

IN THE SUPREME COURT OF OHIO

Industrial Energy Users-Ohio, et. al., : **Case No. 2006-1594**
:
Appellants, :
v. : **APPEAL FROM THE PUBLIC UTILITIES**
: **COMMISSION OF OHIO**
The Public Utilities Commission Of Ohio :
:
Appellee. :

**SUPPLEMENT TO MERIT BRIEF OF
APPELLANT OHIO ENERGY GROUP**

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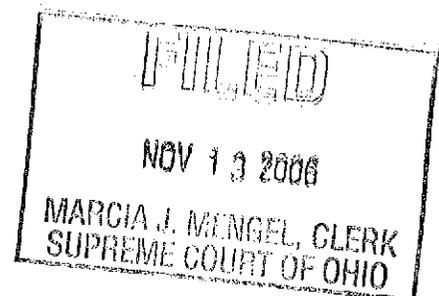
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CERTIFICATE OF SERVICE

I hereby certify that true copy of the foregoing was served by overnight mail this 13th day of November, 2006 to the following:

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SUPPLEMENT

Provider of Last Resort (POLR) obligation (In the Matter of the Application of Columbus Southern Power Company and Ohio Power Company for Approval of a Post-Market Development Period Rate Stabilization Plan), Case No. 04-169-EL-UNC (the RSP case) January 26, 2005 Opinion and Order, pp. 27, 29, 37, 38).

5. In its RSP Opinion and Order the Commission authorized the establishment of a POLR charge. (p. 27). Elsewhere in its Opinion and Order the Commission stated that the Companies “will be held forth as the POLR to consumers.... Consistent with Ohio law, the POLR designation places expectations upon EDUs; the companies must have sufficient capacity to meet unanticipated demand.” (p. 37). The Commission urged the Companies “to move forward with a plan to construct an integrated gasification combined-cycle (IGCC) facility in Ohio.” (*Id.*). In that connection, the Commission stated that it “is exploring regulatory mechanisms by which utilities, given their POLR responsibilities, might recover the costs of these new facilities.” (p. 38).
6. As part of their fulfillment of their ongoing POLR responsibility, the Companies are prepared to embark on the path toward construction of a 600 MW IGCC facility at a site in Ohio. On a preliminary basis the Companies have asked the PJM RTO to analyze the impacts of locating a 600 MW facility in Meigs County, Ohio in the Great Bend area. The Companies will share in the costs of the IGCC facility based upon the retail loads of each Company during the expected operating life of the facility.

IGCC technology represents an advanced form of coal-based generation that offers enhanced environmental performance. The integration of coal gasification

technology, which removes pollutants before the gas is burned, with combined cycle technology results in fewer emissions of nitrogen oxide, sulfur dioxide, particulates and mercury, in addition to lower carbon dioxide emissions. The Companies believe that construction of an IGCC facility presents an economical and environmentally effective option for their long-term fulfillment of their POLR obligation. This is particularly true in light of natural gas fuel price projections and volatility, and increasingly restrictive environmental requirements for existing and future coal-fired generation which must be anticipated as a matter of prudent planning, including, for example, the potential of significant capital expenditures related to retrofitting traditionally built pulverized coal fired generating facilities. In addition, IGCC has many financial benefits, including its:

- Superior efficiency with lower priced Eastern bituminous coal,
- Superior environmental performance,
- Adaptability to carbon capture and disposal, to conform to anticipated future emission reduction laws and regulations, and
- Potential for by-product sales opportunities.

The Companies will submit in this docket a more detailed discussion outlining the technological and economic benefits associated with an IGCC facility.

The large investment for IGCC now will yield greater long-term adaptability to many environmental regulatory scenarios of the future. The following chart provides extensive data comparing the cost and operational specifications of IGCC to

traditional pulverized coal (PC) processes, as well as natural gas combined cycle (NGCC) – a parallel process to IGCC, but with a costlier fuel source. The data were compiled by the Electric Power Research Institute, and are based on nationally accepted economic assumptions regarding fuel costs, heat rates and financial expenditures.

Technology	PC Subcritical	PC Supercritical	IGCC (E-Gas) W/ Spare	IGCC (E-Gas) No Spare	NGCC High CF	NGCC Low CF
Total Plant Cost, \$/kW	1,230	1,290	1,350	1,250	440	440
Total Capital Requirement, \$/kW	1,430	1,490	1,610	1,490	475	475
Fixed O&M, \$/kW-yr	40.5	41.1	56.1	52.0	5.1	5.1
Variable O&M, \$/MWh	1.7	1.6	0.9	0.9	2.1	2.1
Avg. Heat Rate, Btu/kWh (HHV)	9,310	8,690	8,630	8,630	7,200	7,200
Capacity Factor, %	80	80	80	80	80	40
Levelized Fuel Cost, \$/Mbtu (2003\$)	1.50	1.50	1.50	1.50	5.00	5.00
Capital, \$/MWh (Levelized)	25.0	26.1	28.1	26.0	8.4	16.9
O&M, \$/MWh (Levelized)	7.5	7.5	8.9	8.3	2.9	3.6
Fuel, \$/MWh (Levelized)	14.0	13.0	12.9	12.9	36.0	36.0
Levelized Total COE, \$/MWh	46.8	46.6	43.9	43.2	47.3	56.5

Source: Electric Power Research Institute

As shown, the incremental cost difference in the levelized cost of electricity between IGCC and other technologies is relatively small. However, the savings with IGCC in the event of retrofitting for future carbon capture regulations are significant, as will be supported in the Companies' more detailed discussion.

7. In order to proceed, however, the Companies must have an approved mechanism by which costs associated with constructing and operating such a project throughout the life of the facility can be recovered in rates authorized by the Commission.
- Therefore, consistent with the Commission statements noted above, the Companies submit this application in which they propose a three-phase regulatory mechanism for recovering their costs, including carrying costs, associated with meeting their POLR responsibilities. As described in greater detail below:

In Phase I, the Companies would recover during 2006 the actual dollars they will have spent on the IGCC facility up to the time of the execution of an Engineering, Procurement and Construction (EPC) contract (approximately in June 2006);

In Phase II, beginning in 2007 through the time the IGCC facility goes into commercial operation, the Companies would recover a carrying charge on their construction costs incurred from the execution of the EPC contract until the beginning of Phase III; and

In Phase III, which would last through the commercial life of the IGCC facility, the Companies would collect a return on as well as a return of their investment in the facility, and would collect their operating expenses, including fuel and consumables, through rates authorized by the Commission.

PHASE I RECOVERY

7. The Companies propose to recover certain IGCC costs in 2006 as a temporary generation rate surcharge on the standard service rate schedules authorized in the RSP order. Those costs, which are projected to total approximately \$18 million, are the actual costs incurred through February 28, 2005 (Actual Costs) as well as the costs projected to be incurred from March 2005 until the Companies enter into the EPC

contract which is currently estimated to occur in June 2006 (Projected Costs). To begin recovering these Actual and Projected Costs, the Companies propose that they be authorized to assess a generation rate surcharge on the standard service rate schedules authorized in the RSP order, effective with the first billing cycle in January 2006. The surcharge would remain in effect for 12 billing months. Any customer that receives its generation service from a CRES provider during any portion or all of this period will avoid the surcharge for such period of time.

9. The Actual Costs amount to \$932,000. These costs, which have been deferred, generally relate to the following categories of activities:

Dollars are in \$000s

Category	Actuals Thru February 28, 2005
Scoping Study	\$ 145
Outside Services	\$ 342
New Generation Labor	\$ 80
Engineering Services Labor	\$ 248
Other Internal Labor and Corporate Overhead	\$ 82
Expenses	\$ 35
Total Generation Costs	\$ 932
Interconnection	\$ -
Total Interconnection Costs	\$ -
TOTAL COSTS	\$ 932

10. The Projected Costs are estimated to be \$17 million. The costs generally relate to the following categories of activity.

Dollars are in \$000s

Category	March 2005 Thru June 2006
Scoping Study/Front End Engineering and Design	\$ 9,750
Outside Services	\$ 1,100
New Generation Labor	\$ 2,540
Engineering Services Labor	\$ 1,240
Other Internal Labor and Corporate Overhead	\$ 1,103
Expenses	\$ 890
Total Generation Costs	\$ 16,623
Interconnection	\$ 400
Total Interconnection Costs	\$ 400
TOTAL COSTS	\$ 17,023

11. The proposed Phase I surcharge to the standard service rate schedules, as determined using a peak demand allocation and projected energy, would be as shown in the following chart.

Columbus Southern Power Company

<u>Rate Schedule</u>	<u>Surcharge</u> (¢/kWh)
R-R, R-R-1, RLM, RS-ES and RS-TOD	0.05801
GS-1	0.04987
GS-2	0.05083
GS-3	0.03935
GS-4, IRP-D	0.03337
SBS	0.04070
SL	0.01661
AL	0.01893

Ohio Power Company

<u>Rate Schedule</u>	<u>Surcharge</u> (¢/kWh)
RS, RS-ES, RS-TOD and RDMS	0.03933
GS-1	0.04441
GS-2 and GS-TOD	0.04543
GS-3	0.03262
GS-4, IRP-D	0.02664
EHG	0.04838
EHS	0.06258
SS	0.04965
OL	0.00961
SL	0.00958
SBS	0.03174

For residential customers using 1,000 Kwh per month, the monthly surcharge would amount to 58¢ and 39¢ for CSP and OP, respectively.

PHASE II RECOVERY

12. Beginning with the first billing cycle in 2007 and through the last billing cycle before the IGCC plant is in commercial operation (currently estimated to occur in mid-2010), the Companies propose that they be authorized to collect an annually leveled carrying charge on the cumulative construction costs (including the carrying costs deferred after the EPC contract is executed and through the end of 2006) through a generation rate surcharge on the standard service rate schedules authorized by the Commission. The carrying charge would be based on each Companies' respective weighted average cost of capital, using an 11.75% return on equity, applied to each company's Construction Work in Process for the IGCC facility at the end of each month. During this period the Companies would not capitalize any carrying charges recovered pursuant to the Phase I and Phase II recovery provisions.

The generation rate surcharge will be in addition to the standard service offer generation rates authorized in the RSP order during the first portion of this recovery phase, i.e. from the first billing cycle in 2007 until the last billing cycle of 2008. From the first billing cycle of 2009 until the next phase of recovery (Phase III) begins with commercial operation of the IGCC facility, the surcharge will be in addition to the standard service offer generation rates authorized by the Commission for that period of time. Any customer that receives its generation service from a CRES provider during any portion or all of these periods will avoid the surcharge for such period of time. The current projection of the total cost of construction of the IGCC facility, without carrying costs, is \$1,033,000,000. The estimated carrying costs are \$237,488,000. The surcharges, based on those estimated carrying costs, calculated in the same manner as the Phase I surcharges for each company for 2007, 2008, 2009 and 2010 are estimated to be:

<u>Columbus Southern Power Company</u>				
<u>Rate Schedule</u>	<u>Surcharge (¢/kWh)</u>			
	<u>2007</u>	<u>2008</u>	<u>2009</u>	<u>2010</u>
R-R, R-R-1, RLM, RS-ES and RS-TOD	0.03553	0.16667	0.32329	0.38721
GS-1	0.03054	0.14326	0.27789	0.33282
GS-2 and GS-TOD	0.03113	0.14603	0.28325	0.33924
GS-3	0.02410	0.11306	0.21929	0.26265
GS-4, IRP-D	0.02043	0.09586	0.18593	0.22269
SBS	0.02492	0.11693	0.22680	0.27164
SL	0.01017	0.04773	0.09258	0.11088
AL	0.01159	0.05439	0.10551	0.12637

Ohio Power Company

<u>Rate Schedule</u>	<u>Surcharge (¢/kWh)</u>			
	<u>2007</u>	<u>2008</u>	<u>2009</u>	<u>2010</u>
RS, RS-ES, RS-TOD and RDMS	0.02420	0.11423	0.22298	0.26432
GS-1	0.02733	0.12898	0.25177	0.29846
GS-2	0.02795	0.13193	0.25753	0.30529
GS-3	0.02008	0.09475	0.18495	0.21924
GS-4, IRP-D	0.01640	0.07738	0.15104	0.17905
EHG	0.02977	0.14050	0.27425	0.32511
EHS	0.03851	0.18173	0.35475	0.42053
SS	0.03055	0.14418	0.28145	0.33364
OL	0.00591	0.02790	0.05447	0.06456
SL	0.00589	0.02781	0.05429	0.06436
SBS	0.01953	0.09219	0.17996	0.21333

The Companies also request specific accounting authority to defer on their books the carrying cost accrued during the period of time from the execution of the EPC contract and the commencement of carrying cost recovery in the second phase of cost recovery (first billing cycle of 2007) and to amortize those carrying costs over the twelve months in 2007.

PHASE III RECOVERY

13. Prior to the Companies placing the IGCC facility in commercial operation, the Companies will file with the Commission an IGCC Recovery Factor that would be based on a return on as well as a return of the investment in the facility, as well as operating expenses, including fuel and consumables. In other words, the IGCC facility would be treated as if it were a single asset regulated utility. After a hearing and showing that costs are reasonable, the Commission will approve the IGCC Recovery Factor. The IGCC Recovery Factor would be subject to future Commission-approved adjustment for changes in relevant factors, such as IGCC

investment level, customer load, appropriate rate of return, life expectancy of the facility and operating expenses. Moreover, the IGCC Recovery Factor will be adjusted annually to reflect changes in the costs of fuel and consumables since the IGCC Recovery Factor was most recently set, and any prior over-or under-recovery of actual costs of fuel, which include purchased power, and consumables. In this regard, the Companies request accounting authority to practice deferred accounting for over/under recoveries of the costs of fuel and consumables.

The Commission-approved IGCC Recovery Factor will be compared to the Commission-approved standard service offer for the applicable period and an IGCC Adjustment Factor will be calculated to reflect the revenue difference between the IGCC Recovery Factor and the Commission-approved standard service offer. The IGCC Adjustment Factor will be reflected as a charge or credit to the Companies' approved distribution rate schedules and will continue for the period that the particular standard service offer and IGCC Recovery Factor are in effect. The IGCC Adjustment Factor and resulting charge or credit will be revised throughout the life of the IGCC facility as the Commission approves a change to the Companies' standard service offer and as the IGCC Recovery Factor changes.

If the Commission has not issued a final order concerning an IGCC Recovery Factor filing within 90 days of the Companies' filing, the proposed IGCC Recovery Factor will become effective on an interim basis and will remain in effect until such time as the Commission's final order is implemented. The Commission's final order

will provide for a reconciliation of the authorized IGCC Recovery Factor as compared to the interim IGCC Recovery Factor that had been in effect.

14. The Companies recognize that the actual revenues collected during the first and second phases of cost recovery are likely to result in either an over- or under-recovery of the actual revenues intended to be recovered. This is due to variations in actual customer loads and actual expenditure levels from projections used in establishing the surcharges in those two phases. Therefore, the Companies propose that monthly, throughout Phases I and II, the net of the over- and under-recovered revenues be subtracted from or added to the Construction Work in Process accounts for the IGCC facility which upon commercial operation will be used in determining the IGCC Recovery Factor during the third phase of recovery.

OTHER RSP IMPACTS

15. The portion of the Companies' request in this application for IGCC-related revenues during the three-year rate stabilization period (2006-2008) is not being submitted pursuant to the provision of the RSP order which permits the Companies to request additional generation rate increases above the fixed generation increases. (See Opinion and Order, January 26, 2005, Case No. 04-169-EL-UNC, pp. 21,22). Nonetheless, in light of the environmental compliance capabilities of the IGCC facility, some parties might believe that the revenues collected pursuant to this application during the rate stabilization period should be used to reduce the amounts of additional generation rate increases the Companies can request under the RSP. In recognition of that concern, the Companies propose that the IGCC-related revenues

collected through surcharges during the rate stabilization period will be tracked and those amounts will be considered as reducing the amounts of additional generation rate increases that each Company can request under the RSP.

Further, additional revenues collected pursuant to this application during 2006 and 2007 will not be considered as part of the generation rate levels which will be increased by 3% and 7%, for CSP and OP respectively, in 2007 and 2008 pursuant to the RSP order.

In light of the POLR obligation resting on EDUs in Ohio and the fact that the Companies do not have an affiliated CRES provider, the Companies do not believe that they are required to corporately separate. Since corporate separation might be required after the rate stabilization period, the Companies request, as part of this application, any waiver that would be needed to permit the Companies, as EDUs, to retain ownership of the IGCC facility.

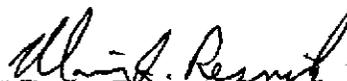
CONCLUSION

16. The Companies' construction and operation of an IGCC facility in Ohio, with assured cost recovery, are consistent with the Governor's charge to the Commission and other state agencies "to enhance the business climate in Ohio as it competes on a regional, national and global basis for economic development projects." (RSP Opinion and Order, p. 37). It also is consistent with the Commission's observation that the state's policy is to provide customers a "future secure in the knowledge that electricity will be available at competitive prices." (*Id.*). This facility will help fulfill the Companies' POLR obligation, and thereby encourage business development in their

service areas. Moreover, the facility itself will create valuable jobs in an economically depressed area of Ohio. It is expected that construction employment will peak at about 1900 jobs. Ongoing operation of the IGCC facility should result in about 125 permanent jobs. The IGCC facility is expected to produce about \$10 million per year in state and local tax revenue. All the while, Ohio's environment will be improved by having this new "environmentally friendly" generating facility which will be capable of using competitively priced Ohio high sulfur coal to meet the Companies' customers' default demand for electric energy.

17. Cost recovery throughout the life of the IGCC facility needs to be addressed at the outset for the Companies to pursue construction of the facility. Therefore, the Companies request that the Commission expeditiously approve this application so that they can proceed with bringing IGCC technology to their customers and to Ohio. In this regard, the Companies request that the Commission establish a procedural schedule to consider this application.

Respectfully submitted,



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EXHIBIT NO. _____

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BEFORE
THE PUBLIC UTILITIES COMMISSION OF OHIO

In the Matter of the Application of Columbus)
Southern Power Company and Ohio Power)
Company for Authority to Recover Costs)
Associated with the Construction and Ultimate)
Operation of an Integrated Gasification)
Combined Cycle Electric Generating Facility)

Case No. 05-376-EL-UNC

DIRECT TESTIMONY
OF
KEVIN E. WALKER
ON BEHALF OF
COLUMBUS SOUTHERN POWER COMPANY
AND
OHIO POWER COMPANY

Filed: May 5, 2005

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1 A. The need for additional generating capacity in the eastern portion of the AEP
2 system necessitated an analysis of suitable sites for an IGCC plant. Generally
3 speaking, however, three sites were selected as potential hosts of an IGCC plant.
4 The Companies' witness, Mr. Baker, testifies concerning the submission of these
5 sites to the PJM RTO for review for transmission system compatibility. With that
6 process in mind, however, a decision needed to be made for the placement of the
7 first IGCC facility.

8 Q. What factors weighed in favor of placing this facility in Ohio?

9 A. The Companies' distribution function is imbued with the obligation of being the
10 provider of last resort for generation service. This POLR obligation exists as a
11 back stop for all of the Companies' customers. This includes customers who
12 never switch to a CRES provider, as well as customers who do switch, but then
13 return to the Companies, either because the CRES provider failed to fulfill its
14 obligation to serve or the customer simply chooses to return. Given this
15 obligation, the Companies believe that meeting their POLR obligation as well as
16 advancing new generating technology are best served by construction of an IGCC
17 plant -- within the distribution function of the Companies.

18 This interest in building an IGCC facility in Ohio received considerable
19 encouragement from this Commission. In the Commission's January 26, 2005
20 Opinion and Order in the Companies' Rate Stabilization Plan case (Case No. 04-
21 169-EL-UNC) the Commission urged "AEP to move forward with a plan to

1 construct an [IGCC] facility in Ohio.” (p. 37 of the Opinion and Order). The
2 Commission went on to note that it “is exploring regulatory mechanisms by which
3 utilities, given their POLR responsibilities, might recover the costs of these new
4 facilities.” (*Id.* at 38).

5 Q. Do the Companies view the Commission’s language as a guarantee of cost
6 recovery?

7 A. No, not at all. In fact, we expect that if at the end of this hearing, the Commission
8 is not convinced that an IGCC plant should be built in Ohio, it will not approve
9 the Companies’ request for cost recovery assurance. But, assuming the
10 Commission does approve their proposal, then the Companies would conclude
11 that cost recovery is assured.

12 Q. Is Commission approval of the Companies’ proposed plan needed in order for the
13 IGCC plant to be built in Ohio?

14 A. The Companies will not be able to go forward with construction of an IGCC plant
15 in Ohio unless this plan, or some comparable plan, is approved by the
16 Commission. It is unrealistic to expect the Companies to invest over \$1 billion on
17 construction for an IGCC facility if recovery of costs is subject to uncertainty. If
18 the Companies were required to wait for this facility to be used and useful before
19 seeking cost recovery, the facility would not be built in Ohio.

20 Q. Have you read the pre-filed testimony of the Companies’ other witnesses in this
21 case?

BEFORE

THE PUBLIC UTILITIES COMMISSION OF OHIO

In the Matter of the Application of Columbus)
Southern Power Company and Ohio Power)
Company for Approval of a Post-Market)
Development Period Rate Stabilization Plan.)

Case No. 04-169-EL-UNC

OPINION AND ORDER

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Commission Discussion

Certainly, to some extent, the generation rate increases will provide additional funds to the companies and assist in their financial stability. As noted, AEP will be incurring large generation-related expenses above normal capital expenditure levels during the RSP period. However, we also believe that the RSP package as a whole supports our goals of helping to develop the competitive market and providing some rate stability. We reach this conclusion because we believe that the generation rate increases are a reasonable approximation of the future market conditions. With the RSP's structured, periodic generation rate increases, customers will not be subjected to significant swings in generation rates in an emerging competitive market for AEP. We believe this provision is not only very important to spurring a competitive market, but also to protecting customers from the risks and dangers associated with price volatility and a nascent competitive market.

We also accept our staff's conclusion that the percentage increases are reasonable in magnitude. Many of the parties object to this provision because they contend that AEP is already earning too much. However, these parties seem to forget that, with the expiration of the MDP, generation rates are subject to the market (not the Commission's traditional cost-of-service rate regulation) and that the plan was an option that AEP voluntarily proposed. Section 4928.05(A)(1), Revised Code. We make this observation to point out that, under the statutory scheme, company earnings levels would not come into play for establishing generation rates - market tolerances would otherwise dictate, just as AEP argued (AEP Reply Br. 26-27). We are strongly committed to encouraging the competitive market in AEP's service territories as it is the policy of this state, per Section 4928.02, Revised Code. Given that commitment, we do not feel that the earnings levels evidence or cost-based analyses and arguments presented by OEG, OCC, IEU-Ohio or LIA justify rejection of this provision. We believe that this provision will establish generation rates that are appropriate for the RSP period, spur the competitive market, and also protect customers from dramatic or volatile generation rate price changes. We do not agree that this provision violates any of the cited statutes.

While we have found the proposed generation rate increases to be reasonable, both in concept and in number, it is also appropriate to point out that these increases will be avoidable during the rate stabilization period. Customers who choose another competitive generation supplier can avoid AEP's increased generation rates (because those customers will pay, instead, the rates of their chosen supplier). We believe this is an important point to note.

We do realize that rate increases can be difficult for some customers to handle, as LIA has argued. We are not ignoring these concerns. In fact, we believe that the structured nature of the generation rate increases will be more helpful to the low-income customers in AEP's territory than would otherwise likely occur without the RSP. Ideally, we agree that rate increases are not preferred, but we are weighing and balancing several competing interests and we believe that the proposed generation rate increases will result in the most balanced and reasonable generation rates for all customers in AEP's service territories during the three years following the MDP. For these additional reasons, we

Commission Discussion

We are willing to accept this provision of the RSP. We realize that we still have not addressed the pending minimum stay proposal (which differs from AEP's minimum stay requirements) in the generic proceeding. For the short three-year period of the RSP, we are willing to allow AEP to implement these minimum stay requirements. It will allow us the opportunity to evaluate participation, gaming of enrollments, and the impact of our originally approved minimum stay requirements. We consider this approval to essentially test the debate that has been raised with us for quite a period of time.

VII. Conclusion

Based upon the foregoing, we conclude that the proposed RSP should be adopted (with the exception of the RSP's proposed elimination of the five percent residential discount in Provision Two, the proposed deferral of RTO administrative charges, the proposed deferral of CWIP and in-service plant carrying charges, the proposed review period associated with FERC-approved transmission rate changes, and the proposed treatment of the Columbus Southern shopping incentive) for the reasons set forth herein. We also conclude that OCC's motion to dismiss the application should be denied. Additionally, we conclude that AEP shall allot \$14 million for low-income customers and economic development, and work with our Service Monitoring and Enforcement Department staff to work out the details for those dollars. AEP is, furthermore, allowed to establish a POLR charge.

As we have already mentioned, we believe certain changes are warranted as the MDP ends for AEP. This decision will move AEP to market-based rates for the 2006-2008 period in an appropriate and balanced fashion and conforms with the state's electric policy (Section 4928.02, Revised Code) and this Commission's stated goals. Circumstances are not the same as when we issued our ETP decision and we recognize that fact and have reached conclusions today that we believe are most appropriate for the 2006-2008 period. To the extent any arguments were raised in this proceeding and they are not expressly addressed in this decision, they have been rejected.

As noted earlier in this Order, AEP will be held forth as the POLR to consumers who either fail to choose an alternative supplier or who choose to return to AEP's system after taking service from another energy company. Consistent with Ohio law, the POLR designation places expectations upon EDUs; the companies must have sufficient capacity to meet unanticipated demand. Additionally, the Commission is among many state agencies that have been charged by the Governor to enhance the business climate in Ohio as it competes on a regional, national, and global basis for economic development projects. One of the Commission's roles in this endeavor has been to focus on reliable energy. We believe that, consistent with Section 4928.02, Revised Code, Ohio consumers are entitled to a future secure in the knowledge that electricity will be available at competitive prices. We also feel strongly that electric generators of the future should be both environment-friendly and capable of taking advantage of Ohio's vast fuel resources. With the recognition that new technologies must be forthcoming to replace the utilities' aging generation fleet, we urge AEP to move forward with a plan to construct an integrated gasification combined-cycle (IGCC) facility in Ohio. AEP should engage the Ohio Power

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Siting Board in pursuit of such a plant. We are encouraged by emerging information that suggests that the IGCC technology will be economically attractive. It is worth noting that the Commission is exploring regulatory mechanisms by which utilities, given their POLR responsibilities, might recover the costs of these new facilities.

FINDINGS OF FACT AND CONCLUSIONS OF LAW

- (1) On February 9, 2004, AEP filed an application with the Commission for approval of a rate stabilization plan for the period 2006 through 2008.
- (2) Twenty-five entities filed motions to intervene in this proceeding. All those requests were granted.
- (3) A technical conference was held on March 24, 2004. Objections to the application were filed on April 8, 2004.
- (4) A local, public hearing in Canton, Ohio, was conducted on May 19, 2004. However, the Commission had not properly sent any of the publication notices to the newspapers in AEP's service territory. Therefore, the examiner scheduled another local hearing in Canton, Ohio, for July 7, 2004 and rescheduled the local hearing in Columbus, Ohio, for July 1, 2004. At the July 1 and 7, 2004 local hearings, three people provided testimony.
- (5) On May 24, 2004, OCC filed a motion to dismiss the application on various legal grounds. By entry dated June 1, 2004, the examiner deferred a ruling on OCC's motion to dismiss, stating that all parties shall have the opportunity to argue the legality of AEP's proposal in post-hearing briefs.
- (6) The evidentiary hearing began on June 8, 2004, and continued through June 14, 2004. AEP presented the testimony of five witnesses. The staff and OCC each presented the testimony of two witnesses. APAC, Lima/Allen Council on Community Affairs, and WSO's Community Action jointly sponsored the testimony of one witness and OEG presented the testimony of one witness.
- (7) The parties filed post-hearing briefs on July 13 and 30, 2004.
- (8) AEP's MDP will end on December 31, 2005.
- (9) AEP's proposed elimination of the five percent residential discount in provision two is precluded by the ETP decision.
- (10) OCC's motion to dismiss the application should be denied.

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FILE

**BEFORE
THE PUBLIC UTILITIES COMMISSION OF OHIO**

In the Matter of the Application of Columbus)
Southern Power Company and Ohio Power)
Company for Authority to Recover Costs)
Associated with the Construction and Ultimate)
Operation of an Integrated Gasification)
Combined Cycle Electric Generating Facility)

Case No. 05-376-EL-UNC

**INITIAL BRIEF OF
COLUMBUS SOUTHERN POWER COMPANY
AND OHIO POWER COMPANY**

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Submitted: September 20, 2005

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surcharges. (*Id.* at 15). The Companies are proposing, however, that the Phase I and Phase II surcharge revenues collected by the Companies during the three-year rate stabilization period will affect the Companies' opportunity to seek additional generation rate increases. Although the IGCC filing is not being made under the provision of the RSP that enables the Companies to seek additional generation rate increases, the surcharge revenues collected pursuant to this application during the rate stabilization period will serve to reduce the amount of additional generation rate increases the Companies can request under that provision. (*Id.*; Tr. II, pp. 212, 213).

Two other features of the Companies' IGCC proposal were discussed by Mr. Baker which have an effect on the proposed cost recovery mechanism - - the AEP Interconnection Agreement and corporate separation considerations. Columbus Southern Power Company, Ohio Power Company, Kentucky Power Company, Appalachian Power Company and Indiana Michigan Power Company are the five AEP System operating companies which are members of the AEP Pool established pursuant to the AEP Interconnection Agreement approved by the Federal Energy Regulatory Commission (FERC).

Although each operating company owns specific generating facilities, the AEP System is designed, built and operated on an integrated system basis. The AEP Interconnection Agreement defines the obligations of the members and the methodology for allocating the cost of generation among the operating companies. (Companies' Ex. 2, pp. 15, 16).

The Companies do not anticipate, however, that the IGCC facility will be part of their capacity for Pool purposes. As noted earlier, the IGCC facility is not expected to become commercial any earlier than mid-2010. Unless Ohio's current electric utility regulatory structure is substantively modified from its current structure, the Companies' existing generating capacity

will be devoted to the market after the rate stabilization period and, therefore, would no longer be part of the Pool. (Tr. II, p. 194). To assure cost recovery for the IGCC facility, and consistent with the Companies' POLR obligation which is imposed on the distribution function, the plant would be an asset of both Companies' distribution function. (Companies' Ex. 2, p. 16).

As will be discussed in greater detail later in this brief, the statutory corporate separation provisions do not require that the Companies place their generation facilities in a separate corporate entity. As electric distribution utilities, the Companies have a POLR obligation. They are not engaged in the competitive electric generation business. They provide generation service only in fulfillment of their statutorily imposed POLR obligation. Moreover, the Companies do not have an affiliate CRES provider. There is no reason, logical or legal, to require the Companies to divest their generation facilities and then have to rely on obtaining electric generation from the market (*Id.* at 17). Even if corporate separation were required by the Commission after the rate stabilization period, a waiver of such a requirement still would be appropriate for at least the IGCC facility. As Mr. Walker has testified, this facility can be built in Ohio only if cost recovery is assured. (Companies' Ex. 1, p. 7). If the IGCC facility is placed in a separate corporate entity, there is no apparent way that cost recovery can be assured. Therefore, the Companies' request for waiver of corporate separation, if such a waiver is required, should be granted. (Companies' Ex. 2, p. 17).

In summary, the three-phase cost recovery proposal is structured in a manner which accommodates a phased approach to constructing the IGCC facility. During Phase I, the Companies will collect approximately \$24 million. This would be part of the total cost of construction. These pre-construction costs are legitimate and warranted expenses incurred by the Companies in furtherance of their POLR obligation. The costs stem from the necessary

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FILE

BEFORE THE
PUBLIC UTILITIES COMMISSION OF OHIO

In the Matter of the Columbus Southern
Power Company and Ohio Power
Company for Authority to Recover
Costs Associated with the Construction
and Ultimate Operation of an Integrated
Gasification Combined Cycle Electric
Generating Facility. :

Case No. 05-376-EL-UNC

POST HEARING BRIEF SUBMITTED ON BEHALF OF
THE STAFF OF THE PUBLIC UTILITIES COMMISSION OF OHIO

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II. DISCUSSION OF POLR ISSUES

A. SCOPE OF AN OHIO EDU'S POLR OBLIGATION

The POLR obligation falls on the EDU. The EDU is the entity that operates the distribution wires and these wires must remain charged for connected customers to receive service. The obligation is statutory (see Ohio Revised Code Section 4928.14) but, even if there were no statute, the EDU is the only entity that could fill the POLR obligation. Neither a CRES provider nor a regional transmission organization such as PJM can provide POLR service. As further explained below, RTOs have a role at the wholesale, not retail level, to facilitate market transactions and indirectly promote reliability; but RTOs do not have direct responsibility to the customers of a particular EDU when a real problem develops. Similarly, even though a CRES provider does have a retail relationship and direct responsibility to customers, the EDU still stands as the backup POLR provider and that standby duty is distinct from the CRES function of fulfilling day-to-day or minute-to-minute power requirements; CRES providers do not provide distribution service and the EDU's POLR function is a distribution-related service.

Only an EDU can fulfill the POLR function. It is simply a fact that customer load cannot be dropped as quickly as suppliers can fail. Customers whose alternative supply has failed will continue to receive service because they cannot, practically speaking, be terminated. Likewise, customers who shop and return to the EDU for service for whatever reason must be served with an adequate and reliable standard service offer (SSO). Indeed, whatever situation arises, the EDU is required to supply power because demand and supply must match or the distribution system will fail. There must be capacity available ancillary to the provision of the distribution service.

A CRES provider cannot perform this function because it does not provide distribution service and is not obligated to provide backup generation service or make a standard service offer. OCC witness Lechnar claimed that a CRES provider would incorporate capacity-related charge into its retail rates (based on its capacity credits required to be obtained by the CRES provider participating in the PJM market) and, thus, customers could pay twice if the EDU collected a capacity-related charge. Tr. IV at 242, 246. Mr. Lechnar further claimed that collection of *any* generation-related charge by an EDU would inhibit competition by CRES providers. OCC Ex. 1 (Lechnar Test.) at 17-20. These assertions fail to recognize the distinction between the distribution company's POLR obligation and a CRES provider's retail generation supply service. Even Mr. Lechnar admitted that "the POLR obligation is one where capacity is there to support any customers that may come back to the system." Tr. IV at 248.

The scope of the EDU's POLR obligation is to stand ready to serve all comers, including customers returning from a defaulting supplier. This "fallback" position of the EDU is not an enviable task and involves real costs, including a generation-related cost. Although not identical, POLR service can be analogized to "standby service" traditionally offered by Ohio EDUs. Standby service usually is available only to large industrial customers that have alternative energy supplies or resources but want a backup service where the customer's own source of generation is not available. For example, CSP offers standby service to customers that have their own power production facilities but want to have backup service for reliability purposes. *See* Columbus Southern Power Co. (PUCO No. 5) Schedule SBS (Standby Service), Original Sheet No. 27. Although CSP's standby service tariff can only be used for up to 30% forced outage rate (or 2,628 hours per year), *id.* at Sheet 27-4, an EDU's POLR service must be planned to serve 24 hours per day, 7 days per week and 365 days every year. In any case, additional charges apply

for the provision of standby service that are beyond the cost of the customer's own source of power production. *Id.* at Sheets 27-2 through 27-8. Likewise, POLR charges are in addition to (but separate and distinct from) unbundled generation charges paid to the EDU or a CRES provider.

The point is that having backup power available is more expensive than relying solely on one source of generation and involves additional costs as well. The Ohio General Assembly has already made the choice to require EDUs to undertake the POLR obligation and provide backup service as part of the regulated distribution function. Given that POLR service must be provided, it makes sense to incorporate long-term planning and resource management designed to lower the cost of the mandatory POLR obligation associated with retail electric competition. POLR service is complimentary, not duplicative of, a CRES provider's capacity-related cost relating to the provision of retail generation service.

The EDU's POLR service is distinct from the competitive generation service offered by a CRES provider.¹ Contrary to OCC witness Lechnar's assertion, the EDU's fulfillment of the POLR function is complementary to CRES provider functions and actually *promotes* retail competition for generation service by providing a safety net or backstop service for shopping customers. As a related matter, although the capacity-related component of the EDU's obligation is only one aspect of POLR, it provides a vital function that facilitates choice for all customers and thereby benefits all customers (*i.e.*, both shoppers and non-shoppers alike). In reality, the POLR obligation is probably best fulfilled through a portfolio of options, not just one; building a generation plant could be part of a reasonable POLR plan but is not the sole method for fulfilling the EDU's statutory obligation. Ultimately, it could serve to promote competition

¹ As further discussed below, the EDU's POLR obligation also differs from the RTO's function in helping to facilitate an adequate supply of capacity and energy.

and maintain price stability, while simultaneously ensuring that adequate capacity exists for Ohio's electric consumers.

It is easy to miss the complexity of the POLR obligation. Since the minute-to-minute obligation is so visible, and dire if it is not met, it might appear that the minute-to-minute reliability is all there is. This would be a mistake. The minute-to-minute reliability does not arise spontaneously, it must be planned. A vital aspect of the POLR requirement is assuring that there will be a supply available not just in the next minute, but also next week, next month, and ten years from now. *POLR is forever.*

The ability of AEP (or any EDU) to meet the long range aspect of the POLR requirement is of great concern to the Staff. The longer-than-anticipated market development period and widespread inability of the wholesale electricity market to yield desirable prices for most customers suggest it is unwise to rely solely on the spot market to ensure "reasonably priced retail electric service." Ohio Rev. Code Ann. § 4928.02(A) (Anderson 2005). Of course, a market-based approach is still warranted (and required); but there are many different ways to formulate a market-based SSO designed to incorporate the EDU's POLR obligation.

For example, AEP's application to build an IGCC plant involves a recovery mechanism that would result in either a charge or a credit when the cost is compared to future market-based SSO offerings. AEP Ex. 2 (Baker Test.) at 9-13. Thus, AEP's proposal is properly considered as a market-based rate recovery plan. In substance, though, AEP's Ohio customers would get the benefit of the bargain to the greatest extent where the IGCC unit costs are mostly lower than the market-based SSO price over the long-term. Indeed, a detailed economic analysis of whether the IGCC costs beat the projected market prices over the long term would be appropriate standard by which to review the proposal in more detail during the subsequent phase of this proceeding;

concluding that the customers' overall costs are likely to beat the market constitutes a market-based offering. At this stage, however, the Commission needs to consider the more basic issues involving the scope of an EDU's POLR obligation and whether that obligation can be fulfilled through a capacity addition that serves as a distribution-related POLR generation service.

If decisions regarding new electric capacity in Ohio could be delayed for several years or decades, there would be more information available to reach those decisions and more certainty/less risk associated with the decisions. As discussed below, some pertinent factors may not be captured when using present market, financial, and regulatory conditions for long term decision-making regarding reliability and security of electric supply. But Staff believes that such capacity decisions are timely now and submits that the best information available should be used (while recognizing that not all questions can be definitively answered at this time).

It will be pointed out that this Commission no longer regulates generation and, therefore, cannot take any steps regarding plant construction. This objection has no merit. AEP's application does not, in Staff's view, represent an effort to re-regulate generation; the underlying issues of distribution reliability exist and have impact in the context of deregulation, whether or not they are proactively addressed through a proposal like the application. Distribution reliability continues to be the charge of the Commission in the electric deregulation era. See Ohio Rev. Code Ann. §§ 4928.02(A), 4928.05 and 4928.06 (Anderson 2005). Staff believes that the ability of the generation fleet to supply the ancillary services needed to support the distribution of electricity is under serious, though long-term, threat. Efforts must be made to address this concern.

This is entirely apart from electric generation service. Electricity is unregulated and can be sold at the prices determined in the market. Indeed, the kinds of services about which Staff is

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**BEFORE
THE PUBLIC UTILITIES COMMISSION OF OHIO**

In the Matter of the Application of)
Columbus Southern Power Company) Case No. 05-376-EL-UNC
and Ohio Power Company for)
Authority to Recover Costs)
Associated with the Construction)
and Ultimate Operation of an)
Integrated Gasification Combined)
Cycle Electric Generating Facility)

Direct Testimony of Kevin C. Higgins

on behalf of

Ohio Energy Group

July 15, 2005

1 territory will be set by market prices, consistent with the provisions of Section
2 4928.14, Revised Code.

3 The RSP plan provides an administratively-determined price for standard
4 offer generation that is based on an AEP proposal. RSP generation rates are not
5 based on cost, but are construed to be a proxy for market prices. Pursuant to the
6 RSP, CSP generation rates will increase a minimum of 3 percent, and OP
7 generation rates will increase a minimum of 7 percent, at the start of each year
8 from 2006 through 2008. As AEP's generation fleet consists largely of relatively
9 low-cost coal units, the setting of generation rates without regard to cost will
10 provide a substantial mark-up opportunity for AEP, to the benefit of its
11 shareholders.

12 In contrast, the Company's IGCC proposal is a cost-based rate setting
13 approach that would be applied to this single, high-cost generating plant as if it
14 were a "single-asset utility." Under this approach, AEP would recover (or credit)
15 the difference between the IGCC per-kWh costs and standard offer generation
16 rates. If this proposal were to be adopted, the significant capital cost of the IGCC
17 plant would impose an especially high unit-cost burden on customers in its initial
18 years of operation. AEP's proposal would assure full cost recovery (including
19 return on investment and an allocation of overhead costs) for its investment in
20 IGCC – with very little shareholder risk.

21 AEP's IGCC cost recovery proposal is even more aggressive than that
22 found in a traditional cost-of-service context. It provides for recovery of
23 development costs and full carrying costs in advance of plant operations, which is

1 typically not permissible. Once operations start, the proposal provides for an
2 annually-adjusted full cost recovery – the equivalent of a single-issue rate case
3 each year.

4 In sum, AEP is asking the Commission to approve a pricing regime under
5 which there would be two distinct rate setting mechanisms for its generation
6 plants: market rates for its lower-cost units, and Commission-mandated full cost
7 recovery for its prospective high-cost unit.

8 **Q. Do you believe this lack of consistency in rate setting treatments is**
9 **reasonable?**

10 A. No. Taken as a whole, the Company's proposal produces an unreasonable
11 lack of symmetry in rate setting. It offers customers the worst of both worlds:
12 above-cost, market prices on low-cost generation and above-market, cost-plus
13 prices on high-cost generation. Clearly, this lack of symmetry results in a bad deal
14 for customers.

15 **Q. What is your recommendation with respect to the rate setting mechanism**
16 **proposed by AEP?**

17 A. *AEP's proposal to levy surcharges to recover the cost of a prospective*
18 *IGCC unit should be rejected in its entirety.* Pursuant to the electric choice statute
19 and the RSP, AEP will be able to charge market-based prices for its existing
20 generation fleet, a policy that benefits its shareholders. AEP's new generation
21 resources should not be awarded a selective exemption from market pricing when
22 the Company determines that market pricing is disadvantageous to its
23 shareholders. AEP has asserted that IGCC is a good long-term investment. If the

**Financial Incentives for Deployment of IGCC:
A CoalFleet Working Paper**

**Prepared for the
Senate Committee on Energy & Natural Resources
Bipartisan Coal Conference
March 10, 2005
Washington, DC**

Table L. IGCC and PC Performance

Performance Characteristic	New Conventional PC ^a	IGCC Current	IGCC Near-Future	IGCC 2020
Thermal Efficiency ^b	38.6 %	39.7 %	40.6 %	45 %
Sulfur Dioxide (SO ₂) (tons/year)	3,027	566	276	250
Oxides of Nitrogen (NO _x) (tons/year)	1,412	1,094	219	198
Mercury (Hg) (lbs./year)	45	29	29	26
Carbon Dioxide (CO ₂) (million tons/year)	3.7	3.6	3.5	3.2
Potential for Carbon Capture and Sequestration	Limited	Yes ^c	Yes ^c	Yes ^c

a. Based on performance of supercritical units currently undergoing environmental permitting. Advanced combustion technologies, such as ultra-supercritical pulverized coal boilers, may ultimately demonstrate performance characteristics similar to IGCC.

b. Thermal efficiency based on Pittsburgh #8 coal - data from EPRI.

c. Extent of carbon capture depends on facility design.

Table I indicates that the IGCC units that are initially deployed are likely to have somewhat higher efficiency and significantly lower emissions than conventional PC units with emission controls. The SO₂ and NO_x emissions from the near-future IGCC technology will be less than 20% of the already low levels of the PC unit. Mercury reductions and efficiency gains would also be significant. IGCC units would emit less CO₂ due to their higher thermal efficiency and provide a much less expensive option for carbon capture than current PC units. 2020 targets for IGCC show major improvements in thermal efficiency resulting in further reduction in all pollutants.

III. BARRIERS TO IGCC DEPLOYMENT

Despite the significant technological advantages of the IGCC technology—low emissions, high efficiency, and potential for carbon capture and sequestration—IGCC has not been commercially deployed in the U.S. or elsewhere. Low natural gas prices were a key reason for this in the 1990s. Today, two principal factors account for this: higher initial capital costs for IGCC, and industry concern that commercial-scale IGCC units pose technological risks that impact the reliability and availability of the unit.

There are significantly higher costs associated with building an IGCC facility when compared to the costs associated with constructing a traditional pulverized coal facility. According to EPRI data, the capital cost of an IGCC unit—in terms of \$ per kW of generating capacity—is about 14% higher than a conventional pulverized coal unit. This accounts for about half of the estimated 17-19% differential in the cost of electricity between a PC unit and an IGCC unit. (See Table III in Section VI.) Due to their significantly higher capital cost, the four IGCC units in operation today were built with partial government funding.

Technology risk—that is, the risk that full-scale units in commercial service will not have a level of performance at least equivalent to pulverized coal units—is an equally serious barrier to IGCC commercial deployment. A particular concern is the question of whether the unit's availability, its ability to run continuously at full power without breakdowns, is equivalent to that of a conventional coal unit. Because of this perceived risk, the financial community imposes a risk premium on IGCC, limiting its market penetration absent some kind of financial incentive. IGCC facility design that includes a spare gasifier can mitigate part, but not all, of this risk.

Technology risk presents a particularly difficult challenge. As utilities and other entities undertake the commercial deployment of IGCC projects, they face numerous other risks—such as market price risks respecting their fuel supply and electric output, cost overrun risks, and regulatory and political risks—but these are not qualitatively different from risks that any company runs in building a conventional coal-fired power plant. For most of these risks there are commercially available instruments to mitigate these risks, including long-term fixed price fuel supply and power purchase contracts, fixed price engineering, procurement and construction (EPC) contracts, and various types of hedging contracts. What is not commercially available at reasonable cost, however, is an instrument for mitigation or hedging of technological risks. As a result, companies contemplating commercial deployment of IGCC technology face not only higher capital costs, but also technological risks that are likely to affect output and performance and cannot be hedged in today's marketplace at reasonable cost.

The remainder of the paper reviews the effectiveness of a number of Federal financial incentives that have been proposed as means to reduce the cost differential between IGCC and conventional PC technologies and to mitigate the technology risk associated with IGCC.⁹ These incentive mechanisms include loan guarantees, direct loans, Federal cost sharing, four types of Federal tax incentives (investment credit, production credit, accelerated depreciation, and tax exempt financing), and Federal availability insurance. They are described below. The effectiveness of these incentives is reviewed for three classes of project owners: regulated investor-owned utilities (IOUs), independent power producers (IPPs), and public power/cooperatives. The incentive mechanisms are described in Section IV, and their usefulness to each class of project owner is discussed in Section V.

Attachment B to this paper addresses the question of how the Federal government analyzes the budgetary costs of the various incentives. Our analysis does not address this question at this time.

IV. TYPES OF FEDERAL FINANCIAL INCENTIVES

A. Federal Loan Guarantees

DOE and other agencies have been authorized under a number of different statutes to provide loan guarantees for development and commercial demonstration of advanced energy technologies. Loan guarantees permit a project sponsor to obtain debt financing at an interest rate closer to the Federal government's cost of money. In addition, a loan guarantee may permit a highly leveraged capital structure for the IGCC project—substituting low cost debt for high