

ORIGINAL


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STATE OF INDIANA

INDIANA UTILITY REGULATORY COMMISSION

VERIFIED PETITION OF DUKE ENERGY)
INDIANA, INC. (1) SEEKING AUTHORITY TO)
REFLECT COSTS INCURRED FOR THE)
EDWARDSPORT INTEGRATED GASIFICATION)
COMBINED CYCLE GENERATING FACILITY)
("IGCC PROJECT") PROPERTY UNDER)
CONSTRUCTION IN ITS RATES AND AUTHORITY)
TO RECOVER EXTERNAL COSTS THROUGH ITS)
INTEGRATED COAL GASIFICATION COMBINED)
CYCLE GENERATING FACILITY COST)
RECOVERY ADJUSTMENT, STANDARD)
CONTRACT RIDER NO. 61 PURSUANT TO IND.)
CODE SECTIONS 8-1-8.8-11 AND -12; (2) SEEKING)
AN EXPEDITED APPROVAL OF AN UPDATED)
COST ESTIMATE FOR THE IGCC PROJECT,)
INCLUDING APPROVAL OF AN ONGOING)
REVIEW PROGRESS REPORT PURSUANT TO)
IND. CODE 8-1-8.7; AND (3) SEEKING APPROVAL)
OF AND COST RECOVERY ASSOCIATED WITH)
THE STUDY OF CARBON CAPTURE,)
SEQUESTRATION AND/OR ENHANCED OIL)
RECOVERY FOR THE IGCC PROJECT)
PURSUANT TO AN ALTERNATIVE REGULATORY)
PLAN UNDER IND. CODE § 8-1-2.5-6)

CAUSE NO. 43114 IGCC 1

APPROVED: JAN 07 2009

BY THE COMMISSION:
David E. Ziegner, Commissioner
Scott R. Storms, Chief Administrative Law Judge

On May 1, 2008, Duke Energy Indiana, Inc. ("Duke Energy Indiana," "Petitioner" or "Company") filed its Verified Petition with the Indiana Utility Regulatory Commission ("Commission") in this Cause. In its Petition, Duke Energy Indiana requested: (1) the authority to reflect costs incurred for the Edwardsport Integrated Gasification Combined Cycle Generating Facility ("IGCC Project," "Project" or "Edwardsport Project") property under construction in its rates; (2) the authority to recover external costs through its Integrated Coal Gasification Combined Cycle Generating Facility Cost Recovery Adjustment, Standard Contract Rider No. 61 ("Rider 61" or "IGCC Rider"); (3) the approval of an updated cost estimate for the IGCC Project, including approval of an ongoing review progress report; and (4) the approval of a plan for the study of carbon capture, sequestration and/or enhanced oil recovery for the IGCC Project and associated cost recovery pursuant to an alternative regulatory plan.

Pursuant to notice as required by law, proof of which was incorporated into the record by reference and placed in the official files of the Commission, an Evidentiary Hearing was held in this Cause on August 25, 2008, at 9:30 a.m. EST in Room 222 of the National City Center, 101 West Washington Street, Indianapolis, Indiana. The parties to this proceeding, other than Duke Energy Indiana, included the Indiana Office of Utility Consumer Counselor (“OUCC”); the Citizens Action Coalition of Indiana, Inc. (“CAC”); Save the Valley, Inc. (“STV”); Valley Watch, Inc. (“Valley Watch”); the Sierra Club, Hoosier Chapter (“Sierra Club”); the Indiana Industrial Group (“IIG”), Nucor Steel, a division of Nucor Corporation (“Nucor”), the Indiana Wildlife Federation (“IWF”); and the Clean Air Task Force (“CATF”). CAC, STV, Valley Watch, Sierra Club, IIG, Nucor, IWF and CATF are collectively referred to as “Intervenors.” CAC, STV, Valley Watch and Sierra Club are collectively referred to as “CAC” throughout this Order.

At the Evidentiary Hearing, the Petitioner presented the testimony of Mr. James L. Turner, Group Executive, President and Chief Operating Officer of U.S. Franchised Electric and Gas at Duke Energy Corporation; Mr. W. Michael Womack, Vice President of Major Projects – Midwest for Duke Energy Indiana; Ms. Diane L. Jenner, Director of Regulatory Strategy for Duke Energy Indiana; Mr. David C. Julius, Consulting Engineer on the IGCC Project for Duke Energy Indiana; Ms. Diana L. Douglas, Director of Rates for Duke Energy Indiana; and Mr. Kent K. Freeman, General Manager of Rates – Indiana, for Duke Energy Indiana.

The IIG presented the testimony of Mr. Michael Gorman, consultant in the field of public utility regulation and managing principal in the firm of Brubaker & Associates, Inc. Intervenor Citizens Action Coalition presented the testimony of Mr. Grant S. Smith, its Executive Director. Intervenors Citizens Action Coalition, Save the Valley, Valley Watch and Sierra Club presented the testimony of Mr. David A. Schlissel, Senior Consultant, Synapse Energy Economics, Inc. The OUCC presented the testimony of Mr. Wes R. Blakely, Senior Utility Analyst and Ms. Joan M. Soller, Director of Resource Planning, Emerging Technologies and Telecommunications.

Based upon applicable law and evidence presented herein, the Commission finds as follows:

1. **Notice and Jurisdiction.** Due, legal, and timely notice of the hearing in this Cause was given and published by the Commission. Duke Energy Indiana is a public utility as defined by Ind. Code § 8-1-2-1, and is subject to regulation by the Commission in the matter and to the extent provided for in the Public Service Commission Act, as amended. The Commission has jurisdiction over Duke Energy Indiana and the subject matter of this proceeding.

In its Verified Petition, Duke Energy Indiana indicated that as an “energy utility,” it has elected to be subject to the provisions of Ind. Code §§ 8-1-2.5-5 and -6 for purposes of the approval of the study of its carbon capture, sequestration and/or enhanced oil recovery for the IGCC Project. Duke Energy Indiana’s Verified Petition, testimony and exhibits relating to this topic constitute an alternative regulatory plan (“ARP”) for purposes of this request. Petitioner duly published notice of its Petition in the counties where Petitioner serves as required by Ind. Code § 8-1-2.5-6(d) (Petitioner’s Ex. L and L-1).

2. **Petitioner's Characteristics.** Duke Energy Indiana is an Indiana corporation with its principal office located at 1000 East Main Street, Plainfield, Indiana. Duke Energy Indiana is engaged in the business of supplying electric utility service to the public in the State of Indiana. The Company owns, operates, manages and controls plant, property and equipment used and useful for the production, transmission, distribution and furnishing of electric utility service to the public in the State of Indiana. It directly supplies electric energy to over 780,000 customers located in 69 counties in the central, north central and southern parts of the State of Indiana. It also sells electric energy for resale to municipal utilities, Wabash Valley Power Association, Inc., Indiana Municipal Power Agency, and to other public utilities that in turn supply electric utility service to numerous customers in areas not served directly by Duke Energy Indiana.

3. **Relief Requested.** In its Petition Duke Energy Indiana requested that the Commission: (1) expeditiously approve the Company's updated cost estimate for the IGCC Project and approve its ongoing review progress report related to the Project; (2) add to the valuation of its utility property for ratemaking purposes the actual Project costs incurred through February 29, 2008 and approve for recovery pursuant to its Rider 61 both the financing costs associated with those actual Project costs and its external costs associated with the Project; and (3) approve the Company's proposal for moving forward with, and cost recovery for studies relating to the potential capture of carbon at the IGCC Project.

4. **Increase in the Estimated Cost of the IGCC Project.**

A. **Petitioner's Evidence.** As previously approved by the Commission in its November 20, 2007 Order in Cause No. 43114 and 43114 S-1 (referred to as the November 20, 2007 Order" or the "Order" and sometimes as the "CPCN Order") the IGCC Project, once constructed, will be an integrated coal gasification combined cycle generating station with a capacity of approximately 630 MW located on approximately 220 acres adjacent to the Company's existing Edwardsport generating station in Knox County, Indiana. Pet. Ex. B, at 2 (Womack Direct). As part of this proceeding, the Company reported on the progress at the IGCC Project. Construction has begun at the IGCC Project site, with the grouting of the underground mine tunnels completed and the temporary project offices erected. Pet. Ex. A, at 5 (Turner Direct). Waste water injection well drilling operations continued and, as of the date of the hearing, had reached a depth of over 7,000 feet, and site preparation, such as clearing, filling and grading, was well underway. Pet. Ex. H, at 2 (Womack Rebuttal).

According to Mr. Womack, since receiving approval from the Commission for the IGCC Project, Duke Energy Indiana has reached agreement on contractual terms with the principal vendors on the IGCC Project, General Electric Company ("GE") and Bechtel Power Corporation ("Bechtel"). *Id.* The Company's negotiations with GE culminated in a December 2007 definitive contract for GE to furnish engineered equipment for the IGCC Project. *Id.* The Company's negotiations with Bechtel resulted in an April 2008 commercial term sheet outlining the framework of an Engineering Procurement and Construction Management Agreement between Bechtel and Duke Energy Indiana. *Id.* Mr. Womack testified that the Company signed a Limited Notice to Proceed in May 2008, allowing Bechtel to begin work on the IGCC Project while negotiations on a definitive agreement were being finalized. According to Mr. Womack, Bechtel

had assigned approximately 190 full time staff to the Project as of the date of the hearing. *Id.* and Pet. Ex. H, at 2 (Womack Rebuttal).

Mr. Turner testified that the Petitioner has committed to the purchase of certain long lead time equipment that GE is responsible for either manufacturing or procuring on behalf of Duke Energy Indiana. Pet. Ex. A, at 5 (Turner Direct). According to Mr. Turner, the purchase of this equipment reserved the Company's spot in the fabrication queue so as to maximize its opportunity to construct and complete the IGCC Project on schedule while locking in pricing on such equipment. *Id.* at 5-6. These commitments on long lead time equipment mean that committed costs, consisting of the sum of actual expenditures and the termination cost obligation for the Project for the reference period through April 2008, totaled approximately \$190 million. *Id.* at 6. As the Project moves forward, Duke Energy Indiana expects to commit approximately \$40-50 million per month through the balance of 2008 in order to keep the IGCC Project on schedule. *Id.* Mr. Turner further indicated that the projected in service date of the IGCC Project is June 2012, revised from the Company's original projected in service date of October 2011, but still prior to the 2012 summer peak demand season. *Id.*

Mr. Turner indicated that the cost impacts identified during the final negotiation and contracting process with GE and Bechtel, combined with a higher escalation rate reflecting developments in the global construction market, led the Company to conclude that the best estimate of the cost of constructing the IGCC Project (including AFUDC) needed to be increased to \$2.350 billion, compared to the \$1.985 billion identified in the FEED study estimate and approved by the Commission in the CPCN Order. *Id.* at 6-7. According to Mr. Turner, as the Company began to finalize contract terms with its primary vendors, it became clear that not only were the commodity and equipment costs higher than anticipated, but that the escalation rate for the IGCC Project -- which the Company had estimated at 4% in the underlying cause -- turned out not to be reflective of the unique market conditions. *Id.* Going forward, Duke Energy Indiana has revised the estimated escalation rate to 6% and expects this higher than average inflation to continue over the course of construction of the IGCC Project. *Id.*

Mr. Turner further testified that construction increases have affected all types of power plants, ranging from coal to gas to renewable energy resources such as wind. *Id.* at 8. According to Mr. Turner, in March of 2008 Santee Cooper announced a 25% increase in the cost of its proposed Pee Dee coal-fired power plant. *Id.* In May 2008, Kansas City Power & Light announced a 15% increase in its Iatan 2 coal-fired unit under construction. *Id.* According to Mr. Turner, the Company has also witnessed increases in the renewable energy market, with the average 2011 price in \$/MWh of the wind proposals (received in the Company's recent renewable request for proposal) increasing by approximately 24 over a span of just two years. *Id.* In addition, EPRI-based range of costs for IGCC projects which ranged from \$1.66 - \$2.102 billion in 2006, was updated to a range of \$2.325 - \$3.063 billion for a plant in service in 2012, using a 6% escalation factor. *Id.* at 8-9.

According to Mr. Turner, as further supported by the testimony of Mr. Womack, the Company's updated estimate takes into account the best information currently available especially for the high cost long lead time items which have been purchased and fixed in cost. *Id.* at 9. With regard to GE, Duke Energy Indiana's execution of the GE contract in December

2007 locked in 62% of the GE price. The Company released the major equipment on the IGCC Project for fabrication, which helps preserve the schedule and avoid further escalation. *Id.* Equipment released for fabrication included the radiant syngas cooler, the gas turbine/generator sets, and steam turbine/generator sets. *Id.* With this release, the Company began a schedule of committed payments to GE that totaled approximately \$104 million through the end of April 2008. Duke Energy Indiana has also already procured the largest non-proprietary equipment packages in its contract with GE, which includes the heat recovery steam generators and the air separation unit. Pet. Ex. H, at 2 (Womack Rebuttal). The GE contract has performance guarantees with “make right” provisions that will mitigate the IGCC Project’s exposure to future unforeseen cost increases. Pet. Ex. A, at 9 (Turner Direct). According to Mr. Turner, Bechtel has a strong record of meeting budget and schedule on major construction projects. *Id.* Although unforeseen events or circumstances outside Duke Energy Indiana’s control could materially impact cost and/or schedule, the Company has a high degree of confidence that its revised estimate of \$2.350 billion is achievable and that this plant will be in service by summer 2012. Tr. at A-108, A-61.

Mr. Turner indicated that, although disappointed that the Company’s first update filing includes an 18.4% increase in the estimated cost, Duke Energy Indiana continues to believe that the IGCC Project, even at the increased price, is in the best interest of its customers and the public at large and represents the best way to serve its customers’ long term need for electricity in a manner that appropriately balances affordability, reliability and environmental responsibility. *Id.* at 11. According to Mr. Turner, the IGCC Project achieves these objectives better than any other competing resource choice by using a relatively low cost, abundant fuel -- Midwestern coal -- to power an efficient base load generation resource. *Id.* It also avoids undue reliance on a high priced volatile fuel -- natural gas -- for base load generation needs. Moreover, the IGCC Project will be one of the cleanest coal plants in the world with regard to regulated emissions such as SO₂, NO_x and mercury and by producing less solid waste and using less water than conventional coal plants. *Id.* The IGCC Project also has the potential to facilitate both the capture and sequestration of carbon dioxide (“CO₂”) emissions that many believe will be regulated in the future; and enables the Company to continue to take steps to modernize its generation fleet. *Id.* at 11.

With regard to the updated integrated resource plan (“IRP”) analysis performed by the Company, Mr. Turner stressed that in many respects, an ongoing IRP analysis is not appropriate when the project at issue is a baseload generating plant that will take many years to construct. He indicated that many forecasts and IRP inputs, such as the future price of carbon emission reductions, emission allowances, natural gas, coal, purchased power, construction costs, potential new environmental requirements, and the projected load forecast will change while the plant is under construction. However, a utility’s decision to move forward with such a large project must be based on the best information available at the time the decision is made. Nonetheless, in this proceeding, the Company recognized that an increase of over 18% in the cost estimate is not inconsequential as far as its customers are concerned, and the Company included additional IRP analysis for this first update proceeding.

In support of her updated IRP analysis, Ms. Diane Jenner testified that she started with the STRATEGIST[®] optimization model runs presented in Cause No. 43374 that were based on

the Company's 2007 IRP, but updated the parameters that were the major cost drivers in order to perform the analysis for this Cause. Pet. Ex. C, at 3 (Jenner Direct). Specifically, Ms. Jenner updated the capital costs of new unit alternatives using the updated \$2.35 billion cost estimate; updated estimated in-service date for the Project (June 2012); and, escalation for the IGCC Project while using the same escalation rate to update the other unit alternatives (*i.e.* CTs, CCs, pulverized coal units, nuclear units and renewable resources). *Id.* Ms. Jenner also updated the load forecast using the Spring 2008 Duke Energy Indiana load forecast that included updated economic parameters, forecasted impacts from expected improvements in lighting efficiency; and 50 MW of additional contemplated wholesale native load. *Id.* at 3-4. Natural gas prices, coal prices, emission allowance prices, and power market prices were also updated. *Id.* at 4.

Ms. Jenner described the runs and sensitivities performed for the IGCC Project's updated cost estimate. Base case runs were performed with and without the IGCC. *Id.* at 6. In both of these runs, portions of nuclear units were selected by the optimization model near the end of the 20-year planning period, so Ms. Jenner performed one sensitivity that considered the possibility that nuclear units would not be an available alternative. *Id.* She also performed sensitivities using higher gas prices with and without nuclear as an alternative. *Id.* The impact of the retirement of four smaller, older coal units (specifically, Wabash River Units 2-5) was also analyzed. *Id.*

The economics of the plan with the IGCC Project in comparison to the plan without the Project, taking into consideration the present value revenue requirements ("PVRR") of the costs already incurred plus termination costs for the IGCC Project range from the PVRR of the IGCC plan being 0.9% higher cost to a PVRR of 0.7% lower costs than the plan without the IGCC. *Id.* at 6-7. Ms. Jenner noted that the economics of the "with IGCC" plan compared to the "without IGCC" plan under a higher gas price/no nuclear scenario resulted in the PVRR for the "with IGCC" plan of 0.4% lower than the "without IGCC" plan. *Id.* at 7.

Ms. Jenner also expressed concern with natural gas prices, specifically indicating that the base case forecasts future gas prices as being lower than actual recent prices for forward gas contracts. *Id.* The base case "with IGCC" plan would break even with other alternatives if future gas prices are 27% higher than those assumed in the base case. *Id.* Even after increasing the base case future gas prices by 27%, the break-even gas prices remained at or below current gas prices in real terms, making such an increase seem quite moderate and realistic. *Id.* According to Ms. Jenner, Duke Energy Indiana has serious concerns with over-reliance on natural gas, especially for baseload needs, given the volatility and expected future high prices of natural gas. *Id.* at 8-10.

B. OUCC and Intervenors' Evidence and Petitioner's Response.

Although the OUCC expressed conditional support for Petitioner's request to recover IGCC Project costs up to \$2.35 billion, Public's Ex. No. 1, at 10 (Soller Direct), OUCC Witness Joan Soller also indicated disappointment that less than six months following the CPCN Order, Duke Energy Indiana has already projected a total project cost estimate increase of over 18%. *Id.* at 3. However, Ms. Soller confirmed that the conclusion presented in the Petitioner's testimony-- that increased materials and labor costs are a result of national and international market influences-- is not inconsistent with information that the OUCC has reviewed. *Id.* While this is the case, the

OUCC indicated that it is more concerned that Duke Energy Indiana projected that cost estimates for its own internal work have increased by over 100%. *Id.* at 4. Ms. Soller stated that the OUCC believes that Duke Energy Indiana should be held accountable for all costs, but especially for its own internal costs for the IGCC Project. *Id.* Ms. Soller recommended that the Petitioner meet with OUCC staff to determine communication expectations and develop templates to effectively share information related to the IGCC Project within 30 days of a final order in this proceeding and to update the Commission about those processes within 60 days. *Id.* at 5, 6.

CAC witness Grant Smith provided testimony detailing the CAC's concern that the construction and commodity costs associated with the IGCC Project will continue to rise and that ratepayers face the full risk of these cost increases. CAC Ex. A, at 3-5 (Smith Direct). Mr. Smith also testified regarding the CAC's concern with the Company's "over-reliance" on coal. *Id.* at 6-7. He explained that a portfolio that diversifies the energy portfolio of Indiana utilities with energy efficiency measures, renewable resources and other distributed power options would provide job opportunities and savings to ratepayers that would assist the economy. *Id.* at 7. Mr. Smith also testified that renewable energy, particularly wind generation, is a better alternative to coal-fired generation and provides a better hedge against future carbon regulation. *Id.* at 10-12.

CAC Witness David Schlissel testified that Duke Energy Indiana should have anticipated that the costs of the IGCC Project would increase above the \$1.985 billion cost estimate the Company presented in Cause Nos. 43114 and 43114-S1. CAC Ex. B, at 3-5 (Schlissel Direct). Mr. Schlissel stated that in the uncertain construction environment that currently exists, the Company should have allowed for the possibility that the cost for the IGCC Project would continue to rise, perhaps significantly. *Id.* at 5. He also stated that he believes it is reasonable to expect that the factors that have led to dramatic increases in power plant construction costs in recent years will lead to further increases in costs and in construction delays in the five or more years before the IGCC Project is scheduled to be completed. *Id.* at 6. Mr. Schlissel testified that Duke Energy Indiana should have performed a series of additional sensitivity scenarios in its modeling analyses to reflect increases of 20%-40% higher capital costs. *Id.* at 11. Mr. Schlissel noted examples of power plant projects that have been suspended or cancelled due to rising construction costs. *Id.* at 8-10. He also pointed to the fact that the Company's new Project estimate is at the bottom of the EPRI-based range of costs for IGCC projects, as evidence that the IGCC Project estimate could significantly increase. *Id.* at 10. Because of this concern about escalating costs, Mr. Schlissel argued that the Commission should revoke the CPCN for the IGCC Project. *Id.* at 3. Alternatively, he recommended that Duke Energy Indiana should be willing to agree to cap its cost recovery for the proposed plan to its current cost estimate, less any federal, state, and local incentives it may receive. *Id.* at 12.

Mr. Schlissel further testified that Petitioner's updated STRATEGIST[®] modeling analyses do not show that completion of the IGCC Project is the lowest cost, lowest risk option for the Company's ratepayers. *Id.* at 3. According to Mr. Schlissel, the Company's CO₂ prices used in its modeling analyses are unreasonably low. *Id.* at 15 and 17. Mr. Schlissel testified that he believes that Duke Energy Indiana should use his Synapse High, Mid and Low CO₂ price forecasts in its modeling because they represent a reasonable range of emission allowance prices. *Id.* at 22. Mr. Schlissel also testified that the Company overstated the risk to ratepayers of over-

reliance on natural gas. *Id.* at 23. He indicated that he did not believe that combined cycle capacity factors of up to approximately 47% should be a source of concern for the Commission. He further stated that while the prices of natural gas may be affected by future CO₂ emission regulations, it is very difficult to determine, at this time, the amount by which natural gas prices might increase or decrease due to CO₂ emission regulations. *Id.* at 24.

In rebuttal testimony, Mr. Turner testified that the Company believes that the IGCC Project continues to be a reasonable and robust resource addition. Pet. Ex. G, at 11 (Turner Rebuttal). He explained that: Duke Energy Indiana continues to have a significant need for baseload generation; all resource options are getting more and more expensive yet the IGCC Project continues to be a reasonably cost-effective and robust option to meet Petitioner's need for baseload capacity; and the IGCC Project remains an excellent choice given its ability to cost effectively satisfy baseload capacity needs using plentiful Midwestern coal in an environmentally responsible manner. *Id.* at 11-12. In response to Mr. Schlissel's contention that the IGCC Project will likely exceed the current cost estimate because the estimate is at the bottom of the EPRI based range of costs for IGCC projects, Mr. Turner indicated that he would expect the IGCC Project to be at the lower end of the EPRI range as the Project is far along compared to a project at the initial stages of development. *Id.* at 15.

Mr. Turner agreed with Ms. Soller that periodic reporting and communicating on the progress of the IGCC Project is appropriate and that the Company is prepared to sit down with the OUCC to fashion a reasonable process. Pet. Ex. G, at 3 (Turner Rebuttal). In many ways, Mr. Turner said, the process has already started through the official six-month review procedure and through the Commission's appointment of Black & Veatch Corporation ("Black & Veatch") to monitor the progress of the IGCC Project. *Id.*

Mr. Turner testified that the CAC's suggestion of a hard cost cap ignores the reality that there are some costs – such as inflation and cost increases caused by increased demand for project equipment and labor – that are outside of the Company's control and affect all supply-side options. Pet. Ex. G, at 16 (Turner Rebuttal). He further explained that such a concept is inconsistent with Indiana's statutory scheme. *Id.* Indeed, Indiana's CPCN statutes provide for ongoing reviews (such as this one) and for modification or even revocation of a CPCN should the Commission determine that course of action is in the public interest. *Id.* A cost cap, Mr. Turner stated, is particularly inappropriate given the very high level of transparency available to the Commission and the reporting process available to the OUCC as the Company moves through the construction of this project. *Id.*

Mr. Womack stated that he does not believe it is reasonable to assume that the cost of the IGCC Project will exceed the Company's current estimate. Pet. Ex. H, at 3 (Womack Rebuttal). He explained that as of August 2008, Duke Energy Indiana, has essentially locked in prices for nearly 32% of the estimated cost of the IGCC Project. *Id.* Mr. Womack also testified that approximately 8% of the estimated cost of the project consists of project overhead costs, such as training, travel expenses, consultant services, insurance, taxes, etc. that have not been escalating nearly as rapidly as some of the commodity costs. *Id.* Further, he said that nearly 21% of the estimated Project cost represents cost categories, such as project management staff, detailed engineering, high-voltage substation installation, and certain specific equipment purchases,

which traditionally are at low risk for large cost increases. *Id.* In addition, Mr. Womack noted that if forces beyond the Company's control cause costs for the IGCC Project to exceed the current estimate, these forces would also increase the costs of all other supply-side generation resource alternatives. *Id.* at 5.

Mr. Womack also addressed Ms. Soller's recommendation that the Commission should limit recovery of the Company's internal construction costs to the amount set forth in Petitioner's Confidential Ex. B-1. Pet. Ex. H, at 6 (Womack Rebuttal). Mr. Womack testified that while Petitioner's Confidential Ex. B-1 reflects an increase for Duke Energy management costs, this is primarily due to its decision to staff more of the field management positions with Duke Energy personnel, rather than Bechtel personnel, with the expectation of achieving significant overall savings. *Id.* Duke Energy Indiana believes that this was the best decision for the IGCC Project in terms of both risk management and cost effectiveness. *Id.* at 6-7. Mr. Womack also testified that an artificial limit on one particular element of the cost estimate might have unintended consequences if it deters the Company from pursuing other possible cost saving approaches in the future. *Id.* at 7.

Duke Energy Indiana witness Ms. Jenner responded to Mr. Schlissel's contention that the Company's CO₂ prices used in its modeling were too low. Pet. Ex. I, at 2 (Jenner Rebuttal). Ms. Jenner stated that while the prices the Company utilized were lower than those that may result from some of the numerous proposals in Congress, there is little indication that Congress will ultimately pass legislation that results in higher rather than lower range of prices. *Id.* In fact, the recent defeat of the Lieberman-Warner proposal supports the Company's view that CO₂ legislation with draconian cost impacts will likely not be passed. Pet. Ex. G, at 14 (Turner rebuttal). Further, Ms. Jenner testified that the Company performed additional model runs using Mr. Schlissel's Synapse Mid CO₂ Price Forecast. Pet. Ex. I, at 2-3 (Jenner Rebuttal). The results of those runs range from the PVRR of the IGCC plan being 1.0% higher in cost than the plan without the IGCC Project, using base case gas prices without consideration of Wabash River unit retirements (units 2-5); to the PVRR of the IGCC plan being 0.2% lower in cost than the plan without the IGCC Project, using higher gas prices in conjunction with Wabash River unit retirements. *Id.* at 3-4. Ms. Jenner noted that the Company believes that higher CO₂ prices will affect other parameters in the model, such as lowering coal prices and increasing gas prices (the effect of which would be to improve the economics of the IGCC plan compared to the non-IGCC plan), but was unable to model those parameters due to a lack of an integrated fundamental forecast of fuel and power prices based on Synapse's CO₂ price forecast. *Id.* at 4.

Ms. Jenner also responded to CAC Witness Grant Smith's suggestion that wind generation would be a better alternative than coal-fired generation. *Id.* at 6. Ms. Jenner testified that while wind can provide needed and clean energy, it is an intermittent resource that provides very limited capacity value at the time of the summer peak when the Company and customers need it most. *Id.* Petitioner's Exhibit I-2 shows the extreme variability of the output from the wind resources within the Midwest ISO footprint. According to Ms. Jenner, on one day in the month of June 2008, the combined capacity of these wind resources were below 10% of installed capacity. Ms. Jenner testified that the variable capacity factor of wind resources presents challenges to the transmission system as transmission lines must be sized to carry the maximum output of wind resources, along with other connected generating resources, in order to handle

power flows significantly in excess of the normal usage of the transmission line. *Id.* at 7. With respect to Mr. Schlissel's comment regarding capacity factors of combined cycle units, Ms. Jenner stated that higher capacity factors for natural gas-fired combined cycle units would expose customers to the volatility and price risk of natural gas. *Id.* at 9-10.

C. Commission Discussion and Findings on IGCC Project Cost Estimate and Ongoing Review Progress Report. In our November 20, 2007 Order in Cause No. 43114 and 43114-S1, we granted certificates of public convenience and necessity ("CPCN") and clean coal technology ("CCT") for the Edwardsport Project under IC 8-1-8.5 and 8-1-8.7; approved the Petitioner's April 2007 Project cost estimate of \$1.985 billion; approved financial incentives that included the timely recovery of construction and operating costs, and other financial incentives the Commission considered appropriate pursuant to IC §§ 8-1-8.8-11(a) and 12; and, approved the Company's request for ongoing review of the Project.

This matter represents the initial proceeding in our ongoing review of the project provided in our November 2007 Order and includes, as an additional issue, an outline of the Petitioner's plan to develop carbon capture and sequestration study proposals. In approving the Company's request for ongoing review, the Commission also found that it would conduct its ongoing review of the construction of the IGCC Project in conjunction with the Petitioner's semi-annual IGCC Rider proceedings. November 20, 2007 Order at 62.

With respect to ongoing review of the Edwardsport Project, cost recovery is appropriate for approved projects if the utility provides substantial documentation that the expected costs and the schedule for incurring those costs are reasonable and necessary. *See*, Ind. Code §§ 8-1-8.8-12(d). Further, the Commission may review any project approved under this Act to determine that the project continues to comply with the Commission's order that initially approved incentives under this chapter. The Commission may revoke any incentive approved if it finds that the project no longer complies with the provisions of the order concerning the incentive. *See*, Ind. Code § 8-1-8.8-15.¹

Consistent with the overview of the requirements contained in the Commission's November 20, 2007 Order and the statutory and regulatory requirements that govern our consideration of the issues, the Commission initially examines Duke Energy Indiana's request to increase the estimated cost of the Edwardsport Project and whether the expected costs of the project (and the schedule of costs to be incurred) are still reasonable and necessary. If we find that the increase is warranted, and the expected project costs are reasonable and necessary, we will then address other ancillary issues raised by the parties. These additional issues include

¹ The Commission notes that its ongoing review in this proceeding is consistent with the Duke Energy Indiana's request for ongoing review in Cause No. 43114 and 43114-S1, and the provisions of Ind. Code § 8-1-8.8-15 and Ind. Code § 8-1-8.5-6, that provide for ongoing review of the Edwardsport Project by the Commission. The Commission also notes that no party to this proceeding presented evidence regarding changes in the probable future growth in the use of electricity. Therefore, our ongoing review in this matter is not being undertaken pursuant to IC 8-1-8.5-5.5, which requires an indication by the Commission that *changes in the estimate of the probable future growth of the use of electricity* necessitate a review of any certificate granted under this chapter to determine whether the public convenience and necessity continues to require the facility under construction.

consideration of the possible imposition of a cost cap on the Edwardsport Project (as originally proposed in the underlying Cause to the proceeding); whether Duke Energy Indiana's ongoing review progress report should be accepted; and finally, whether we should implement findings with respect to the development and utilization of a uniform and predictable process for the presentation of cost issues in subsequent IGCC proceedings.

(i) **Revised Cost Estimate, Escalation Rate, and Schedule.** In presenting the proposed increase of its prior estimate of \$1.985 billion, Duke Energy Indiana expressed a high degree of confidence that the project can be constructed for the new estimated cost of \$2.350 billion--with a revision in the escalation clause from 4% to 6% for costs not previously locked in by the Company. Additionally, the Petitioner also expressed a high degree of confidence that the project could not be completed for the previous cost estimate of \$1.985 billion. Tr. at A-107-108, A-111.

While Duke Energy Indiana expressed a high degree of confidence in the estimated cost presented to the Commission, and approved in our November 20, 2007 Order, we recognize that the timeframe for the initial estimate was based on analyses prepared and presented to the Commission months prior to the issuance of the November 20, 2007 Order. Accordingly, the revised cost estimate presented in this matter is not merely reflective of the six month interval between the November Order and the filing in this initial review proceeding. Witnesses for Duke Energy Indiana testified in this proceeding that the demand for construction-related commodities, materials, equipment, engineering services and labor over the past year has been extraordinary and has driven prices well above typical inflation levels, and beyond the 4% escalation level employed in the April 2007 FEED Study estimate. The testimony presented in this matter further reflects that this level of power plant construction cost increase is not unique to the Edwardsport Project as cost increases have been experienced by the utility industry as a whole, resulting in cost increases in numerous power plant construction projects across the country.

According to the testimony presented in this Cause, Duke Energy's Board of Directors approved the Edwardsport Project, including the \$1.985 billion cost estimate, in the fall of 2007. The Company became aware of significant increases in the cost estimate once it began more in-depth contract discussions with GE following the issuance of our November 2007 Order. Based on the testimony presented in this matter the full extent of the increase in the cost estimate was not determined until 2008 during negotiations with Bechtel. Tr. at A-100.

The evidence presented in this matter places the Company's updated cost estimate in line with other utilities' project cost increases, and in line with EPRI's revised estimate of IGCC project costs. More importantly, the evidence presented in this Cause demonstrates that the Company has made substantial progress on the IGCC Project by finalizing contracts and locking in project costs. Additionally, much of the remaining project costs are in areas that do not appear to be as affected by commodity cost increases, such as project overheads, consultant and employee expenses, insurance, and taxes. We also recognize that commodity cost increases impact the relative costs of other supply-side resource options. Finally we note based on the testimony of record in this proceeding that the revised cost estimate of \$2.350 billion does not

reflect anticipated tax abatements or grants from outside sources that could act to reduce the overall cost of the IGCC Project to ratepayers. Tr. at A-98-99.

Duke Energy Indiana presented evidence in this proceeding that even with the revised cost estimate and the change of the completion date to June 2012, the project remains reasonable and necessary and that the Company's overall need for baseload capacity has not changed. Even with an updated lower load forecast and additional IRP analysis, the Company has a need for approximately 590 MWs in summer 2012 and beyond. As Ms. Jenner testified, this significant need will remain even with the addition of increased energy efficiency programs and/or increased wind resources to Petitioner's resource portfolio.

Additionally, the testimony presented in this matter demonstrates that even with the increased project cost estimate, the project remains a reasonably cost-effective and reliable choice for meeting the Company's baseload capacity needs. The economics of the Company's integrated resource plan with the IGCC project, compared to that without the project, range from the PVRR of the IGCC plan being 0.9% higher to 0.7% lower cost than the plan without the IGCC Project – depending on the levels of natural gas prices and other unit retirements assumed. Even with higher CO₂ prices assumed (as suggested by the CAC), the economics of the IGCC Project remain reasonable. The results range from the PVRR of the IGCC plan being 1.0% higher cost to being 0.2% lower cost than the plan without the IGCC Project – again, depending on the levels of natural gas prices and other unit retirements assumed.²

Based on the evidence presented in this matter, we find that the ongoing review progress report, including the updated Project cost estimate; escalation level; and, revised completion schedule, should be accepted and approved. Therefore we specifically approve the increased cost estimate of \$2.350 billion; the revised 6% escalation level; and the revised completion date of June 2012, as reasonable and necessary.

(ii) Cost Cap Issue. In this ongoing review proceeding Intervenor CAC recommended that if the Commission approves continuation of the Edwardsport Project, that an overall cost cap be imposed at the \$2.350 billion level. The OUCC recommended that internal Company project costs be capped at the current estimated level as set forth in Petitioner's Confidential Exhibit B-1. The Company opposed both of these recommendations.

Consistent with the determinations in our November 20, 2007 Order, we decline to impose a cost cap in this initial ongoing review proceeding. As we discussed in our Order in the underlying Cause:

The foregoing statutory framework specifically allows the Commission to: generally review additional costs prior to acting on a request for the award of additional incentives; monitor

² The evidence presented in this matter also demonstrates that new reliability requirements that are being imposed by ReliabilityFirst and the Midwest ISO will require that substantial amounts of alternative replacement capacity be secured if the IGCC Project is not completed.

ongoing compliance with any incentives awarded; and, revoke *any incentive* approved in this order, pursuant to IC 8-1-8.8-15, if the Commission finds that the project no longer complies with the provisions of the Order concerning the incentive. This express and ongoing statutory authority argues against the need for the Commission to impose a cost-cap in this proceeding.

November 20, 2007 Order at 36 (emphasis in original).

While we are concerned that the cost of the Edwardsport Project has increased since our November 20, 2007 Order, and recognize that Duke Energy Indiana expressed a high degree of confidence in its initial cost estimate of \$1.985 billion, only to return to the Commission seeking an increase to \$2.350 billion—again expressing a high degree of confidence in the revised cost estimate the review process is working as intended under the statute and has allowed us to examine the proposed cost increase in a fully-litigated proceeding.

As provided under the statute, ongoing review of projects approved by the Commission recognizes and anticipates the long term nature of such projects and the fact that costs may fluctuate over time as the project moves toward completion. Additionally, the Commission recognizes based on the record of this proceeding (and recent economic events faced by the country as a whole) that the fact that some costs and externalities may be beyond the control of the Company is not inconsistent with the review process provided under Indiana law. As the Commission has the authority and responsibility to monitor the ongoing progress of the Edwardsport Project and take appropriate action to address cost increases (or confirm cost decreases) within the framework provided in the ongoing review statute, we will continue to evaluate progress regarding the IGCC Project within this construct. Therefore, we find that the imposition of a cost cap at this early stage of construction is not necessary.

With regard to the OUCC's proposal for a cap on internal project costs we agree with Duke Energy Indiana that such a cap is unnecessary in the present proceeding. The evidence in this Cause demonstrates that Duke Energy Indiana has taken steps to shift certain non-core project work from more expensive outside firms to what should be more cost-effective internal resources. Therefore, while we decline the OUCC's invitation to impose an internal cost cap at this juncture we will continue to carefully review program costs as part of these ongoing review proceedings.

(iii) Development and Utilization of a Formalized Process for the Review of Costs. The Commission finds that a more formalized reporting and communication process should be implemented with respect to the Edwardsport Project. In our view, this is consistent with the Indiana's statutory scheme and with our additional efforts to monitor the Edwardsport Project. In order to facilitate the Commission's review of the issues in subsequent IGCC proceedings, testimony and exhibits should be presented in a manner that includes, at a minimum, the following information with respect to the Edwardsport Project:

- (1) The Projected In-Service Date and Status of Permits and Licenses including the status specific issues in any pending permit appeals;

- (2) The Projected/Estimated Cost to Complete;
- (3) Critical Path, Major Milestones, and Overall Schedule. This should include a review of milestones achieved since the last ongoing review proceeding and those milestones projected to be achieved prior to the next IGCC proceeding;
- (4) Construction Plan, Budget, Actual Expenditures to Date, and Projected Costs to Complete including Projected Expenditures to Date and the Identification and Discussion of any Construction Cost Control Issues that may result in Deviations from the Critical Path, and a recovery plan to correct or minimize any such deviations;
- (5) Commodity curves for items such as but not limited to High Pressure Piping Welds Completed, Electrical and Instrument Cable Installed, Electrical and Instrument Terminations Completed, Tons of Steel Erected, Cubic Feet of Concrete Poured;
- (6) Engineering Plan, Schedule and Progress;
- (7) Material Procurement Plan/Progress;
- (8) Craft Labor Procurement Plan/Progress;
- (9) Connection to the MISO and any System Reinforcement;
- (10) Vendor Warranties and Warranty Administration;
- (11) Contingency Planning;
- (12) Safety Procedures, Training, and Statistics;
- (13) Vendor and Construction Quality Control;
- (14) Plant Operations Staff Training;
- (15) Test and Startup Procedures; and
- (16) Any Additional Issues Relevant to the Proceeding.

Accordingly, in subsequent ongoing review proceedings we find that the Company shall develop templates to effectively communicate this information to the Commission in a manner that allows for comprehensive and effective ongoing review and tracking of each issue as construction of the IGCC Project proceeds.

5. Ratemaking Issues Associated with Implementation of the IGCC Rider.

A. Petitioner's Evidence. In this proceeding Duke Energy Indiana requested that the Commission approve the revised cost estimate of the IGCC Project, upon which the Company requested authorization to earn a return; the amount of Duke Energy Indiana's expenditures for the IGCC Project incurred through February 29, 2008; the recovery of external costs associated with the development and presentation of IGCC related retail regulatory proceedings; and that the Petitioner's retail electric rates be adjusted, via Rider 61, to include the revenue effect of such investment and cost recovery. Pet. Ex. E, at 3 (Douglas Direct). The Company also presented certain revisions to Rider 61 based on the requirements of our Order in the underlying Cause. Petitioner's Exhibit E-2.

In her testimony, Ms. Diana Douglas presented certain information specified in 170 I.A.C. § 4-6-12 including: (1) the estimated cost of completing the Project; (2) the construction start date; (3) the current stage of completion; (4) the estimated or actual in service date; (5) total expenditures for the Project as of February 29, 2008, subject to qualified pollution control property ratemaking treatment; (6) Project expenditures applicable to wholesale jurisdiction; (7) retail IGCC Project investment as of February 29, 2008; and (8) the amount of retail AFUDC included in the cost of the Project. *Id.* at 5.

Ms. Douglas stated that the jurisdictional balance of the Company's investment in the IGCC Project subject to CWIP ratemaking treatment is \$128,498,000 as of February 29, 2008. *Id.* at 6. Ms. Douglas explained that on Page 2 of Petitioner's Exhibit E-3, this jurisdictional balance of the Company's investment in the IGCC Project, multiplied by the Company's overall weighted average cost of capital of 8.40% as of February 29, 2008, results in a six month after tax return in the amount of \$5,397,000. *Id.* at 6. The after tax return is converted to the revenue requirement by using the applicable revenue conversion factors applied to the debt and equity components of the after tax return. *Id.* at 6. The jurisdictional revenue requirement requested for the six month filing based on the qualified investment as of February 29, 2008 is \$7,845,000. *Id.* at 7. The Company's derivation of its weighted cost of capital as of February 29, 2008, was provided as Petitioner's Exhibit E-3, Page 5 of 6. *Id.* at 9. Ms. Douglas explained that it had been calculated consistent with 170 I.A.C. § 4-6-14 and that based on the Commission's November 20, 2007 Order (page 54 and ordering page 9, on page 63), deferred taxes were excluded for IGCC Rider purposes. *Id.* at 9.

Ms. Douglas also explained that Page 3 of Petitioner's Exhibit E-3 shows the calculation of the jurisdictional revenue requirement applicable to external costs incurred in the development of retail regulatory filings associated with the IGCC Project, recovery of which was approved by the Commission in its November 20, 2007 Order. *Id.* at 8. IGCC retail regulatory filing expenditures through December 31, 2007, totaled \$635,670.³ She explained that the external costs did not include any costs associated with the development of the Company's IRP. *Id.* at 8. Six months' worth of amortization of this amount over the amortization period of 24 months was included in the calculation of the total revenue to be recovered from retail customers in this filing, consistent with Mr. Farmer's testimony in Cause Nos. 43114 and 43114-S1. *Id.* at 7, 8. After application of the revenue conversion factor, the total to be recovered in this filing is \$162,345.⁴ *Id.* at 8.

According to Ms. Douglas, consistent with 170 I.A.C. § 4-6-22, and in accordance with the Commission's Order in the underlying Cause, the IGCC Project will be deemed to be under

³ In response to recommendations in the testimony of OUCG witness Mr. Wes R. Blakley, Ms. Douglas sponsored revisions to this amount to remove \$3,099 of incremental expenses incurred by employees in her rebuttal testimony. Petitioner's Exhibit J-1, Page 1 of 4 shows the new total expenditure amount of \$632,571.

⁴ In response to recommendations in the testimony of OUCG witness Mr. Wes R. Blakley, Ms. Douglas agreed to use a 4 year amortization period, in addition to the removal of \$3,099 of incremental expenses incurred by employees. These changes resulted in a new total to be recovered in this filing for external costs of \$80,780, as shown on Petitioner's Exhibit J-1, Page 1 of 4.

construction and Duke Energy Indiana will continue to receive revenues through Rider 61 until the Commission determines that this Project is used and useful following a proceeding that involves the establishment or investigation of Duke Energy Indiana's base electric rates and charges. *Id.* at 10-11. Ms. Douglas also sponsored and discussed Petitioner's Exhibit E-1, which represents an update of Duke Energy Indiana's Standard Contract Rider No. 61; Petitioner's Exhibit E-2, which is a red-lined version of the rider showing changes made since the sample rider was filed in the CPCN testimony; and, Petitioner's Exhibit E-4 which shows the impact of the proposed IGCC Project ratemaking treatment on the monthly bill of a typical residential customer using 1,000 kilowatt hours. The monthly bill of a residential customer using 1,000 kilowatt hours will increase by \$0.59 or approximately 0.8% if this factor is approved.⁵ *Id.* at 11.

Mr. Kent Freeman testified that the updated cost estimate has been incorporated into the rate impact model that was provided as Petitioner's Exhibit No. 28-E in Cause Nos. 43114 and 43114-S1. Pet. Ex. F, at 2 (Freeman Direct). Several other assumptions have also been changed from the prior filing, such as the initial rate increase which was moved from January 2008 to July 2008 based on the timing of this filing. *Id.* at 3. The Company also excluded the 150 basis point adder to the return on common equity requested in Cause Nos. 43114 and 43114-S1 in accordance with the Commission's CPCN Order and increased the property taxes and the corresponding change in the local property tax incentives and the state tax incentives due to the increase in the cost estimate. *Id.* Finally, the revenue conversion factor applied to the state tax credit has been revised to exclude federal income taxes because state income taxes are deductible for federal income tax purposes. *Id.*

According to Mr. Freeman, revenue and customer impacts are expected to reach their highest point during the first full calendar year after the Project's in-service date – calendar year 2013. *Id.* at 4. At that time, the Company expects the average retail revenues to increase by approximately 18% compared to the base period used for comparison purposes (*i.e.* retail revenues billed customers for the twelve months ended April 2007). *Id.* According to Mr. Freeman, although these are significant rate impacts, it is important to keep in mind that doing nothing is not an option – the Company must acquire necessary resources to meet its obligation to serve – and that competing alternative resource options would also produce higher levels of rate impacts.

The Company also included an estimate of project cancellation costs as of July 31, 2008, for the limited purpose of identifying the project's "sunk costs" in the event it were cancelled. These project cancellation costs at that point in time were estimated to be \$343.4 million (\$315.2 million allocated to retail customers). *Id.* Using an amortization period of ten years and a 7.20% rate of return, Mr. Freeman testified that he calculated an annual retail amortization amount of \$44.3 million and provided that amount to Ms. Jenner for use in her updated IRP analysis. *Id.*

Mr. Freeman also testified that the Company has conservatively estimated the impact of the IGCC Project on fuel expense. *Id.* at 5. This was done by comparing the average fuel costs

⁵ The changes agreed to and sponsored by Ms. Douglas in her rebuttal testimony resulted in a reduction in the customer impact from that filed in her direct testimony. Instead of the monthly bill increasing by \$0.59, the monthly bill of a typical residential customer using 1,000 kilowatt hours will increase by \$0.58, as shown on Petitioner's Exhibit J-1, Page 4 of 4.

per kWh today (in current dollars) to the estimated fuel costs per kWh for the IGCC Project in year 2012, and assuming that the IGCC Project will displace other Company generation or purchased power, thereby displacing average fuel costs when it comes on-line. *Id.* Based on these assumptions, the Company conservatively expects that its retail customers will save over \$27 million per year in fuel costs compared to a scenario without the IGCC Project. *Id.*

B. OUCC and Intervenors' Evidence and Petitioner's Response. OUCC Witness Wes Blakley testified that the OUCC believes that the impact of Duke Energy Indiana's cost increases can be somewhat mitigated by following traditional ratemaking practices with respect to the inclusion of deferred income taxes in the capital structure. Public's Ex. No. 2, at 3 (Blakley Direct). Mr. Blakley explained that the Commission previously gave Petitioner approval to remove some or all of its deferred income taxes from the capital structure and that Duke Energy Indiana removed all of its deferred income taxes from the capital structure in this proceeding. *Id.* at 4. According to Mr. Blakley, this removal results in a significantly higher return for Duke Energy Indiana when compared to the results achieved by including deferred income taxes in the capital structure at zero cost. *Id.*

Mr. Blakely also testified that he had concerns with the recovery of "external costs." Public's Ex. No. 2, at 2 (Blakely Direct). Mr. Blakely stated that it should be made clear that "external costs" are costs from outside sources, such as consultants and lawyers, and that internal personnel of Duke should not be included in this expense. *Id.* at 9. He also stated that it should be clarified that these costs should be a one-time cost occurrence for developing and presenting the IGCC case. *Id.* He also believes it would be more reasonable for the Company to amortize its external costs associated with the development and presentation of Petitioner's case in Cause Nos. 43114 and 43114-S1 over the period of construction, or approximately four years, instead of the two years Petitioner proposed. *Id.* The OUCC further recommended that the Petitioner be allowed to amortize its cancellation cost over thirty (30) years, which corresponded to the estimated depreciable life of the IGCC Project, rather than the ten (10) years that Petitioner used for analysis in this proceeding. *Id.* at 10-11.

IIG Witness Michael Gorman testified that in Order Nos. 43114 and 43114-S1 the Commission agreed that deferred taxes should be excluded from the capital structure, and instead the deferred tax balance related to the IGCC project should be included as an IGCC rate base offset. IIG Ex. MPG, at 8 (Gorman Direct). Mr. Gorman also expressed concern that by ignoring deferred income tax balances related to the IGCC Project in development of the IGCC return on investment, Petitioner has inflated the IGCC Rider revenue requirement. *Id.* at 2. Mr. Gorman recommended an allocation of Duke Energy Indiana's total deferred tax balances to the IGCC plant balance based on an allocation of total net utility plant. *Id.* at 8.

Mr. Gorman also testified that Petitioner's proposed rate of return (*i.e.* carrying charge) for the IGCC Project CWIP is overstated and inflates the IGCC Project revenue requirement. IIG Ex. MPG, at 2 (Gorman Direct). Mr. Gorman explained that he believes the proposed rate of return for the CWIP balance is inflated because Duke Energy Indiana used the Company's long-term weighted average cost of capital for the IGCC Rider rate of return instead of the Federal Energy Regulatory Commission ("FERC") AFUDC rate. *Id.* at 3. Mr. Gorman stated that the FERC prescribed methodology for establishing the AFUDC rate is designed specifically to

reflect a utility's financing cost of construction work in progress and therefore, it should be used for both an accrued carrying charge when the IGCC Project CWIP cost is not being recovered in the IGCC Rider, and also for the establishment of the IGCC Rider revenue requirement when the IGCC Project CWIP cost is being recovered from customers. *Id.* Mr. Gorman testified that FERC's AFUDC methodology is based on the expectation that CWIP is primarily funded by short-term debt. *Id.* Therefore, according to Mr. Gorman, because Petitioner's proposed rate of return on CWIP is based entirely on long-term capital, it will allow Duke Energy Indiana to over recover its actual carrying costs on the IGCC Project CWIP. *Id.* at 4.

In response to Mr. Gorman and Mr. Blakely's testimony regarding the deferred taxes issue, Mr. Turner testified that the Commission's CPCN Order reflects a determination that Duke Energy Indiana should be authorized to exclude deferred taxes from the capital structure for the IGCC Project and instead, the IGCC specific deferred tax balance should be included as an IGCC rate base offset. Pet. Ex. G, at 9-10 (Turner Rebuttal). Mr. Turner testified that he believes that the improved cash flow resulting from the deferred tax treatment during the early years of the IGCC Project is even more important to the Company given that the increased capital costs of the IGCC Project will result in a similar increase in the financing for the Project. *Id.* at 10.

Duke Energy Indiana witness Ms. Douglas also responded to Mr. Blakely's and Mr. Gorman's testimony regarding deferred income taxes. Pet. Ex. J, at 2 (Douglas Rebuttal). She stated that while she agreed with Mr. Blakely that the treatment of deferred income taxes is different than that used in other proceedings, such treatment is entirely consistent with the Company's rebuttal testimony in the CPCN proceeding and the Commission's CPCN Order. *Id.* Ms. Douglas affirmed Mr. Stephen Farmer's testimony in Cause Nos. 43114 and 43114-S1 that if accumulated deferred income taxes were to be included in the capital structure used in determining the revenue requirement applicable to the IGCC investment, the Company would significantly under-recover the cost of financing the IGCC Project. *Id.* at 3. Ms. Douglas explained that if deferred income taxes are not treated as a zero cost of capital, the accumulated balance of deferred income taxes generated by the IGCC Project should be treated as a deduction from the cost of plant when calculating the jurisdictional revenue requirement and that this was the methodology included in the current filing. *Id.* at 3-4. Further, the Company has not yet accumulated any deferred taxes specific to the IGCC Project, so no deduction was required. *Id.* at 4. Ms. Douglas testified that Duke Energy Indiana will begin accumulating IGCC Project-related deferred taxes when the project goes into service mid-2012 and that the deferred taxes will be related to the use of accelerated depreciation for tax purposes, which will differ from the 30 year life depreciation to be used for book purposes. *Id.* Ms. Douglas testified that the methodology included in the current filing is consistent with the methodology discussed by Mr. Farmer and included in exhibits in the CPCN proceeding. *Id.*

Ms. Douglas also explained that the Company's proposed methodology is consistent with the Commission's CPCN Order. *Id.* at 5. In that Order, the Commission stated "we find that excluding deferred income taxes from the capital structure and instead applying them as an offset to rate base to be a reasonable treatment in the conditions specific in this proceeding." *Id.* (citing CPCN Order at 58). Ordering paragraph 9 states that "Petitioner shall exclude deferred income taxes from the capital structure used in the IGCC Rider and include the deferred tax

balance related to the IGCC Project as an IGCC rate base offset.” *Id.* (citing CPCN Order at 63). Ms. Douglas also noted that the Commission explicitly categorized this deferred tax treatment it was authorizing as an incentive under Ind. Code § 8-1-8.8. *Id.* at 6.

Ms. Douglas further also responded to Mr. Gorman’s testimony that the Company’s treatment of deferred income taxes is contrary to the CPCN Order. Pet. Ex. J, at 6 (Douglas Rebuttal). Ms. Douglas pointed out that Mr. Gorman recommended an allocation method for deferred income tax balances that is not supported by the testimony in the underlying proceeding or in the CPCN Order. *Id.* at 7. She also noted that in the underlying proceeding, Duke Energy Indiana supported the recommendation of Mr. Gorman that the deferred taxes related to the IGCC Project be included as a rate base reduction, rather than as an item of zero cost capital within the rate of return calculation. *Id.* at 7-8. Mr. Gorman now contends that the Company should not use IGCC Project specific deferred taxes, but an allocation of total Company deferred taxes, which was not his recommendation in the CPCN proceeding. *Id.* at 8.

Ms. Douglas further responded to Mr. Gorman’s testimony that the Company overstated the proposed rate of return by not using the AFUDC rate in the revenue requirement calculation. *Id.* at 10. She testified that, except for the deferred tax balances, the rate of return calculation the Company used is consistent with the calculation it has used, and which the Commission has approved, in its last general rate case and in its eleven (11) ECR filings. *Id.* at 10-11. Ms. Douglas stated that this calculation follows the Commission’s CWIP rules, which provide detailed guidance on the computation of the cost and amounts of long term debt, preferred equity capital, and equity capital, but are silent as to short term debt. *Id.* at 11. If the Commission had meant for the same rate to be used for both AFUDC and CWIP, Ms. Douglas opined, its rules would simply say to use the AFUDC rate instead of establishing a detailed CWIP rate calculation. *Id.*

Further, she noted that the Commission reviewed and referenced the language in 170 I.A.C. § 4-6-14 when it determined that the proposed deferred income tax treatment was appropriate, but did not specifically include the use of short-term debt as now proposed by Mr. Gorman. *Id.* at 12. Moreover, if the Commission adopted Mr. Gorman’s proposal, it would effectively reduce the “additional incentive” during the construction period that the Commission approved. *Id.* According to Ms. Douglas, if one were to accept Mr. Gorman’s premise that all construction work in progress should receive the same rate of return, whether AFUDC is being accrued on project balances or a cash return is being received through CWIP ratemaking treatment, the Company’s AFUDC calculation would need to be modified accordingly to include all CWIP in the “W” component, not just the portion of CWIP on which AFUDC will be accrued. *Id.* at 14. She explained that this change would reduce the short-term debt component of the AFUDC rate and increase the portion of the AFUDC rate that is based on long-term debt and common equity, resulting in higher AFUDC amounts being accrued on all other CWIP, including the amounts in Company’s Standard Contract Rider No. 62, as well as in higher amounts of IGCC Project revenue requirements than Mr. Gorman proposed. *Id.*

Ms. Douglas responded to Mr. Blakley’s recommendation that the Company amortize external costs over a four-year versus a two-year period and his concerns about external costs. *Id.* at 16. She stated that the Company is willing to make the amortization period change

proposed by Mr. Blakley and to remove the amount of incremental expenses incurred by employees of Duke Energy Business Services LLC (\$3,099) from its external rate development costs. *Id.* However, Ms. Douglas testified that the Commission did intend in its CPCN Order for some on-going level of external costs to be recoverable. *Id.* at 17. With two exceptions, Ms. Douglas stated, the Company is willing to assume all incremental external costs associated with development of the IGCC Project rate filings over and above the \$635,670 already requested in this proceeding, as adjusted to remove the \$3,099 of employee expenses. *Id.* The two exceptions are: (1) future proceedings where there is a request to modify or revoke the CPCN itself; and (2) the fees of Black & Veatch, which the Company was ordered to retain by the Commission in a Docket Entry issued on June 3, 2008. *Id.* Ms. Douglas testified that Black & Veatch is the professional engineering firm which will independently report to the Commission and assist the Commission through active and continuing independent oversight of the IGCC Project. *Id.* Ms. Douglas testified that the Company proposes that the actual costs for Black & Veatch be included as incurred as an ongoing external cost in future IGCC filings. *Id.*

Duke Energy Indiana Witness Mr. Freeman responded to Mr. Blakley's recommendation for a 30-year amortization period for cancellation costs. Pet. Ex. K, at 2 (Freeman Rebuttal). Mr. Freeman stated that his proposed 10-year amortization period was based on specific cancellation costs as of a specific date (July 31, 2008). *Id.* He did not propose that the 10-year amortization period be applied regardless of the cancellation costs or the date of cancellation. *Id.* Mr. Freeman testified that the Commission should determine the appropriate amortization period based on the facts at the time of any cancellation decision. *Id.* at 2-3.

C. Commission Discussion and Findings on Ratemaking Issues. Based on our review of the evidence presented on this issue it is apparent that none of the parties to this proceeding took issue with the Company's proposed implementation of the IGCC Rider or with the associated calculations contained in that Rider. However, certain parties expressed concern regarding the exclusion of deferred taxes from the capital structure and the appropriate offset to rate base for IGCC related deferred taxes; the rate of return or financing cost calculation to be used for the construction-work-in-progress ratemaking treatment, specifically whether the Company's AFUDC rate, which includes short term debt, should be used for CWIP ratemaking; and the definition of and amortization period for external costs, and the amortization period for any project cancellation costs. We address each of these issues as follows.

(i) Exclusion of Deferred Taxes from Capital Structure and Offset to Rate Base for Deferred Taxes. In our November 20, 2007 Order we specifically concluded that excluding deferred income taxes from the capital structure and applying them as an offset to rate base was reasonable based on the facts presented in that proceeding. Therefore, our conclusion on that issue need not be revisited in this initial ongoing review proceeding. Our examination of the issue in this proceeding is therefore limited to consideration and review of the implementation of our finding on that issue and the continued applicability of this incentive treatment to the revised costs approved in this matter.

The evidence in this proceeding demonstrates that the Company followed our November 20, 2007 Order in the development of its IGCC Rider presented in this Cause, by excluding deferred income taxes from the capital structure and providing for an offset to rate base for the

IGCC Project related deferred tax balance. The evidence further shows that the Company's methodology for determining the IGCC rate base offset for deferred taxes is reasonable in light of our recognition in the underlying proceeding that "[a]n increased rate of return early in the life of the project provides for the availability of additional funds to pay debt capital costs and is supportive of credit quality." November 20, 2007 Order, at 58.

While it is not necessary to revisit our original findings on this issue as they apply to Duke Indiana's estimate of \$1.985 billion, Duke Energy Indiana contends that the rationale for approving this unique deferred tax treatment remains valid vis-à-vis its revised \$2.350 billion estimate as it creates a cash flow incentive that is needed even more with the expected cost increase. We disagree.

With respect to this issue the Commission notes that IC 8-1-8.8-11(a)(5) specifically provides for the award of other financial incentives the Commission considers appropriate. The single other incentive approved by the Commission (in addition to the timely recovery of costs) pursuant this provision in the underlying cause was the treatment of deferred income taxes based on an estimated cost of the Edwardsport Project of \$1.985 billion. In reviewing the deferred income tax incentive treatment provided by the Commission in the context of the current proceeding we recognize that the deferred income tax incentive is tied to performance and must be, to the fullest extent possible, based on an accurate estimate of the costs to be incurred in order for the incentive awarded by the Commission to remain appropriate and meaningful. Therefore, while we found it appropriate to provide an incentive with respect to the original cost estimate of \$1.985 billion, we find that incentive treatment for deferred income taxes shall be limited to this original estimate for the Edwardsport Project and shall not extend to costs that exceed that amount.⁶

(ii) Appropriate Rate of Return to be used for CWIP Ratemaking Treatment. The IIG urged the Commission to require the Company to calculate the rate of return to be applied to its construction-work-in-progress balance by using the Company's AFUDC rate rather than the Company's overall weighted cost of capital. The Company opposed this, pointing out that the use of weighted average cost of capital is entirely consistent with the Commission's CWIP rules, and is entirely consistent with the Company's implementation of the Commission's CWIP rules in numerous other cases. Moreover, the Company pointed out that adopting the IIG's proposal to use the AFUDC rate instead, would effectively reduce the "additional incentive" (stemming from the exclusion of deferred taxes discussed above) approved by the Commission.

⁶ The Commission finds that the treatment approved herein shall be applied such that the revenue requirement associated with the return on investment for Net IGCC Investments Subject to CWIP Ratemaking (Petitioner's Exh. KF-1, page 6 of 15, line 17) for amounts less than or equal to \$1.985 billion be calculated at a rate of return consistent with our Order in Cause No. 43114. The revenue requirement associated with the return on investment for the increment of amounts greater than \$1.985 billion shall be calculated at a rate of return which includes non-project specific deferred income taxes in the weighted average cost of capital.

We find the Company's position on these issues persuasive and consistent with numerous decisions implementing our CWIP rules. Moreover, based on the specific facts presented in this matter, including short term debt and reducing the return the Company is allowed to earn under the CWIP ratemaking treatment for its IGCC Project, as proposed by the IIG, would be inconsistent with the deferred tax incentive we approved for this project. Accordingly, based on the unique facts presented in this matter we conclude and find that the rate of return for this project should be calculated as proposed by the Company.

(iii) Recovery of External Costs. The OUCC recommended, and the Company agreed, that external project costs should be recovered via the IGCC Rider over a four-year amortization period rather than the two-year period initially proposed by the Company. The OUCC also recommended, and the Company agreed, that the external costs should be limited to "true" external project costs, and should not include any Company employee-related expenses. Accordingly, the Company agreed to remove from its external costs \$3,099 of employee expenses.

The one area of potential disagreement with regard to the recovery of external costs involves the OUCC's position that the recovery of external project costs should be limited to a one-time expense for the development and presentation of the underlying case. The Company expressed agreement on this position, with the exception of future proceedings where there is a request to modify or revoke the CPCN itself; and with respect to the potential recovery of fees paid to Black & Veatch, which was retained as required by the Commission.

Based on the evidence presented, we find that the Company should be allowed to recover via its IGCC Rider in this and future proceedings its external costs as proposed in this proceeding, modified so as to exclude \$3,099 of employee expenses, and modified to achieve recovery over a 4-year rather than a 2-year amortization period. Likewise, in any future proceeding to modify or revoke the CPCN for the IGCC Project the Company shall be permitted to recover over a 4-year period any reasonable and prudent external costs incurred for such proceedings.

(iv) Amortization of Cancellation Costs. The Company's testimony on this issue made clear that the amortization period assumed for Project costs was used for the very limited purpose of estimating the impact of the Project's "sunk costs" on the prospective cost-effectiveness of the Project compared to alternative resource options. Further, the Company emphasized that it fully anticipated that the Project would be completed and thus cancellation costs would never be an issue. For these reasons, we decline to determine an amortization period for potential cancellation costs in this proceeding. If such necessity should materialize we will address the issue at that time.

6. Carbon Capture Study Proposal.

A. Petitioner's Evidence. In conjunction with this first ongoing review proceeding, Duke Energy Indiana presented an overview of several carbon capture feasibility studies completed or underway, and specifically requested approval to perform a comprehensive carbon capture front end engineering and design study ("CC FEED Study") that addresses the

capture of approximately 15% to 18% of the CO₂ from the Edwardsport IGCC Project, and for associated cost recovery. Pet. Ex. D, at 3 (Julius Direct).

In his testimony, Mr. Julius initially described the carbon capture feasibility study undertaken by the Electric Power Research Institute ("EPRI") with its Coal Fleet consultants for the IGCC Project. *Id.* According to Mr. Julius, this study addressed three CO₂ capture scenarios (15%-18%, 50% and 90% captured CO₂) using Edwardsport's specific design data to develop a process model for the base IGCC plant with an analysis of the critical performance impacts on plant design when retrofitting with carbon capture equipment and provide a high level cost estimation for each scenario. *Id.* The Company estimated that the cost of the EPRI study would be \$250,000; however, the Company is not requesting cost recovery approval for this feasibility level study. *Id.* In addition, Mr. Julius also testified that GE performed and supplied the Company with two feasibility level studies on its IGCC reference plant. *Id.*; Pet. Conf. Ex. D-1. The two studies examine the costs, reference plant performance impact, and the additional equipment requirements associated with a 15%-18% CO₂ capture scenario and a 50%-60% carbon capture scenario. *Id.* at 3-4. Mr. Julius stated that the GE and EPRI feasibility studies would provide valuable information to the Company in its decision making process regarding the planned the CC FEED Study. *Id.* at 4.

The Company proposed to go forward with the CC FEED Study using a single capture scenario of 15%-18%, with varying temperature, load and fuel scenarios.⁷ *Id.* at 4. The CC FEED Study will include the following: (1) assessment and modeling of process flows and heat and material balance changes for preliminary emission estimates; (2) piping and instrument diagrams; (3) performance summaries; (4) emission summaries; and (5) chemical/catalyst summaries. *Id.* A detailed cost estimate and implementation schedule for carbon capture at the IGCC Project would be developed to include equipment additions, system modifications, and for the engineering procurement and construction. *Id.* The CC FEED Study is expected to require approximately 18 months to be completed. *Id.* The Company submitted the proposals for the CC FEED Study, together with a non-confidential description of the GE CC FEED Study proposal. Pet. Conf. Ex. D-2 and D-3 and Pet. Ex. D-4. The Company also requested that GE and Bechtel provide similar study proposals at the 50%-60% CO₂ capture level. *Id.* at 5. Given the time and expense involved in the CC FEED study, the Company believes it should strive to have only one such study completed. *Id.*

Mr. Julius affirmed the Company's recommendation that it be authorized to move forward with the CC FEED Study at the 15% to 18% CO₂ capture level and also indicated that it is possible that the Company may find it advantageous to proceed with a higher-level CO₂ capture study rather than going forward with the 15% to 18% CO₂ capture CC FEED Study proposed herein. *Id.* at 5. According to Mr. Julius, the Company believes that the CC FEED Study

⁷ Mr. Julius testified at the hearing on August 25, 2008, that the EPRI feasibility had not been completed by the time of hearing, although the Company had received preliminary study results. Mr. Julius stated that based on the preliminary results, the Company continued to recommend that it be authorized to move forward with CC Feed Study at the 15% to 18% CO₂ capture rate and for cost recovery in accordance with his direct testimony and the testimony of Ms. Douglas.

proposals, along with the feasibility study results from EPRI and GE, will allow it to make an informed decision on which capture level to ultimately study. *Id.* With respect to the anticipated cost of the CC FEED Study, Mr. Julius testified that the initial estimated cost for the 15%-18% CC FEED Study, which includes the cost for GE, Bechtel engineering work (to provide similar study proposals at the 50%-60% CO₂ capture level) and Duke Energy Indiana's internal costs, ranges from \$16-\$17 million. *Id.*

Ms. Douglas testified that Duke Energy Indiana requested Commission approval for the Company to go forward with a CC FEED Study and for cost recovery associated with the study pursuant to an Alternative Regulatory Plan via Rider 61. Pet. Ex. E, at 12 (Douglas Direct). Alternatively, the Company requested deferral of the costs using a regulatory asset account, with carrying costs equal to Duke Energy Indiana's AFUDC rates, until the earlier of the following: (1) inclusion of such costs in the capitalized project cost with associated cost recovery, if carbon capture is implemented at the IGCC facility; or (2) inclusion of such costs in rates via the Company's next case setting Duke Energy Indiana's basic retail electric rates and charges, if carbon capture is not implemented at the IGCC facility. *Id.* Ms. Douglas explained that in order for the Company to defer the expenses, it must be probable that such costs will be recovered through rates in future periods and that to satisfy the probability standard, the Commission's Order in this proceeding should specifically approve the accounting and ratemaking treatment proposed by Duke Energy Indiana. *Id.* at 13. She also testified that the accounting treatment proposed by the Company is consistent with Statement of Financial Accounting Standards ("SFAS") Nos. 92 and 71. *Id.* at 13.

The Company also presented testimony regarding its activities and plans for the study of carbon sequestration. The Department of Energy's ("DOE") Carbon Sequestration Partnership Program has awarded the Company approximately \$1 million in funds to study sequestration in the vicinity of the IGCC Project. Pet. Ex. A, at 14 (Turner Direct). These funds will be used for site characterization, including seismic testing and test well drilling in the 2008-2010 time frame. *Id.* The Company is also pursuing additional funding for sequestration studies under the DOE's Carbon Sequestration Partnership Program or under the DOE's Clean Coal Power Initiative (Pet. Ex. D, page 7).

Mr. Julius testified that once the CC FEED Study is completed, Duke Energy Indiana anticipates another regulatory filing requesting approval to implement partial carbon capture at the IGCC Project. Pet. Ex. D, at 6 (Julius Direct). Mr. Julius said it would be beneficial to make a determination of whether the Company is going forward with partial carbon capture sooner rather than later so that carbon capture can be taken into account while the IGCC Project is still under construction. *Id.* at 6. Mr. Julius also noted that the Company believes, for a number of reasons, including warranty and operational issues, that the IGCC Project should be up and running without the use of carbon capture equipment for a period of approximately one year or longer before actually putting any capture equipment in service. *Id.*

Mr. Julius indicated that Duke Energy Indiana has also received a proposal from Schlumberger Technology Corporation for an initial phase of a CO₂ sequestration study related to the IGCC Project. Pet. Ex. D, at 8 (Julius Direct). The study would work in coordination with the DOE Phase III work and would include input from the Indiana Geological Survey, a research

institute at Indiana University-Bloomington. *Id.* The study would document existing geological information and applicable framework and regulations for a potential site and would develop models as a base line of performance and risk assessment, as well as assemble a preliminary operation scenario consisting of design, construction, operations, and closure. *Id.* at 8. The Company is also considering an Enhanced Oil Recovery (“EOR”) study proposal from Schlumberger Technology Corporation, but proposes to delay Commission proceedings on the sequestration and EOR studies, including the Company’s proposal for utilization of resources from universities within the State, to a later proceeding to commence shortly after a Commission Order in this proceeding. *Id.* at 8.

B. OUCC and Intervenors’ Evidence and Petitioner’s Response. OUCC Witness Soller testified that Petitioner’s plan to engage multiple parties in the carbon capture and sequestration research process appears reasonable given the novelty of this emerging technology. Public’s Ex. No. 1, at 7 (Soller Direct). Ms. Soller testified that she believes that the Company should be allowed to defer up to \$17 million for the CC FEED Study based on 15%-18% for future recovery if carbon capture equipment is ultimately installed at the IGCC Project. *Id.* at 9. If such equipment is never installed, the OUCC recommended that Duke Energy Indiana not be allowed to recover the costs associated with the CC FEED Study from ratepayers. *Id.* Ms. Soller also recommended that any and all potential funding for the study of carbon capture, sequestration and carbon-based business opportunities that may serve as a reduction to the IGCC Project costs should be applied as a credit to ratepayer revenue requirements. *Id.* at 10. The OUCC further recommended that Duke Energy Indiana include the status of carbon capture and sequestration studies in its periodic IGCC Project status reports and testimony in future proceedings. *Id.*

In rebuttal testimony, Mr. Turner testified that the OUCC’s recommendation that Duke Energy Indiana only receive cost recovery for its CC FEED Study if carbon capture equipment is ultimately deployed at the IGCC Project is unacceptable to the Company. Pet. Ex. G, at 3 (Turner Rebuttal). Mr. Turner explained that he believes that acceptance of the OUCC’s recommendation on this issue would represent an unfortunate public policy choice for Indiana, which relies to a great extent on coal-fired generation to meet customer electricity needs in a reliable, low cost manner. *Id.* at 4. Further, he noted that the OUCC’s position would send an unfortunate signal to EPRI and others who are watching this Project closely that Indiana is not serious about accepting a leading role in the mitigation of CO₂. *Id.* Duke Energy Indiana’s position on cost recovery for its CC FEED Study in this proceeding is entirely consistent with that in the underlying action. *Id.* at 5. That is, that the Company is supportive of and willing to pursue carbon capture and sequestration studies, but only if the Commission pre-approves such studies and associated cost recovery. *Id.* The knowledge that Duke Energy Indiana will gain from these studies will be beneficial to its customers and the region as a whole, and will work to ensure that Midwestern coal remains a viable fuel source for electricity production. *Id.*

Mr. Turner stated that Duke Energy Indiana believes that sound regulatory policy should provide a utility with the opportunity to recover all reasonable and prudent expenditures. *Id.* at 6. He noted that the CWIP statutes allows a utility to recover as operating expenses those expenses associated with clean coal technology research and development. *Id.* at 6 (citing Ind. Code § 8-1-2-6.1(c)(1)). The Indiana statutes and Commission’s associated CWIP rules have

carved out a special ratemaking protocol for clean coal technology research and development, and have explicitly exempted such expenditures from Indiana's "used and useful" statutory requirement. *Id.* at 7.

Duke Energy Indiana Witness Diana Douglas responded to Ms. Soller's contention that outside sources of funding for carbon capture and sequestration be applied as a credit to ratepayer revenue requirements. Pet. Ex. J, at 18 (Douglas Rebuttal). Ms. Douglas stated that the Company agrees that all funding from external sources should serve to reduce the IGCC Project costs included for ratemaking and commits to making such cost reductions should such funding be received. *Id.* She stated that Company does not agree that any funding should be applied as a credit to revenue requirements because applying the funding as a direct credit and also reducing the project costs for the funding would result in customers receiving the benefit of the funding twice and would not be fair or reasonable. *Id.* at 18-19.

C. Commission Discussion and Findings on Carbon Capture Proposal. In our November 20, 2007 Order the Commission noted that regardless of the current lack of consensus regarding the scope or cost of restrictions, future regulation of CO₂ emissions appear likely. November 2007 Order at 46-47. However, the Commission also recognized that carbon emissions are not currently subject to regulation and that existing regulatory and technical uncertainties present obstacles to the short term deployment of CCS technology. *Id.* at 47. Despite such regulatory and technical uncertainties the Petitioner presented a proposal in the underlying Cause to continue its efforts to prepare for a future in which carbon is regulated. The Commission accepted the proposal presented by Duke Energy Indiana and, as a condition of its November 2007 Order, required the Petitioner to return to the Commission within six months of the issuance of the Order with a filing that outlined its plans to develop carbon capture and sequestration study proposals. *Id.*

Consistent with the obligations in our November 20, 2007 Order, the filing made in this proceeding addressed the separate requirement that Duke Energy Indiana present study proposals regarding carbon capture and sequestration ("CCS"). As part of its proposal on this issue, Duke Energy Indiana referenced Indiana Code § 8-1-2-6.1(c), which allows a utility to recover, as operating expenses, expenses associated with research and development designed to increase the use of Indiana coal. Further, 170 Indiana Administrative Code § 4-6-17 provides that a utility that engages in research and development (including experimental facilities and plant processes that can increase the use of Indiana coal), may classify research and development expenses as operating expenses, and may record those expenses in a deferred account.⁸ Additionally, Duke Energy Indiana also presented its plans to study CCS under Indiana's Alternative Utility Regulation Act. *See* Ind. Code § 8-1-2.5-6.

The evidence presented on this issue demonstrates that no party objected to the Company's proposal to further study CCS. While the OUCC took issue with the timing of cost

⁸ While certain statutes and rules governing our consideration of the issues in this matter reference the utilization of Indiana coal, consistent with our November 20, 2007 Order in Cause Nos. 43114 and 43114-S1, under *General Motors Corp. v. Indianapolis Power & Light Co.*, 654 N.E.2d 752 (Ind. Ct. App. 1995), we give no weight in our decision to the Project's use of Indiana coal.

recovery proposed by the Petitioner, it found the Company's carbon capture study proposal to be reasonable. Additionally, the Company agreed with the OUCC that any and all potential funding for the study of carbon capture, sequestration, and carbon-based business opportunities that may serve as a reduction to the IGCC Project, should serve to reduce the IGCC Project costs included for ratemaking and committed to making such cost reductions as such funding is received. Based on the testimony presented in this matter there are only two issues in dispute with respect to the carbon capture study: (1) whether the costs of such study represent a legitimate utility expense that customers should be asked to pay; and, (2) whether the Company should be allowed to recover any costs in excess of the \$17 million study costs estimated at this point in time.

With respect to the recovery of carbon capture study costs, Duke Energy Indiana requested that the Commission approve a mechanism for the recovery of such costs (either through the authorization for the deferral of costs or by tracking costs through the IGCC Rider) even if carbon capture equipment is ultimately not deployed. The OUCC urged the Commission to only allow cost recovery of these costs if carbon capture equipment is ultimately deployed at Edwardsport. In support of its position, Duke Energy Indiana witness Mr. James Turner testified that "[t]here is probably no time in history that research and development in the energy industry has been as important as it is today – particularly with regard to minimizing the environmental impact of coal as a generation resource. To successfully address both climate change and energy independence and security for this country, significant research and development is urgently needed." Petitioner's Exhibit G, at. 4.

Consistent with the findings expressed in our November 20, 2007 Order in the underlying Cause, we agree with the Company that research and development directed toward finding ways to minimize the environmental impact of coal is necessary. Notably, the Indiana Public Service Commission Act and our administrative rules are instructive on this issue and provide for special treatment for coal-related research and development expenses. Pursuant to Ind. Code § 8-1-2-6.1(c)(1) the Commission shall allow a utility to recover as operating expenses those expenses associated with research and development designed to increase the use of Indiana coal. Additionally, 170 I.A.C. § 4-6-17 provides additional guidance on this issue and states that:

A utility that engages in research and development, as defined in section 1(m)⁹ of this rule, may classify research and development expenses as operating expenses and record these expenses in a deferred account. The utility may seek ratemaking treatment for a reasonable level of these research and development expenses in a general rate case before the commission. If the utility classifies research and development expenses as operating expenses, the utility shall not record the same amounts as CWIP.

⁹ 170 I.A.C. § 4-6-1(m) states that: "[a]s used in this rule, 'research and development' means the planned efforts of a utility for the design, development, or implementation of: (1) an experimental facility;(2) a plant process; (3) a product; (4) a formula; (5) an invention;(6) a system or similar items; or (7) the improvement of already existing items of a like nature; for the express purpose of increasing the use of Indiana coal."

For purposes of the research and development provided under these provisions, there is not a “used and useful” requirement associated with such research and development activities, nor is a clean coal technology certificate required for these activities.¹⁰

Accordingly, we will authorize the Company to go forward with its proposed carbon capture study, and approve the Company’s accounting and ratemaking request to defer for subsequent recovery the costs associated with that study with carrying costs equal to Duke Energy Indiana’s AFUDC rates, until the presentation of such costs for inclusion in rates in the Company’s next general rate case, or as otherwise approved by the Commission.¹¹ In the event that the Company determines that it will proceed with a higher-level CO₂ capture study rather than going forward with the 15% to 18% CO₂ capture CC FEED Study approved herein it will promptly notify the Commission of this fact through a compliance filing in this proceeding. In reaching this determination we note that our decision in this matter is limited to the request presented in this Cause for approval of costs up to the \$17 million.

Additionally, it is our expectation that the Company will present a proposal to the Commission regarding carbon sequestration and enhanced oil recovery studies, including the Company’s proposal for utilization of resources from universities within the State, in a separate proceeding to commence shortly after the issuance of this Order.

7. Summary Overview of the Commission’s Findings in this Matter. Based on all the evidence of record, we find and conclude that Duke Energy Indiana’s proposed increase in the IGCC Project cost estimate is warranted; the expected Project costs and Project schedule remain reasonable and necessary; neither an overall Project cost cap, nor a cap on the Company’s internal Project costs should be imposed; and the Company’s ongoing review progress report should be approved.

Accordingly based on the evidence presented in this matter we find that Duke Energy Indiana’s proposed IGCC Rider should be approved and put into place, with the following modifications: 1) As suggested by the OUCC, the employee expenses shall be removed from the external costs as of December 31, 2007 to be recovered, and these external costs shall be recovered over a 4-year amortization period rather than a 2-year amortization period;¹² 2) as discussed more fully within this Order, we find that the incentive treatment of deferred income taxes approved in our November 20, 2007 Order shall be limited to the initial \$1.985 billion estimate presented by the Company in Cause Nos. 43114 and 43114-S1. The Company’s request

¹⁰ Ind. Code § 8-1-2-6.1(d), which refers to a certificate requirement, is an exception to the statutory provision allowing recovery of research and development expenses.

¹¹ In approving the Company’s request in this matter pursuant to the provisions set forth in Ind. Code § 8-1-2-6.1(c)(1) and 170 I.A.C. § 4-6-17, we find that it is not necessary for us to approve the Petitioner’s request pursuant to Ind. Code § 8-1-2.5-6 (Indiana’s Alternative Utility Regulation Act).

¹² Consistent with the testimony presented on this issue, the Company reserved its ability to seek approval from the Commission to recover reasonable and prudent costs associated with any future proceedings concerning modification or revocation of the CPCNs, as external costs via the IGCC Rider over a 4-year amortization period and its ability to seek recovery of costs as incurred in connection with the Commission’s order to retain Black & Veatch to monitor this Project.

to extend this incentive treatment with respect to deferred income taxes to the \$2.350 billion estimate approved in this matter is hereby denied.

With respect to the CC FEED Study proposal presented in this Cause, we agree that it is important to move forward with such study and find the Company's proposal regarding deferral and subsequent recovery of these costs to be reasonable. Therefore, based on the evidence of record, we find that further study of carbon capture is reasonable, and Duke Energy Indiana should be authorized to proceed with its proposed CC FEED Study. We also approve the Company's request for deferral of the reasonable and prudently incurred costs associated with the study in the manner set forth herein. Finally, we find that the Company shall initiate a proceeding for consideration of and cost recovery for studies related to the storage of carbon for the IGCC Project within 60 days of the date of this Order.

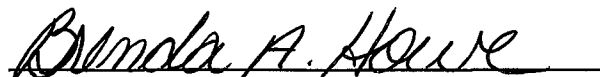
IT IS THEREFORE ORDERED BY THE INDIANA UTILITY REGULATORY COMMISSION, that:

1. The updated \$2.350 billion estimated construction cost for the IGCC Project and the ongoing review progress report concerning the IGCC is hereby approved by the Commission based on the evidence of record.
2. Duke Energy Indiana's IGCC Rider (Standard Contract Rider No. 61) is hereby approved consistent with the findings set forth in this Order. The Rider 61 shall go into immediate effect for all bills rendered upon the filing of the final Rider with the Commission's Electricity Division.
3. The incentive treatment of deferred income taxes approved in our November 20, 2007 Order shall be limited to the initial \$1.985 billion estimate presented by the Company in Cause Nos. 43114 and 43114-S1. The Company's request to extend this incentive treatment to the \$2.350 billion estimate approved in this matter is hereby denied.
4. Duke Energy Indiana is authorized to proceed with the study of carbon capture for the IGCC Project, as outlined in this Order. The costs associated with such study shall be deferred for subsequent recovery consistent with our findings set forth herein.
5. This Order shall be effective on an after the date of its approval.

HARDY, GOLC, LANDIS AND ZIEGNER CONCUR; SERVER ABSENT:

APPROVED: JAN 07 2009

I hereby certify that the above is a true and correct copy of the Order as approved.



Brenda A. Howe

Secretary to the Commission