



0000060560

**GALLAGHER & KENNEDY**  
P.A.  
ATTORNEYS AT LAW

EXHIBIT I - 19

TODD C. WILEY  
DIRECT DIAL (602) 530-8514  
E-MAIL: TCW@GKNET.COM

ORIGINAL

2575 EAST CAMELBACK ROAD  
PHOENIX, ARIZONA 85016-9225  
PHONE (602) 530-8000  
FAX (602) 530-8500  
WWW.GKNET.COM

December 6, 2001

Arizona Corporation Commission  
**DOCKETED**

DEC 12 2001

VIA FAX, EMAIL & U.S. MAIL

DOCKETED BY

James D. Vieregg, Esq.  
Morrison & Hecker, L.L.P.  
Suite 1600  
2800 North Central Avenue  
Phoenix, Arizona 85004-1047  
[jdvieregg@moheck.com](mailto:jdvieregg@moheck.com)

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DOCUMENT CONTROL

Mark R. Wolfe, Esq.  
Adams Broadwell Joseph & Cardozo  
Suite 900  
651 Gateway Boulevard  
South San Francisco, California 94080  
[mwolfe@adamsbroadwell.com](mailto:mwolfe@adamsbroadwell.com)

Re: *Allegheny Energy Supply Company, L.L.C.*  
*Line Siting Docket No. L-00000AA-01-0116*

Dear Jim and Mark:

With this letter, I'm enclosing the following documents as you requested: (1) the October 25, 2001 dry cooling bid from BVZ Power Partners, (2) the November 2, 2001 dry cooling bid from NEPCO, (3) the October 26, 2001 dry cooling bid from Dick Corporation/Utility Engineers, (4) Allegheny's September 25, 2001 letter to Bechtel Power Corporation requesting an indicative dry cooling bid, and (5) Allegheny's September 25, 2001 emails to Bechtel, BVZ Power Partners, NEPCO and Utility Engineers requesting indicative dry cooling bids for the La Paz project. As we mentioned at the November hearings, Bechtel has requested that we not disclose its indicative dry cooling bid. Bechtel authorized Allegheny to disclose the bid amount (\$53 million) but not the written bid itself. Although the Unions haven't requested any vendor quotes, I've also enclosed the October 10, 2001 budget from GEA Power Cooling Systems, Inc. and the October 15, 2001 budget from BDT Engineering relating to use of air-cooled condensers at the La Paz project.

James D. Viereg, Esq.  
December 6, 2001  
Page 2

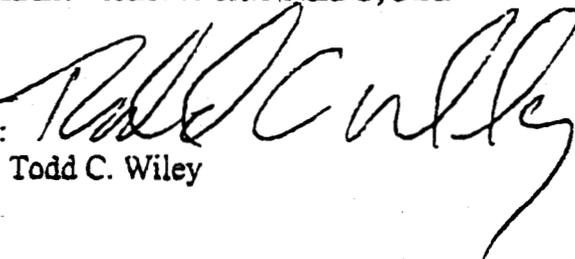
Finally, we intend to file our current exhibits for the December 13-14, 2001 hearings by end of business on Friday, December 7, 2001. If we have any additional exhibits, we will provide copies to you as soon as possible. As you know, Chair Woodall instructed the parties to file their exhibits well in advance of the upcoming hearings. We expect the Unions to file any new exhibits by end of business on December 7, 2001, as well.

We appreciate your courtesy and cooperation.

Very truly yours,

**GALLAGHER & KENNEDY, P.A.**

By:

  
Todd C. Wiley

TCW/lmm  
12921-0004/973930



**Allegheny Energy Supply**  
an Allegheny Energy company

McDowell Road Professional Plaza • 14122 West McDowell Road • Suite 201 • Goodyear, AZ 85338

RECEIVED  
SEP 25 2001  
GALLAGHER & KENNEDY

September 25, 2001

Mr. David Gasda  
Bechtel Power Corporation  
5275 Westview Drive  
Frederick, MD 21709-8306

Dear Mr. Gasda;

In addition to the indicative bid requested by Allegheny Energy for the La Paz Project, please provide an option price or price adder to your proposal for the installation of air-cooled condensers (ACC) in lieu of cooling towers and conventional water-cooled condensers (WCC). Please indicate the following information:

- The estimated Increase to Auxiliary power – ACC vs. WCC
- Derate to unit at high ambient temperatures – ACC vs. WCC
- Water use – ACC vs. WCC

Also, please provide an option price or price adder for a hybrid cooling system including air-cooled condensers and cooling towers. Please indicate the following information:

- The estimated Increase to Auxiliary power – Hybrid vs. WCC
- Derate to block at high ambient temperatures – Hybrid vs. WCC
- Water use – Hybrid vs. WCC

Please feel free to call me with any questions or concerns regarding this request.

Thank you,

John P. Anna  
Engineering / Production Manager  
Allegheny Energy Supply  
Phone: 623-536-1235  
Fax: 623-535-7016  
Email: [janna@alleghenyenergy.com](mailto:janna@alleghenyenergy.com)

**Melton, Jessica**

*Mailed Out 9/27/01*

**From:** Melton, Jessica  
**Sent:** Tuesday, September 25, 2001 4:52 PM  
**To:** 'dgasda@becntel.com'  
**Subject:** Additional Request for the La Paz RFP

Mr. Gasda,

In addition to the indicative bid requested by Allegheny Energy for the La Paz Project, please provide an option price or price adder to your proposal for the installation of air cooled condensers (ACC) in lieu of cooling towers and conventional water-cooled condensers (WCC). Please indicate the following information:

- \* the estimated Increase to Auxiliary power - ACC vs. WCC
- \* derate to unit at high ambient temperatures - ACC vs. WCC
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- \* the estimated Increase to Auxiliary power - Hybrid vs. WCC
- \* derate to block at high ambient temperatures - Hybrid vs. WCC
- \* water use - Hybrid vs. WCC

Please feel free to call me with any questions or concerns.

Thank you,

John P. Anna  
 Engineering / Production Manager  
 Allegheny Energy Supply  
 Phone: 623-536-1235  
 Fax: 623-535-7016  
 Cell: 623-910-6752  
 Email: janna@alleghenyenergy.com

**Melton, Jessica***Mailed Out 9/27/01*

**From:** Melton, Jessica  
**Sent:** Tuesday, September 25, 2001 4:54 PM  
**To:** 'donm@nepco.com'  
**Subject:** Additional Request for La Paz RFP

Mr. Marshall,

In addition to the indicative bid requested by Allegheny Energy for the La Paz Project, please provide an option price or price adder to your proposal for the installation of air cooled condensers (ACC) in lieu of cooling towers and conventional water-cooled condensers (WCC). Please indicate the following information:

- \* the estimated Increase to Auxiliary power - ACC vs. WCC
- \* derate to unit at high ambient temperatures - ACC vs. WCC
- \* water use - ACC vs. WCC

In addition, please provide an option price or price adder for a hybrid cooling system including air-cooled condensers and cooling towers. Please indicate the following information:

- \* the estimated Increase to Auxiliary power - Hybrid vs. WCC
- \* derate to block at high ambient temperatures - Hybrid vs. WCC
- \* water use - Hybrid vs. WCC

Please feel free to call me with any questions or concerns.

Thank you,

John P. Anna  
Engineering / Production Manager  
Allegheny Energy Supply  
Phone: 623-536-1235  
Fax: 623-535-7016  
Cell: 623-910-6752  
Email: janna@alleghenyenergy.com

**Melton, Jessica***Mailed Out 9/27/01*

**From:** Melton, Jessica  
**Sent:** Tuesday, September 25, 2001 4:53 PM  
**To:** 'appletr@bv.com'  
**Subject:** Additional Request for the La Paz RFP

Mr. Apple,

In addition to the indicative bid requested by Allegheny Energy for the La Paz Project, please provide an option price or price adder to your proposal for the installation of air cooled condensers (ACC) in lieu of cooling towers and conventional water-cooled condensers (WCC). Please indicate the following information:

- \* the estimated increase to Auxiliary power - ACC vs. WCC
- \* derate to unit at high ambient temperatures - ACC vs. WCC
- \* water use - ACC vs. WCC

In addition, please provide an option price or price adder for a hybrid cooling system including air-cooled condensers and cooling towers. Please indicate the following information:

- \* the estimated increase to Auxiliary power - Hybrid vs. WCC
- \* derate to block at high ambient temperatures - Hybrid vs. WCC
- \* water use - Hybrid vs. WCC

Please feel free to call me with any questions or concerns.

Thank you,

John P. Anna  
Engineering / Production Manager  
Allegheny Energy Supply  
Phone: 623-536-1235  
Fax: 623-535-7016  
Cell: 623-910-6752  
Email: janna@alleghenyenergy.com

**Melton, Jessica***Mailed Out 9/27/01*

**From:** Melton, Jessica  
**Sent:** Tuesday, September 25, 2001 4:57 PM  
**To:** 'mark.a.maes@ue-corp.com'  
**Subject:** Additional Request for La Paz RFP

Mr. Maes,

In addition to the indicative bid requested by Allegheny Energy for the La Paz Project, please provide an option price or price adder to your proposal for the installation of air cooled condensers (ACC) in lieu of cooling towers and conventional water-cooled condensers (WCC). Please indicate the following information:

- \* the estimated increase to Auxiliary power - ACC vs. WCC
- \* derate to block at high ambient temperatures - ACC vs. WCC
- \* water use - ACC vs. WCC

In addition, please provide an option price or price adder for a hybrid cooling system including air-cooled condensers and cooling towers. Please indicate the following information:

- \* the estimated increase to Auxiliary power - Hybrid vs. WCC
- \* derate to block at high ambient temperatures - Hybrid vs. WCC
- \* water use - Hybrid vs. WCC

Please feel free to call me with any questions or concerns.

Thank you,

John P. Anna  
Engineering / Production Manager  
Allegheny Energy Supply  
Phone: 623-536-1235  
Fax: 623-535-7016  
Cell: 623-910-6752  
Email: janna@alleghenyenergy.com



## GEA Power Cooling Systems, Inc.

### ALL DRY AIR COOLED CONDENSER

#### Budgetary Information

Date: 10/10/01  
 Company: Black & Veatch  
 Project: Allegheny Energy Services  
 Contact: Jim Bryant  
 Phone No.: 913-458-4522

Ref. No.: 2831

Fax No.: 913-458-2934

Condenser Design Requirements	
Steam Flow	1,073,850 lb/hr
Steam Quality	98%
Turbine Back Pressure	5.9" HgA
Inlet Air Temperature	101.5°F
Site Elevation	1,344 ft
Noise Level @ 400 ft.	64 dBA

Condenser Cell/Unit/Design	
No. of Bays	7
No. of Fan Modules/Bay	5
Fan Diameter	32 ft
Plot Area (W x L)	273 ft. x 195 ft.
Fan Deck Height	67 ft.
Overall ACC Height	108 ft.
Fan Shaft Power (Total)	4225 kW
Motor Rating hp	200 hp
Main Steam Duct Diameter	16.6 ft.

Budget Information	
Budget Price:	\$17,900,000
Note: The budget price is based on all material and equipment delivered to site, duties paid by others (DDU).	

Remarks	
<ul style="list-style-type: none"> <li>The above ACC design will have a backpressure of 5.82" HgA at a steam flow of 1,070,910 lb./hr.</li> <li>Budgetary pricing information valid for 30 days.</li> <li>The scope of supply is per GEA's standard scope of supply</li> </ul>	

# BDT

ENGINEERING  
Balcke - Ditt, Inc.

Tampa October 15, 2001

Black & Veatch Corporation  
8400 Ward Parkway  
Kansas City, Missouri 64114  
Attention Mr. Jim Bryant, <bryantje@bv.com>

With reference to your fax Project Ref. 097193/0040 Allegheny Energy Services, dated October 09, 2001, we are pleased to support your preliminary planning effort for your ACC project. Please find below budgetary type information for the requested Air Cooled Condensers (ACC).

We propose our standard A-frame arrangement in order to minimize plot area.

As you become more focused in your effort and can provide us with more job specific information, we will be pleased to provide you with a more detailed quotation.

In the meanwhile, we hope that the provided information is that which you need to support your needs. Please feel free to call me if you have any questions regarding the ACC.

Best Regards,  
Helmut Volkinsfeld  
BDT Engineering  
Tampa, FL, USA  
813-342-4908 Voice  
813-342-7908 Fax  
hvolkinsfeld@ceramic-a.com

### ACC DESIGN CONDITION

Total Exhaust Steam Flow	lb/h	1,073,850
Exhaust Steam Enthalpy	Btu/lb	1,122
Turbine Exhaust Pressure	inch Hg	5.9
Inlet Air Dry Bulb Temperature	F	101.5
Site Elevation	ft	1,344

### ACC RATING CASE

Total Exhaust Steam Flow	lb/h	1,070,910	Steam Quality 98%
Exhaust Steam Enthalpy	Btu/lb	-	
Turbine Exhaust Pressure	"HgA	5.78	
Inlet Air Dry Bulb Temperature	F	101.5	

### ACC DESIGN SELECTION

Number of Modules	36
Module Arrangement	Forced Draft, 6 Streets of 6 Modules
Plot Arrangement	212 ft L x 218 ft W x 115 ft H
Drive Equipment	36 each, 30 ft Axial Fans, 200/ 50 HP Motors, Two Speed
Sound Pressure Level	60dB(A) @ 400 ft from ACC Perimeter
Total Design Fan Power	4,800 kW @ Motor Input Terminals

**AIR COOLED CONDENSER PRICE**

**Terms:** BDT Engineering's Terms & Conditions (Available upon request)  
**Price Basis:** Budget (+/- 10%)  
**Quotation Validity:** -  
**Material Delivery:** Starting about 38-48 weeks (starting) from Approval of Basic Engineering Documents  
**Payment:** 20% downpayment and progress payments based on engineering and material deliverables

**Material Scope,**  
**CIF, DDP, Jobsite, USA** \$ 16,070,000 US  
**Immediate Job Site Unloading of Deliveries** \$ By Erection Contractor

**Mechanical Erection** by others

**Mechanical Erection Advisory Service** \$ 50,000 (8 Weeks, if erection by others)

**Commissioning Advisory Service** \$ 25,000 (4 Weeks)

**Start-Up Advisory Service** \$ 12,000 (2 Weeks)

**Taxes, VAT, Duties, Fees, etc.**  
**Outside USA** \$ Included  
**Inside USA (Duties & Import Fees)** \$ Included  
**Inside USA (Sales, Use, etc.)** \$ Not Included



*Building Excellence for Over 75 Years!*

**GEOFFREY L. MURKEN**  
Corporate Vice President - Power  
Heavy/Industrial Division

October 26, 2001

Mr Kevin C. Geraghty,  
Director, Western Region  
Allegheny Energy Supply  
An Allegheny Energy company  
14122 West McDowell Road, Suite 201  
Goodyear, AZ 85338  
Phone: (623) 536-6310

Subj: EPC Proposal Inserts and Option Pricing  
Ref: Allegheny Energy Supply  
La Paz Generating Facility  
1,080 MW Gas-Fired Combined Cycle Power Plant  
La Paz County, Arizona

Dear Mr. Geraghty:

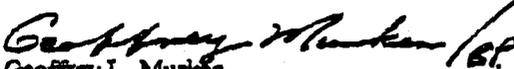
Dick Corporation/Utility Engineering, A Joint Venture is pleased to provide the following *Pricing Options and Water/Power Usage Matrix* for the construction of the La Paz Generating Facility in La Paz County, Arizona. Please insert the enclosed six (6) copies into Book I Section II of our Proposal.

Additionally, please insert the enclosed six (6) copies of the *Basis of Bid* into Book I Section I of our Proposal. These Proposal inserts were inadvertently omitted in October 23, 2001 submission.

We appreciate this opportunity to submit our Pricing Options and Basis of Bid, and we look forward to working with Allegheny Energy Supply on this important project. Please do not hesitate to contact me if you have any questions or need additional information regarding this Proposal.

Very truly yours,

**DICK CORPORATION**

  
Geoffrey L. Murken  
Corporate Vice President  
and General Manager-Power

/bap  
cc: File

## **PRICING**

### **EPC Proposal Pricing**

#### **Option Pricing**

Furnish HRSG's	<u>\$48,331,000</u>
Supplemental Duct-Firing System	<u>Included</u>
Stack Damper	<u>\$ 344,300</u>
Two PPM Nox SCR Spool Piece	<u>Included</u>
CO Catalyst Spool Piece	<u>\$680,000</u>
Circ Water Pumps stainless steel components	<u>\$ 135,900</u>
Additional 110% capacity Heat Exchanger	<u>\$569,000</u>
3 <sup>rd</sup> - 50% capacity Circ Water Pumps (2 ea.)	<u>\$1,337,000</u>
2 <sup>nd</sup> - 100% capacity Feed Water Pumps (4 ea.)	<u>\$2,300,000</u>
Second 1000 KW Diesel Generator	<u>\$ 353,000</u>
Steam Bypass System	<u>\$2,109,000</u>
Brine Concentrator	<u>\$14,722,000</u>
Electrical Tie Block 1 to Block 2	
Tie Option 1	<u>\$ 305,600</u>
Tie Option 2	<u>\$ 190,000</u>
Tie Option 3	<u>\$ 125,000</u>
Hybrid Cooling System 50% Cooling Tower/ 50% ACC	<u>\$32,200,000</u>
100% Capacity Air Cooled Condensers	<u>\$45,700,000</u>



Dick Corporation / Utility Engineering, A Joint Venture

Allegheny Energy Supply, an Allegheny Energy company  
La Paz Generating Facility  
La Paz County, Arizona  
October 26, 2001

# PRICING (OPTION)

EPC Proposal Pricing

Comparison of Cooling Tower vs. Air Cooled Condenser Allegheny LaPaz County Power Project		Assumptions		
		95F Fired W/Augmentation 100% Capacity Cooling Tower 5COC	95F Fired W/Augmentation 100% Capacity ACC	95F Fired W/Augmentation 50% / 50% Capacity Hybrid 5COC
Total Water Usage	gpm	6890	1986	3092
Water Usage	acre-ft/yr	11,115	3,204	4,891
Power Usage Fans	Kw/hr	2,237	4,950	2,500
Power Usage Pumps	Kw/hr	4,221	0	2,110
Total Power Usage	Kw/hr	6,458	4,950	4,610
** Assume 1/2 of maximum water usage 1.341Hp/Kw QxH/3960*BHP=efl 2628 325800gal/acre-ft 8760 hr/yr				
Cir Pump BHp				



Dick Corporation / Utility Engineering, A Joint Venture

Allegheny Energy Supply, an Allegheny Energy company  
 La Paz Generating Facility  
 La Paz County, Arizona  
 October 26, 2001

## ***BASIS OF BID***

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### **Proposal Assumptions and Clarifications**

1. SWPC will supply the ladders, stairs and platforms required to access their equipment.
2. SWPC will supply the kettle boilers.
3. Protective relaying for the switchyard is by others.
4. The terminal point for the transmission system will be the high side of the generator step-up transformers.
5. DC power requirements for the switchyard will be supplied by others.
6. No gas compression will be required.
7. No clarifier will be required.
8. The 1,000 kW emergency diesel generator will be connected such that it can supply either power block.
9. A leach field can be used in place of the sewage treatment equipment.
10. Continuous emission monitors will be located in four separate buildings.
11. The scope of equipment supplied by Nalco will be adequate to properly monitor and control boiler water chemistry without the addition of any other equipment.
12. Performance testing will be conducted using plant instrumentation and will only measure plant output and heat rate, not the performance of individual pieces of equipment.
13. We have not included a brine concentrator, however, we anticipate that one may be required.
14. We have not included any above ground fire protection for the cooling towers due to their FRP construction.
15. Contractor transaction privilege tax and/or sales tax on permanently incorporated material and equipment is not included.



Dick Corporation / Utility Engineering, A Joint Venture

Allegheny Energy Supply, an Allegheny Energy company  
La Paz Generating Facility  
La Paz County, Arizona  
October 23, 2001

## ***BASIS OF BID***

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16. All-Risk Builders Risk Insurance with nominal deductibles is to be provided by Allegheny Energy Supply.
17. The cost of Payment and Performance Bond is not included.
18. The cost of Building Permits and Utility Tie-in fees is not included. Dick Corporation will file for permits and "walk them through" but fees charged by any agency are not included.
19. We have not allowed for or included drilling and shooting of rock within this Proposal.
20. Allegheny Energy Supply shall make available twenty (20) acre of level ground adjacent to the proposed site for laydown and parking at no cost to Dick Corporation.
21. Vendor training costs are not included for Owner furnished equipment, i.e. CTG and STG.
22. Preparation of O&M Manuals for equipment supplied by the Owner, i.e. CTG and STG is not included.
23. For temporary power and lighting requirements during the construction period, our pricing is based upon a 5500 KVA (3000 KVA at Power Block No. 1 and 2500 KVA at Power Block No. 2) at 13.8 KV source or tie point being made available within approximately ¼ mile from the new 500 KVA Switchyard Area. We have included power usage costs during this construction period.
24. We exclude all furnishings for the Administration Building/Control Room.
25. Base price does not include furnishing of the four (4) Heat Recovery Steam Generators (HRSG's), however base pricing does include erection. Option pricing is provided to furnish the HRSG's.
26. Based on the information provided us, we are assuming that the insitu soil is suitable and capable of meeting the design parameters of the proposed foundations. We are also assuming that all excavated material may be used for mass fills and structural backfill as well as evaporation pond construction.
27. We are not including the cost for caissons, piling, over excavation for any foundations or footings.



Dick Corporation / Utility Engineering. A Joint Venture

Allegheny Energy Supply, an Allegheny Energy company  
La Paz Generating Facility  
La Paz County, Arizona  
October 23, 2001

## ***BASIS OF BID***

---

28. Evaporation pond design and construction will vary from the URS Drawings as shown on URS Drawing No. 5 Revision A and URS Drawing No. 2 Revision A. The pond perforated HDPE collection pipe will be a single pipe in each pond versus numerous pipes as shown by the URS Drawing No. 5 Revision A Evaporation Pond A Plan. A concrete pump structure will be used in place of the 18" diameter carrier pipe shown on Drawing No. 10 Revision A collection sump details.
29. A site Sanitary Septic System will be used in lieu of a Sanitary Treatment Facility.
30. We do not include Switchyard fencing or stone aggregate surface, we will fine grade the Switchyard subgrade to +/- 0.10' of final subgrade elevation.
31. Site drainage will be by sheet flow.
32. Landscaping includes all buffer planting as shown on URS Exhibit RLS-I.1 Conceptual Landscape Plan. All plants will be container grown in pots from 5-gallon to 15-gallon size and will not be the height or width as shown and listed on Conceptual Landscape Plan Exhibit G-9 and G-10.
33. We do not include placement of topsoil or the planting or placement of sod in areas that are not designated for crushed stone paving.
34. We have included the placement of +/- 1.0' of soil cover over the primary 60 mil HDPE liner located in the evaporation ponds to protect from UV rays. On-site soil will be used as the soil cover material.
35. After all earthwork and fine grading operations are complete, we will stabilize all disturbed areas not covered by asphalt paving or crushed stone paving or landscaping with Envirotac II a co-polymer (plastic film) for dust and erosion control.



Dick Corporation / Utility Engineering, A Joint Venture

Allegheny Energy Supply, an Allegheny Energy company  
La Paz Generating Facility  
La Paz County, Arizona  
October 23, 2001



527 Logwood Avenue  
San Antonio, Texas 78221  
(210) 475-8050

11401 Lamar Avenue  
Overland Park, Kansas 66217  
(913) 458-2000

Allegheny Energy Supply  
La Paz Generating Facility

BVZ Project 02087.9011  
BVZ File 11.0201  
October 25, 2001

Allegheny Energy Supply  
14122 West McDowell Road - Suite 201  
Goodyear, AZ 85338

Subject: Air Cooled Condenser Configuration

Attention: Mr. John P. Anna  
Engineering/Production Manager

Gentlemen:

In accordance with your request, BVZ is pleased to provide the estimated pricing differential between the dry cooling air cooled condenser plant configuration versus the base proposal wet cooling tower plant configuration. The changes required to the plant for dry cooling versus wet cooling are summarized below.

#### Additions

- Air cooled condensers (35 cells per ACC)
- Duct work for ACCs
- Air cooled closed cycle cooling water system (fin fan coolers)
- Condensate polishing system
- ACC switchgear/MCC enclosure
- Area lighting for the ACCs
- Cable, conduit, and cable tray

#### Deletions

- Surface condensers
- Water cooled auxiliary cooling water system
- Cooling towers
- Circulating water pipe
- Circulating water and cooling tower makeup pumps
- Circulating water chemical feed system

Allegheny Energy Supply  
Air Cooled Condenser Configuration

October 25, 2001  
Page 2

Changes

- SWPC has indicated that the steam turbine should be changed from a KN side exhaust to an HE axial exhaust to accommodate the higher back pressure from ACCs and allow for a more cost effective equipment arrangement (cost delta for STG by Owner)
- Reduce raw water storage tank size
- Reduce size of water pretreatment system
- Reduce size of waste water treatment system
- Approximately a 10% decrease in the evaporation pond size
- Increase size of auxiliary electric system
- The unit auxiliary transformer will be three winding in lieu of two winding UAT
- Two double ended medium voltage switchgear in lieu of one double ended switchgear
- DCS cost increases due to additional I/O count and screen graphic additions

It should be noted that we have not studied the impacts to the site arrangement in detail but there could be a problem fitting the new arrangement in the space available for the base proposal. The estimated pricing is based on using the SWPC HE axial flow STG arrangement. Also, we have not addressed performance in detail at this time but there will certainly be an impact on performance of the plant.

The total price differential for two power blocks is estimated to be \$58,000,000 higher for dry cooling.

If you have any questions or comments, please give me a call at 913-458-7220.

Very truly yours,

Terry R. Apple  
Senior Proposal Manager

TRA  
Enclosures

AES La Paz County  
E002683  
October 31, 2001

	Cooling Tower		ACC		Hybrid (PAC)	
	Unfired	Fired	Unfired	Fired	Unfired	Fired
Gross CTG Power	650,616	650,616	650,616	650,616	650,616	650,616
Gross STG Power	338,442	450,317	300,176	400,324	318,814	318,814
Total Gross Power	989,058	1,100,933	950,792	1,050,940	969,430	969,430
Auxiliary Loads and Transformer Losses	25,835	30,664	29,877	34,643	27,727	27,727
Total Net Power	963,223	1,070,270	920,915	1,016,297	941,703	941,703
Total Natural Gas Fuel Consumption	6,051	6,932	6,051	6,932	6,051	6,051
Net Heat Rate	6,282	6,477	6,571	6,821	6,426	6,426
Initial Capital Cost	Base	\$11,500,000	ACC	+348%	\$51,520,000	Hybrid
	Base with ZLD	+12%				
	Base with brine concentrator					
	ZLD	+217%				
Evaluation Factors	\$/kW	\$500	Base	\$21,154,133	\$26,986,517	\$10,760,096
	\$/Btu/kW-hr point	\$20,000	Base	\$5,772,289	\$6,879,221	\$2,871,273

**Assumptions**

- 1 Heat balances and auxiliary loads above include a ZLD system without brine concentrators.
- 2 The cooling systems are only compared against the other cooling systems. The base case only includes a cooling tower and condenser with 316SS tubes.
- 3 All designs are based on the 95F, 32% relative humidity design case. For simplicity, assume no gas turbine performance losses.
- 4 Loads for "Combination" design are assumed to only be cooling tower loads because this comparison is done at the 95F point.
- 5 All cost comparisons are for equipment costs ONLY. No installation or erection costs are included.
- 6 "Base cost" includes \$3,000,000 per cooling tower and \$2,750,000 per steam surface condenser. Therefore the total base cost for the "cooling tower" option is \$11,500,000.

Combination

Fired	Unfired	Fired
650,616	650,616	650,616
430,689	338,442	450,317
1,081,305	989,058	1,100,933
32,556	25,835	30,664
1,048,749	963,223	1,070,270
6,932	6,051	6,932
6,610	6,282	6,477
+174%	\$31,510,000	Combination +448% \$63,020,000
\$10,760,096	\$0	\$0
\$2,658,014	\$0	\$0