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ORIGINAL

BEFORE THE ARIZONA POWER PLANT
AND TRANSMISSION LINE SITING COMMITTEE

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IN THE MATTER OF THE APPLICATION OF
ARIZONA SOLAR ONE, LLC IN
CONFORMANCE WITH THE
REQUIREMENTS OF ARIZONA REVISED
STATUES §§ 40-360, *et seq.*, FOR A
CERTIFICATE OF ENVIRONMENTAL
COMPATIBILITY AUTHORIZING THE
CONSTRUCTION OF THE SOLANA
GENERATING STATION, LOCATED IN
SECTION 9, TOWNSHIP 6 SOUTH, RANGE 7
WEST, MARICOPA COUNTY, ARIZONA.
IN THE MATTER OF THE APPLICATION OF
ARIZONA SOLAR ONE, LLC IN
CONFORMANCE WITH THE
REQUIREMENTS OF ARIZONA REVISED
STATUES §§ 40-360, *et seq.*, FOR A
CERTIFICATE OF ENVIRONMENTAL
COMPATIBILITY AUTHORIZING THE
CONSTRUCTION OF THE SOLANA GEN-TIE,
WHICH ORIGINATES AT THE SOLANA
GENERATING STATION, LOCATED IN
MARICOPA COUNTY, AND TERMINATES AT
THE PANDA 230 kV SUBSTATION, LOCATED
IN GILA BEND, ARIZONA.

DOCKET NO. L-00000GG-08-0407-00139

CASE NO. 139

DOCKET NO. L-00000GG-08-0408-00140

CASE NO. 140

NOTICE OF FILING

Staff of the Arizona Corporation Commission hereby files the slide show presentation of Bob Gray of the Utilities Division, "Exhibit CC 1," in the above-referenced matter.

RESPECTFULLY SUBMITTED this 17th day of September, 2008.

Charles H. Hains
Attorney, Legal Division
Arizona Corporation Commission
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Phoenix, Arizona 85007
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Original and twenty-eight (28)
copies of the foregoing filed this
17th day of September, 2008 with:

Docket Control
Arizona Corporation Commission
1200 West Washington Street
Phoenix, Arizona 85007

Arizona Corporation Commission
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SEP 17 2008

DOCKETED BY

ARIZONA CORPORATION COMMISSION
DOCKET CONTROL

2008 SEP 17 P 4: 11

RECEIVED

1 Copies of the foregoing
2 mailed this 17th day of
3 September, 2008 to:

3 John Foreman, Chairman
4 Arizona Power Plant and
5 Transmission Line Siting Committee
6 Office of the Attorney General
7 1275 West Washington Street
8 Phoenix, Arizona 85007

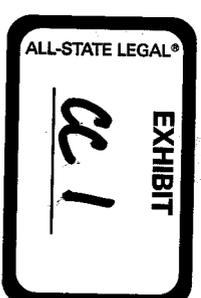
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Renewable Energy and Natural Gas: Issues and Considerations

Bob Gray, ACC Staff
September 2008

Docket Numbers: L-00000GC-08-0407-00139
L-00000GC-08-0408-00140

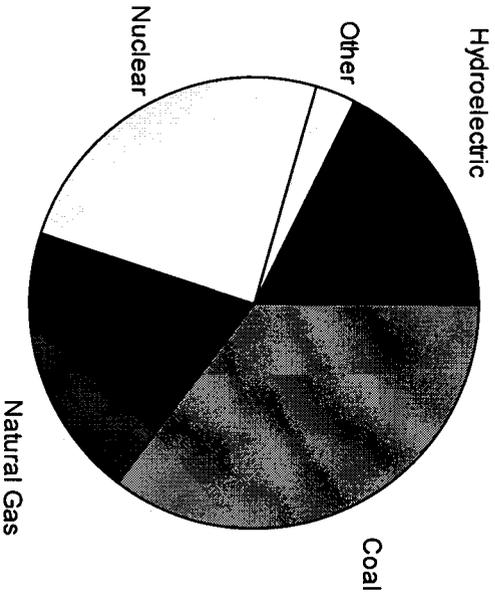
Why Are We Talking About Natural Gas in a Line Siting Case Involving a Solar Generating Station?

- Nationally, and in Arizona, natural gas-fired generation has been the default source for most additional electric generation capacity additions for many years
- This trend is likely to continue, as noted by Federal Energy Regulatory Commission Chairman Joseph Kelliher's February 15, 2008 statement that "the U.S. is likely to rely very heavily on natural gas generation additions over the next ten years."
- Growing reliance on natural gas as the fuel of choice to meet electricity demand raises a variety of important policy issues
- In recent line siting cases, Staff has expressed its concern with the ongoing trend of growing reliance on natural gas-fired generation, both in Arizona and nationally
- Solar energy is touted as one possible avenue for reducing our growing reliance on natural gas-fired electric generation

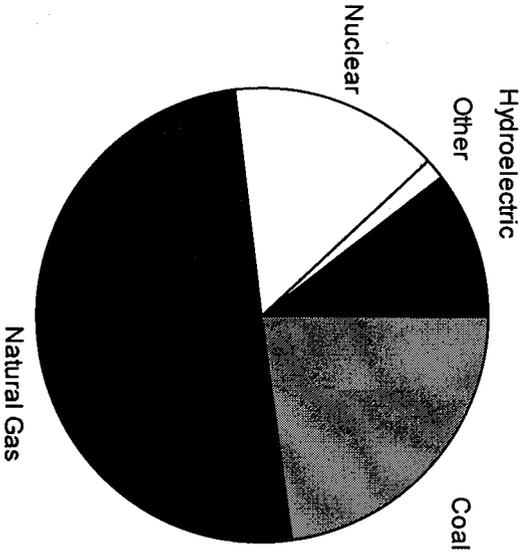
Policy Issues Related to Increased Reliance on Natural Gas-Fired Electric Generation

- Significant natural gas price volatility will tend to result in higher volatility in electric rates for end users
- Consumption of natural gas for electric generation has driven up natural gas prices and contributed to the flight of portions of the United States' industrial base as residential, commercial, and industrial end-users have suffered higher natural gas prices in recent years
- Long term projections of natural gas supplies show increasing reliance on natural gas imports from overseas, raising issues similar to those related to the United States' on-going reliance on foreign oil
- Use of natural gas to generate electricity is an inefficient use of natural gas on a total energy basis
- For Arizona, the lack of natural gas storage or similar tools to help manage natural gas supplies in the state is a cause of long term concern, as it could impair the state's ability to maintain natural gas service if a substantial supply interruption was caused by an event such as wellhead freeze-offs or a major infrastructure failure

Arizona Generation Capacity in 2000

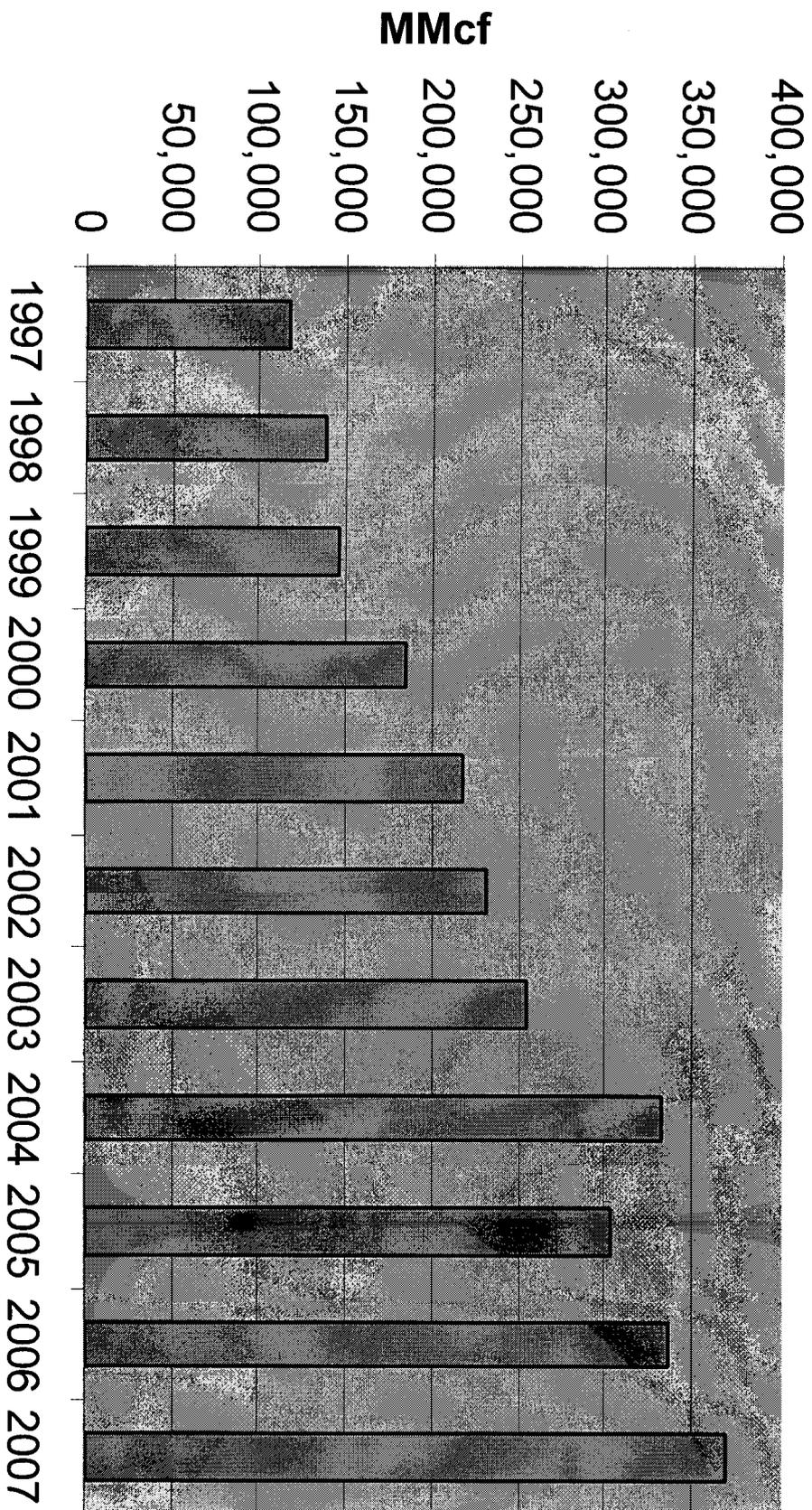


Arizona Generation Capacity in 2006



Source: U.S. Department of Energy, Energy Information Administration

Arizona's Growing Consumption of Natural Gas



Source: U.S. Department of Energy, Energy Information Administration

Will Projects Such as Solana Reduce Our Reliance on Natural Gas and Reduce Natural Gas Prices?

- Yes and No
- As a general principal, the deployment of any electric generation technology that does not burn natural gas, including solar, will over a long timeframe reduce reliance on natural gas or at least slow the rate at which we are becoming more dependent on natural gas
- Solar energy's cost structure, with high up-front costs and relatively low costs thereafter is markedly different than that of natural gas-fired generation, where the fixed up front cost is relatively low, but there is significant exposure to fuel price volatility and the availability of natural gas supplies in the future

Important Caveats

- While solar has the potential to impact natural gas prices in the long term, it is likely to do little or nothing to impact natural gas prices in a more short term timeframe. Many other factors have a much greater impact on natural gas prices than a relatively small increment of gas-fired generation that isn't built or run due to new solar resources.
- Other major factors driving natural gas prices include weather, world market prices, economic conditions, changing production levels (such as the recent shale play discoveries), changing consumption patterns, and hurricane events in the Gulf of Mexico
- The sheer volume of gas-fired generation in the United States will dwarf solar resources, and their ability to impact gas supplies and prices, for many years. According to the Energy Information Administration, there were 543 Gigawatts of installed nameplate gas-fired generation in the United States as of 2006, and another 46 Gigawatts of projected gas-fired additions from 2007 through 2011.
- This massive base of gas-fired generation serves as a sort of hedge against significant long term reductions in natural gas prices. This is because as natural gas prices move downward, running gas-fired electric generation capacity becomes more economic, increasing demand for natural gas, and can even begin displacing coal generation facilities.

Caveats continued

- For example, the August 27, 2008 issue of Gas Daily cites a Raymond James analyst who projects that under current market conditions electric utilities will start switching from coal to natural gas-fired generation when natural gas prices reach approximately \$7.00 per million cubic feet. The resulting increase in demand for natural gas will tend to push prices back up.
- Apart from hydroelectric generation in certain instances, natural gas-fired generation is typically relied upon to accommodate changes in electricity demand with little or no notice, as they are more easily dispatchable than other generation sources such as coal and nuclear. To the extent solar resources rely on natural gas to firm up intermittent solar supplies, this could contribute to construction of and reliance on natural gas generation. In the specific case of Solana, it appears that the molten salt heat storage would significantly reduce the need for natural gas-fired generation to firm up the resource.

Summary

- In summary, Staff believes that construction of the Solana project and similar facilities can play a positive role as part of a long term strategy to help address Arizona's growing reliance on natural gas-fired generation
- However, due to a number of factors, Staff believes that in the short term, Solana and similar projects will have little or no impact on natural gas prices and supply availability

Proposed Condition

If the application in this case is approved, Staff recommends adoption of the following natural gas-related condition:

“Before commencing construction of Project facilities located parallel to and within 100 feet of any existing natural gas or hazardous liquid pipeline, the Applicant shall:

- (a) Perform the appropriate grounding and cathodic protection studies to show that the Project’s location parallel to and within 100 feet of such pipeline results in no material adverse impacts to the pipeline or to public safety when both the pipeline and the Project are in operation. If material adverse impacts are noted in the studies, Applicant shall take appropriate steps to ensure that such material adverse impacts are mitigated. Applicant shall provide to Commission Staff reports of studies performed; and
- (b) Perform a technical study simulating an outage of the Project that may be caused by the collocation of the Project parallel to and within 100 feet of the existing natural gas or hazardous liquid pipeline. This study should either: i) show that such outage does not result in customer outages; or ii) include operating plans to minimize any resulting customer outages. Applicant shall provide a copy of this study to Commission Staff.”