquefied Petroleum Gases" (1995).
- (3) ANS/NFPA 69 "Standard for the Storage and Handling of Liquefied Petroleum Gases at Utility Gas Plants" (1995).

(4) ANS/NFPA 70 "National Electrical Code" (1996).

(5) FR 14521, Mar. 18, 1993, as amended by Amdt. 192-68, 58 FR 45266-45269, Aug. 27, 1993; Amdt. 192-76, 61 FR 26123, May 24, 1996; Amdt. 192-78, 61 FR 28786, June 6, 1996; 61 FR 41020, Aug. 7, 1996; Amdt. 192-83, 63 FR 1723, Feb. 17, 1998; Amdt. 192-84, 63 FR 38758, July 20, 1998]

**APPENDIX B TO PART 192—
QUALIFICATION OF PIPE**

I. Listed Pipe Specifications (Numbers in Parentheses Indicate Applicable Editions)

API 5L—Steel pipe (1985).

ASTM A 53—Steel pipe (1985a).

ASTM A 106—Steel pipe (1994a).

ASTM A 332/A 333M—Steel pipe (1994).

ASTM A 381—Steel pipe (1993).

ASTM A 671—Steel pipe (1994).

ASTM A 672—Steel pipe (1994).

ASTM A 691—Steel pipe (1993).

ASTM D 2513—Thermoplastic pipe and tubing (1995c).

ASTM D 2517—Thermosetting plastic pipe and tubing (1994).

II. Steel pipe of unknown or unlisted specification.

A. *Bending Properties.* For pipe 2 inches (51 millimeters) or less in diameter, a length of pipe must be cold bent through at least 90 degrees around a cylindrical mandrel that has a diameter 12 times the diameter of the pipe, without developing cracks at any position and without opening the longitudinal weld.

For pipe more than 2 inches (51 millimeters) in diameter, the pipe must meet the requirements of the flattening tests set forth in ASTM A53, except that the number of tests must be at least equal to the minimum required in paragraph II-D of this appendix to determine yield strength.

B. *Weldability.* A girch weld must be made in the pipe by a welder who is qualified under subpart E of this part. The weld must be made under the most severe conditions under which welding will be allowed in the field and by means of the same procedure that will be used in the field. On pipe more than 4 inches (102 millimeters) in diameter, at least one test weld must be made for each 100 lengths of pipe. On pipe 4 inches (102 millimeters) or less in diameter, at least one test weld must be made for each 400 lengths of pipe. The weld must be tested in accordance with API Standard 1104. If the requirements of API Standard 1104 cannot be met, weldability may be established by making chemical tests for carbon and manganese, and proceeding in accordance with Section IX of the ASME Boiler and Pressure Vessel Code. The same number of chemical tests must be made as are required for testing a girch weld.

C. *Inspection.* The pipe must be clean enough to permit adequate inspection. It must be visually inspected to ensure that it is reasonably round and straight and there are no defects which might impair the strength or tightness of the pipe.

D. *Tensile Properties.* If the tensile properties of the pipe are not known, the minimum yield strength may be taken as 24,000 p.s.i. (165 MPa) or less, or the tensile properties may be established by performing tensile tests as set forth in API Specification 5L. All test specimens shall be selected at random and the following number of tests must be performed:

NUMBER OF TENSILE TESTS—ALL SIZES

10 lengths or less	1 set of tests for each length
11 to 100 lengths	1 set of tests for each 5 lengths, but not less than 10 tests
Over 100 lengths	1 set of tests for each 10 lengths, but not less than 20 tests

If the yield-tensile ratio, based on the properties determined by those tests, exceeds 0.85, the pipe may be used only as provided in §192.55(C).

III. *Steel pipe manufactured before November 12, 1970, to earlier editions of listed specifications.* Steel pipe manufactured before November 12, 1970, in accordance with a specification of which a later edition is listed in section I of this appendix, is qualified for use under this part if the following requirements are met:

A. *Inspection.* The pipe must be clean enough to permit adequate inspection. It must be visually inspected to ensure that it is reasonably round and straight and that there are no defects which might impair the strength or tightness of the pipe.

B. *Similarity of specification requirements.* The edition of the listed specification under which the pipe was manufactured must have substantially the same requirements with respect to the following properties as a later edition of that specification listed in section I of this appendix:

(1) Physical (mechanical) properties of pipe, including yield and tensile strength, elongation, and yield to tensile ratio, and testing requirements to verify those properties.

(2) Chemical properties of pipe and testing requirements to verify those properties.

C. *Inspection or test of welded pipe.* On pipe with welded seams, one of the following requirements must be met:

(1) The edition of the listed specification to which the pipe was manufactured must have substantially the same requirements with respect to nondestructive inspection of welded seams and the standards for acceptance or

rejection and repair as a later edition of the specification listed in section I of this appendix.

(2) The pipe must be tested in accordance with subpart J of this part to at least 1.25 times the maximum allowable operating pressure if it is to be installed in a class 1 location and to at least 1.5 times the maximum allowable operating pressure if it is to be installed in a class 2, 3, or 4 location. Notwithstanding any shorter time period permitted under subpart J of this part, the test pressure must be maintained for at least 8 hours.

[35 FR 13257, Aug. 19, 1970]

EDITORIAL NOTE: For FEDERAL REGISTER editions affecting appendix B of part 192, see the List of CFR Sections Affected in the Finding Aids section of this volume.

APPENDIX C TO PART 192—QUALIFICATION OF WELDERS FOR LOW STRESS LEVEL PIPE

I. *Basic test.* The test is made on pipe 12 inches (305 millimeters) or less in diameter. The test weld must be made with the pipe in a horizontal fixed position so that the test weld includes at least one section of overhead position welding. The beveling, root opening, and other details must conform to the specifications of the procedure under which the welder is being qualified. Upon completion, the test weld is cut into four coupons and subjected to a root bend test. If, as a result of this test, two or more of the four coupons develop a crack in the weld material, or between the weld material and base metal, that is more than 1/8-inch (3.2 millimeters) long in any direction, the weld is unacceptable. Cracks that occur on the corner of the specimen during testing are not considered.

II. *Additional tests for welders of service line connections to mains.* A service line connection fitting is welded to a pipe section with the same diameter as a typical main. The weld is made in the same position as it is made in the field. The weld is unacceptable if it shows a serious undercutting or if it has rolled edges. The weld is tested by attempting to break the fitting off the run pipe. The weld is unacceptable if it breaks and shows incomplete fusion, overlap, or poor penetration at the junction of the fitting and run pipe.

III. *Periodic tests for welders of small service lines.* Two samples of the welder's work, each about 8 inches (203 millimeters) long with the weld located approximately in the center, are cut from steel service line and tested as follows:

(1) One sample is centered in a guided bend testing machine and bent to the contour of the die for a distance of 2 inches (51 millimeters) on each side of the weld. If the sample

shows any breaks or cracks after removal from the bending machine, it is unacceptable.

(2) The ends of the second sample are flattened and the entire joint subjected to a tensile strength test. If failure occurs adjacent to or in the weld metal, the weld is unacceptable. If a tensile strength testing machine is not available, this sample must also pass the bending test prescribed in subparagraph (1) of this paragraph.

[35 FR 13257, Aug. 19, 1970, as amended by Amdt. 192-85, 63 FR 37504, July 13, 1998]

APPENDIX D TO PART 192—CRITERIA FOR CATHODIC PROTECTION AND DETERMINATION OF MEASUREMENTS

I. *Criteria for cathodic protection.*—A. *Steel, cast iron, and ductile iron structures.* (1) A negative (cathodic) voltage of at least 0.85 volt, with reference to a saturated copper-copper sulfate half cell. Determination of this voltage must be made with the protective current applied, and in accordance with sections II and IV of this appendix.

(2) A negative (cathodic) voltage shift of at least 300 millivolts. Determination of this voltage shift must be made with the protective current applied, and in accordance with sections II and IV of this appendix. This criterion of voltage shift applies to structures not in contact with metals of different anodic potentials.

(3) A minimum negative (cathodic) polarization voltage shift of 100 millivolts. This polarization voltage shift must be determined in accordance with sections III and IV of this appendix.

(4) A voltage, at least as negative (cathodic) as that originally established at the beginning of the Tafel segment of the E-log-I curve. This voltage must be measured in accordance with section IV of this appendix.

(5) A net protective current from the electrolyte into the structure surface as measured by an earth current technique applied at predetermined current discharge (anodic) points of the structure.

B. *Aluminum structures.* (1) Except as provided in paragraphs (3) and (4) of this paragraph, a minimum negative (cathodic) voltage shift of 150 millivolts, produced by the application of protective current. The voltage shift must be determined in accordance with sections II and IV of this appendix.

(2) Except as provided in paragraphs (3) and (4) of this paragraph, a minimum negative (cathodic) polarization voltage shift of 100 millivolts. This polarization voltage shift must be determined in accordance with sections III and IV of this appendix.

(3) Notwithstanding the alternative minimum criteria in paragraphs (1) and (2) of this paragraph, aluminum, if cathodically protected at voltages in excess of 1.20 volts

as measured with reference to a copper-copper sulfate half cell, in accordance with section IV of this appendix, and compensated across the structure-electrolyte boundary may suffer corrosion resulting from the build-up of alkali on the metal surface. A voltage in excess of 1.20 volts may not be used unless previous test results indicate no appreciable corrosion will occur in the particular environment.

(4) Since aluminum may suffer from corrosion under high pH conditions, and since application of cathodic protection tends to increase the pH at the metal surface, careful investigation or testing must be made before applying cathodic protection to stop pitting attack on aluminum structures in environments with a natural pH in excess of 8.

C. *Copper structures.* A minimum negative (cathodic) polarization voltage shift of 100 millivolts. This polarization voltage shift must be determined in accordance with sections III and IV of this appendix.

D. *Metals of different anodic potentials.* A negative (cathodic) voltage, measured in accordance with section IV of this appendix, equal to that required for the most anodic metal in the system must be maintained. If amphoteric structures are involved that could be damaged by high alkalinity covered by paragraphs (3) and (4) of paragraph B of this section, they must be electrically isolated with insulating flanges, or the equivalent.

II. *Interpretation of voltage measurement.* Voltage (IR) drops other than those across the structure-electrolyte boundary must be considered for valid interpretation of the voltage measurement in paragraphs A(1) and (2) and paragraph B(1) of section I of this appendix.

III. *Determination of polarization voltage shift.* The polarization voltage shift must be determined by interrupting the protective current and measuring the polarization decay. When the current is initially interrupted, an immediate voltage shift occurs. The voltage reading after the immediate shift must be used as the base reading from which to measure polarization decay in paragraphs A(3), B(2), and C of section I of this appendix.

IV. *Reference half cells.* A. Except as provided in paragraphs B and C of this section, negative (cathodic) voltage must be measured between the structure surface and a saturated copper-copper sulfate half cell contacting the electrolyte.

B. Other standard reference half cells may be substituted for the saturated copper-copper sulfate half cell. Two commonly used reference half cells are listed below along with their voltage equivalent to -0.85 volt as referred to a saturated copper-copper sulfate half cell:

- (1) Saturated KCl calomel half cell: -0.78 volt.
- (2) Silver-silver chloride half cell used in sea water: -0.80 volt.
- C. In addition to the standard reference half cells, an alternate metallic material or structure may be used in place of the saturated copper-copper sulfate half cell if its potential stability is assured and if its voltage equivalent referred to a saturated copper-copper sulfate half cell is established.
- [Amdt. 192-4, 36 FR 12805, June 30, 1971]

PART 193—LIQUEFIED NATURAL GAS FACILITIES: FEDERAL SAFETY STANDARDS

Subpart A—General

- Sec.
- 193.2001 Scope of part.
- 193.2003 [Reserved]
- 193.2005 Applicability.
- 193.2007 Definitions.
- 193.2009 Rules of regulatory construction.
- 193.2011 Reporting.
- 193.2013 Incorporation by reference.
- 193.2015 [Reserved]
- 193.2017 Plans and procedures.
- 193.2019 Mobile and temporary LNG facilities.

Subpart B—Siting Requirements

- 193.2051 Scope.
- 193.2055 [Reserved]
- 193.2057 Thermal radiation protection.
- 193.2059 Flammable vapor-gas dispersion protection.
- 193.2061-193.2065 [Reserved]
- 193.2067 Wind forces.
- 193.2069-193.2073 [Reserved]

Subpart C—Design

- 193.2101 Scope.
- MATERIALS
- 193.2103-193.2117 [Reserved]
- 193.2119 Records.

DESIGN OF COMPONENTS AND BUILDINGS

- 193.2121-193.2153 [Reserved]
- IMPONDUENT DESIGN AND CAPACITY
- 193.2155 Structural requirements.
- 193.2157-193.2159 [Reserved]
- 193.2161 Dikes, general.
- 193.2163-193.2165 [Reserved]
- 193.2167 Covered systems.
- 193.2169-193.2171 [Reserved]
- 193.2173 Water removal.
- 193.2175-193.2179 [Reserved]
- 193.2181 Impoundment capacity: LNG storage tanks.
- 193.2183-193.2185 [Reserved]

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- 193.2707 Operations and maintenance.
- 193.2709 Security.
- 193.2711 Personnel health.
- 193.2713 Training: operations and maintenance.
- 193.2715 Training: security.
- 193.2717 Training: fire protection.
- 193.2719 Training: records.

§ 193.2003 [Reserved]

§ 193.2005 Applicability.

- (a) Safety requirements mandating compliance with standard ANSINFPFA 59A and other changes in this part governing siting, design, construction, equipment, fire protection, operation and maintenance apply to LNG facilities placed in service after March 31, 2000 unless otherwise noted.
- (b) If an existing LNG facility (or facility) under construction before March 31, 2000 is replaced, relocated or significantly altered after March 31, 2000, the facility must comply with the applicable requirements of this part governing, siting, design, installation, and construction, except that:

- (1) The siting requirements apply only to LNG storage tanks that are significantly altered by increasing the original storage capacity or relocated, and
- (2) To the extent compliance with the design, installation, and construction requirements would make the replaced, relocated, or altered facility incompatible with the other facilities or would otherwise be impractical, the replaced, relocated, or significantly altered facility may be designed, installed, or constructed in accordance with the original specifications for the facility, or in another manner subject to the approval of the Administrator.

[Amdt. 193-17, 65 FR 10938, Mar. 1, 2000]

§ 193.2007 Definitions.

As used in this part:

- Administrator** means the Administrator of the Research and Special Programs Administration or any person to whom authority in the matter concerned has been delegated by the Secretary of Transportation.

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- 193.2801 Scope.
- 193.2901 Scope.
- 193.2903 Security procedures.
- 193.2905 Protective enclosures.
- 193.2907 Protective enclosure construction.
- 193.2909 Security communications.
- 193.2911 Security lighting.
- 193.2913 Security monitoring.
- 193.2915 Alternative power sources.
- 193.2917 Warning signs.

Subpart I—Fire Protection

- 193.2901 Scope.

Subpart J—Security

- 193.2901 Scope.
- 193.2903 Security procedures.
- 193.2905 Protective enclosures.
- 193.2907 Protective enclosure construction.
- 193.2909 Security communications.
- 193.2911 Security lighting.
- 193.2913 Security monitoring.
- 193.2915 Alternative power sources.
- 193.2917 Warning signs.

APPENDIX A TO PART 193—INCORPORATION BY REFERENCE

AUTHORITY: 49 U.S.C. 5103, 60102, 60103, 60104, 60108, 60109, 60110, 60113, 60118; and 49 CFR 1.53.

SOURCE: 45 FR 9203, Feb. 11, 1980, unless otherwise noted.

Subpart A—General

§ 193.2001 Scope of part.

- (a) This part prescribes safety standards for LNG facilities used in the transportation of gas by pipeline that is subject to the pipeline safety laws (49 U.S.C. 60101 *et seq.*) and Part 192 of this chapter.
- (b) This part does not apply to:

- (1) LNG facilities used by ultimate consumers of LNG or natural gas.
- (2) LNG facilities used in the course of natural gas treatment or hydrocarbon extraction which do not store LNG.

- (3) In the case of a marine cargo transfer system and associated facilities, any matter other than siting pertaining to the system or facilities between the marine vessel and the last manifold (or in the absence of a manifold, the last valve) located immediately before a storage tank.

- (4) Any LNG facility located in navigable waters (as defined in Section 3(8)

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BEFORE THE POWER PLANT AND TRANSMISSION
LINE SITING COMMITTEE

IN THE MATTER OF THE APPLICATION OF)
SALT RIVER PROJECT OR THEIR)
ASSIGNEE(S), IN CONFORMANCE WITH)
THE REQUIREMENTS OF THE ARIZONA)
REVISED STATUTES 40-360.03 AND)
40-360.06 FOR A CERTIFICATE OF) L-00000B-00-0105
ENVIRONMENTAL COMPATIBILITY)
AUTHORIZING THE CONSTRUCTION OF) CASE NO. 105
NATURAL GAS-FIRED, COMBINED CYCLE)
GENERATING FACILITIES AND)
ASSOCIATED INTRAPLANT TRANSMISSION)
LINES, SWITCHYARD IN GILBERT,)
ARIZONA LOCATED NEAR AND SOUTHEAST)
OF THE INTERSECTION OF VAL VISTA)
DRIVE AND WARNER ROAD.)
)

At: Mesa, Arizona
Date: November 20, 2000
Filed:

REPORTERS' TRANSCRIPT OF PROCEEDINGS
VOLUME V
(Pages 986 through 1229)

ARIZONA REPORTING SERVICE, INC.
Court Reporting
Suite Three
2627 North Third Street
Phoenix, Arizona 85004-1103

Prepared for: By: CECELIA BROOKMAN, RPR
CCR No. 50154
CAROLYN T. SULLIVAN, RPR
CCR No. 50528

1 of excess capacity in that existing gas transmission
2 line, so we will have to build a new line and it will
3 probably be in the vicinity of a 16-inch line to
4 provide sufficient supplies of natural gas for the new
5 generating units.

6 SRP has started discussions with El Paso
7 Natural Gas Company on the location of that line.
8 There are at least three different routes that -- over
9 which that line could be built into the plant and
10 we're really a long way from determining the best
11 route to do that.

12 Q. Mr. Dietrich, what will SRP do to respond to
13 community concerns about the natural gas supply?

14 A. The existing line has been operated under
15 strict federal standards. We certainly intend to
16 operate the -- any new facilities under those same
17 standards.

18 I'd also like to point out that the existing
19 line is owned by and operated by El Paso up to the gas
20 metering facilities which are on the SRP property.
21 It's uncertain right now as to who will operate or
22 have ownership of any new gas line, but again, it's
23 very possible that El Paso might have the ownership of
24 that line, again up to the SRP property. So it is
25 possible that the only gas facilities that SRP would

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BEFORE THE POWER PLANT AND TRANSMISSION
LINE SITING COMMITTEE

IN THE MATTER OF THE APPLICATION OF)
SALT RIVER PROJECT OR THEIR)
ASSIGNEE(S), IN CONFORMANCE WITH)
THE REQUIREMENTS OF THE ARIZONA)
REVISED STATUTES 40-360.03 AND) L-00000B-00-0105
40-360.06 FOR A CERTIFICATE OF)
ENVIRONMENTAL COMPATIBILITY)
AUTHORIZING THE CONSTRUCTION OF) CASE NO. 105
NATURAL GAS-FIRED, COMBINED CYCLE)
GENERATING FACILITIES AND) DELIBERATIONS
ASSOCIATED INTRAPLANT TRANSMISSION)
LINES, SWITCHYARD IN GILBERT,)
ARIZONA LOCATED NEAR AND SOUTHEAST)
OF THE INTERSECTION OF VAL VISTA)
DRIVE AND WARNER ROAD.)
)

At: Mesa, Arizona
Date: January 26, 2001
Filed:

REPORTER'S TRANSCRIPT OF PROCEEDINGS
VOLUME XVIII
(Pages 3747 through 3976)

ARIZONA REPORTING SERVICE, INC.
Court Reporting
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Prepared for: By: CECELIA BROOKMAN, RPR
CCR No. 50154

1 But the best thing is to have your generation as close
2 to your load as possible.

3 Say if you could have a photovoltaic on every
4 house, then you'd supply your own power, which is like
5 distributed generation. So in that way, that's the
6 best thing. If you don't have that, then you have the
7 larger plants that are needed to support that.

8 MEMBER TOBIN: Now, then, go back to
9 Coolidge, because we've got three load centers, is my
10 understanding, one in Tucson, one in Phoenix, and one
11 in Yuma.

12 MR. EMERSON: Yes.

13 MEMBER TOBIN: Now, would the Coolidge plant,
14 if indeed it gets its certificate, and if indeed it is
15 built, I know there's a lot of ifs, is that going to
16 be within the Phoenix load center or not?

17 MR. EMERSON: What's happening, what is
18 proposed down there is they are proposing to put the
19 plant there, but what also they're going to do is
20 they're going to upgrade the Western Area Power
21 Administration's power line with larger conductors,
22 and then with that, it will be able to move that power
23 within what is called that constraint area. Without
24 them upgrading that line, they couldn't get it into
25 the service area. So that's about the best I can do.

1 BEFORE THE POWER PLANT AND TRANSMISSION
2 LINE SITING COMMITTEE

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4 IN THE MATTER OF THE APPLICATION OF)
SALT RIVER PROJECT OR THEIR)
5 ASSIGNEE(S), IN CONFORMANCE WITH)
THE REQUIREMENTS OF THE ARIZONA)
6 REVISED STATUTES 40-360.03 AND)
40-360.06 FOR A CERTIFICATE OF)
7 ENVIRONMENTAL COMPATIBILITY)
AUTHORIZING THE CONSTRUCTION OF)
8 NATURAL GAS-FIRED, COMBINED CYCLE)
GENERATING FACILITIES AND)
9 ASSOCIATED INTRAPLANT TRANSMISSION)
LINES, SWITCHYARD IN GILBERT,)
10 ARIZONA LOCATED NEAR AND SOUTHEAST)
OF THE INTERSECTION OF VAL VISTA)
11 DRIVE AND WARNER ROAD.)
_____)

L-00000B-00-0105
CASE NO. 105

12

13 At: Mesa, Arizona

14 Date: February 12, 2001

15 Filed:

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REPORTER'S TRANSCRIPT OF PROCEEDINGS

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VOLUME XX
(Pages 4132 through 4405)

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ARIZONA REPORTING SERVICE, INC.
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Prepared for: By: JANICE SCHUTZMAN, RPR, RMR
CCR No. 50353

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1 Santan, one or the other. And the committee would
2 have to face a CEC either way.

3 MEMBER CAMPBELL: Then that would mean a
4 different location for a plant would be
5 appropriate?

6 MR. EMERSON: Once you have the need for
7 internal generation like that, then the thing from
8 Santan, moving it somewhere else would, by SRP's
9 figures, be roughly \$100 million to move it
10 somewhere else, would be more expensive.

11 So what you'd be doing is, if you didn't
12 approve Santan, then what you would have is another
13 location for internal generation in the east valley
14 somewhere. So SRP would then go back to the
15 drawing board and look for another location for the
16 generation.

17 (Voices from the audience.)

18 CHMN. BULLIS: Please keep it down.
19 Please. Have some courtesy for the folks who are
20 speaking.

21 Any other comments by any other committee
22 members?

23 MEMBER WHALEN: Mr. Chairman, just as a
24 comment on Coolidge. I was unfortunately not
25 present during the committee's hearings on the

ATTACHED IS THE EXECUTIVE SUMMARY ONLY

PROPOSED SANTAN GENERATING FACILITY EXPANSION
EVALUATION OF POTENTIAL IMPACT ON AREA HOME VALUES

PRICewaterhouseCOOPERS LLP
SEPTEMBER 8, 2000

September 8, 2000

Kenneth C. Sundlof, Jr.
Jennings, Strouss & Salmon, P.L.C.
Two North Central Avenue
Phoenix, Arizona 85004

RE: *Salt River Project*
Proposed Santan Generating Facility Expansion
Evaluation of Potential Impact on Area Home Values

Dear Mr. Sundlof:

In accordance with your request, PricewaterhouseCoopers LLP ("PwC") has completed a real estate consulting assignment related to the proposed expansion of the existing SRP Santan Generating Facility (the "Facility") located near the southeast corner of Warner and Val Vista Roads in Gilbert, Maricopa County, Arizona. The purpose of this assignment is to evaluate the impact, if any, of the proposed Facility expansion (the "Expansion Plan") on the marketability, pricing and/or market value of improved residential properties located in the neighborhoods surrounding the Facility ("Study Area"). The effective date of this analysis, and the conclusions stated herein, is August 31, 2000, the date of closing for the most recent home sales analyzed in connection with this study.

EXECUTIVE SUMMARY

Assignment Overview

In this assignment, you have asked us to evaluate the following issues as they relate to the Expansion Plan:

- The extent to which participants in the area home sale market are aware of the Expansion Plan;
- The significance of the Expansion Plan in the area home purchase decision-making process;
- The impact, if any, of the Expansion Plan on area home sale prices;
- The impact, if any, of the Expansion Plan on home sale characteristics, such as marketing time, listing and selling prices, turnover, rates of appreciation, etc.;
- Indications as to whether and how home sale prices might be influenced as the Expansion Plan is implemented.

Assignment Objectives and Methodology

To address these issues, we have specified the following objectives and performed the following tasks and analyses:

Qualitative Analyses

Objectives:

- To evaluate the extent of public awareness regarding the Expansion Plan;
- To identify positive and negative attributes associated with the neighborhood and area home purchases; and
- To evaluate the significance of those attributes in area home purchase decisions.

Analyses Performed:

- Reviewed the characteristics and history of the existing Facility, its location, and the Expansion Plan in conjunction with land use trends, patterns and influences in the local neighborhoods and surrounding area;

- Reviewed mitigation efforts proposed by SRP to minimize environmental and visual impacts;
- Evaluated public information materials, events and media exposure;
- Interviewed real estate brokers active in the local market; and
- Interviewed sales agents in the new home subdivisions nearest the Facility.

Quantitative Analyses

Objectives:

- To identify and evaluate the most reliable indicators of potential impact of the Expansion Plan on area home prices;
- To identify a Study Area as the basis for quantitative analyses;
- To develop residential sale transactions database comprised of home sale transactions and listing data for single-family residential properties within a two-mile area surrounding the Facility between January 1999 and August 2000.
- To develop a quantitative comparison of area home sale price trends and related indicators before and after the market became generally aware of the Expansion Plan; and
- To develop a quantitative comparison of area home sale price trends and related indicators at selected distance intervals from the Facility.

Analyses Performed:

- Sale Price per Interior Square Foot analysis – Analysis of home sale price appreciation before and after general market awareness, and at varied distances from the Facility.
- Days on Market analysis – Analysis of marketing time, defined as the period between the date on which a home is listed for sale and the date that a sale contract is executed by a buyer and seller.
- Turnover Rate analysis – Analysis of number of homes sold relative to total number of homes in the selected Study Area.
- Ratio of Sale Price to List Price analysis – Ratio analysis, also performed over time and distance.
- Proximity Study – Multiple regression analysis to determine whether and how home prices are influenced by proximity to the Facility.

Findings and Conclusions

Based on our analysis, we have drawn the following conclusions, which are discussed in detail in subsequent sections of this report:

1. ***Market awareness of the Expansion Plan has grown significantly since May, 2000*** – The Expansion Plan was first announced by SRP in August, 1999. Our interviews with real estate brokers active in the local market indicate that public awareness has become widespread over the last several months. Based on information provided to us through real estate broker interviews, and based on our analysis of media and other public information events, we have selected, for analytical purposes, May 1, 2000 as the date upon which the market is assumed to be generally aware of the Expansion Plan.¹
2. ***Home sale price appreciation is consistent across varied distances from the Facility.*** We analyzed home prices across four Study Areas, consisting of residential neighborhoods located within concentric, one-half mile rings from the Facility. If the Expansion Plan were influencing sale prices, we would expect to see lower rates of appreciation in the Study Areas located nearest to the Facility. To the contrary, our analysis indicates that appreciation rates are consistent across all four Study Areas.
3. ***There is no indication that the marketing time of homes located near the Facility has been affected by the Expansion Plan.***

¹ The selection of this particular date is based solely on our interpretation of qualitative considerations, and should not be construed as anything other than a benchmark selected for analytical purposes.

4. *There is no indication that the turnover rate for homes located near the Facility has been affected by the Expansion Plan.*
5. *There is no indication that the ratio of selling prices to listing prices for homes located near the Facility has been affected by the Expansion Plan.*
6. *There is no indication that proximity to the Facility is affecting selling prices for homes located nearby.* Our statistical analysis, based on development and application of a multiple regression model, indicates with a high degree of statistical reliability that proximity to the Facility has not had a significant influence on home prices at any time during the two-year period analyzed. Moreover, the data indicate that pricing is consistent across the selected time periods as well as across the selected Study Areas.
7. *We identified only two situations where the Expansion Plan has reportedly influenced the transaction.* In one instance, a real estate broker attributed an extended marketing period for the sale of a home to the Expansion Plan.² In another instance, we were informed that a prospective buyer in a new home subdivision declined to pursue a purchase upon being informed of the Expansion Plan.³
8. *While there appears to be a genuine, though limited degree of, concern regarding the Expansion Plan in areas proximate to the Facility, the transactions data indicate that there is currently no impact on home sale prices. Moreover, we find nothing in the market, in the sale data, or in the Expansion Plan to suggest that buyers and sellers will attribute any greater or lesser significance to the Expansion Plan in the future than they do today.*

In general, we conclude that, while a moderate level of concern regarding the Expansion Plan does exist in neighborhoods proximate to the Facility, there is currently no indication that the marketability, pricing and/or market value of homes located in those neighborhoods have been affected by the Expansion Plan. Moreover, we do not currently see anything in the market to suggest that this is likely to change if and when the Expansion Plan is implemented.

Sincerely,



Thomas E. Kabat, MAI, CCIM
Director – Financial Advisory Services
PricewaterhouseCoopers LLP

The analysis reported herein was prepared pursuant to USPAP Standards Rules ("S.R.") 4 and 5 addressing the development and reporting of real estate consulting services. This report is presented in summary format, and is consistent with the intent of USPAP S.R. 2-2(b) in that it summarizes certain information that was considered, but is contained in our work files. The report is not intended to be self-contained.

² We were informed that a prior contract on the same home had previously fallen out of escrow for reasons unrelated to the Expansion Plan. Therefore, the extended marketing time for this particular sale cannot be attributed solely to the Expansion Plan. It is also important to note that, in this transaction, the home in question ultimately sold for 100% of the original listing price.

³ The sale agent who informed us of this situation indicated that this was only an isolated instance. In her opinion, the Expansion Plan is not a factor influencing the home purchase decisions of prospective buyers in her subdivision.

ATTACHED IS THE EXECUTIVE SUMMARY ONLY

***A STUDY OF THE IMPACT
OF THE EXISTING
SANTAN GENERATING STATION
(GILBERT, ARIZONA)
ON NEARBY RESIDENTIAL
PROPERTY VALUES***

PREPARED FOR

MR. KENNETH C. SUNDLOF, JR.
JENNINGS, STROUSS & SALMON, P.L.C.
TWO NORTH CENTRAL AVENUE, 16TH FLOOR
PHOENIX, ARIZONA 85004-2393

DATE OF REPORT

AUGUST 21, 2000

DATE OF ANALYSIS

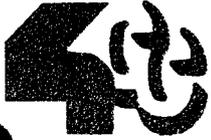
JULY 15, 2000

PREPARED BY

SEAN M. KELLY, MAI
KELLY COMMERCIAL CONSULTANTS, INC.
REAL ESTATE APPRAISAL SERVICES
209 EAST BASELINE ROAD, SUITE 205
TEMPE, ARIZONA 85283

KCC FILE NO.

715-00



**KELLY COMMERCIAL
CONSULTANTS, INC.**

Real Estate Appraisal Services

Sean M. Kelly, MAI
President

August 21, 2000

Mr. Kenneth C. Sundlof, Jr.
Jennings, Strouss & Salmon, P.L.C.
Two North Central Avenue, 16th Floor
Phoenix, Arizona 85004-2393

Re: A study of the impact of the *existing Santan Generating Station* (Gilbert, Arizona) on nearby residential property values
(*Kelly Commercial Consultants File No. 715-00*)

Dear Mr. Sundlof:

At your request, I have conducted a property valuation study on the various residential subdivisions surrounding the existing Santan Generating Station. The purpose of the study is to determine the past and present impact of the existing Santan Generating Station (in Gilbert, Arizona) on nearby residential property values.

This study will focus on two time frames. The first time frame will analyze sales data from the first sales in various subdivisions development (in 1994-1995) through July 15, 2000, while the second time frame will analyze sales and listings from the time the proposed Santan Expansion Project was announced publicly, in August of 1999, through July 15, 2000.

In this study, numerous single-family home sales (within subdivisions) closest to the Santan Generating Station have been analyzed to determine if their sale prices are affected, as compared to other home sales within the same subdivision, but not adjacent to Santan Generating Station. The study includes analysis of home appreciation rates and periods of ownership (holding period) for homes adjacent to, and not adjacent to, the Santan Generating Station, as well as a comparison to Metropolitan Phoenix statistical data.

For purposes of this analysis, Santan Generating Station will often be referred to as Santan.

This is not an appraisal report, nor a summary of one. This is a property valuation study that is limited in scope. The data relied upon for this property valuation study included Maricopa County public records (sales data, ownership data, and maps) and Multiple Listing Service (sales and listings).

A total of six subdivisions in the immediate area of Santan Generating Station have been analyzed, including Rancho Cimarron, Cottonwoods Crossing Unit 1, Cottonwoods Crossing Phase 2, Western Skies Estates Unit 1, Western Skies Estates Unit 2 and Western Skies Estates Unit 4. In order to reduce the impact of any one individual piece of data, large data groups and individual comparisons have been relied upon.

The existing Santan Generation Station was placed into operation in 1975, some 20 years prior to the beginning of development of the various nearby subdivisions, including the study groups in this report. Therefore, over the years, the residential homeowners have been well aware of the plant's existence. The section beginning on page 183 provides an overview of the plant's physical characteristics, mitigation and enhancement measures.

The study includes analysis of the four primary topics, summarized as follows:

- 1) *Comparison of the sale prices of homes adjacent to Santan to the sale prices of those homes which are further removed, yet within the same subdivision.*
Conclusion: Based on the study groups analyzed, the presence of Santan Generating Station has had no measurable impact on the sale prices of these homes.
- 2) *Comparison of rates of appreciation/depreciation.*
Conclusion: Based on the study groups analyzed, appreciation rates appear to have been unaffected by the presence of Santan Generating Station.
- 3) *Comparison of periods of ownership.*
Conclusion: Based on the study groups analyzed, periods of ownership appear to have been unaffected by the presence of Santan Generating Station.
- 4) *Comparison of listing activity, including days listed on the market prior to selling.*
Conclusion: Based on the study groups analyzed, listing activity appears to be generally unaffected, and the statistics for days on the market were found to be comparable between adjacent and non-adjacent homes. Therefore, the presence of Santan Generating Station has had no measurable impact on listing activity.

Overall, based on the study groups analyzed, and as of July 15, 2000, I conclude the existing Santan Generating Station has had no measurable impact on the value or marketability of the residential homes. The data suggest that since the announcement of the proposed Santan Expansion Project, there has been no measurable impact on the value or marketability of the residential homes. Overall, I am unable to definitively predict the effect of the Santan Expansion Project on nearby residential property values. However, after taking into account the data outlined in this report, and assuming there are no negative health effects, and assuming the proposed mitigation and enhancement measures are completed, the evidence suggests that the effect of the proposed Santan Expansion Project will be negligible.

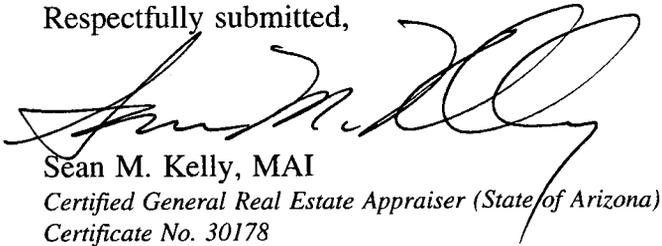
Mr. Kenneth C. Sundlof, Jr.
August 21, 2000
Page 3

The following is a detailed presentation of the facts and data analyzed for the conclusions.

The information from this report is based on Maricopa County public records and Multiple Listing Service (MLS) data as of July 15, 2000. Therefore, any recorded sales or listings after July 15 will not be included.

The opportunity to assist you has been appreciated. If there are any questions or comments, please contact my office at (480) 839-8039.

Respectfully submitted,



Sean M. Kelly, MAI
Certified General Real Estate Appraiser (State of Arizona)
Certificate No. 30178

SMK/kf

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BEFORE THE POWER PLANT AND TRANSMISSION
LINE SITING COMMITTEE

IN THE MATTER OF THE APPLICATION OF)
SALT RIVER PROJECT OR THEIR)
ASSIGNEE(S), IN CONFORMANCE WITH)
THE REQUIREMENTS OF THE ARIZONA)
REVISED STATUTES 40-360.03 AND)
40-360.06 FOR A CERTIFICATE OF) L-00000B-00-0105
ENVIRONMENTAL COMPATIBILITY)
AUTHORIZING THE CONSTRUCTION OF) CASE NO. 105
NATURAL GAS-FIRED, COMBINED CYCLE)
GENERATING FACILITIES AND) DELIBERATIONS
ASSOCIATED INTRAPLANT TRANSMISSION)
LINES, SWITCHYARD IN GILBERT,)
ARIZONA LOCATED NEAR AND SOUTHEAST)
OF THE INTERSECTION OF VAL VISTA)
DRIVE AND WARNER ROAD.)
)

At: Mesa, Arizona
Date: January 26, 2001
Filed:

REPORTER'S TRANSCRIPT OF PROCEEDINGS
VOLUME XVIII
(Pages 3747 through 3976)

ARIZONA REPORTING SERVICE, INC.
Court Reporting
Suite Three
2627 North Third Street
Phoenix, Arizona 85004-1103

Prepared for: By: CECELIA BROOKMAN, RPR
CCR No. 50154

1 BEFORE THE POWER PLANT AND TRANSMISSION
2 LINE SITING COMMITTEE

3

4 IN THE MATTER OF THE APPLICATION OF))
5 SALT RIVER PROJECT OR THEIR))
6 ASSIGNEE(S), IN CONFORMANCE WITH))
7 THE REQUIREMENTS OF THE ARIZONA))
8 REVISED STATUTES 40-360.03 AND))
9 40-360.06 FOR A CERTIFICATE OF)) L-00000B-00-0105
10 ENVIRONMENTAL COMPATIBILITY))
11 AUTHORIZING THE CONSTRUCTION OF)) CASE NO. 105
12 NATURAL GAS-FIRED, COMBINED CYCLE))
13 GENERATING FACILITIES AND))
14 ASSOCIATED INTRAPLANT TRANSMISSION))
15 LINES, SWITCHYARD IN GILBERT,)) DELIBERATIONS
16 ARIZONA LOCATED NEAR AND SOUTHEAST))
17 OF THE INTERSECTION OF VAL VISTA))
18 DRIVE AND WARNER ROAD.))
19))

20 At: Mesa, Arizona
21 Date: February 2, 2001
22 Filed:

23 REPORTER'S TRANSCRIPT OF PROCEEDINGS

24 VOLUME XIX
25 (Pages 3977 through 4131)

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 Court Reporting
 Suite Three
 2627 North Third Street
 Phoenix, Arizona 85004-1103

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 10 ARIZONA LOCATED NEAR AND SOUTHEAST)
 OF THE INTERSECTION OF VAL VISTA)
 11 DRIVE AND WARNER ROAD.)
 _____)
 12)

13 At: Mesa, Arizona

14 Date: February 12, 2001

15 Filed:

16

REPORTER'S TRANSCRIPT OF PROCEEDINGS

17

18 VOLUME XX
(Pages 4132 through 4405)

19

20 ARIZONA REPORTING SERVICE, INC.
 Court Reporting
 21 Suite Three
 2627 North Third Street
 22 Phoenix, Arizona 85004-1103

23 By: JANICE SCHUTZMAN, RPR, RMR
 Prepared for: CCR No. 50353

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BEFORE THE POWER PLANT AND TRANSMISSION
LINE SITING COMMITTEE

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At: Mesa, Arizona
Date: January 26, 2001
Filed:

REPORTER'S TRANSCRIPT OF PROCEEDINGS
VOLUME XVIII
(Pages 3747 through 3976)

ARIZONA REPORTING SERVICE, INC.
Court Reporting
Suite Three
2627 North Third Street
Phoenix, Arizona 85004-1103

Prepared for: By: CECELIA BROOKMAN, RPR
CCR No. 50154

1 is a party, I've indicated to him that we still need
2 to follow the process that's established by rules, so
3 that, in other words, one party can't simply
4 communicate without allowing all parties that same
5 information. So I'll be asking Mr. Sequeira to make
6 sure to follow the standard process that we've been
7 following throughout the proceeding, which is if
8 somebody files anything, it needs to be, the original
9 and 25 copies, at the Corporation Commission Docket
10 Control and provide copies to all the other parties in
11 the proceeding, just to make sure that we're still on
12 track in terms of the process.

13 Finally, before we get started, I just want
14 to take a look at the statute that discusses the role
15 of this Committee. And the statute identifies for us
16 several items that this Committee must consider,
17 factors that the Committee must consider in acting on
18 an application for a Certificate of Environmental
19 Compatability, so let me just read those off for the
20 benefit of everyone.

21 There are nine factors. No. 1, existing
22 plans of the state, local government, and private
23 entities for other developments at or in the vicinity
24 of the proposed site.

25 Paragraph No. 2, fish, wildlife and plant

1 life and associated forms of life upon which they are
2 dependent.

3 No. 3, noise emission levels and interference
4 with communication signals.

5 No. 4, the proposed availability of the site
6 to the public for recreational purposes consistent
7 with safety considerations and regulations.

8 No. 5, existing scenic areas, historic sites
9 and structures, or archeological sites at or in the
10 vicinity of the proposed site.

11 No. 6, the total environment of the area.

12 No. 7, the technical practicability of
13 achieving a proposed objective, and the previous
14 experience with equipment and methods available for
15 achieving a proposed objective.

16 No. 8, the estimated cost of the facilities
17 and site as proposed by the applicant, and the
18 estimated cost of the facilities and site as
19 recommended by the Committee, recognizing that any
20 significant increase in costs represents a potential
21 increase in the cost of electric energy to the
22 customers or the applicant.

23 And No. 9, any additional factors which
24 require consideration under applicable federal and
25 state laws pertaining to any such site.

1 That's part of the statute that deals with
2 this Committee.

3 With that, I think we're now -- we've heard
4 the evidence, we've heard the arguments of all the
5 parties and the intervenors. We've had a number of
6 recommendations and suggestions, proposed language,
7 and we appreciate all of that input very, very much.
8 And at this point I'll open it up to the Committee for
9 comments, deliberation, thoughts, any member of the
10 Committee that wants to get started.

11 Mr. Sundie.

12 MEMBER SUNDIE: I guess I will, Mr. Chairman.
13 With due respect to the Corporation Commission Staff,
14 I didn't see reliability at all mentioned in the
15 statute. Is that correct?

16 CHMN. BULLIS: Reliability is not identified
17 as one of those factors. I will, however, note that
18 this Committee has those factors identified for it
19 when it comes to the Corporation Commission. However,
20 the Corporation Commission, when they act on an
21 application, has a -- and if there's a request to deny
22 or a request for review filed on a Committee action
23 that's in front of the Corporation Commission, they
24 have a slightly broader charge, and the statute says
25 that the Commission shall, in addition to those

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13 At: Mesa, Arizona

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18 VOLUME XX
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 Prepared for: CCR No. 50353

24

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1 I'm wondering with Mr. Apergis just said
2 it's not required for them to have the certificate
3 of environmental compatibility to go to Maricopa
4 County to get the air quality permit, and I would
5 think that that would be an automatic before we get
6 a permit for environmental compatibility. They
7 would come and present that they are going to apply
8 to the air quality, but it seems like the process
9 right now is going backwards and we're going to
10 give them an environmental compatibility
11 certificate and then go and try to get the air
12 quality permit.

13 CHMN. BULLIS: Thank you, appreciate
14 those comments.

15 At the close of last proceeding --

16 MR. KWIAT: I would like to know is that
17 by law that they can do that or why is that process
18 going that way, that's my question.

19 CHMN. BULLIS: Thank you. We have,
20 typically in fact what's required by law --

21 (Voices from the audience.)

22 CHMN. BULLIS: I'm going to ask you again
23 to allow the process to proceed.

24 By statute one of the requirements is
25 required as part of the, if a certificate is

1 granted, by statute, we are required to impose the
2 condition that says the application must meet all
3 state, federal and local permitting requirements.

4 So this, whether the permit, whether the
5 CEC comes first or air quality permit comes first
6 by law they are required to get that and that's
7 required to be a condition of the permit.

8 At the close of our last meeting here, we
9 had gone through and discussed a number of the
10 proposed conditions and we had asked SRP on the
11 basis of the discussion that they heard by the
12 committee and with the parties to take that and see
13 if they could prepare language that would reflect
14 or address the discussion.

15 And again, we're not, nobody is voting
16 yet on whether there will be a permit issued or
17 not, but what I would like to do at this point is
18 to go through the proposed language that SRP has
19 prepared and presented to us and see if we have any
20 questions or discussion on those proposed
21 conditions, whether there is additional language
22 that we might want to, might want to consider, take
23 a look at and then basically see how far we can get
24 with this language. And once we've gone as far as
25 we can go, then comes a question is that enough.

1 recommendations that were supplied today, or at
2 least passed out today by Mr. Kwiat, and that's on
3 the document entitled The Original and 25, case No.
4 105, and it's titled Certificate of Environmental
5 Compatibility. It's a one page document, it has
6 Mr. Kwiat's signature at the bottom, it indicates
7 it was filed in docket control as well.

8 So I want to identify these suggestions
9 as well by Mr. Kwiat, and I'll read these:

10 Conditions to be considered in regards to
11 the proposed expansion of the Santan power plant
12 submitted by Intervenor Mark Kwiat:

13 SRP would not take any action to exercise
14 their right to transfer, if approved, certificate
15 of environmental compatibility, as stated in the
16 state statutes No. 40-360.08 A -- as in apple -- to
17 the likes of any merchant plant for a period of 20
18 years. This is per their claim of energy is for
19 the sole need of the east valley.

20 2. The Line Siting Committee would
21 strongly consider these parameters in making their
22 final decision of approving or denying SRP's
23 request for a certificate of environmental
24 compatibility.

25 A. To deny approval for SRP request for

1 certification proceeding may request a review
2 thereof by the Corporation Commission.

3 What that means is whatever this
4 committee decides, the parties, any party who's
5 dissatisfied, whether that be SRP or the Utility
6 Investors Association or the, any of the
7 Intervenors, has an opportunity within 15 days to
8 request a review by the Corporation Commission.

9 The Corporation Commission will then make
10 the final decision to approve or disapprove or make
11 modifications to whatever action this committee
12 takes.

13 There is another provision of statute
14 that I want to make sure that the folks
15 understand. The statutes establish certain time
16 frames for this committee to act, within which this
17 committee must act. The statutes provide that the
18 committee must act on an application within what --
19 let me back up.

20 What the statutes say is if this
21 committee fails to act on an application within the
22 applicable time period, and that applicable time
23 period for this committee is 180 days, that if this
24 committee fails to act, then the Applicant may in
25 its discretion and in the interest of providing