ORIGINAL

STATE OF INDIANA

INDIANA UTILITY REGULATORY COMMISSION

VERIFIED PETITION OF INDIANAPOLIS POWER & LIGHT COMPANY ("IPL"), AN INDIANA CORPORATION, FOR (1) ISSUANCE OF A CERTIFICATE OF PUBLIC CONVENIENCE AND NECESSITY FOR THE CONSTRUCTION OF A COMBINED CYCLE GAS TURBINE GENERATION FACILITY ("CCGT"); (2) ISSUANCE OF A CERTIFICATE OF PUBLIC CONVENIENCE AND NECESSITY TO CONVERT COAL FIRED GENERATING FACILITIES TO GAS; (3) APPROVAL OF THE CONSTRUCTION OF TRANSMISSION, PIPELINE AND OTHER FACILITIES; (4) APPROVAL OF ASSOCIATED RATEMAKING AND ACCOUNTING TREATMENT; (5) AUTHORITY TO TIMELY RECOVER 80% OF THE COSTS INCURRED DURING CONSTRUCTION AND OPERATION OF THE GAS REFUELING PROJECT THROUGH IPL'S ENVIRONMENTAL COMPLIANCE COST RECOVERY ADJUSTMENT; (6) AUTHORITY TO CREATE REGULATORY ASSETS TO RECORD (A) 20% OF THE REVENUE REQUIREMENT FOR COSTS, INCLUDING, CAPITAL, OPERATING, MAINTENANCE, DEPRECIATION TAX AND FINANCING COSTS ON THE REFUELING PROJECT WITH CARRYING COSTS AND (B) POST-IN-SERVICE ALLOWANCE FOR FUNDS USED DURING CONSTRUCTION, BOTH DEBT AND EQUITY, AND DEFERRED DEPRECIATION ASSOCIATED WITH THE PROJECTS UNTIL SUCH COSTS ARE REFLECTED IN RETAIL ELECTRIC RATES; AND (7) ISSUANCE OF A NECESSITY CERTIFICATE TO TRANSPORT NATURAL GAS IN INDIANA	) CAUSE NO. 44339) APPROVED: MAY 14 2014	

ORDER OF THE COMMISSION

Presiding Officers:
David E. Ziegner, Commissioner
Aaron A. Schmoll, Senior Administrative Law Judge

On April 29, 2013, Indianapolis Power & Light Company ("Petitioner", "IPL" or "Company") filed its Verified Petition in this Cause.

On April 30, August 6 and August 13, 2013, Petitioner filed, supplemented or revised, direct testimony of the following in support of its Petition: Kevin W. Crawford, IPL Senior Vice President, Power Supply; Herman N. Schkabla, IPL Director, Resource Planning; Richard L. Benedict, IPL Director, Project Development; Paula M. Guletsky, Sargent & Lundy, L.L.C. ("S&L"), Vice President and S&L Project Director for IPL; James A. Sadtler, IPL Director, Transmission Field Operations; Dennis C. Dininger, IPL Director, Commercial Operations; Charles F. Adkins, Vice President in the Consulting Practice of Ventyx, LLC ("Ventyx"); Donald E. Martin, Executive Consultant with ABB Power Systems Consulting ("ABB"); Angelique C. Oliger, Director of Environmental Policy, AES US Services, LLC; Lester H. Allen, IPL Demand-Side Management ("DSM") Program Development Manager; Craig Jackson, Director, Vice President and Chief Financial Officer, AES US Services, LLC; James L. Cutshaw, IPL Revenue Requirements Manager; and Timothy F. Slaper, Director of Economic Analysis at the Indiana Business Research Center ("IBRC"). On April 30, 2013, IPL also filed its Request for Administrative Notice, which request was subsequently granted. On May 2, 2013, Petitioner filed its supporting workpapers.

On May 13, 2013, the Citizens Action Coalition of Indiana, Inc. ("CAC") filed its Petition to Intervene. On May 31, 2013, Indiana Gas Company, Inc. d/b/a Vectren Energy Delivery of Indiana, Inc. ("Vectren North"), filed its Petition to Intervene. On June 10, 2013, the IPL Industrial Group ("IG") filed its Petition to Intervene. On August 19, 2013, the Sierra Club, Hoosier Chapter, filed its Petition to Intervene. The Presiding Officers granted the petitions to intervene.

On May 20 and September 10, 2013, Petitioner filed Motions for Protection and Nondisclosure of Confidential and Proprietary Information. On July 31, 2013, the Commission issued a Prehearing Conference Order in this Cause which, among other things, established a procedural schedule. On August 15, 2013, the Commission conducted a public field hearing in Indianapolis, Indiana.

On August 20, 2013, Vectren North filed the direct testimony of Thomas L. Bailey, the Company's Director of Sales. On August 22, 2013, the Indiana Office of Utility Consumer Counselor ("OUCC") and Intervenors filed their respective cases-in-chief. The OUCC prefiled the direct testimony and exhibits of the following: Anthony A. Alvarez, OUCC Utility Analyst; Maclean O. Eke, OUCC Utility Analyst; Cynthia M. Armstrong, OUCC Senior Utility Analyst; Ray L. Snyder, OUCC Utility Analyst; Bradley E. Lorton, OUCC Utility Analyst; Wes R. Blakley, Senior OUCC Utility Analyst; and Edward T. Rutter, OUCC Utility Analyst. The OUCC filed its workpapers on August 26, 2013 and amendments to its testimony on August 29 and October 24, 2013. IG prefiled the direct testimony and exhibits of Nicholas Phillips, Jr., Managing Principal of Brubaker & Associates. CAC filed the direct testimony and exhibits of the following: Jeremy I. Fisher, PhD, Principal Associate at Synapse Energy Economics, Inc. ("Synapse"); Tyler Comings, Associate with Synapse; and Kerwin L. Olson, CAC Executive Director. CAC filed workpapers and supplemented or corrected its previous filing on September 24 and October 28, 2013.

On October 3, 2013, Petitioner filed the rebuttal testimony, exhibits and workpapers of the following: Messrs. Schkabla, Allen, Jackson, Sadtler and Cutshaw; Mss. Oliger and Guletsky; John E. Haselden, Principal Engineer in the IPL Regulatory Affairs Department; Karl A. McDermott, Ph.D., Director of the Center for Business and Regulation and Ameren Distinguished Professor of Business and Government at the University of Illinois Springfield, and Special Consultant to National Economic Research Associates, Inc.; and H. J. Vander Veen, President of Energy Group, Inc.

On October 29 and November 5, 2013, Summit Power Group, LLC filed its Petition to Intervene, which was subsequently granted on November 6, 2013 over IPL's objection. IPL orally appealed the Presiding Officers' ruling to the full Commission, which upheld the Presiding Officers' ruling during the Commission's November 6, 2013 Conference. On November 1, 2013, the Presiding Officers issued a Docket Entry requesting information, to which IPL responded on November 5, 2013.

Pursuant to notice of hearing given and published as required by law, proof of which was incorporated into the Commission's official file, a public evidentiary hearing in this Cause was held on November 6 through 8, 2013, at which time the Parties presented their respective evidence and offered witnesses for cross-examination. Following the hearing, post hearing proposed orders and briefs were filed in accordance with the established schedule for such filings.

On February 25, 2014, the Presiding Officers issued a Docket Entry requesting IPL to identify the proposed turbine size and manufacturer. On February 28, 2014, IPL filed its Response, including additional information related to ongoing negotiations with vendors. On March 4, 2014, Summit, joined by other consumer parties, filed a Motion to Strike a majority of IPL's Response. On March 6, 2014, IPL filed its Response, and Summit and the consumer parties filed a Reply on March 12, 2014.

The Commission, based upon the applicable law, the evidence herein, and being duly advised, now finds as follows:

1. **Notice and Jurisdiction.** Due legal and timely notice of the hearing in this Cause was given and published as required by law. Petitioner is a "public utility" as defined in Ind. Code § 8-1-2-1(a) and Ind. Code § 8-1-8.5-1 and an "energy utility" as defined in Ind. Code § 8-1-8.4-3. Petitioner is subject to jurisdiction of this Commission in the manner and to the extent provided by Indiana law. Pursuant to Ind. Code chs. 8-1-8.5 and 8-1-8.4, Petitioner may seek Commission approval of Certificates of Public Convenience and Necessity. Accordingly, the Commission has jurisdiction over Petitioner and the subject matter of this proceeding in the manner and to the extent provided by the laws of the State of Indiana.

2. **Petitioner's Characteristics and System.** IPL is a public utility corporation organized and existing under the laws of the State of Indiana with its principal office and place of business at One Monument Circle, Indianapolis, Indiana. Petitioner is engaged in rendering electric utility service in the State of Indiana, and provides retail electric utility service to approximately 470,000 retail customers located principally in and near the City of Indianapolis, Indiana, and in portions of the following Indiana counties: Boone, Hamilton, Hancock,

Hendricks, Johnson, Marion, Morgan, Owen, Putnam and Shelby Counties. IPL owns, operates, manages and controls electric generating, transmission and distribution plant, property and equipment and related facilities, which are used and useful for the convenience of the public in the production, transmission, delivery and furnishing of such service. Pet. Ex. KWC-2, at 2. IPL has a total owned electric generating capacity of approximately 3,316 net megawatts ("MW") (summer rating). This generation capacity is located at four primary sites: Georgetown (Northwest Indianapolis), Harding Street Station (Southwest Indianapolis), Eagle Valley Station (Martinsville, IN) and Petersburg Station (Petersburg, IN). Distributed among these sites are twenty-eight (28) individual generating units. This includes IPL's eleven (11) coal-fired generating units, which account for the majority of the total energy produced in recent years and eight combustion turbines ("CT") used for peaking service. IPL also has four oil-fired steam units, which are all over 60 years old and five diesel generators. Pet. Ex. KWC-1, at 8; KWC-3 (identifying fleet). IPL has about 300 MW of wind generation secured under long term Power Purchase Agreements ("PPA") approved by the Commission. In addition to this wind energy, IPL has recently contracted to purchase about 100 MW of energy from solar facilities located throughout its service territory pursuant to its Rate REP Tariff. IPL has and continues to use DSM, including energy efficiency ("EE") resources to meet the need for electricity within its service area. Pet. Ex. KWC-2, at 3.

Electricity is delivered to IPL customers over a network of transmission and distribution lines. The IPL transmission system consists of 345 kilovolt ("kV") and 138 kV lines and substation facilities in and around Indianapolis with additional transmission lines from Indianapolis to the Petersburg Generating Station in Petersburg, Indiana and to the Eagle Valley Generating Station in Martinsville, Indiana, as well as interconnecting lines to other utilities. The Midcontinent Independent System Operator, Inc. ("MISO") has functional control over IPL's transmission lines because IPL is a member of and follows the rules of MISO. Pet. Ex. KWC-2, at 4.

Working together and individually, the North American Electric Reliability Corporation ("NERC"), Reliability First Corporation and MISO have all developed mandatory requirements to be met by IPL to insure access to deliverable, reliable and adequate Planning Resources to meet peak demand requirements on the MISO operated transmission system. Pet. Ex. KWC-2, at 4.

IPL's operations are subject to federal, state and local rules promulgated by, among others, the federal Environmental Protection Agency ("EPA"), the Indiana Department of Environmental Management ("IDEM") and by the Environmental Rules Board of the State of Indiana. Such rules establish environmental compliance standards that govern emissions from IPL's electric generating units. Pet. Ex. KWC-2, at 4.

IPL and the electric utility industry are subject to federal environmental law and regulation, including the EPA's Mercury and Air Toxics Standard ("MATS") Rule. This regulation imposes stringent limits on the emissions of hazardous air pollutants ("HAPS") (including mercury, acid gases and non-mercury metals) from coal- and oil-fired electric generating plants. Pet. Ex. KWC-2, at 4-5.

3. Background. IPL has evaluated the impact of new environmental regulations on its existing generation fleet as part of its evaluation of future needs for electricity to serve its customers. Based on this analysis, IPL has concluded that the reasonable least cost response to the new environmental regulations is to: (1) obtain Commission authority to upgrade Petersburg and Harding Street 7 stations with environmental controls, which approval was granted in Cause No. 44242; (2) retire Eagle Valley Units 1 - 6 (and associated diesel generator) and Harding Street Station Units 3 and 4; (3) refuel Harding Street Station Units 5 & 6 to natural gas ("Harding Street 5 & 6 Refueling" or "Refueling"); and (4) construct a new combined cycle gas turbine ("CCGT") to be located at IPL's existing Eagle Valley Generating Station ("Eagle Valley CCGT"). Pet. Ex. KWC-1, at 3-4.

4. Requested Relief. IPL requests the Commission grant to IPL certificates of public convenience and necessity ("CPCN") pursuant to Ind. Code ch. 8-1-8.5 ("Chapter 8.5") for the construction of the Eagle Valley CCGT and the Harding Street 5 & 6 Refueling. IPL also seeks accounting and ratemaking treatment, and ongoing review for the Projects in accordance with Ind. Code § 8-1-8.5-6. IPL also seeks to recover the cost of the Harding Street 5 & 6 Refueling as federally mandated costs and seeks an additional certificate pursuant to Ind. Code ch. 8-1-8.4 ("Chapter 8.4"). IPL's proposed projects and request for approval includes the construction of associated transmission and interconnection facilities.[1]

5. Responses to the Requested Relief. The OUCC recommended the Commission: 1) issue CPCNs for the Eagle Valley CCGT and the Harding Street 5 & 6 Refueling; 2) require IPL to provide the Commission and the OUCC the results of the competitive bidding process for the natural gas supply and lateral pipeline in a timely manner; 3) authorize IPL to use only the debt portion in the calculation of post-in-service Allowance for Funds Used During Construction ("AFUDC") on the Eagle Valley CCGT Project; and 4) deny IPL's requested ratemaking for the Harding Street 5 & 6 Refueling project until IPL demonstrates that the revenue sought in the Cause is not already in current rates. Should the Commission approve any form of rate recovery in this Cause for the Harding Street Refueling, then the OUCC recommended that such cost recovery not exceed $36 million (excluding AFUDC). The OUCC further recommended that 20% of the deferred construction cost should accrue carrying charges at the AFUDC rate (debt component only), and not a carrying cost at the weighted average cost of capital.

IG's witness Phillips recommended: 1) the Commission find the reasonable return on equity funds that IPL can use in its AFUDC calculation be no more than 10.325%, the average of the other investor-owned utilities in Indiana; and 2) the updated demand allocation factors approved in Cause No. 44242 be applied to any timely cost recovery approved in this case.

CAC witnesses Fisher, Comings and Olson recommended the Commission deny IPL's request for a CPCN for the Eagle Valley CCGT.

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[1] In its Petition, IPL sought issuance of a certificate to transport natural gas in Indiana and approval to construct certain pipeline facilities. The cost of the pipeline facilities are included in the cost estimates for the Projects. Mr. Dininger's testimony explained that the certificate would afford IPL the flexibility to transport natural gas across a pipeline that IPL owned if that option is the best method for securing gas for the Eagle Valley CCGT. In his supplemental testimony, Mr. Dininger explained that IPL was no longer pursuing the request for the certificate of necessity for the transport of gas within Indiana.

6. CPCN Request for Eagle Valley CCGT and Harding Street 5 & 6 Refueling Pursuant to Chapter 8.5.

A. Evidence.

i. Petitioner's Direct Evidence. Kevin W. Crawford, IPL Senior Vice President, Power Supply, discussed the major types of natural-gas fired power plants, including a CT and CCGT. Pet. Ex. KWC-1, at 12-13. Mr. Crawford testified that IPL's plans to use the CCGT to replace units which operate on an intermediate duty cycle. *Id.* at 13. He said the target in-service date is spring 2017. *Id.* at 16. He testified that the Eagle Valley CCGT will include duct firing and explained that duct firing is cost-effective. Mr. Crawford stated that the Eagle Valley CCGT will be equipped with the latest environmental technology to minimize air emissions and it will use a cooling tower to recirculate cooling water. *Id.* at 13. Mr. Crawford testified that EPA rules, along with unit obsolescence and falling natural gas and market prices contributed to the decision by IPL to retire up to six (6) older coal units and five (5) associated oil/diesel-fired units. Pet. Ex. KWC-1, at 9.

Mr. Crawford explained that the nameplate rating of a CCGT from General Electric ("GE"), Siemens and Mitsubishi ranges in size from approximately 550 MW to 725 MW. Pet. Ex. KWC-1, at 13. He explained that IPL will use a competitive solicitation to determine which equipment provides the best combination of cost, reliability and performance. Mr. Crawford explained that for purposes of the CPCN application, IPL used a CCGT as having a summer, duct-fired capacity of 683 MW. *Id.* at 14. At the evidentiary hearing, Mr. Crawford advised that Mitsubishi had dropped out of the competitive solicitation process. Tr. E 37. He added that the nameplate ratings for the remaining two vendors, GE and Siemens, ranged from 644-685 MW. *Id.*

Mr. Crawford testified that the Eagle Valley site is an existing site. He explained that IPL has other generating facilities at this site which will be retired-in-place prior to the commercial operation of the Eagle Valley CCGT. Mr. Crawford testified that IPL has been active on this site for nearly sixty years and has strong local support for the continued use of the site for power generation. Pet. Ex. KWC-1, at 16; Pet. Ex. PMG-1, at 5-6. Mr. Crawford stated this site has water, land, and transmission, as well as good access into the MISO market and close proximity to IPL customers. Additionally, the site has access to interstate and intrastate pipelines within a 12-mile radius. Pet. Ex. KWC-1, at 15; Pet. Ex. RLB-1, at 16-17; Pet. Ex. DCD-1, at 7 and Pet. Ex. DCD-S1.

Mr. Crawford explained that the estimated cost of the Eagle Valley CCGT Project is approximately $631 million. Pet. Ex. KWC-1, at 18. While this amount does not include AFUDC, the actual, accrued amount of AFUDC will be included as part of the approved cost. Mr. Crawford discussed the major components and status of the Eagle Valley CCGT Project. Pet. Ex. KWC-1, at 16-17. Mr. Crawford explained how IPL will manage the construction of the Eagle Valley CCGT. He stated that following an EPC Solicitation, IPL will enter into a firm price EPC contract with a qualified third party contractor. He explained how IPL will oversee and manage the EPC contract to ensure full compliance with the terms and conditions of the contract. Pet. Ex. KWC-1, at 22. He noted that the Owner's Costs will be managed separately by IPL. *Id.* at 22-23.

He explained that because of the tight deadlines to meet the EPA mandates, IPL developed the Eagle Valley CCGT project in parallel with the RFP process. He stated that these parallel paths helped insure that either option would be viable if chosen. He said development activities for the Eagle Valley CCGT included the following: (1) a five-acre parcel south of and immediately adjacent to the current station was purchased; (2) an interconnection-agreement study was submitted to MISO; (3) an air-permit application was submitted to the IDEM; (4) cost estimates were established for the CCGT; and (5) gas supply alternatives for the CCGT were identified. Pet. Ex. KWC-1, at 17. He stated that the interconnection-agreement study with MISO was filed in January 2012 in order to allow sufficient time for what was estimated to be a two-year process. Mr. Crawford added that IPL has proceeded smoothly through the MISO process and is progressing through the Definitive Planning Process ("DPP") stage. Mr. Crawford added that IPL filed an air-permit application at IDEM in October 2012. He said the final air-permit is expected late in 2013 or early in 2014. *Id.* at 18. IPL also applied for and received a one year extension of the MATS Rule that will permit customers to benefit from the continued operation of certain generating units that would otherwise shut down in April 2015 due to the MATS Rule. *See* Pet. Ex. AO-1, at 3; Tr. E-64.

Mr. Crawford stated that the schedule for the Eagle Valley CCGT includes approximately 12 months for engineering and to procure long-lead items and approximately 24 months of major construction on site. He stated if the CPCN is issued no later than April 2014, IPL plans for commercial operation of the Eagle Valley CCGT in April 2017. He said that as in the case of Harding Street Station Units 5 & 6, this commercial operation date is tied to being on-line before the beginning of the period of peak summer demand. Mr. Crawford stated that a delay in issuance of a CPCN beyond April 2014 will impact the ability of IPL to achieve commercial operation in time to be accredited for 2017 capacity needs. Pet. Ex. KWC-1, at 15.

Mr. Crawford explained that Harding Street 5 & 6 were among the units targeted for retirement because it is not cost effective to add emission controls to these small coal-fired units (106 MW each when coal-fired). The estimated capital cost for the Harding Street Refueling 5 & 6 is approximately $36 million (excluding AFUDC) based on an April 2016 in-service date. Pet. Ex. KWC-1, at 24. He stated that these units are attractive candidates to retrofit to burn natural gas, and would likely be operated as peakers. Pet. Ex. KWC-1, at 14. Mr. Crawford stated that the units have been in operation since 1958 and 1961 respectively and noted that natural-gas infrastructure is available at the site at minimal infrastructure cost. *Id.*. Mr. Crawford said it is anticipated that the units would together provide approximately 200-210 MW of capacity after refueling. Pet. Ex. KWC-1, at 14.

Mr. Crawford explained that the Harding Street Units 5 & 6 Refueling represents the lowest cost capacity available to IPL compared to other alternatives considered. He added that the refueling project eliminates the need for transmission system upgrades that would otherwise be required if Harding Street 5 & 6 were not refueled. He stated that the combination of the Harding Street 5 & 6 Refueling and the Eagle Valley CCGT match well with IPL's capacity needs. Pet. Ex. KWC-1, at 14-15.

Mr. Crawford explained that because the scope of the Harding Street Refueling Project is much smaller and more easily managed than that of the Eagle Valley CCGT Project, IPL will not use an EPC contract for this Project, but will instead procure the major contracts through a

competitive bidding process and self-manage the issued contracts. Pet. Ex. KWC-1, at 25. Mr. Crawford testified that the Harding Street 5 & 6 Refueling has been developed to allow completion of the conversion from burning coal to burning natural gas by April 2016. He said this will allow the units to meet the April 2016 deadline and integrate into the overall outage schedule at Harding Street Station. He stated that this schedule also allows the units to be on-line during the period of peak summer demand.

James A. Sadtler, IPL Director, Transmission Field Operations, testified that design engineering of the transmission project began in the spring of 2013. He said detailed engineering and procurement is planned to commence in April 2014, shortly after the anticipated date of securing CPCN approval. He stated that construction of the transmission upgrades will take place in parallel with the construction of the Eagle Valley CCGT and is expected to be sufficiently complete to allow back-feed power to the Eagle Valley CCGT for testing and commissioning by May 30, 2016. He said all transmission upgrades and construction are planned to be completed in time to allow the Eagle Valley CCGT to achieve an April 2017 commercial operations date. Pet. Ex. JAS-1, at 12-13. At the hearing, Mr. Sadtler stated that the interconnection agreement with MISO had been executed. Tr. E 5-6.

Mr. Sadtler explained that in addition to the capacity benefits associated with approximately 200 MW of generating capability, the IPL 138 kV transmission system benefits of the Project include voltage support by maintaining the existing dynamic volt-ampere reactive ("VAR") power capability during contingency conditions and frequency response in the IPL service territory. He said continued utilization of Harding Street Units 5 & 6 provides operational flexibility for planned and unplanned outages on the transmission system and/or for planned and unplanned outages to the larger coal and gas-fired generation in the IPL service territory. He stated that this flexibility allows IPL to offer its own generation with low congestion costs into the market instead of relying on MISO to dispatch higher cost generation to alleviate operational issues which benefits IPL customers. Pet. Ex. JAS-1, at 13-14. He stated that there are no transmission upgrades necessary as part of the Harding Street 5 & 6 Refueling. He said after the refueling conversion, Harding Street 5 & 6 will continue to use the existing interconnection facilities. Pet. Ex. JAS-1, at 14. Mr. Sadtler stated that because Harding Street 5 & 6 will continue to use the existing interconnection it is not necessary to go through the MISO interconnection process. Pet. Ex. JAS-1, at 14.

Mr. Sadtler explained that the CCGT MISO interconnection application and studies were based upon refueling of Harding Street Units 5 & 6. He said therefore, additional studies and fees would be needed by MISO if Harding Street 5 & 6 were not refueled.

Mr. Sadtler gave an overview of the IPL Transmission System and provided additional details regarding the interconnection with MISO and transmission reliability issues related to the five projects. Pet. Ex. JAS-1, at 3-7, 11-12. Mr. Sadtler explained that IPL engaged ABB/Ventyx to study transmission and deliverability issues related to the five sites, including (1) congestion; (2) power transfer; and (3) reactive capability effects of the projects. He also discussed the process used to assess congestion and identify any necessary transmission system upgrades or modifications.

Mr. Sadtler explained that the ABB study also determined the additional transmission infrastructure, interconnection facilities and associated cost necessary for the five projects. Pet. Ex. JAS-1, at 9-10; Mr. Adkins discussed the congestion analysis and the Adjusted Production cost output and explained how these costs were evaluated for the five alternatives using PROMOD IV. Pet. Ex. CFA-1, at 5-12.

Mr. Sadtler discussed each of the five alternative sites, including the new substation and new transmission line and transmission upgrades required for the Eagle Valley CCGT. Pet. Ex. JAS-1, at 9-11. He noted that the substation cost is included as part of the Engineering, Procurement and Construction ("EPC") cost estimate and the remainder of the costs are included as part of Owner's costs. Pet. Ex. JAS-1, at 11-12.

Mr. Sadtler explained that the study methodology and approach used by ABB is substantially similar to that used by MISO. He stated that preliminary results from the MISO Interconnection request for the Eagle Valley CCGT have identified the same upgrades as the ABB studies. He concluded therefore, the associated costs from ABB's study should closely match the results of the MISO study. Pet. Ex. JAS-1, at 11-12.

Mr. Sadtler explained that transmission capacity and transmission congestion were both factors for siting generation at Eagle Valley. He said one distinct advantage of using the Eagle Valley site is that IPL has four existing 138 kV lines from Martinsville to Indianapolis to support the present generation at Eagle Valley that can be used to support the new CCGT. He added that from a congestion perspective, the Eagle Valley site was expected to have less congestion related impacts than alternative sites due to being directly connected to the IPL 138 kV transmission system in and around Indianapolis. He said the congestion related benefit is demonstrated in the congestion studies performed by Ventyx and presented in detail in IPL witness Adkins' testimony. He stated that from a transmission operational viewpoint, generation connected to the same 138 kV system that serves IPL customers provides more dynamic operational flexibility. Pet. Ex. JAS-1, at 8-9.

Herman N. Schkabla, IPL Director, Resource Planning, stated that while the decision to retire these units was not based on the impact of potential climate change regulation, IPL was mindful, in development of a replacement generation plan, that the EPA and the Executive Branch of the Federal Government have suggested that U.S. utilities and generators focus on resources with lower carbon footprints. Pet. Ex. HNS-R1, at 40. Mr. Schkabla explained that the selection of the CCGT resource option is in concert with statements made by the President of the United States in his 2012 and 2013 State of the Union speeches and in his June 25, 2013 remarks on climate change in which he encouraged the development, drilling and use of natural gas as an abundant and clean-burning fuel. Pet. Ex. HNS-R1, at 41.

Mr. Schkabla discussed the planning analyses that demonstrates that the construction of the Eagle Valley CCGT and the Harding Street 5 & 6 Refueling are a reasonable least cost and reliable option to serve the needs of IPL's retail customers. Pet. Ex. HNS-1, at 2-3. Mr. Schkabla explained that IPL's 2011 Integrated Resource Plan ("IRP") indicated that the preferred option to meet IPL customers' electricity requirements from a least cost Present Value Revenue Requirements ("PVRR") and risk mitigation perspective was a 600 MW CCGT plant. Pet. Ex. HNS-1, at 5; Pet. Ex. HNS-2, at 5, 7. Mr. Schkabla explained that IPL updated the 2011 IRP

analyses, including more recent information for natural gas, market prices, environmental emissions and IPL system specific information, such as load and energy forecast, DSM and fuel price projections. Pet. Ex. HNS-1, at 6-10. Mr. Schkabla discussed the base case and other scenarios evaluated as part of the updated IRP analyses. *Id.* at 10-12. Mr. Schkabla explained that the updated IRP analysis identified a CCGT as the preferred new resource option and served as the basis for IPL's 2012 Request for Proposals ("RFP") for CCGT generation resources. *Id.* at 12-13.

Mr. Schkabla also described the analysis process used to evaluate the Eagle Valley CCGT and the short list of alternatives from the CCGT RFP process. He explained that the five projects were individually represented in the MIDAS Gold modeling to determine the relative cost to customers on a comparative PVRR basis. He added that due to locational differences, the transmission cost implications of each resource option was incorporated into the comparative PVRR analysis. Pet. Ex. HNS-1, at 13-14. Mr. Schkabla stated that on a PVRR basis the Eagle Valley CCGT was the lowest cost alternative.

Mr. Schkabla explained that the Harding Street 5 & 6 Refueling and the Eagle Valley CCGT are required to meet the 14% minimum reserve margin requirement in 2017. Pet. Ex. HNS-1, at 22-23. With the Harding Street 5 & 6 Refueling, but without the Eagle Valley CCGT, IPL would be 559 MW short of its minimum reserve margin target in 2017. With the Eagle Valley CCGT but without the Harding Street 5 & 6 Refueling Project IPL would be 76 MW short of its minimum reserve margin target in 2017. He added that the deficits projected for 2014 and 2015 are relatively small, and as has been its practice in recent years, the Company anticipates meeting those needs with market capacity purchases. He acknowledged that the projected resource need in 2016 is significantly larger. IPL proposes to meet part of the resource need in 2016 with the 200 MW Refueling Project. Mr. Schkabla and Mr. Crawford testified that the Company is evaluating a number of options in addition to market capacity to address this deficiency, including a potential extension of the MATS Rule deadline that would permit the Eagle Valley units to continue to operate into 2017. Pet. Ex. HNS-1, at 22-23; Pet. Ex. KWC-1, at 7; Pet. Ex. 1 (Response to IURC 1-2).

Mr. Schkabla explained that IPL uses integrated resource planning to meets its customers' need for electricity through a combination of: (a) existing generation; (b) wholesale market purchases; (c) load management and distributed generation; (d) conservation, including DSM; and (e) wind and solar resources. IPL's most up to date planning analysis shows that IPL reasonably requires additional generating capacity of approximately 744 MW by 2016 growing to 797 MW by 2020. Pet. Ex. HNS-1, at 9. The projections reflect the anticipated retirement of approximately 607 MW of capacity by April 2016. *Id.*

Paula M. Guletsky, Sargent & Lundy, L.L.C. ("S&L"), explained that the existing units at Eagle Valley make use of both surface water and well water. Pet. Ex. PMG-R1, at 18. She said there is no plan for the CCGT unit to use surface water; the planned use of water is from existing wells which are adequate to support the CCGT. *Id.* at 18-20. With respect to Harding Street, Ms. Guletsky explained that the conversion will comply with environmental regulations and the capital cost of the conversion is significantly less than the cost of adding emission reduction equipment to meet MATS requirements. Pet. Ex. PMG-1, at 23.

Lester H. Allen, IPL Demand-Side Management ("DSM") Program Development Manager explained that IPL has reasonably evaluated conservation, DSM, including EE and load management, and renewable resources in its IRP and ongoing planning. Mr. Allen discussed IPL's compliance with the Commission's investigation order in Cause No. 42693 (IURC Dec. 9, 2009) ("Generic DSM Order") and the impact of EE programs on IPL's peak demand.

Richard L. Benedict, IPL Director, Project Development, addressed the competitive RFP process which IPL conducted voluntarily in conjunction with the Company's analysis of its resource needs. Mr. Benedict explained that Burns & McDonnell managed the RFP process. He stated that IPL had self-identified a promising site at its Eagle Valley coal plant in Morgan County, Indiana to construct a CCGT. He explained that the RFP process was designed to allow all interested parties to submit proposals, while also allowing an IPL self-build option to compete with those potential solutions. Pet. Ex. RLB-1, at 4. Mr. Benedict explained that the RFP made clear that IPL would consider: (i) purchasing an existing generation facility; (ii) purchasing a new, to-be-built facility (turnkey or build-transfer), (iii) entering into a PPA; or (iv) entering into a tolling arrangement. Pet. Ex. RLB-1, at 5; RLB-2, at 1, 5. The RFP also stated that "IPL will be evaluating proposals against a potential self-build natural gas-fired combined cycle project utilizing an existing site within the IPL service territory." Pet. Ex. RLB-2, at 1, 5. The RFP notified bidders that the IPL self-build project was anticipated to interconnect to the IPL 138 kV system. *Id.* at 5. Mr. Benedict discussed how unit size was reflected in the RFP and discussed other considerations, such as MISO, Reliability First Corporation and North American Electricity Reliability Corporation ("NERC") requirements. Pet. Ex. RLB-1, at 5-6.

The RFP notified bidders that location would be an important factor in evaluating the delivery risk associated with any proposal. Pet. Ex. RLB-2, at 6. Mr. Benedict discussed MISO Zone 6 locational issues and the potential costs and import limitations for resources not directly interconnected with IPL's 138 kV transmission system. Pet. Ex. RLB-1, at 7. He explained that the RFP notified bidders that their proposal would be compared with IPL's self-build option of a CCGT that would connect to IPL's 138 kV transmission system and would likely operate in the 40 percent to 60 percent capacity factor range. Pet. Ex. RLB-1, at 8. Mr. Benedict explained that this established a robust competitive solicitation for new capacity where respondents competed against other bidders including the option available to IPL for new capacity located on the 138 kV system. Pet. Ex. RLB-1, at 8.

Mr. Benedict explained why the RFP asked for proposals to supply capacity and associated energy. He also described the process used by Burns & McDonnell and subsequently by IPL to assess the responses to the RFP. Pet. Ex. RLB-1, at 8-14. Mr. Benedict explained that in addition to the quantitative analysis to assess PVRR, there are qualitative considerations that factored into the decision. Pet. Ex. RLB-1, at 14-17. Mr. Benedict discussed the Eagle Valley CCGT location and related issues, noting among other things that the Morgan County Council approved a tax abatement if the Eagle Valley CCGT project is constructed and that the Morgan County Economic Development Corporation has indicated that additional incentives could potentially be made available. Pet. Ex. RLB-1, at 17-18.

ii. OUCC Evidence. Maclean O. Eke, OUCC Utility Analyst testified that IPL's Project estimate for the Eagle Valley CCGT is reasonable and concluded that there is sufficient performance specification completed to bid the EPC contract. Pub. MOE Ex. 4, at 4-5.

Mr. Eke identified a few concerns about the cost estimate details, including IPL's scaffolding and asphalt estimates and labor time schedule. Pub. MOE Ex. 4, at 9-11, 13-14. These concerns, representing only a few of the hundreds of line items reflected in the cost estimate, did not affect Mr. Eke's ultimate conclusion that the cost estimate is reasonable. Mr. Eke also raised a concern about the CCGT project contingency estimate. He suggested that IPL's contingency could be understated based on an analysis which assumed costs are normally distributed.

With respect to Harding Street, Mr. Eke testified about concerns regarding the Harding Street 5 & 6 Refueling Project cost estimate. In particular, Mr. Eke questioned the escalation of subcontractor costs in the cost estimate for this Project. Mr. Eke also questioned the high confidence level for the project.

Ray L. Snyder, OUCC Utility Analyst, stated that he has no concerns regarding the PVRR analysis and that the results are consistent with the 2011 IRP conclusion that a CCGT self-build project is the reasonable least-cost alternative for meeting IPL's future electric supply requirements. Mr. Snyder further stated that the multiple steps taken with the updated 2011 IRP, levelized cost of energy ("LCOE"), and PVRR analyses provided a solid confirmation of the selection of a CCGT as the optimal supply resource for meeting future supply resource requirements in the light of current and future environmental regulations as they are known at the present time.

Edward T. Rutter, OUCC Utility Analyst, stated that based on his review of the various documents provided by IPL, the reasonableness of the basic assumptions of future costs, and the capacity requirements identified in the 2011 IPL IRP as modified and assumed by IPL in its case-in-chief, the IPL CCGT Project and the Harding Street Units 5 & 6 Refueling are the least cost alternatives at this time. Pub. ETR Ex. 6, at 17.

Anthony A. Alvarez, OUCC Utility Analyst, discussed the MISO Resource Adequacy requirements and concluded that IPL has understated its capacity needs in this proceeding. Pub. AAA Ex. 1, at 9-16. Mr. Alvarez uses the MISO installed capacity ("ICAP") ratings for IPL based on 2012 Generation Verification Test Capacity ("GVTC") results. In reviewing ICAP test results in recent years, IPL identified an opportunity to increase the ICAP ratings of certain units by optimizing the GVTC testing process. Mr. Alvarez also assumed that the Harding Street Units 5 & 6 would experience about a 30 MW capacity de-rate when converted to natural gas.

Mr. Alvarez stated that Harding Street Units 5 & 6 may require a Flue Gas Recirculation ("FGR") system to achieve a controlled outlet NO_x emission rates of 0.10 lb/MMBu and questioned whether the cost of the FGR is included in the overall cost estimate. Pub. AAA Ex. 1, at 22.

iii. CAC Evidence. Kerwin L. Olson, CAC Executive Director raised concerns about the choice of natural gas as a fuel source and its impact on climate change. Mr. Olson also raised concerns about the release of methane from natural gas fracking and the use and potential contamination of water in the hydraulic fracking process. Mr. Olson also raised a concern with respect to the status of central Indiana's water supplies. CAC Ex. KLO, at 13-14. Nevertheless, he noted that IPL's proposed CCGT will use less water than a conventional coal or nuclear plant.

Mr. Olson compared IPL's customers' net metering participation to that of other utilities and urged the Commission to deny IPL's request for a CPCN, in part, until IPL investigates enhancing its promotion of customer-owned distributed generation. CAC Ex. KLO, at 7-11. CAC witness Olson contended that IPL should come before the Commission for a general rate case to change the Residential rate tariff from a declining block structure to an inclining block rate structure. This contention follows his recommendation that the Commission deny IPL's request for a CPCN, implying that there is a connection between inclining block rate structures and the need for the generation facilities IPL is proposing in this proceeding. CAC Ex. KLO, at 14. Mr. Olson suggested that inclining block rate will induce customers to use less energy but presented no elasticity studies or real world analysis which measured and defined energy efficiency improvements due to inclining block rates. Pet. CX-8 at 9-10, 19.

CAC witness Jeremy I. Fisher, PhD, Principal Associate at Synapse testified that IPL's CPCN application for a CCGT relies on a faulty and insufficient planning construct, contains numerous internally inconsistent key planning assumptions, fails to provide a least cost solution for IPL's customers and is inconsistent with Cause No. 44242. He recommended the Commission deny granting a CPCN for the CCGT and require the Company to perform proper and correct electricity system planning prior to submitting a new CPCN application. During cross-examination, Dr. Fisher conceded that his analysis of IPL's capacity need did not reflect both future unit retirements and the reduced capacity credit for IPL's wind resources. He also testified that his analysis shows that IPL requires approximately 600 MW of capacity. Tr. D 102.

Dr. Fisher testified that "[i]t does not appear that the Company has seriously revisited this basic assumption [that a CCGT is the optimal resource choice] since the execution of the [2011] IRP." CAC Ex. JIF, at 6. He contended that IPL should update the optimization portion of the modeling from the 2011 IRP. Dr. Fisher also testified that obtaining market capacity preferentially was the primary finding of the 2011 IRP capacity expansion model. Dr. Fisher contended that IPL should have considered the wind resource option by itself without capacity firming. Dr. Fisher asserted that new assumptions on load requirements or refueling versus retirements would change the optimization results and would allow for small units. CAC Ex. JIF, at 11-12. Dr. Fisher hypothesized that a CT might be a better alternative than a CCGT. Dr. Fisher (pp. 12-14) asserted that the Company's peak demand and energy forecast assumptions are internally inconsistent within this CPCN proceeding. Dr. Fisher discussed the potential for regulation of CO_2 emissions from modified, reconstructed and existing powerplants and discussed the social cost of carbon.

Dr. Fisher testified that IPL has not properly modeled EE savings and EE peak reduction. In particular, he argued that Mr. Schkabla's energy saving forecasts are (a) significantly lower than Mr. Allen's energy savings forecasts and (b) amount to only half of the Commission's goal of 2 percent annual incremental savings by 2019. Dr. Fisher also indicated that the Company erred in the way it modeled the cost of carbon dioxide emissions for new resources in the "moderate environmental scenario" that was part of the CPCN Phase 1 analysis.

CAC witness Tyler Comings, Associate with Synapse, testified that delaying the CCGT to 2020 is more favorable than building it in 2018. Mr. Comings testified that the Company's capacity price forecasts are likely too high given the supply conditions in MISO. CAC Ex. TFC, at 12. He based his testimony on two factors – a) the 2012 MTEP and b) capacity prices from the

PJM auction for the 2016-2017 planning year. CAC Ex. TFC, at 12-13. Mr. Comings also stated that IPL's modeling of off-system sales is inconsistent with the treatment of off-system sales margins in Indiana retail ratemaking.

iv. Summit Evidence. Summit did not prefile any testimony, but did cross examine IPL's witnesses concerning the RFP. During cross-examination, Summit questioned the $25 million PVRR advantage for the Eagle Valley CCGT compared to Bid 11. Bid 11 was Summit's bid to develop a CCGT at an unidentified site in Morgan County to be interconnected with the 345 kV system. Tr. C 64-65; E 85; *e.g.*, Summit CX-1 at Section 1, p. 3, Section 6, p. 6 ("The proposed Project will be connected to a new 345 kV Switchyard located on the site."; "The Project will interconnect with the 345 transmission line which passes thru [sic] the Eagle Valley facility. The interconnection will include a 345 kV collector yard and a multi-breaker ring bus tie into the IP&L 345 kV system.").

Summit also questioned when IPL and other bidders started the MISO interconnection process. The record reflects that IPL filed its initial request for interconnection agreement in January 2012. Pet. Ex. JAS-1, at 6; Tr. C 82; D 14-15. During cross-examination, Mr. Sadtler noted that other bidders had also commenced the MISO interconnection process. Tr. E 13-19. The record reflects that Summit did not enter the MISO queue but two other bidders did – one before IPL entered the queue in January 2012 and one just after IPL entered the MISO queue. Tr. D 14-15. While the RFP was not issued until June 2012, Mr. Sadtler testified that Summit's bid indicated that it could have a complete MISO Transmission Large Generation Interconnection Agreement by November 1, 2013. Tr. E 31.

Summit also questioned IPL's pursuit of the tax abatement before finalizing the project selection analysis. Mr. Benedict explained that as general rule one's ability to negotiate a tax abatement is stronger at beginning of project rather than at end. Tr. D 12-13. So developers prudently, when they think one is available, do that early in the process. He stated that this is a typical step for developers to look into and added that Morgan County representatives told IPL that at least two others had approached them for similar tax abatements. Tr. D 12-13.

Although Summit's bid was based on the 345kV system, Summit questioned whether Bid 11 would have a lower PVRR if the project interconnected to the 138 kV system instead of the 345 kV system. Mr. Crawford described the Summit project as inferior from a 345 kV viewpoint and a 138 kV viewpoint. Tr. E 82; D 28-29, 34. He stated that a build transfer project bid is not the equivalent of a firm price contract. Furthermore, Mr. Crawford stated that Summit had not procured or even identified a site for acquisition for its proposal. Tr. E 85. He stated that Summit does not have an air permit for the unidentified site, and that the process for acquisition of an air permit is lengthy and air permits are site and even stack-location specific.

v. IPL Rebuttal. Mr. Schkabla stated IPL's analysis started with the 2011 IRP. Therein, the Company performed two phases of modeling. In IRP Phase 1, the Company used the MIDAS capacity expansion module ("CEM") to screen resources. In IRP Phase 2, the Company used a detailed production cost simulation of the screened resources timed to IPL's capacity needs using the MIDAS Portfolio Simulation model. Thereafter, in "CPCN Phase 1," IPL updated the detailed production cost simulation in mid-2012 with market energy prices and natural gas prices from the Ventyx 2012 Midwest Market Reference case, as well as

updating the IPL peak load and energy projections to reaffirm whether a CCGT is the lowest cost resource. To further refine the choice, IPL issued an RFP and conducted additional PVRR modeling to determine the reasonable, least cost, reliable CCGT resource. This last step is referred to as the "CPCN Phase 2" analysis. Pet. Ex. HNS-R1, at 3, 20-21.

Mr. Schkabla stated that because almost all of the resource options were evaluated in the subsequent analysis, and the ones that were dropped were clearly inferior, there was no need to recreate the optimization runs. He added that IPL's analysis focused instead on the relevant evaluation – the economics of the more likely resource choices from the screening, and then later, more specifically on the selected resource that would provide the reasonable, least cost for its customers, i.e., a CCGT. Pet. Ex. HNS-R1, at 4-8.

Mr. Schkabla stated that the capacity expansion modeling was used by IPL to screen resource alternatives. He explained that IPL does not consider large block market capacity purchases to be a reasonable long term resource solution for its customers and obtaining market capacity preferentially was clearly not the primary finding of the 2011 IRP. Pet. Ex. HNS-R1, at 9-10. Mr. Schkabla explained that the primary finding of the 2011 IRP was the identification of a CCGT as the preferred option, i.e., the optimal resource to meet planning needs. Tr. A-20. He explained this option was not simply adopted but was further investigated with the CPCN Phase 1 and Phase 2 analysis using updated assumptions, including updated market and fuel prices, updated DSM assumptions and updated retirement assumptions.

Mr. Schkabla stated that wind is an energy resource with negligible capacity benefits. Pet. Ex. HNS-R1, at 11. He testified that IPL is 759 MW short of capacity in 2017 without the replacement capacity that is the subject of this proceeding. *Id.* Mr. Schkabla stated that wind alone clearly is not a sufficient resource to fill IPL's significant capacity shortfall. He added that to meet the projected capacity shortfall of 759 MW at a projected capacity credit of 10% for wind would require 7,590 MW of wind resources. He stated that wind energy firmed with CT peaking capacity can provide a reasonable resource option. He said IPL modeled this resource as a way to include additional wind generation in its resource evaluation. He added that this pairing approach is regularly used by reputable consulting firms, such as CERA, when evaluating an intermittent wind resource against an intermediate or base load CCGT resource. *Id.*

In response to Dr. Fisher's analysis, Mr. Schkabla re-ran the results for the environmental scenario, which showed that, the CCGT plan is $78 million lower in cost than the CT/Wind option. Pet. Ex. HNS-R1, at 23. Mr. Schkabla explained that the previous modeling penalized the CCGT plan by running the CCGT more than it should have been running and by including the cost of the additional CO_2 emissions in the PVRR. Pet. Ex. HNS-R1, at 23-24.

Mr. Schkabla testified that the capacity expansion model was used to screen supply-side resources. As such, the major units – nuclear, coal, and CCGT were similarly sized, but priced as optimally sized units. Put another way, if the cost effective solution was nuclear, then IPL would not build a 600 MW nuclear unit. Instead, IPL would look to partner in a larger, more cost-effective solution. Mr. Schkabla explained that the screening module was not trying to determine the optimal size, but rather the comparative merits of the resource option. He explained that for optimization screening purposes, sizing resources similarly provides the best apples to apples economic comparison. He stated that once the resource is selected, its precise size and timing can

be adjusted using the power market to balance the residual energy and capacity differences. Pet. Ex. HNS-R1, at 11-12.

In response to Dr. Fisher's contention (at 25-27) that the Company only requires capacity resources, Mr. Schkabla stated that while IPL's IRP and CPCN analyses certainly pointed to more of a capacity shortfall than an energy shortage, the additional energy provided by a CCGT is projected to provide considerable value to IPL customers in a number of important ways. Pet. Ex. HNS-R1, at 12-13. He also explained that the capital premium for a base load or intermediate capacity resource is low and very reasonable from a holistic perspective. He added that the results of IPL's detailed production cost modeling confirm that the significant energy value provided by the CCGT more than offsets the incremental capital cost. He explained that the benefits of any economic periods of energy in excess of IPL's retail load requirements provided by the addition of a CCGT can benefit IPL's customers through off-system sales margins that reduce retail revenue requirements. Pet. Ex. HNS-R1, at 12-13. Mr. Schkabla stated the CCGT provides other benefits not recognized by Dr. Fisher, including cost effective fuel diversification and peaking capacity and a hedge against a worst case CO_2 scenario whereby coal generation output is reduced. Pet. Ex. HNS-R1, at 12-13.

Mr. Schkabla explained that when viewed within the narrow constraints of simply matching the IPL generation portfolio to the IPL retail load requirements, a CT may seem like a better fit. He stated that because IPL is part of the MISO market it would be short sighted to simply evaluate the preferred resource addition from the narrow perspective of the IPL system only. In rebuttal, Mr. Schkabla presented modeling analysis which demonstrated that the PVRR for the CCGT plan is $201 million less than the CT plan. Pet. Ex. HNS-R1, at 13-14.

Mr. Schkabla stated that the CAC witnesses reached their invalid conclusion by inappropriately mixing and matching capacity and demand projections from two separate analyses, along with incorrect use of the data within the model. Pet. Ex. HNS-R1, at 19. Mr. Schkabla explained that in its response to CAC's data request, IPL specifically noted that the model output data that the CAC was using to represent IPL peak loads reflected a netting of projected renewable output at time of peak and should not be used as a representation of IPL's after DSM net peak load forecast. Pet. Ex. HNS-R1, at 15-16. In response to CAC's discussion of the difference between the CPCN Phase 1 analysis and CPCN Phase 2 analysis attributable to 103 MW of Demand Response, Mr. Schkabla re-ran the CPCN 1 analysis with this adjustment and showed that the inclusion of the additional Demand Response did not result in a different resource choice.

Mr. Schkabla explained that the data presented in his direct testimony is not comparable to the energy requirements used in the MIDAS modeling. Pet. Ex. HNS-R1, at 17-18. He noted that as labeled in his direct testimony, this data represents retail sales and as such, the data would need to be grossed up for transmission and distribution losses to arrive at the energy requirements used in the MIDAS modeling. He recognized that the difference between the energy forecasts also reflected a modeling error during the process of calibrating the MIDAS Model with the PROMOD IV Locational Marginal Price ("LMP") model results. *Id.* at 18. He explained that transmission losses were incorrectly added to the energy forecast and this resulted in an energy forecast that is 2.9% higher than it should have been. Mr. Schkabla explained that because the focus of the Phase 2 analysis was comparing the Eagle Valley CCGT alternative

with the RFP CCGT alternatives, the higher energy requirements were represented for all CCGT alternatives. He concluded therefore, that reducing the energy requirements would not materially affect the comparative results and confirmed this by rerunning the PVRR analysis. *Id.*

With regard to the CAC witnesses' contention that the modeling is inconsistent, Mr. Schkabla stated that the modeling assumption differences referred to by the CAC witnesses generally reflect the inclusion of better information that became available subsequent to the CPCN Phase 1 analysis. Pet. Ex. HNS-R1, at 20-21. He stated that given the main objective of the Phase 1 analysis no useful purpose would be served by updating it and added that the use in CPCN Phase 1 of the updated discount rate used in CPCN Phase 2 would not have changed the conclusions of the Phase 1 analysis. *Id.*

Mr. Schkabla stated that delaying the CCGT to 2020 would put IPL customers at an unacceptable risk during a period that, given the regular announcements of additional capacity retirements, is projected to be extremely challenging from a resource adequacy perspective. Pet. Ex. HNS-R1, at 22. He added that even if delaying was an option, the delay might very likely result in rapid cost escalation for new CCGT construction given the projected capacity shortfalls for this time period. Mr. Schkabla stated that this cost increase was not reflected in Mr. Comings' PVRR analysis and could eliminate his identified cost advantage for this scenario. *Id.* Mr. Schkabla also stated that Mr. Comings' PVRR analysis was based on the CPCN Phase 1 analysis. When the delay scenario is evaluated within the framework of the CPCN Phase 2 assumptions, the CCGT delay scenario has a $100 million higher PVRR than the proposed 2017 CCGT. *Id.* at 22-23.

Mr. Schkabla explained that Mr. Coming's reference to the PJM auction is based on one data point and he provided no data to support a future correlation between the two markets. Pet. Ex. HNS-R1, at 35. Mr. Schkabla explained that the capacity market structures for MISO and PJM are entirely different and the rules are continually being modified. *Id.* He explained that the capacity price forecast reflected in the Company's CPCN Phase 2 analysis is from the Ventyx Spring 2012 Midwest Reference case. He stated that neither Dr. Fisher nor Mr. Comings challenged the methodology or content of the Ventyx capacity price forecast. Pet. Ex. HNS-R1, at 36. This forecast is developed based on fundamental supply and demand modeling analysis. As such, when a market reaches a balanced supply/demand situation, the market capacity price generally reflects the net cost of new entry ("CONE"). The net CONE value is normally based on either the levelized fixed cost of a CT or the levelized fixed cost of a CCGT reduced for the energy value they would receive from the market. Pet. Ex. HNS-R1, at 33.

Mr. Schkabla explained that it is not reasonable to assume that market capacity will consistently be available at a price below the capacity forecast in the Company's analysis. He testified that the price of capacity in the future is dependent upon the balance between available supply and demand. With numerous generation owners retiring, retrofitting, and repowering generation in the footprint, the future supply picture is highly uncertain, as represented by MISO in their recent MTEP13 update. Pet. Ex. HNS-R1, at 32. He added that the lower the supply relative to the demand, the higher the price. He explained that if MISO's MTEP13 prediction of a shortfall is accurate, then the price of capacity will elevate in MISO irrespective of the recent result of the PJM market for the same time period. *Id.* Mr. Schkabla stated that the ever evolving

and constantly changing market rules and the potential impact they have in moving prices up or down adds to the uncertainty. *Id.*

Mr. Schkabla testified that there is no mismatch regarding off-system sales margins. Pet. Ex. HNS-R1, at 36-38. Both the PVRR modeling and retail ratemaking flow to customers the benefit of a level of off-systems sales margins determined to be reasonable at the time the revenue requirement is established. *Id.* Mr. Schklaba stated that the CCGT will not produce any off-system sales margins until after it is placed in service, and the Company plans to file a general rate case to permit the new unit to be reflected in retail rates once the new unit is in service. Accordingly, he stated the costs of the CCGT will not be reflected in customers' rates until after a general rate case is conducted and new rates reflecting the CCGT are established. He noted that the Commission can decide how to treat any such off-system sales margins at that time based on facts and circumstances in that rate case.

Mr. Schkabla testified that Mr. Comings was incorrect in his suggestion that there is little concern within MISO regarding capacity shortages for the 2013-2022 time frame, pointing to additional MISO findings in the MTEP 12, the draft MTEP 13 determination of a potential capacity shortfall of 3 GW to 7 GW in 2016, and a recent communication from MISO and the Organization of MISO States related to MISO's future capacity needs. Pet. Ex. HNS-R1, at 24-32.

In response to the OUCC's analysis, Mr. Schkabla attributed the higher capacity need in Mr. Alvarez's projections to differences in the assumptions used by Mr. Alvarez and IPL. Mr. Schkabla explained that IPL projects in the long term that its equivalent forced outage rates ("EFORd") will match the MISO system average. Pet. Ex. HNS-R1, at 46. The IPL system EFORd rate, used by Mr. Alvarez, reflects historical performance and does not reflect IPL's target to achieve at least MISO system average EFORd performance on a projected basis. Pet. Ex. HNS-R1, at 46. With respect to the de-rate noted by Mr. Alvarez, Mr. Schkabla explained that while this data is consistent with the initial S&L conceptual studies, a more detailed subsequent analysis conducted by Alstom concluded that no de-rate would be incurred by these units. He stated the higher capacity need reflected in Mr. Alvarez's projections may be summarized as 30 MW due to higher EFORd assumptions, 50 MW due to lower ICAP ratings, and 30 MW due to the de-rate on Harding Street 5 & 6 post refueling. Pet. Ex. HNS-R1, at 46.

In response to the OUCC, Ms. Guletsky discussed the difference between Mr. Eke's analysis and a Monte Carlo analysis. She did not see a need to increase the contingency and took comfort that Mr. Eke's analyses did not result in a contingency that is significantly greater than that included in the S&L cost estimate. Pet. Ex. PMG-R1, at 9-11. Ms. Guletsky explained that the cost estimate provided for the Harding Street Units 5 & 6 Refueling Project is based on 2012 dollars. Therefore, the estimate should and did include escalation for the various parts through the 2016 Commercial Operation Date ("COD"). Pet. Ex. PMG-R1, at 14.

Mr. Allen stated that Dr. Fisher's analysis mistakenly compared cumulative energy savings to incremental savings. He revised Dr. Fisher's analysis to reflect the correct comparison and showed that the historical trajectory aligns very closely with the forecast of gross savings. Pet. Ex. LHA-R1, at 4-5. Mr. Allen explained that full compliance with the Generic DSM Order is reflected in IPL's analysis and that after consideration of these EE related demand savings,

IPL still requires an additional 759 MW to meet customers' needs for electricity. Mr. Allen also explained that the Company's analysis in this case reflects an updated estimate of the peak reduction from these programs. He noted that Dr. Fisher's analysis of the available EM&V reports calculates a peak reduction factor which is very close to the factor resulting from the demand reduction assumptions relied upon by IPL. *Id.* at 6-7. Therefore, Mr. Allen concluded that EE programs cannot alleviate the Company's requirements for capacity and energy in this case.

Angelique C. Oliger, Director of Environmental Policy, AES US Services, LLC explained that the CCGT would be considered a new electric generating unit, not a modified, reconstructed or existing powerplant as suggested by Dr. Fisher. She explained that the CCGT should be able to meet the EPA proposed Greenhouse Gas Standard for new sources without add-on controls and thus it would not be appropriate to apply a "carbon price" to the CCGT project. Pet. Ex. AO-R1, at 3-4. Ms. Oliger showed that the CO_2 emissions of the CCGT would be below the limit reflected in EPA's proposed rule for Greenhouse Gas and New Source Performance Standard for new sources. Pet. Ex. AO-R1, at 4.

With respect to Harding Street 5 & 6 Refueling, Ms. Oliger clarified that the two Harding Street units are not subject to a NO_x emission limit. She explained air permitting is based on a NO_x emission rate of 0.15 lb/MMBtu and noted that the FGR is included to maintain original steam temps and reduce emissions of NO_x. Pet. Ex. AO-R1, at 4-5.

IPL witness H. J. Vander Veen, President of Energy Group, Inc., explained various flaws in Mr. Olson's position regarding Residential customer rates, pointing out among other things that inclining block rates based on average cost are typically seen as less price responsive when compared to time of use rates and inclining block rates based on time differentiated marginal costs. He added that rate structure integrity should be maintained across all classes of service, not as a unique concept for Residential customers as proposed by Mr. Olson. Pet. Ex. HJV-R1, at 4-6. Mr. Vander Veen identified other alternative rate structures based on average cost that could form a foundation for cost based rates as compared to marginal cost which would need to become the foundation for inclining block rates to be cost based. *Id.* at 9-10.

John E. Haselden, Principal Engineer in the IPL Regulatory Affairs Department, discussed IPL's efforts to support net metering but also pointed out that Mr. Olson's criticism does not appear to recognize that installing renewable energy is not reasonable for most customers. Pet. Ex. JEH-R1, at 5. Mr. Haselden also noted that the Commission's net metering reports indicate that IPL experienced about the same growth in 2012 as other utilities referenced by Mr. Olson. Mr. Haselden also explained that IPL has 30 projects with a combined capacity of 273 kW where customers have renewable energy generators on their premises that are not net metered because they do not produce more power than they consume at any instant. Mr. Haselden noted this could account for part of the difference in reported participant numbers. *Id.* at 7-8. Mr. Haselden disagreed with Mr. Olson's contentions regarding aggregate, community, or virtual net metering and third party financing. Mr. Haselden addressed Mr. Olson's contentions regarding Rate REP and explained that IPL could not hope to obtain sufficient power under Rate REP to satisfy its obligation to meet needs at the lowest reasonable cost. Mr. Haselden discussed the rate impacts of distributed generation and explained why IPL wants to monitor and study how the Rate REP projects impact operations and power quality in its distribution system. He

also noted that only a small percentage of the solar and wind projects nameplate capacity can be counted toward system capacity at peak times. *Id.* at 10-17.

B. Commission Discussion and Findings. IPL requests CPCNs for a proposed CCGT (approximately 644 MW to 685 MW) to be constructed at its Eagle Valley Station and for Harding Street 5 & 6 Refueling. Under Chapter 8.5, a public utility may not begin the construction, purchase or lease of any steam, water, or other facility for the generation of electricity to be directly or indirectly used for the furnishing of public utility service without first obtaining from the Commission a certificate that public convenience and necessity requires, or will require, such construction, purchase or lease.

In considering a CPCN request, Chapter 8.5 requires the Commission to consider options other than the construction, purchase, or lease of an electric generating facility. *See* Ind. Code § 8-1-8.5-4.

Further, Ind. Code § 8-1-8.5-5 sets forth specific findings the Commission must make in order to approve and grant the requested CPCN. First, the Commission must make a finding, based on the evidence of the record, as to the best estimate of construction costs. Second, the Commission must find that either (a) construction will be consistent with the Commission's plan, if any, for the expansion of electric generation facilities, or (b) the proposed construction is consistent with a utility-specific proposal as to the future needs of consumers in the State of Indiana or in the petitioning public utility's service area [i.e., the utility's IRP]. Third, the Commission must find that public convenience and necessity require the facilities for which the CPCN is requested.[2]

"We have indicated in previous CPCN cases that 'least-cost planning' is an essential component of our [CPCN] law." *Joint Petition of PSI Energy, Inc. and CINCAP VII, LLC*, Cause No. 42145, at 4 (IURC Dec. 29, 2002), *quoting Southern Indiana Gas & Electric Co.*, Cause No. 38738, at 5 (IURC Oct. 25, 1989). "We have defined 'least-cost planning' as a 'planning approach' which will find the set of options most likely to provide utility services at the lowest cost once appropriate service and reliability levels are determined." *Id.* "However, we have emphasized that the [CPCN] statute does not require the utility to automatically select the least cost alternative. Nor does the statute require the utility to ignore its obligation to provide reliable service or to disregard its exercise of reasonable judgment as to how best to meet its obligation to serve." *Id.* As this Commission has previously ruled: "[i]f an Indiana utility reasonably considers and evaluates the statutorily required options for providing reliable, efficient, and economic service, then the utility should, in recognition that it bears the service obligations of IC 8-1-2-4, be given some discretion to exercise its reasonable judgment in selecting the option or options to implement which minimize the cost of providing such service." *PSI Energy, Inc.*, Cause No. 39175, at 14 (IURC May 13, 1992); *see also Joint Petition of PSI Energy, Inc. and CINCAP VII, LLC*, Cause No. 42145, at 4.

i. Considerations under Ind. Code § 8-1-8.5-4.

[2] A fourth finding relating to coal-consuming facilities, pursuant to Ind. Code § 8-1-8.5-5(b)(4), does not apply to the proposed natural gas facilities.

Section 4 of Chapter 8.5 requires the Commission to, prior to acting on any petition for a CPCN, take into account:

> (1) the applicant's current and potential arrangement with other electric utilities for:
>
> (A) the interchange of power;
> (B) the pooling of facilities;
> (C) the purchase of power; and
> (D) joint ownership of facilities; and
>
> (2) other methods for providing reliable, efficient, and economical electric service, including the refurbishment of existing facilities, conservation, load management, cogeneration and renewable energy sources.

The evidence regarding the alternatives enumerated at Ind. Code § 8-1-8.5-4 permits the Commission to make an informed decision as to whether a pending proposal is in the public interest. As we noted in *PSI Energy, Inc.*, Cause Nos. 41924 and 42145, "the statute does not require a utility to exhaust all statutory alternatives before it may request a CPCN for new capacity." *PSI Energy, Inc.*, Cause No. 42145, at 14 (IURC Dec. 19, 2002). "Rather, what is important is that the Commission be given enough information so that the Commission can take into account all of the enumerated alternatives in making its determination." *Id.* "The statute does not limit the Commission's discretion to weigh the importance of each alternative in determining the public interest." *Id.*

In conformance with the statute, we consider the following:

(1) Current and Potential Arrangements with other Electric Utilities for:

(A) and (B) The Interchange of Power and Pooling of Facilities. With regard to the interchange of power, the evidence indicates that IPL has relied on the MISO market to meet short-term system needs. The record reflects that the current MISO market is very effective at fully utilizing the existing capacity resources in the region. However, it does not eliminate the need for new capacity resources to address forecasted load growth and the retirement of older less efficient coal fired units in the region. Pet. Ex. HNS-1, at 18; HNS-2, at 65, 68, 133, 139.

(C) The Purchase of Power. IPL issued the RFP for Capacity and Energy to identify the potential for lower cost alternatives to Eagle Valley CCGT and Harding Street 5 & 6 Refueling. Pet. Ex. HNS-1, at 18. The RFP solicited proposals for power purchase agreements. Mr. Schkabla discussed the Company's plans to use market capacity purchases in the near term and explained why capacity market purchases are not a reliable cost effective alternative to the proposed Projects. Pet. Ex. HNS-1, at 22-23; HNS-2, at 139; HNS-R1, at 9-10; Pet. Ex. 1 (Response to IURC 1-2).

(D) Joint Ownership of Facilities. The relatively large projected IPL need of 750 MW by 2017 minimizes the amount of residual capacity available for joint ownership. To

the extent that there is some capacity available in excess of IPL's MISO resource adequacy requirement in a given year, IPL indicated that it would sell that capacity to others via either a bilateral transaction or the MISO capacity auction. Pet. Ex. HNS-1, at 18-19.

(2) Other Methods for Providing Electrical Service.

(A) The Refurbishment of Existing Facilities. IPL obtained authority from the Commission in Cause No. 44242 to retrofit its five largest units, Petersburg 1-4 and Harding Street 7. IPL also analyzed the comparative economics of retrofitting, converting or retiring its other units. This analysis showed that cost effective compliance with the MATS Rule would be achieved by retiring Eagle Valley units 1-6 (and associated diesel generator) and Harding Street Station Units 3 and 4, and refueling Harding Street Station Units 5 & 6. Pet. Ex. KWC-1, at 3; HNS-1, at 14, 17-18, 22. Harding Street 5& 6 Refueling is further addressed separately below.

(B) Conservation and Load Management. IPL currently has in place a number of conservation and load management programs, including traditional DSM/EE programs and tariffed demand response programs. Pet. Ex. LHA-1, at 2-16. IPL's load forecast reflects the assumption that the Company achieves the energy savings goals reflected in the Generic DSM Order. After consideration of DSM/EE the Company still needs approximately 750 MW of capacity by 2017.

(C) Cogeneration and Renewable Energy Sources. IPL offers a cogeneration rate through its tariff that specifies the rate under which IPL will purchase power from qualifying facilities. Pet. Ex. LHA-1, at 18; HNS-2, at 93; JLC-R1, at 19. IPL also uses utility-scale wind and customer-sited renewable generation. Pet. Ex. LHA-1, at 13, 17- 19; HNS-2, at 77, 80, 100, 103, 105-06. This approach has allowed IPL to acquire resources ranging from small customer owned solar energy systems to large utility scale wind farms. For example, IPL has Commission-approved long-term PPAs for 300 MW of wind energy. IPL has 56 small scale renewable energy projects connected to IPL's system providing 424 kW of capacity.

ii. Findings under Ind. Code § 8-1-8.5-5.

a. *Best Estimate of Construction, Purchase or Lease Costs Based on the Evidence of Record.*

I. Eagle Valley CCGT. IPL's analysis and cost estimate for the CCGT is based on a 683 MW CCGT.[3] The MW range identified above and in Mr. Crawford's testimony reflects the different manufacturer's turbine sizes. The actual size of the CCGT will depend on the turbine manufacturer selected. The record reflects that IPL is using competitive solicitation processes to select the turbine equipment manufacturer and EPC Contractor. By presenting a MW range, IPL preserved the ability to use the competitive

[3] In IPL's February 28, 2014 Response to the Commission's February 25, 2014 Docket Entry, IPL stated that it had contracted with General Electric for the conditional purchase of two 217.6 MW turbines, but that the ultimate CCGT size had not yet been determined.

solicitation process to drive down the overall cost of the Project.[4] The estimated cost of the Eagle Valley CCGT Project is approximately $631 million. Pet. Ex. KWC-1, at 18. While this amount does not include AFUDC, the actual, accrued amount of AFUDC will be included as part of the approved cost. This cost estimate was broken down into EPC Costs (without escalation), Owner's Costs, and Owner's Contingency. The cost of the natural gas lateral pipeline was included in the Owner's Costs. Pet. Ex. PMG-1, at 7. In his supplemental testimony, Mr. Dininger stated that IPL was no longer pursuing constructing the natural gas lateral itself, but was seeking bids from several companies to build the lateral, the costs of which would be incorporated into a resulting gas tariff rate. The unredacted cost of the lateral included in the EPC Costs was described by Mr. Dininger in DCD-1 (Confidential) at page 9.

Mr. Crawford and Ms. Guletsky explained that the EPC Cost of the Eagle Valley CCGT is based on a detailed 600+ line item cost build-up prepared by S&L and covered a range of different turbine configurations. Ms. Guletsky presented the detailed Eagle Valley CCGT EPC Cost Estimate and the Eagle Valley Arrangement Drawing. These witnesses testified that IPL and S&L sought budgetary bids for every piece of equipment expected to cost more than $1 million. They stated that S&L used the budgetary bids, in-house engineering and recent experience to generate the estimate. These witnesses explained that multiple meetings were also held with turbine manufacturers (GE, Siemens and Mitsubishi) and EPC contractors (Chicago Bridge & Iron, SNC Lavalin, CH2M Hill and Bechtel) from which capital costs, operating costs, performance characteristics and construction schedules were secured. They explained that collectively, this body of information was used to generate the Eagle Valley CCGT cost estimate that would cover the different turbines that might be used. They added that in order to achieve the reasonably lowest life cycle cost for IPL customers, IPL intends to conduct a competitive solicitation process for the selection of the turbine manufacturer and another RFP process to select the EPC Contractor. Pet. Ex. KWC-1, at 18-19; Pet. Ex. PMG-1, at 7.

Mr. Crawford explained why circumstances did not permit IPL to provide a firm price EPC contract in this case as it did in Cause No. 44242. Tr. E-79-80. In particular, this was not feasible due to the short deadline imposed by the EPA for compliance with its MATS Rule and the five year time line for developing, permitting, obtaining approval of and constructing a CCGT. *Id.* IPL wanted to advance and preserve the 2017 CCGT option to reduce the risk of its customers being exposed to high capacity prices in the market. Tr. E 79-81. Additionally, IPL did not consider it prudent to come before the Commission with just one alternative and thus conducted the RFP to determine whether an alternative site with a competitive advantage over the Eagle Valley site existed. *Id.* Mr. Crawford also explained that EPC contractors are not willing to incur the cost to bid on a project without some certainty that the work is going to be performed. Tr. E-88.

The record reflects that IPL has taken substantial steps to firm up the cost estimate presented in this case. More specifically, the cost estimate is based on a detailed engineering

[4]IPL stated that the flexibility to alter the final configuration would avoid the potential need to file a new Petition should the final configuration differ from the 683 MW unit modeled or the range specified herein. This flexibility was reasonable given the short time frame allowed under the final MATS Rule to construct a CCGT to meet IPL's customers' needs for electricity. Moreover, the statute contemplates, and the Commission has previously used, the ongoing review process to identify the final MW configuration and actual project cost and we find it is reasonable to do so here.

analysis, discussions with turbine manufacturers and EPC contractors from which capital costs, operating costs, performance characteristics and construction schedules were secured. Pet. Ex. KWC-1, at 18-19. To develop the cost estimate IPL and S&L also sought budgetary bids from vendors for every piece of equipment expected to cost more than $1 million. Pet. Ex. KWC-1, at 18; Pet. Ex. PMG-1, at 10. Based on the design effort, provisions in the quotes for major equipment and past history of similar projects, S&L's analysis provided a 95% confidence in the overall EPC cost estimate. Pet. Ex. PJM5, ES-3.

Additionally, we recognize that the purpose of this proceeding differs from Cause No. 44242. That docket concerned a proposal to retrofit existing plants that would otherwise need to be retired due to the MATS Rule. Here, we are asked to approve IPL's resource selection for new generation. In Cause No. 44242, a cost estimate was developed and a competitive solicitation process was used to reach a firm price EPC contract. *See Indianapolis Power & Light Company*, Cause No. 44242 (IURC Aug. 14, 2013). Here, IPL had S&L develop an EPC cost estimate for the Eagle Valley self-build project and conducted a competitive RFP process to identify alternative sites and costs.

IPL contended that the competing project costs obtained from the RFP process demonstrated the competitiveness of IPL's best estimate for the Eagle Valley CCGT Project. According to IPL, this approach enabled the Company to use the competitive solicitation process in its decision-making process and also permitted the Commission to review a credible cost estimate in the context of the competitive resource alternatives.

While we recognize the effort IPL put into the RFP, we disagree with IPL's perceived value of the RFP process for our review. From the Commission's perspective, it appeared that the RFP process was designed and carried out with the intention of showing that IPL's self-build option was not inferior to other potential new build locations. In effect, IPL conducted the RFP to show that its preferred site was competitive. A more useful RFP would have involved developers bidding on constructing a CCGT at the Eagle Valley location, despite IPL's concerns over such an arrangement. Under such an analysis, the Commission could then have determined the validity of IPL's concerns, and whether those concerns justified foregoing potential cost savings from having a turnkey plant constructed. However, even with that criticism, the PVRR analysis supports IPL's self-build on the basis of the cost presented.

The record reflects IPL and OUCC agree that the CCGT project cost estimate is reasonable. IPL's witnesses showed the estimated cost of the Eagle Valley CCGT is based on a detailed engineering study, past experience with similar projects and input from vendors.

We find that IPL's estimated cost of $631 Million (not including AFUDC), minus the confidential cost of the natural gas lateral that IPL is no longer pursuing, represents the best estimate of construction.

II. Harding Street 5 & 6 Refueling. The estimated capital cost for the Harding Street Refueling 5 & 6 is approximately $36 million (excluding AFUDC) based on an April 2016 in-service date. Pet. Ex. KWC-1, at 24. Mr. Crawford and Ms. Guletsky explained that the cost estimate is based upon a detailed engineering study of the existing units and the cost to convert them to firing natural-gas performed by S&L and Alstom.

Pet. Ex. KWC-1, at 24, 27; Pet. Ex. PMG-1, at 14-23. Ms. Guletsky presented the engineering studies used to evaluate the refueling. Among other things, she explained that the cost estimate includes the capital cost for the extension of the natural gas pipeline. Pet. Ex. PMG-1, at 16. Mr. Crawford defined Owner's Costs and concluded that the estimated cost for the Project is reasonable. Ms. Guletsky concluded that both units can be converted to natural gas firing and achieve full load and the $36 million cost estimate is a reasonable determination of the cost of the Project. Ms. Guletsky explained that the Harding Street Refueling estimate is derived from bid prices from potential equipment suppliers and installation contractors for 60% of the total direct costs of the Project. She testified that it is unusual to obtain a large percentage of bid prices for a cost estimate of this type, but a Project with specialized design consideration such as modifications to existing facilities warrants seeking contractor pricing. Ms. Guletsky stated that based on the Monte Carlo analysis and the high level of certainty of cost, S&L chose to apply the 95% confidence level. Pet. Ex. PMG-R1, at 15-16.

We find that IPL's estimated cost of $36 Million (not including AFUDC) represents the best estimate of construction.

b. *Consistency of Eagle Valley CCGT and Harding Street 5 & 6 Refueling with IPL's Utility-Specific IRP and the State's Expansion Plan.*

The record reflects that IPL meets its customers' need for electricity through a combination of: (a) existing generation; (b) wholesale market purchases; (c) load management and distributed generation; (d) conservation, including DSM/EE; and (e) wind and solar resources. IPL's existing portfolio of generating assets provides the bulk of the supply necessary to meet customer demands. As plants are retired due to age and environmental regulation and customer peak demand grows over time, the need for new resources grows. IPL uses an integrated resource planning process to determine the optimal mix of supply or demand resources to provide electricity to IPL's customers. This portfolio approach focuses on the deployment of the most economic and reliable combination of resources from a wide variety of options and on the reduction of risk through diversification. The Company's IRP is filed with the Commission biennially. The evaluation of options in the IRP permits IPL management to exercise judgment in selecting options consistent with reasonable least cost planning to serve IPL's customers. Pet. Ex. KWC-1, at 7.

In the present proceeding, IPL considered a multitude of resource options and combinations of options in its IRP process, including wind, solar, nuclear, CCGT, Simple Cycle CT, Supercritical Pulverized Coal ("SCPC"), Integrated Gasification Combined Cycle ("IGCC"), DSM, EE, demand response, interruptible load, and purchased power agreements. The record reflects that with the exception of biomass and storage, which are not cost effective capacity and energy solutions, IPL evaluated all the options identified by the CAC, the only party that criticized IPL's planning analysis. Pet. Ex. HNS-R1, at 8-9; Pet. Ex. HNS-1, at 4-5.[5]

[5] In his rebuttal testimony, Mr. Schkabla explained that biomass was evaluated by IPL in 2009 and was found to be less economical than wind at addressing CO_2. He stated that because the economics for wind have improved since the 2009, this finding would still be true today. He also explained that conventional energy storage, i.e., hydro pumped storage, is not suitable due to geography, and battery energy storage technology is primarily a means of

The 2011 IRP analysis indicated that the preferred option to meet IPL customers' electricity requirements from a least cost PVRR and risk mitigation perspective under the base case assumptions and across the range of future landscape scenarios was a CCGT plant. Pet. Ex. HNS-1, at 5; Pet. Ex. HNS-R1, at 10. This was consistent with the analysis presented in Cause No. 44242, in which a CCGT was the resource compared for purposes of determining whether retrofitting certain IPL coal resources would be cost effective.

The resulting utility-specific plan included the Harding Street 5 & 6 Refueling and IPL's other demand and supply-side resources, the retirement of the Eagle Valley units 1-6 (and associated diesel generator) and Harding Street Station Units 3 and 4, nearer term use of purchased power, and the proposed Eagle Valley CCGT. IPL's IRP and its additional analysis also showed that the 644-685 MW Eagle Valley CCGT is the reasonable, least cost resource to meet IPL's customers' needs for electricity.

The State Utility Forecasting Group ("SUFG") was established pursuant to Ind. Code § 8-1-8.5-3.5 to forecast the probable future growth of the use of electricity within Indiana and within this region of the nation. The Commission uses the SUFG forecast to assess and plan for the long range needs for expansion of facilities for the generation of electricity, consistent with Ind. Code § 8-l-8.5-3.5(c). *PSI Energy, Inc.*, Cause No. 42145, at 1 (IURC Dec. 19, 2002). The SUFG report presented in this Cause indicates a need for new capacity in Indiana and the record reflects that the proposed Projects fit this capacity need. Pet. Ex. HNS-1, at 21-22; Admin Notice 1 (SUFG Indiana Electricity Projections). IPL's proposed 644-685 MW Eagle Valley CCGT and Harding Street 5 & 6 Refueling are consistent with the overall plan for expansion of electric generating capacity.

IPL has established the need for the replacement capacity projects, with a projected capacity deficit of 759 MW in 2017 without the Projects. This projected need exists after compliance with the aggressive DSM/EE goals established in the Commission's Generic DSM Order. Dr. Fisher agreed during cross-examination that his analysis shows a 600 MW capacity need. The record also reflects that Dr. Fisher's analysis of the Company's energy and load forecasts failed to reflect the difference between gross and net energy savings. Pet. Ex. LHA-R1, at 2. IPL presented both because net savings are used for resource planning while the Commission's energy savings targets are based on gross savings. The record reflects that once Dr. Fisher's analysis is corrected to reflect net energy savings, the IPL forecast of demand savings is not significantly different from Dr. Fisher's EM&V based analysis. Put another way, we find that Mr. Schkabla's forecast appropriately accounts for forecast peak demand reduction benefits of DSM/EE.

We further find that available wind resources have not been shown in reasonable detail to provide sufficient cost effective capacity. The record shows that even if IPL adopted all of Mr. Olson's recommendations on net metering and continuing Rate REP, the amount of energy and capacity IPL could reasonably expect to achieve would be very costly, impractical to implement, and very small compared to the capacity IPL needs.

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providing fast-response frequency regulation services, not as a resource for providing the level of capacity and energy needs projected by IPL for 2017. Pet. Ex. HNS-R1, at 8-9.

Both Dr. Fisher and Mr. Comings point to short-term market capacity purchases. While cognizant that this suggested short-term solution might provide some value as a bridge to a less certain future, we find that IPL's longer term solution as presented reasonably addresses a significant source of that uncertainty as it has the effect of diversifying IPL's resource portfolio. Further, we cannot ignore the fact that long term reliance on the wholesale capacity market imposes risk that ratepayers ultimately would bear.

Furthermore, differences in data assumptions are not "inconsistencies," but simply reflect the ongoing nature of the resource planning process (whether between phases of the analysis or other proceedings) and the Company updating its analysis as it moves forward to determine the reasonable least cost capacity and compliance options for its customers. Pet. Ex. HNS-R1, at 19-20. Given the extreme uncertainty regarding the regional capacity situation in the 2017-2020 time frame, delaying the CCGT to 2020 and relying on third-party capacity, as suggested by the CAC, is not in the best interests of IPL's customers.

Mr. Schkabla testified that the IPL modeling and analytical process is consistent with planning undertaken by other utilities. *Id.* OUCC witness Snyder testified that the OUCC had no concerns regarding the PVRR analysis and results. Pub. RLS Ex. 3, at 10. He testified that the results are consistent with the 2011 IRP. *Id.* He added that the OUCC is also pleased with the fact that independent contractors (B&M and Ventyx) were used in the design and administration of the RFP process, and the analysis of the results. *Id.* He testified that the multiple steps taken with the updated 2011 IRP, LCOE, and PVRR analyses provided a solid confirmation of the selection of a CCGT as the optimal supply resource for meeting future supply resource requirements in the light of current and future environmental regulations as they are known at the present time. *Id.* at 10-11.

The four phases of modeling performed by IPL were both useful and informative, but not without a significant use of outdated analysis that IPL failed to adequately address in either its direct or rebuttal testimony. For example, the changed assumptions in IRP Phase 2 compared to IRP Phase 1—especially the retiring of Harding Street 5 & 6 and all of Eagle Valley by the end of 2015 instead of 2021—created significant new circumstances that could reasonably have driven IPL to update the CEM analysis. In addition, IPL updated the production cost simulation from IRP Phase 2 with new market energy prices, new natural gas prices, and new peak load and energy projections. However, IPL failed to use the CEM to determine if the timing, technology type, and size of resource choices might have changed given the many changed inputs.

In its rebuttal testimony, IPL Witness Schkabla noted that IPL utilized the CEM to screen a wide range of resource options, but that the model does not necessarily generate the preferred solution. Rather, he stated that use of the CEM provided information to support the overall resource decision-making process and that IPL's analyses focused on the relevant evaluation – "the economics of the more likely resource choices from screening and then later, more specifically on the selected CCGT resource that would provide the reasonable, least cost for its customers." The points Mr. Schkabla made, that the CEM is a tool to screen resource options and to provide information to support decision-making, are valid. However, we believe that IPL could have reasonably updated the CEM given the extent of changes in data inputs and assumptions and provided a more robust analysis.

Nevertheless, the record shows that: (1) IPL needs as much as 759 MW of additional resources by 2017 to meet its projected peak load and reserve margin requirements; (2) energy efficiency, demand response, and renewable energy resources have been included in the modeling and cannot reasonably be expected to further reduce the need for new generation capacity or capacity purchases; (3) reliance on capacity purchases for a large proportion of its resource requirements (approximately 10%) is unreasonable given the uncertainty surrounding the projected reserve margin for the MISO region in 2017 period; (4) IPL has no efficient gas generation that can serve both base load and intermediate needs, and a CCGT would provide IPL with its first highly efficient gas-fired capacity and serve to diversify IPL's fleet; and (5) the cost premium for a CCGT vs. a CT is relatively low as noted by Schkabla.

The record reflects the efforts IPL has made in its current and potential arrangements with other electric utilities for the interchange of power, pooling of facilities, purchase of power, and joint ownership of facilities. The record also reflects other methods IPL has considered for providing reliable, efficient, and economic electric service, including the refurbishment of existing facilities, conservation, load management, cogeneration, and procurement of renewable energy sources. We further find that IPL has also considered options available to meet increasing demand for electricity and the need for reliable energy and capacity. CAC's and Summit's criticisms do not warrant a delay or rejection of the Eagle Valley CCGT Project. Therefore, based on the record evidence, we find the resource planning and selection process used by IPL are consistent with IPL's 2011 IRP. We find that IPL's proposed 644-685 MW Eagle Valley CCGT and Harding Street 5 & 6 Refueling are consistent with IPL's utility-specific proposal and the SUFG plan.

c. *Public Convenience and Necessity.*

We have previously determined that IPL has a need for capacity; we have considered the statutory factors set forth at Ind. Code § 8-1-8.5-4 and 5; and that IPL's resource planning process was consistent with its IRP. We have previously found that IPL's utility-specific plan, including the approximately 644-685 MW Eagle Valley CCGT and 200-210 MW represented by the Harding Street 5 & 6 Refueling, is a prudent, reliable and cost effective means of meeting the future needs of IPL's retail customers. Eagle Valley CCGT and Harding Street 5 & 6 Refueling will satisfy IPL's capacity needs and because the units will be fueled by natural gas, will further diversify IPL's resource mix. The OUCC has recommended the Commission grant the CPCNs for these projects. Mr. Slaper showed that the CCGT will have a significant economic impact in Morgan County and Central Indiana and will also generate statewide benefits. The location of the CCGT at the Eagle Valley site will benefit IPL's customers, the local community and the State. Pet. Ex. TFS-1, at 12-13. Because the Eagle Valley and Harding Street Stations have long been used for the generation of electricity, these projects will not require the development of a greenfield site. The use of these sites permits use of existing infrastructure, such as land, available water, some transmission and interconnection infrastructure.[6] Harding Street 5 & 6 Refueling permits use of an existing natural gas pipeline and the new Eagle Valley CCGT will be located within close proximity of natural gas lines. Because the Eagle Valley Station and

[6] We do not believe the inherent value of the Eagle Valley Station site would have been lost if IPL had issued an RFP to build a CCGT at Eagle Valley. While not an explicit requirement under Chapter 8.5, such efforts would be useful for Commission consideration in future cases.

Harding Street Station are electrically directly connected to the IPL load zone, the projects provide an important capacity resource close to the center of IPL's service area. This reduces transmission cost and interruption risk.

Substantial evidence demonstrates and we find that IPL has evaluated the projects against other reasonable generation alternatives, including sensitivities, and also included DSM/EE levels that are consistent with the targets established in the Generic DSM Order. The analyses conclude that the Eagle Valley CCGT and Harding Street 5 & 6 Refueling are the least cost reliable resource alternatives to meet IPL's customers' future resource needs.

Based on the evidence of record, the Commission finds the public convenience and necessity requires, or will require, IPL's construction of both projects, subject to the following two conditions.

First, we have previously determined that the Eagle Valley CCGT and Harding Street 5 & 6 Refueling cost estimates are the best estimates available. In prior cases involving substantial capital investment, we have linked similar approvals of the cost estimate with our approval of a CPCN. *See Indianapolis Power and Light*, Cause No. 44242, at 33 (Aug. 14, 2013) (related to Chapter 8.7 approval). We do so here. Accordingly, given the 95 percent confidence level stated by IPL, we find that our CPCN approval is limited to the best estimate of construction approved above.

Second, IPL has requested approval of certain accounting treatment associated with Eagle Valley CCGT. As addressed below, we have made findings with respect to those requests, and those findings are hereby incorporated into the CPCN approval for both Eagle Valley CCGT and Harding Street 5 & 6 Refueling.

d. *Conclusion.*

The Commission finds that based on the evidence presented and our discussion herein, under Chapter 8.5, CPCNs shall be granted to IPL for the construction of the Eagle Valley CCGT in the range of approximately 644-685 MW and for Harding Street 5 & 6 Refueling. IPL shall comply with the reporting requirements set forth below.

e. *Ongoing Review.*

Indiana Code § 8-1-8.5-6(a) provides:

> In addition to the review of the continuing need for the facility under construction . . . the commission shall, at the request of the public utility, maintain an ongoing review of such construction as it proceeds. The applicant shall submit each year during construction, or at such other periods as the commission and the public utility mutually agree, a progress report and any revisions in the cost estimates for the construction.

IPL requested the Commission to conduct such ongoing review. IPL proposes to submit progress reports and any revisions to the cost estimates for the construction for both Projects to the Commission each year during construction. Pet. Ex. KWC-1, at 27.

We find that IPL shall report semi-annually to the Commission the summary information related to the Eagle Valley CCGT and Harding Street Refueling Projects including safety, scope, schedule, and Owner's cost contingency, as well as the: a) manufacturer, model number and operational characteristics of the turbine generator; b) anticipated total annual megawatt hour output for the CCGT; c) the name of the CCGT EPC Contractor; d) update on cost estimate; and e) update on the natural gas transportation and lateral pipelines.

The initial Eagle Valley and Harding Street Refueling semi-annual reports shall be filed by May 30, 2014 as compliance filings in this Cause. The final project reports shall contain the following information: a) the actual total cost of construction; b) the total megawatt output for the facility; and c) the actual in-service (commercial operation) date for the facility.

7. Construction of Transmission, Interconnection, Pipeline and Related Facilities. IPL seeks preapproval, to the extent necessary, of the construction of transmission, interconnection, pipeline and related facilities to connect the Eagle Valley CCGT and Harding Street Refueling Projects with the IPL system, MISO, and gas pipelines in accordance with Ind. Code § 8-1-2-23. However, the costs of these facilities are included as part of the Projects and are reflected in the cost estimates approved above. Moreover, these facilities are an integral part of and included with the CPCNs authorized above. Accordingly, separate approval for these facilities, under Ind. Code § 8-1-2-23, is not required.

8. Accounting and Ratemaking Issues Associated with CPCNs.

A. AFUDC Equity Rate.

i. IPL Direct Evidence. Mr. Cutshaw explained that IPL's books are kept in accordance with the Uniform System of Accounts ("USOA") as prescribed by the FERC and adopted by this Commission. He discussed the process IPL uses to record and segregate construction costs, explained IPL's accounting for depreciation expense and discussed the accounting for AFUDC and depreciation expense as of the in-service date of a project. Mr. Cutshaw explained that IPL will continue to incur capital costs on a construction project after its in-service date. Pet. Ex. JLC-1, at 5-7. Mr. Cutshaw discussed IPL's proposed accounting and ratemaking treatment for the Eagle Valley CCGT. Pet. Ex. JLC-1, at 15-20. Mr. Jackson explained the impact the Projects will have on IPL's financial strength and on IPL's credit ratings. He also discussed the benefit to customers of maintaining the Company's ratings and addressed how earnings erosion can adversely affect the Company's credit rating and otherwise strain resources. Additionally, he identified the tax benefits that will be realized as a result of the Eagle Valley CCGT option. Pet. Ex. CJ-1, at 10.

Mr. Cutshaw explained that IPL requests the Commission to authorize the Company: to continue the accrual of AFUDC (both debt and equity) and to defer the accrual of depreciation expense on the Project from its in-service date until the date of a Commission order authorizing recovery of a return and including depreciation expense thereon in IPL's recoverable operating

expenses; to record such post-in-service AFUDC (both debt and equity) and deferred depreciation as regulatory assets in Account 182.3 Other Regulatory Assets; to amortize such regulatory assets as a recoverable expense for ratemaking purposes over the estimated life of the Project commencing on the date of the order authorizing recovery of a return on the Project and including depreciation expense thereon in IPL's recoverable operating expenses; and to include the unamortized portion of the regulatory assets in IPL's rate base upon which it is permitted to earn a return. Pet. Ex. JLC-1, at 7-8. Mr. Cutshaw explained that IPL makes this request due to the magnitude of the Project, which represents 31.4% of the Total Company Original Cost Rate Base of December 31, 2012. He explained that unless the requested authorization is obtained, the Company will suffer a severe negative impact on its earnings during the period between the in-service date(s) of the Project and the issuance of an order authorizing recovery of a return on the Project and including depreciation expense thereon in its recoverable operating expenses. Mr. Cutshaw calculated the significant monthly pre-tax earnings erosion that will occur absent the accounting change proposed by the Company. Pet. Ex. JLC-1, at 15-17. He testified that the Company will also lose any opportunity to recover the carrying costs of the Project incurred during the interim period. *Id.* at 15. Mr. Jackson and Mr. Cutshaw also explained that this accounting change is also necessary to assist the Company in attracting permanent capital at reasonable rates. *Id.* at 15; Pet. Ex. CJ-1, at 4-7. Mr. Cutshaw explained that IPL is proposing to record post-in-service AFUDC (both debt and equity) at the same AFUDC rate as for all other projects under construction. He added that this practice has been approved for IPL most recently in Cause Nos. 42170, 42700 and 43403 and for the other Indiana investor-owned electric utilities. Pet. Ex. JLC-1, at 16. Mr. Cutshaw explained that IPL is proposing to utilize the currently approved depreciation rates for generating assets of 2.87% and for transmission assets of 2.42%, depending on the accounts to which the assets in the Projects are recorded. *Id.* at 16. Mr. Cutshaw testified that the Company's proposed accounting treatment is in accordance with generally accepted accounting principles ("GAAP"). *Id.* at 17-19.

He stated that IPL intends to recover the costs for the Eagle Valley Project through a future rate proceeding and added that the fuel costs associated with the Projects will be recovered through the fuel adjustment clause. Pet. Ex. JLC-1, at 19-20. Mr. Cutshaw provided an estimate of the anticipated rate impact, which showed that while the requested treatment is very significant for the financial health of IPL, the rate impact on the typical residential customer is not. *Id.* at 19-20.

Finally, Mr. Cutshaw explained that IPL plans to record the retirement of Eagle Valley Units 1-6 (and associated diesel generator) and Harding Street Station Units 3 and 4 in or before 2016 as normal property retirements. He added that under the USOA as prescribed by FERC and adopted by this Commission, normal property retirements are recorded by decreasing Utility Plant in Service and Accumulated Depreciation by the original cost of the property. Demolition costs net of any salvage value would also be charged to Accumulated Depreciation. He concluded that at the time of retirement, there is very little impact to the Net Utility Plant (rate base) on the books of the Company. *Id.* at 19-20.

ii. Industrial Group Evidence. Pointing to the Commission's decision in Cause No. 44242 and the passage of time, IG witness Phillips (at 3-4) recommended the Commission find that the reasonable return on equity funds that IPL can use in its AFUDC

calculation on the proposed Projects be no more than 10.325%, the average of the other investor owned utilities in Indiana.

iii. IPL Rebuttal. Mr. Cutshaw explained that IPL's 12.1% cost rate comports with the FERC USOA adopted by this Commission. Pet. Ex. JLC-R1, at 18-19. Both he and Dr. McDermott stated that the fact that IPL's AFUDC inputs differ from other utilities' inputs does not demonstrate that the Commission should depart from the FERC USOA methodology for calculating AFUDC on the proposed Projects. Pet. Ex. JLC-R1 at 25-26; Pet. Ex. KAM-R1, at 25-28. Mr. Cutshaw also clarified that while the Commission did increase the agreed upon ECR Rate Base Credit in Cause No. 44242, the Order explained this action was taken to "send a direct message to IPL management concerning how [the 44242] proceeding should have been conducted." He stated that in Cause No. 44242, the Commission did not make a determination that IPL must use a different return on common equity in any future calculations or proceedings. Pet. Ex. JLC-R1, at 17-18.

Dr. McDermott explained that a change in economic conditions since IPL's last rate case does not show that use of the USOA AFUDC methodology on the proposed Projects is unreasonable. Pet. Ex. KAM-R1, at 26-27. He explained that there is a difference between establishing a return on equity in a basic retail rate case and assessing whether a previous return is possibly excessive and warrants investigation. *Id.* He explained why he believed the Commission should find the continued use of the return on equity reflected in the USOA calculation to be reasonable for the proposed Projects. *Id.* He also showed that Mr. Phillips' recommendation does not adequately recognize the financial challenges faced by the Company during construction and ignores the potential adverse impact his recommendation might have on IPL's credit ratings and in turn on IPL's interest costs (which will directly affect customers through the overall cost of capital). Pet. Ex. KAM-R1, at 28-29. Mr. Cutshaw showed that IPL's jurisdictional net operating return has been well below its total authorized net operating income in the last 21 FAC filings (approximately 5-1/4 years) and the Company is not earning in excess of a fair return on fair value. Pet. Ex. JLC-R1, at 25-27. He explained that the Company's kWh sales have been and are forecasted to continue to be flat due to slow economic growth and DSM/EE initiatives. He noted that for purposes of the d(2) test reported in IPL's FAC filings, the Company's operating expenses are significantly higher than the operating expenses from the last rate case. He stated that these factors are expected to inhibit the Company's ability to earn its authorized return and this matter may continue to be monitored and addressed in accordance with the earnings test conducted in the quarterly FAC proceedings and section 42.5 periodic reviews. *Id.* at 25.

Both Mr. Cutshaw and Dr. McDermott also explained that there are other regulatory oversight tools and complaint procedures available to the Commission and other stakeholders to review IPL's books and records and ultimately IPL's rates. Pet. Ex. JLC-R1, at 24; Pet. Ex. KAM-R1, at 7, 13. Dr. McDermott testified that even if the Commission were to find a sound basis exists to question whether IPL's retail rates are unjust and unreasonable, that concern should not be accepted as proven until it has been investigated in accordance with the "tools" established by the Indiana legislature. Pet. Ex. KAM-R1, at 8.

iv. Commission Discussion and Findings. Mr. Phillips testified that the equity rate IPL should be permitted to use in its AFUDC calculation be no more than 10.325%. IG Ex. NP-1, at 4. He noted that IPL, in its FERC Form 1 states the following regarding AFUDC:

> In accordance with the Uniform System of Accounts prescribed by FERC, IPL capitalizes an allowance for the net cost of funds (interest on borrowed funds **and a reasonable rate of return on equity funds**) used for construction purposes during the period of construction with a corresponding credit to income. IPL capitalized amounts using pretax composite rates of 8.4% and 8.6% during 2012 and 2011, respectively.

(Emphasis added.) Mr. Phillips then observed that this Commission pointed out, in our recent Order in Cause No. 44242, that IPL's requested 12.1% return on equity is out-of-date when compared to the average of the remaining investor owned utilities in Indiana, which we found to be 10.325%. *Id.* Mr. Phillips recommended that the Commission find the reasonable return on equity funds that IPL can use in its AFUDC calculation be no more than 10.325%, the average of the other investor owned utilities in Indiana. *Id.*

Mr. Cutshaw testified that AFUDC is defined in the USOA, which has a specific formula for calculating and determining the AFUDC rate. Pet. Ex. JLC-1, at 6. He stated that it is reasonable to use the same AFUDC rate as it uses for its other projects under construction. Mr. Cutshaw noted that the Code of Federal Regulations says the common equity rate shall be that granted in the last rate proceeding at the IURC. He argued that since the Commission and OUCC have utilized a 12.1% equity rate for the calculation of AFUDC by IPL in some prior cases, and since no party has previously contested use of that rate, it is appropriate to utilize the rate until a new determination is made by this Commission. Pet. Ex. JLC-R1, at 18-19.

We are not convinced that continued use of the previously imputed ROE is appropriate. As we noted in Cause No. 44242, the Commission most recently determined that the ROE for Indiana Michigan Power Company was 10.2%, with the average of all investor-owned ROEs (excluding IPL) being 10.325%. The argument that the USOA provides that the ROE should be that determined in the last rate proceeding is of no assistance to IPL because no ROE was determined in its last rate case. As IPL and Mr. Cutshaw acknowledged, that case was resolved with a "black box" settlement and there was no finding by this Commission of the allowed ROE.[7]

Petitioner's argument that we have approved the use of a 12.1% ROE in other situations is not compelling. It certainly does not prevent us from making another decision in a later case, and IPL does not even suggest this. We note that in each of the cases cited by IPL, the proceeding was either resolved through a settlement agreement approved by the Commission, or the parties did not contest that 12.1% should be used.

[7] The Commission notes that in IPL's last rate case, the Settlement specified a different ROE for AFUDC on IPL's scrubbers.

Finally, Dr. McDermott notes that IPL's ROE will be reviewed in its next rate case. While this is true, it does not mean that allowing the use of an excessive ROE in the calculation of AFUDC in this case would not lead to an unreasonable outcome. Allowing IPL to use a 12.1% ROE in this proceeding would mean, for example, that the amount of AFUDC that eventually becomes part of rate base would be higher. Deferral of a larger dollar amount would effectively cause ratepayers to pay higher rates for the life of the plant. We do not find this to be a reasonable circumstance based on the prevailing authorized ROE of other Indiana electric investor owned utilities ("IOUs").

We find that IPL should utilize a cost of equity in its AFUDC calculation of 10.2% for all construction approved in this Order. To the extent the determination of the authorized ROE in IPL's next base rate case is materially higher than the imputed cost of equity rate determined in this Cause, the Commission may consider the impact and make appropriate adjustments related to the recovery of the deferral.

B. Deferred Depreciation and Post-In-Service Carrying Costs.

i. OUCC Evidence. OUCC witness Blakley proposed that the post-in-service carrying costs on the Eagle Valley CCGT reflect only the debt portion of the AFUDC rate. He identified other Commission proceedings where this approach was taken. Mr. Blakley contended that the Commission should not authorize the additional capitalization of the equity component of post-in-service AFUDC unless IPL demonstrates that it will suffer significant financial harm. Mr. Blakley also asserted that including equity in the calculation of post-in-service AFUDC will result only in an unnecessarily large increase in rates for IPL customers and remove the incentive for IPL to attempt to receive a rate order recognizing the CCGT as soon as possible after its in-service date.

ii. IPL Rebuttal. Mr. Cutshaw stated that when an asset is completed and placed in-service, the accumulation of AFUDC ceases and accumulated amounts are included in the original cost of the plant recorded on the utility's books as Utility Plant in Service. *See* Pet. Ex. JLC-R1, at 11. After an asset goes in-service, IPL continues to incur capital costs but, in accordance with the USOA, can no longer accrue AFUDC absent authorization by statute or from the Commission. *Id.*

In its petition and case-in-chief in this Cause, IPL requested authority to continue to accrue post-in-service AFUDC (and defer depreciation expense) from the in-service date of the CCGT until the unit is reflected in new rates to be established in a general rate case. Pet. Ex. JLC-1, at 7-8; Pet. Ex. JLC-R1, at 13. If approved, these post-in-service costs are recorded as a regulatory asset and are included in the rate base upon which the utility earns a return in subsequent rate orders. Pet. Ex. JLC-R1, at 10-11. Mr. Cutshaw stated that the relief IPL requests here has been approved for IPL most recently in Cause Nos. 42170, 42700, 43403 and Cause No. 44242. Pet. Ex. JLC-R1, at 13.

Mr. Cutshaw explained that the two water cases identified by Mr. Blakley reflect the proposal made by the utility in those cases. He stated that the approach taken in Cause No. 39938 was part of a prehearing conference stipulation agreed to by IPL and the other parties. Thus, the cases Mr. Blakley relied on establish only that utilities are free to forego a request to include an

equity component in post-in-service carrying costs and may do so for many reasons including minimizing controversy. Pet. Ex. JLC-R1, at 14.

Mr. Cutshaw identified several cases where the Commission has authorized inclusion of an equity component. Pet. Ex. JLC-1, at 16; Pet. Ex. JLC-R1, at 14. He clarified that while Mr. Blakley pointed to a stipulation regarding the Stout plant agreed to in Cause No. 39938, in that case the parties also agreed to IPL's proposal to recover the equity portion of post-in-service carrying costs for Petersburg Unit 4. Pet. Ex. JLC-R1, at 15.

Mr. Cutshaw stated that IPL is anticipated to recognize a total impact to monthly pre-tax earnings of $6.7 million when AFUDC ceases and depreciation begins. He stated that IPL's pre-tax earnings for 2012 per the FERC Form 1 were $14.3 million. Even with the proposed accounting treatment, IPL is anticipated to recognize an impact to pre-tax earnings of $3.3 million. Pet. Ex. JLC-1, at 16-17; Pet. Ex. JLC-R1, at 15-16.

Mr. Cutshaw explained that IPL projects that the impact of the requested accounting treatment for the Eagle Valley CCGT (using the full AFUDC rate) when first recognized in rates would result in an impact of $0.61 per month for a typical residential customer using 1,000 kWh per month. Pet. Ex. JLC-1, at 19; Pet. Ex. JLC-R1, at 16. Mr. Cutshaw explained that Commission approval of the relief IPL seeks will not serve as a disincentive for IPL to seek to recognize the CCGT in rates in a timely manner. He stated that the partial earnings erosion (approximately $3.3 million) continues on the income statement due to how the credit side of the entry for the continuation of the equity portion must be recorded. Instead of the credit for the equity portion being recorded immediately to the income statement (as is done for the debt portion), if IPL's proposal is approved it will be recorded to Account 254.3 Regulatory Liability, and amortized "below-the-line" over the life of the asset beginning with the effective date of the next rate order. He added that because the partial earnings erosion noted above will continue to occur on the financial statement, IPL is still incented to try and time recognition of the CCGT in rates as close as possible to the in-service date. He stated that strong motivation to minimize this gap is also provided by the need for cash flow to fund interest payments and operating expenses related to the new unit. Pet. Ex. JLC-R1, at 16-17.

iii. Commission Discussion and Findings. The Commission has previously approved the full AFUDC rate (both debt and equity) for the weighted cost of capital to be used for post-in-service carrying costs. *Indianapolis Power & Light Co.*, Cause Nos. 42170, 42700, and 43403; *PSI Energy, Inc.* Cause Nos. 41744-S1/42061 (IURC July 3, 2002); *Southern Indiana Gas and Electric Co.*, Cause No. 43839 (IURC Apr. 27, 2011); *Northern Indiana Public Service Co.*, Cause No. 37819, 1985 Ind. PUC LEXIS 59 (PSCI Nov. 27, 1985). As identified by IPL witness Jackson, IPL is incurring equity costs for the Projects and doing so to keep its capital structure balanced and in line with its targeted credit ratings. Pet. Ex. CJ, at 3-9; Pet. Ex. CJ-R1, at 3. These actions maintain or lower long term capital costs and this in turn benefits customers. Pet. Ex. CJ, at 3-9. Approval of IPL's request to include the equity portion in the post-in-service carrying costs recognizes the capital costs continue after the in-service date, not only for borrowed funds but for investor supplied funds.

As noted above, FERC prescribes a method for calculating AFUDC in its USOA that includes debt and equity components in the calculation. 18 C.F.R. 1767.16(c)(17) (Electric Plant

Instruction, (3)(17)(a)). As noted by IPL witness Cutshaw, IPL's proposed accounting treatment for post-in-service costs (including the equity portion) is in accordance with GAAP. Pet. Ex. JLC-1, at 17-19; JLC-R1, at 13. Accordingly, we find that IPL shall accrue the full AFUDC rate (both debt and equity) following the in-service date of the CCGT.

In addition, given our determination below with respect to IPL's request under Chapter 8.4, we see no reason to differentiate treatment of the Eagle Valley CCGT and Harding Street 5 & 6 Refueling. Accordingly, we find that IPL shall accrue the full AFUDC rate (both debt and equity) following the in-service date of the Harding Street 5 & 6 Refueling.

With respect to deferred depreciation, IPL has proposed to defer depreciation expense associated with Eagle Valley CCGT and requested authority to defer post-in service depreciation expense associated with that project. Given our determination below with respect to IPL's request under Chapter 8.4 related to Harding Street 5 & 6 Refueling, we authorize IPL to defer post-in-service depreciation expense for Eagle Valley CCGT and Harding Street 5 & 6 Refueling. To the extent any plant currently in-service is retired as part of the construction of Eagle Valley CCGT or Harding Street 5 & 6, the depreciation expense that would have been recorded on the retired assets shall be netted against the deferred depreciation expense for Valley CCGT and Harding Street 5 & 6 Refueling.

9. CPCN Request for Harding Street 5 & 6 Refueling Under Chapter 8.4.

A. Federally Mandated Requirements. (Ind. Code §§ 8-1-8.4-5 and 8-1-8.4-6(b)(1)(A)). IPL proposed to refuel Harding Street Units 5 & 6 so that these units may continue to operate under the MATS Rule. The OUCC's witnesses agreed that Harding Street 5 & 6 Refueling is necessary to comply with this federal mandate and the CPCN for this Compliance Project should be issued. Pub. AAA Ex. 1, at 22-23; Pub. CMA Ex. 2, at 23; Pub. ETR Ex. 6, at 8-9. The Intervenors' witnesses presented no opposition to the issuance of the CPCN. Substantial record evidence describes both the federally mandated requirements, the MATS Rule in particular, and the Federally Mandated Costs associated with the proposed Compliance Project. We find that the MATS Rule represents a federally mandated requirement as that term is defined in Ind. Code § 8-1-8.4-5 and the Refueling Project is a "Compliance Project" as defined in Ind. Code § 8-1-8.4-2. We find the record evidence satisfies Ind. Code § 8-1-8.4-6(b)(1)(A). Substantial record evidence also describes how the proposed Compliance Project will allow IPL to comply with the MATS Rule. Mr. Schkabla's analysis demonstrates that the proposed refueling will allow IPL to comply with the MATS Rule and that this Compliance Project is the reasonable least cost option as compared to retiring or retrofitting these units. The record also shows that these units will need to be retired by April 2015 if the Refueling Project is not approved. Thus, the Compliance Project will extend the useful life of Harding Street Units 5 & 6 and provide a cost-effective, reliable resource to IPL and its customers.

B. Projected Federally Mandated Costs. (Ind. Code §§ 8-1-8.4-4, 8-1-8.4-6(b)(1)(B) and 8-1-8.4-7(b)(2) and (3)). We previously discussed the proposed costs of Harding Street 5 & 6 Refueling above under our Chapter 8.5 discussion.

Based on the evidence presented and in accordance with Ind. Code § 8-1-8.4-6(b)(1)(B), IPL has adequately described the projected Federally Mandated Costs associated with the Harding Street 5 & 6 Refueling Project and demonstrated that the estimated cost of the Project is reasonable and significantly less expensive than other considered alternatives.

C. Compliance with Federally Mandated Requirements. (Ind. Code §§ 8-1-8.4-6(b)(1)(C) and 8-1-8.4-7(b)(3)). IPL witnesses Crawford, Oliger and Guletsky presented evidence that the Harding Street 5 & 6 Refueling Project will enable these units to be operated in compliance with the MATS Rule. Pet. Ex. KWC-1, at 15; Pet. Ex. AO-1, at 3-4; Pet. Ex. PMG-1, at 14-15, 17-18. The Harding Street Units 5 & 6 Refueling has been developed to allow completion of the conversion from burning coal to burning natural gas by April 2016, the effective date of the MATS Rule under the existing one year extension. Pet. Ex. KWC-1, at 15. The OUCC also presented substantial evidence agreeing that the Project will allow IPL to comply with the MATS Rule. Pub. CMA Ex. 2, at 4, 8 ("[t]he main environmental regulation driving IPL's need for both the Eagle Valley CCGT and the Harding Street Conversion Project is the federal [MATS Rule]. . . . . As described in Pub. CMA Ex. 2, none of IPL's coal-fired facilities currently meet the mercury MATS limit. Both the Eagle Valley and Harding Street facilities will need to reduce their current mercury emissions by more than half in order to meet the mercury MATS by 2016."); Pub. ETR Ex. 6, at 9, 10 ("[t]he refueling of Harding Street Units 5 & 6 will provide for compliance with the new environmental regulations. . . . [T]he refueling of Harding Street Unit 5 and Unit 6 is necessary and will provide compliance with MATS regulations."). Based on the evidence presented and in accordance with Ind. Code §§ 8-1-8.4-6(b)(1)(C) and 8-1-8.4-7(b)(3), IPL has demonstrated that the Harding Street 5 & 6 Refueling Project will allow IPL to comply with the MATS Rule.

D. Alternative Plans for Compliance. (Ind. Code §§ 8-1-8.4-6(b)(1)(D) and 8-1-8.4-7(b)(3)). The record shows that Harding Street Units 5 & 6 are attractive candidates to retrofit to burn natural gas at a relatively low investment cost of less than $200/kW. Pet. Ex. KWC-1, at 13; Pet. Ex. HNS-1, at 16. Ms. Guletsky compared the capital cost of MATS compliance to the capital cost of Refueling. Pet. Ex. PMG-1, at 18. Mr. Schkabla also presented analysis showing Refueling is a cost-effective means to comply with the MATS Rule. Pet. Ex. HNS-1, at 16-17. Mr. Schkabla's analysis set forth the relative cost and feasibility of a unit retirement option and demonstrated that the cost of that alternative would likely significantly exceed that of the proposed Refueling. While the Harding Street 5 & 6 Refueling will allow each unit to reach full load while firing natural gas, the refueled units would likely be operated as peakers since IPL needs the capacity at this location. Pet. Ex. PMG-1, at 16; Pet. Ex. KWC-1, at 13. Messrs. Crawford and Schkabla established that the Harding Street Units 5 & 6 Refueling Project represents the lowest cost capacity available to IPL compared to other alternatives considered. Mr. Rutter also investigated whether there are viable alternatives to the Refueling Project and concluded that this plan is necessary and represents that least cost and most reasonable approach to meeting the requirements of the MATS Rule. Pub. ETR Ex. 6, at 9-10.

Based on the evidence presented, we find that IPL reasonably considered alternative plans for compliance with the federally mandated requirements. The evidence demonstrates that the Harding Street 5 & 6 Refueling is a cost-effective method to achieve compliance with the MATS Rule.

E. Useful Life of the Facility. (Ind. Code §§ 8-1-8.4-6(b)(1)(E) and 8-1-8.4-7(b)(3)). The record reflects that due to the need to comply with the MATS Rule, IPL would be forced to shut down Harding Street Units 5 & 6 absent the proposed Refueling. The record reflects that the Refueling Project will preserve, if not extend, the remaining lives of Harding Street Units 5 & 6. *See* Pet. Ex. HNS-1, at 17 (noting that S&L Refueling studies evaluated an additional ten, fifteen and twenty year useful life for Harding Street 5 & 6; for purposes of the PVRR analysis the useful life assumption post refueling was fifteen years). Therefore, based on the evidence and in accordance with Ind. Code §§ 8-1-8.4-6(b)(1)(E) and 8-1-8.4-7(b)(3), we find that IPL has provided information showing that the Harding Street Refueling Project will extend the useful life of Harding Street Units 5 & 6 and, as noted above, the value of that extension is a relatively low investment cost of less than $200/kW.

F. Other Factors (Ind. Code §§ 8-1-8.4-6(b)(2) and 8-1-8.4-7(b)(3)). On November 1, 2013, the Presiding Officers issued a Docket Entry, to which IPL responded on November 5, 2013. The Docket Entry requested the following:

> On pages 15-16 of his rebuttal testimony, Mr. Cutshaw describes the earnings impact if IPL's proposed accounting treatment were not granted with respect to the Eagle Valley CCGT costs. Please describe the earnings impact and the impact on standard credit metrics that would result if the Harding Street 5 and 6 refueling project is undertaken without the requested ratemaking treatment proposed by IPL.
>
> IPL's November 5, 2013 Response stated:
>
> Absent the requested ratemaking treatment under Ind. Code 8-1-8.4, IPL is anticipated to recognize a decremental impact to monthly pre tax earnings (earnings erosion) of $0.4 million (approaching $5 million annually) when AFUDC ceases and depreciation begins for the Harding Street 5 and 6 refueling project. With the level of earning erosion, the impact to IPL's standard credit metrics would be negligible.

Chapter 8.4 provides for a utility to timely recover 80% of approved federally mandated costs without initiating a base rate case, with the remaining 20% deferred to the utility's next base rate case. Chapter 8.5 provides for a utility to defer cost recovery associated with an approved project, up to the approved cost estimate, to its next base rate case. IPL's November 5 Response stated that the impact to IPL of Chapter 8.4 cost-recovery is negligible. IPL's November 5 Response did not state that it requires working capital or otherwise suggest that the cash flow associated with timely recovery of cost was important—the focus was on earnings erosion. Earnings erosion and cash flow concerns can be addressed with different regulatory solutions. IPL's testimony also stated that it expects to file a base rate case corresponding with the expected completion of Eagle Valley in 2017.

We find that the materiality of a request under Chapter 8.4 is a reasonable consideration in whether to approve a CPCN and associated ratemaking treatment under Chapter 8.4. The legislative purpose of Chapter 8.4 was to allow a utility to timely recover costs associated with

federal mandates, as those costs are potentially large and unavoidable. *See Indianapolis Power and Light*, Cause No. 44242 (IURC Aug. 14, 2013) (approving $511 million of MATS compliance costs under Chapter 8.8).[8] Where those costs are so small as to have a negligible effect on the utility, as IPL has stated here, we question whether approval of cost recovery under Chapter 8.4. is necessary. As we have previously stated with respect to fair value determinations, "[t]he Commission does not engage in such decision-making for academic pursuits." *Northern Indiana Public Service Co.*, Cause No. 43526 at 14 (IURC Aug. 25, 2010) (regarding a request for a fair value determination when the utility was seeking a return based on original cost). Similarly, approval of a CPCN under Chapter 8.4 should not be given simply because it was requested, if it is not necessary for the utility. Approval of a capital tracking mechanism involves additional proceedings associated with ongoing review and the associated rate adjustment process. Our decision on whether to approve a CPCN under Chapter 8.4 should involve some measure of balancing the costs of the regulatory process with the benefits the legislature has created for the utility. When the utility benefit is negligible, approval of a CPCN would burden the Commission and stakeholders with the ongoing review of the compliance project, while providing little benefit to the requesting utility. In other words, the benefit of the tracker would not support the cost of the tracker.

We note that in granting the CPCN for the Eagle Valley CCGT under Chapter 8.5, we have already approved the deferral of post-in-service AFUDC and depreciation for the Eagle Valley CCGT, as set forth above. We see no reason that Harding Street 5 & 6 Refueling should be treated differently. Accordingly, given the negligible impact on IPL, the recovery of post-in-service AFUDC and depreciation IPL was seeking under Chapter 8.4 shall be approved, on a deferred basis, in the manner approved above with respect to Eagle Valley CCGT.

G. Conclusion. As noted in our approval of a CPCN under Chapter 8.5 discussed above, the record shows that the 200-210 MW represented by the Harding Street 5 & 6 Refueling in 2016 is a prudent, reliable and cost effective means of meeting the future needs of IPL's retail customers. Pet. Ex. KWC-1, at 10, 11, 14. However, the impact of granting a CPCN under Chapter 8.4 for the Harding Street 5 & 6 Refueling and approving IPL's proposed accounting treatment under this Chapter has a negligible effect on IPL. Given that approval under Chapter 8.4 has no material impact on IPL's credit metrics, as stated by IPL, we find that a CPCN issued under this chapter is not necessary, as we have authorized IPL authority to construct and defer the costs of the Harding Street 5 & 6 Refueling Project under Chapter 8.5.

10. Confidentiality. IPL filed motions for Protection and Nondisclosure of Confidential and Proprietary Information on May 20 and September 10, 2013, both of which were supported by affidavits showing documents to be submitted to the Commission were trade secret information within the scope of Ind. Code §§ 5-14-3-4(a)(4) and (9) and Ind. Code § 24-2-3-2. The Presiding Officers issued Docket Entries on May 28 and September 20, 2013, respectively, finding such information to be preliminarily confidential, after which such information was submitted under seal. No objections were made related to the confidential and proprietary nature of the information submitted under seal in this proceeding. We find all such

[8] While IPL did seek cost recovery of the projects approved in Cause No. 44242 under Chapter 8.4, to the extent necessary, the Commission approved timely cost recovery under Chapter 8.8 as those projects, which were generated by the federal MATS rule, qualified as "clean energy projects" under Chapter 8.8.

information is confidential pursuant to Ind. Code § 5-14-3-4 and Ind. Code § 24-2-3-2, is exempt from public access and disclosure by Indiana law and shall be held confidential and protected from public access and disclosure by the Commission.

11. Motion to Strike. On February 25, 2014, the Presiding Officers issued a Docket Entry requesting IPL to identify the turbine size and manufacturer. On February 28, 2014, IPL filed its Response, including additional information related to ongoing negotiations with vendors. On March 4, 2014, Summit, joined by other consumer parties, filed a Motion to Strike a majority of IPL's Response. On March 6, 2014, IPL filed its Response, and Summit and the consumer parties filed a Reply on March 12, 2014.

IPL's Response included information that, while relevant to the proceeding, exceeded the scope of the Presiding Officers' request, which was limited to turbine size and manufacturer. The Commission notes that the information included in its Response, in addition to any updates, will be provided through the ongoing review process, but for purposes of this proceeding, we grant the Motion to Strike for the information submitted following the first two paragraphs of IPL's Response.

We note that in future construction proceedings, the Commission may consider a process for post-hearing construction updates at the time of the prehearing in order for the Commission and the parties to be aware of any changes that may have occurred after the filing date for rebuttal testimony.

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

1. IPL shall be and hereby is issued a CPCN under Chapter 8.5 to construct a CCGT ranging from approximately 644-685 MW at Eagle Valley Station. This Order constitutes the Certificate.

2. IPL's estimated total cost of the Eagle Valley CCGT in the amount of $631 million (minus confidential gas lateral costs) (not including AFUDC) is approved as set forth herein.

3. IPL is issued a CPCN under Chapter 8.5 to construct the Harding Street 5 & 6 Refueling. This Order constitutes the Certificate.

4. IPL's estimated cost of the Harding Street 5 & 6 Refueling Project in the amount of $36 million (not including AFUDC) is approved as set forth herein.

5. IPL's request for ongoing review of the Eagle Valley CCGT and Harding Street 5 & 6 Refueling Projects is approved as set forth herein. IPL shall file the ongoing reports as set forth in Para. 6(B)(ii)(e) for the purpose of ongoing review in accordance with Ind. Code § 8-1-8.5-6.

6. IPL is authorized to continue the accrual of AFUDC (both debt and equity) and to defer the accrual of depreciation expense on both Projects from the Project's in-service date(s)

until the date of a Commission order authorizing recovery of a return and including depreciation expense thereon in IPL's recoverable operating expenses.

7. IPL is authorized to record such post-in-service AFUDC (both debt and equity) and deferred depreciation as regulatory assets in Account 182.3 Other Regulatory Assets.

8. The Confidential Information filed under seal in this Cause shall continue to be treated by the Commission as confidential and not subject to public disclosure.

9. This Order shall be effective on and after the date of its approval.

ATTERHOLT, MAYS, STEPHAN, WEBER, AND ZIEGNER CONCUR:

APPROVED: MAY 14 2014

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

Brenda A. Howe

Brenda A. Howe
Secretary to the Commission