RICHARD J. AARON
PARTNER
517-679-7430
FAX 517-316-8430

raaron@wnj.com

July 30, 2012

Ms. Mary Jo Kunkle
Executive Secretary
Michigan Public Service Commission
6545 Mercantile Way, P.O. Box 30221
Lansing, Michigan 48909

VIA ELECTRONIC FILING

Re: **In the matter of the application of INDIANA MICHIGAN POWER COMPANY for a certificate of necessity pursuant to MCL 460.6s and related accounting authorizations. Case No. U-17026**

Dear Ms. Kunkle:

Enclosed for filing is the Revised Pre-Filed Direct Testimony of Terry J. Brown and a Proof of Service with regard to the above-referenced matter.

If you have any questions, please feel free to contact me. Thank you for your assistance.

Very truly yours,

Richard J. Aaron

Digitally signed by Richard J. Aaron
DN: cn=Richard J. Aaron, c=US, o=Warner Norcross & Judd LLP
Date: 2012.07.30 11:44:51 -04'00'

Richard J. Aaron

RJA/dat
Enclosure
ccw/enc: Parties of Record
Indiana Michigan Power Company

INDIANA MICHIGAN POWER COMPANY

REVISED

PRE-FILED DIRECT TESTIMONY

OF

TERRY J. BROWN

PRE-FILED DIRECT TESTIMONY OF TERRY J. BROWN
ON BEHALF OF
INDIANA MICHIGAN POWER COMPANY

Q. PLEASE STATE YOUR NAME AND BUSINESS ADDRESS.

A. My name is Terry J. Brown. My business address is Donald C. Cook Nuclear Plant (Cook Plant or Cook), One Cook Place, Bridgman, Michigan 49106.

Q. BY WHOM ARE YOU EMPLOYED AND IN WHAT CAPACITY?

A. I am an employee of Indiana Michigan Power Company (I&M or Company) as Director of Nuclear Projects at the Cook Plant.

Q. PLEASE BRIEFLY DESCRIBE YOUR EDUCATIONAL BACKGROUND AND BUSINESS EXPERIENCE.

A. I earned a Bachelor of Science/Applied Science & Technology in Radiation Protection degree from Thomas Edison State College and attended the Carlson School of Management Executive Program at the University of Minnesota. I began my career in 1984 as a decontamination technician at Bartlett Nuclear's Enrico Fermi Unit 2 and progressed through positions of increasing responsibility in radiation protection and as Emergency Preparedness Manager at several nuclear plants over the next 15 years before joining Consumers Energy at its Palisades Nuclear Plant as Radiological Services Supervisor. In addition to this role at Palisades Plant, I served as the Chemistry and Radiological Services Manager, Training Director, Planning and Scheduling Manager (including responsibility for unit outages), and the Performance Assessment Manager responsible for quality assurance/control, the corrective action program, and human performance. I joined I&M's Cook Plant in 2006 as Radiation Protection Manager and progressed to my current position as Director of Nuclear Projects in June 2010. Immediately previous to my current role, I served as Plant Manager

of Cook Unit 1 and was responsible for the largest turbine recovery project in nuclear power history with the recovery and rebuild of its low pressure turbine after a sudden catastrophic blade failure in September 2008.

Overall, I have 27 years of experience in nuclear plant project management, radiation protection, emergency preparedness, performance assessment, and training, including 7 years providing part-time college instruction. I hold certifications as a Senior Reactor Operator, Project Management Professional, and Health Physicist. I am also certified as a Radiation Protection Instructor and am included in the National Registry of Radiation Protection Technologists.

Q. HAVE YOU PREVIOUSLY TESTIFIED BEFORE ANY REGULATORY COMMISSIONS?

A. Yes. I testified on emergency preparedness as a subject matter expert for the Nebraska Public Power District before the Nebraska Public Service Commission in 1998 and submitted testimony to the Indiana Utility Regulatory Commission in Cause No. 44182.

Q. WHAT IS THE PURPOSE OF YOUR TESTIMONY IN THIS PROCEEDING?

A. The purpose of my testimony is to provide an overview of the Cook Plant Projects Department and outline the project engineering, management, construction, contracting strategy, and cost controls that will be used to execute the Cook Life Cycle Management (LCM) Project described in the direct testimonies of all other Company witnesses. I will provide details concerning the planning, initiation, execution, monitoring & control, and close out for the LCM Project, including the scoping and bidding of sub-projects comprising the overall LCM Project, as well as the vendor/contractor selection process.

Q. ARE YOU SPONSORING ANY EXHIBITS IN THIS PROCEEDING?

A. Yes, I am sponsoring the following exhibits:

EXHIBIT I&M-18 (TJB-1) - Cook Plant Projects Department Organization

EXHIBIT I&M-19 (TJB-2) - Project Phases

EXHIBIT I&M-20 (TJB-3) - Project Change Request Form Template

EXHIBIT I&M-21 (TJB-4) - Project Risk Register Template

EXHIBIT I&M-22 (TJB-5) - LCM Project – Forecast of Sub-Project Costs (Confidential)

COOK PROJECTS DEPARTMENT AND OVERSIGHT

Q. WHAT TOOLS, PROCESSES, AND GUIDELINES SERVE AS THE FOUNDATION FOR COOK PLANT PROJECT MANAGEMENT DECISIONS?

A. The Cook Plant Projects Department has a broad array of procedures, desktop guides and Project Management (PM) guidance tools which are used by Cook project teams during the planning and execution of internal plant projects. These documents and tools provide direction to the project teams on all aspects of project management, including project planning, engineering review, risk management, scope control, schedule control, cost control, startup and commissioning, and project closeout. These tools and procedures have been used successfully to execute a multitude of projects at Cook. The desktop guides and PM guidance tools are consistent with the principles and process standards outlined by the Project Management Institute in the Project Management Body of Knowledge (PMBOK)[1] and the Institute of Nuclear Power Operation (INPO) 09-002, “Excellence in Nuclear Project Management.”

Q. PLEASE GENERALLY DESCRIBE THE PMBOK.

[1] Available at http://www.pmi.org/PMBOK-Guide-and-Standards.aspx

A. The PMBOK is a collection of processes and knowledge areas generally accepted as best practices within the project management discipline. It is an internationally-recognized project management standard, providing the fundamentals of project management for all types of projects, including construction projects.

PMBOK recognizes five basic process groups and nine knowledge areas typical of most projects. The five process groups are: (1) Initiating; (2) Planning; (3) Executing; (4) Monitoring and Controlling; and (5) Closing. Knowledge areas are described in terms of Inputs (documents, plans, designs, etc.); Tools and Techniques (mechanisms applied to Inputs); and Outputs (documents, products, etc.)

Much of PMBOK is unique to project management. However, some areas overlap with other management disciplines including: planning, organizing, staffing, leadership, and ethics. Similarities in the processes used in PMBOK can also be noted in the areas of financial forecasting, organizational behavior, and planning techniques. In addition to PMBOK, INPO 09-002 discusses similar concepts addressed in PMBOK but also concentrates on additional processes that are unique to nuclear power, e.g. incorporation of nuclear reactor safety concerns, radiation dose control (ALARA – As Low As Reasonably Achievable) and use of operating experience from other nuclear facilities.

Q. PLEASE DESCRIBE THE ORGANIZATION OF THE COOK PROJECTS DEPARTMENT.

A. The Cook Projects Department currently consists of five major groups, each led by a manager reporting directly to me. As shown in Exhibit I&M-18 (TJB-1), the groups are: Project Controls; Projects; Projects Engineering; Projects

Construction; and Dry Fuel Storage. The Projects Department effectively manages major projects resulting in improved plant operational reliability. Contributing to this success are innovative engineering solutions and the use of a systematic approach to develop and implement a training program for project managers.

Q. WHAT ARE THE SPECIFIC FUNCTIONAL AREAS FOR WHICH EACH COOK PROJECT GROUP IS RESPONSIBLE?

A. Project Controls is responsible for facilitating Cook's Long Range Plan, the budget and schedule of each project, development of performance measures, procuring materials, conducting audits, and PM training. The Projects Group is comprised of project managers who execute the processes of the Cook Projects Department and engage executive sponsors. The Projects Engineering Group is responsible for the engineering and design of equipment and systems for a project, to ensure the design basis for the plant is maintained, facilitating the Design Review Board, performing field engineering, developing post-completion modifications if needed, and closure of design activities. The Projects Construction group is tasked with developing construction estimates, participating in constructability reviews during the conceptual and final design reviews, planning construction, field implementation of a project, and finally the returning a unit to operation. Also under my direction is the Dry Fuel Storage Project team that will commence execution of a multi-year load campaign to transfer spent fuel from the temporary pool storage to the dry cask fuel storage facility. This group will develop fuel loading plans, provide trained personnel, and implement plans to conduct this transfer process.

Q. HOW WAS THE CURRENT COOK PROJECT DEPARTMENT ASSEMBLED?

A. The current Cook Project Department was assembled during 2010 as a result of the lessons learned during the Unit 1 turbine restoration project. The leaders of each group were selected based on experience and proven performance. When assembling the department, I also recommended that the Projects Construction group be included. One of the key lessons learned during the Unit 1 turbine restoration was that integrating constructability reviews in the design process avoids delays associated with redesign and rework due to construction difficulties. The participation of trained construction personnel as a project is being engineered allows potential construction issues to be identified.

Q. WHAT IS THE EXPERIENCE LEVEL OF THE COOK PERSONNEL COMPRISING THE PROJECTS DEPARTMENT?

A. There are 27 I&M personnel employed in the Cook Projects Department who collectively have a significant level of education and experience. Certifications and professional accreditation of these individuals include:

- 6 Senior Reactor Operators (SRO's) with 1 shift manager;
- 3 SRO Certifications/Shift Technical Advisors;
- 14 Certified Project Management Professionals;
- 4 Professional Engineers;
- 2 Radiation Protection Managers (1 Certified Health Physicist);
- 3 Design Engineering Managers;
- 6 Maintenance Manager/Supervisors (1 Licensed Contractor in Michigan);
- 1 Certified Software Development Professional & Information System Security Professional; and
- 20 individuals with bachelor degrees and 11 with master degrees.

Q. WHAT IS THE SIGNIFICANCE OF THE EXPERIENCE LEVEL AND CERTIFICATIONS HELD BY MEMBERS OF THE PROJECTS DEPARTMENT?

A. Aside from the benefit of having a wealth of knowledge covering multiple disciplines, it is a significant advantage to have personnel with extensive plant and management experience. For example, SRO's undergo a significant amount of testing and training before being licensed to manipulate the controls of a nuclear reactor and provide direction to others. They have a great deal of responsibility in the operation of a plant, which is a highly critical and scrutinized realm. This experience promotes good management and leadership skills to be developed and applied.

In addition, the certifications within the department demonstrate the deep level of commitment provided by the various individuals. Most of these certifications have requirements that must be met for renewal to occur on a specified frequency. The personnel, and the Company, benefit from this continuation and strengthening of knowledge and experience.

Q. WHAT IS THE FREQUENCY OF PROJECT OVERSIGHT AT COOK?

A. There are processes in place at Cook that provide oversight on a daily, weekly, monthly, and quarterly basis. Daily, projects are safely executed in accordance with established standards within procedures and schedules to ensure that quality is achieved. Weekly, the status of each project is reviewed compared to the overall project plan. During this meeting project safety, scope, schedule, cost, risk, and quality are reviewed. Each month, two meetings are held with senior management to provide the status on projects and to challenge the project organization on project details. These reviews are focused on performance of established goals and are compared with I&M and Cook Plant financial metrics.

Finally, nuclear asset management (NAM) plans, as discussed in the testimony of witness Carlson, are evaluated and reported to I&M management on a quarterly basis. This quarterly meeting also includes the performance status of current projects.

Q. WHICH COMMITTEES OR GROUPS ARE INVOLVED WITH APPROVING PROJECTS AT COOK?

A. The committees and groups involved with approving projects for implementation at Cook are as follows, including a brief description of each entities role:

- Project Screening Committee (PSC) – provides the upfront review, initial screening, and prioritization of asset improvement issues to ensure the correct technical option to resolve the issue is chosen. The PSC provides priority recommendations to the Plant Health Committee and/or Plant Financial Committee. The PSC is chaired by the Cook Plant Manager and meets weekly.
- Plant Health Committee (PHC) – a committee of management personnel responsible for oversight and monitoring of plant health with the goal of improving reliability/performance and achieving failure free operation of critical plant components. The PHC meets weekly. The Cook Plant Manager chairs the PHC and is responsible for equipment reliability at the station.
- Plant Financial Committee (PFC) – represents a station management team that approves funding requests for study, design, and implementation of projects/initiatives. The PFC is a sub-committee of the PHC. The PFC's overall objective is to ensure funding resources are allocated to effectively align with the Cook Plant defined goals and

strategic initiatives; it is responsible for maintaining the operations and maintenance (O&M) and capital "checkbooks" for Cook Plant. The Cook Plant manager is designated as the PFC Chairperson. Meetings of the PFC are held on a weekly basis, or upon joint approval of the Chairperson and Business Services Manager to address emergent matters of importance to the PHC.

- Executive Project Review Group (EPRG) – this group is comprised of senior level Cook management and personnel. Its purpose is to review project recommendations from the PHC, evaluate project authorization requests, authorize scope changes, and approve all projects with a fully-loaded cost of greater than $500,000 as well as phase authorizations, deferrals, or rejections. The EPRG meets once per month and reviews expected benefits to assure they are properly quantified and that responsibility for achieving expected results is clearly established. It has the right to authorize only certain phases of projects, such as feasibility, design, and construction phases (as outlined later in my testimony), or the EPRG may authorize only a portion of the requested funds and require the project team to make an additional presentation to acquire the remaining funds. The Chief Nuclear Officer is the designated chair of the EPRG.
- Sub-Company Board – AEP's Subsidiary Company Board of Directors meets monthly to review and approve all Capital Improvement Requisitions (CIs) approved by AEP management. For CIs greater than $3 million, a one-page summary of information is required to be included as part of the Subsidiary Company Board of Directors document. The

Sub-Company Board meeting for approving I&M CIs is chaired by the Chairman of I&M's Board.

- Project Review Board (PRB) – a collegial review of the status of a project within a process phase (e.g. Phase 2B) to assist in the determination of readiness for a project to advance to the next project phase. The PRB meets as needed depending upon the complexity of the project, but as a minimum before a project changes phases. I chair the PRB as Director of Nuclear Projects.
- Design Review Board (DRB) – a multi-discipline group whose purpose is to provide assurance that the engineering documents or products are based upon sound engineering techniques, proven concepts, industry experience, applicable codes, regulations, and safety policies. The DRB review also provides assurance that all facets of design, scheduling, planning, construction, maintenance, testing, operations and training impacts are considered throughout development of the project/modification and that proposed changes will perform as expected and accomplish desired results. The DRB meets as needed depending upon the complexity of the project. DRB approval is required before the modification package can be issued. The DRB is chaired by the Manager of Design Engineering or the Manager of Projects Engineering.

Q. DO ALL OF THESE COMMITTEES OR GROUPS REVIEW ALL COOK PROJECTS?

A. Yes, except projects with a total cost less than $500,000. Projects costing below this threshold are approved by only the PSC, PHC, and PFC. The PRB and DRB

may also review depending upon whether the investment is capitalized (PRB) or involves a modification (DRB).

Q. DOES THE COOK PROJECTS ORGANIZATION MANAGE PROJECTS COSTING LESS THAN $500,000?

A. It depends. The Projects group is primarily focused on executing projects with total costs greater than $500,000 but would manage projects costing less if there was a complexity level requiring its expertise. Otherwise, projects costing less than $500,000 may be handled by the Cook Maintenance Department.

COOK PROJECT MANAGEMENT APPROACH

Q. HOW DOES COOK INITIATE APPROVAL FOR A PROJECT, SUCH AS A SUB-PROJECT WITHIN THE OVERALL LCM PROJECT?

A. An identified issue that requires a modification to an existing system or piece of equipment is first reviewed by the PSC as part of a feasibility study. The PSC performs an initial screening of options and provides priority recommendations to the PHC and/or PFC. The PFC determines how a project will be funded relative to other projects in process and/or planning prior to it being presented to the EPRG for approval. A completed CI for EPRG review and approval is required for all projects estimated to cost greater than $500,000. Project planning can be initiated when the CI is approved by the Sub-Company board.

Q. PLEASE PROVIDE MORE DETAIL ABOUT THE PROCESS USED TO REQUEST AND APPROVE CI REQUISITIONS.

A. A CI requisition represents a formal request for authorization of project expenditures, including engineering, construction and support activities, which will be financed by the Company's own capital. A CI must include the entire scope of a project/program or distinct phase with all overheads and loadings.

Capital expenditures include both construction expenditures and any removal cost (net of salvage) and Allowance for Funds Used During Construction (AFUDC) associated with capital programs. For example, if a CI is submitted to procure materials in advance, the requisition must include a best estimate of the full project or phase cost, and not solely an estimate of materials. Each sub-project within the LCM Project will have its own CI under a Capital Planning Proposal (CPP) called "Plant Betterment." This CPP is exclusively used for the LCM Project.

Q. HOW WILL THE SUB-PROJECTS COMPRISING THE LCM PROJECT BE EXECUTED?

A. The sub-projects will be executed using a phased project management process. There are four phases through which each project will progress from initiation to closeout as follows:

1. Project Initiation
2. Project Planning
   - 2A. Preliminary engineering and design, procurement needs
   - 2B. Detailed engineering and design, work planning, scheduling, procurement (may be done in 2A depending on material), construction contracts awarded
3. Project Implementation
4. Project Closeout

Each project phase that has a CI Requisition version associated with it must be approved by the PRB, EPRG, and Sub-Company board for the sub-project to proceed to the next phase. Please see Exhibit I&M-19 (TJB-2) for an outline of the phased project execution process used at Cook Plant.

Q. WILL EXECUTION OF THE LCM SUB-PROJECTS BE INTEGRATED INTO COOK'S REGULARLY SCHEDULED ACTIVITIES?

A. Yes. Execution of the LCM sub-projects will be integrated into the plant's schedule of refueling outages and non-outage work in accordance with the overall LCM Project schedule.

Q. HOW DOES COOK'S PHASED PROJECT EXECUTION APPROACH COMPARE WITH THE PMBOK?

A. Exhibit I&M-19 (TJB-2) was developed using the principles of the PMBOK. Phases 1 and 2 generally align with PMBOK's Initiating and Planning processes, as does Phase 3 with Executing. Phase 4 activities are analogous to PMBOK's Closing process and PMBOK's Monitor and Controlling processes are present in all phases of project execution.

Q. PLEASE DESCRIBE THE ACTIVITIES IN PHASE 1.

A. The formal process begins with a feasibility study that culminates with preparation and approval of a CI (which has an accuracy level of +/- 50%). During Phase 1, project documents are prepared to define scope, identify alternative options, and prepare conceptual drawings so that the project can be presented to the Design Review Board. The intent of the Phase 1 feasibility studies is to investigate the technical options and factors driving the project cost and schedule so that a budgetary cost estimate and schedule for implementation can be evaluated. In addition, equipment suppliers are released to begin conceptual engineering. Upon completion of Phase 1 conceptual engineering and feasibility studies, the results are presented to Cook Senior Management and authorization is sought to proceed to Phase 2A via a CI revision. Formal approval of this CI revision (which has an accuracy level of +/- 25%) by Cook

Plant, I&M Management, and the Sub-Company Board, allows the project to proceed to Phase 2A.

Q. WHAT ACTIVITIES OCCUR DURING PHASE 2A.

A. During Phase 2A, preliminary engineering, design, permitting and procurement work begin. Also during this phase, the DRB reviews the project several times and after approving it, the project scope is finalized and frozen, the cost estimate and schedule is refined, Original Equipment Manufacturer (OEM) contracts are awarded, and drawings developed to the point that detailed design work can begin. Construction and site management teams are assembled to ensure that the proposed scope of work is optimized for constructability. Also defined are site preparation plans, identification of any facilities that will need to be relocated, selection of a site preparation contractor, and studies are completed to support any permitting activities that will be required. Upon completion of Phase 2A and DRB approval, the project design is 20% complete and is again reviewed. Subsequently a Phase 2B CI is prepared (which has an accuracy level of +/- 15%) for approval by Cook Plant, I&M Management, and the Sub-Company Board.

Q. PLEASE DESCRIBE THE ACTIVITIES THAT OCCUR DURING PHASE 2B.

A. Phase 2B consists of completing detailed engineering and design as well as procurement of major and long lead equipment. The construction organization for the project is identified and contracting and initial site construction work begins. During this phase, as detailed design progresses, construction bid packages are prepared and major equipment is specified, bid, and purchased. The construction and site management teams are mobilized and begin site construction work. Upon completion of Phase 2B, the project is reviewed once

again, and a Phase 3 CI (which has an accuracy level of -10% to 0%) is prepared for approval by Cook Plant, I&M Management, and the Sub-Company Board.

Q. PLEASE DESCRIBE THE ACTIVITIES IN PHASE 3.

A. Key activities in Phase 3 consist of full-scale construction, start-up, testing, check-out and commissioning of the project. The principal construction contractors mobilize and begin the major construction effort. Major equipment components are received on-site. Engineering and design continues in support of the project throughout the construction and testing activities, including the validation of the design, the preparation of as-built drawings, and the evaluation and approval of necessary design changes. Project Engineering will maintain a field presence to ensure project is being implemented as designed. Phase 3 is complete when the equipment is commissioned and placed in-service.

Q. PLEASE DESCRIBE THE ACTIVITIES IN PHASE 4.

A. Phase 4 involves closeout of contracts and services, finalization of engineering design documents, and completion of a project critique by the project manager who reviews the complete project to provide a concise and actionable plan to improve future performance of projects. Another activity in Phase 4 is collecting, reviewing, and communicating lessons learned from the project. Prior to closing the project, a Project Closeout Checklist is completed.

Q. ARE THERE BENEFITS TO USING THIS PHASED APPROACH?

A. Yes. The phased approach provides structured control of the project scope and costs, using a common platform of project management understanding – the PMBOK – among Cook Project Department personnel, which ensures continuity of execution methodology independent of personnel staffing. The phased approach also provides a minimum of three specific decision points (the end of

Phases 1, 2A, and 2B) where engineering and design, cost and schedule are reviewed to ensure they are meeting the intent and expectations of the project. Participation by the construction team during the design phases assures that the equipment layout and modularization allows for optimized constructability and provides for a smooth transition into the major construction phase of the project. Finally, the phased approach provides for “checks and balances” during project development ensuring that alternatives are fully evaluated before approval is given to proceed to the next phase. At all times during the phased process, the experience and expertise of the Cook Projects team is integrated with the same from vendors to produce the most cost effective solutions for the project being managed.

Q. WILL CONSTRUCTABILITY CONSIDERATIONS BE ADDRESSED IN PHASES 1 AND 2?

A. Yes. Cook Plant uses a project constructability checklist during the project initiation and planning phases to identify constraints, conditions, and challenges that should be considered during Phase 3 construction activities. This approach leads to the development of a robust schedule that will produce a favorable Schedule Performance Index (SPI) and Cost Performance Index (CPI), metrics which I discuss later in my testimony. Based on my experience with the previously executed projects, involving knowledgeable contractors and construction engineers in the initiation and planning phases of a project is one of the key improvements within the Cook Projects Organization that is beneficial with staying on schedule during Phase 3.

Q. CAN YOU PROVIDE AN EXAMPLE OF A RECENT PROJECT THAT USED THIS PHASED PROJECT MANAGEMENT PROCESS?

A. Yes. Cook Plant successfully replaced its Unit 1 turbine that was necessitated by a catastrophic failure of blades in two of the three low pressure rotors. This project was completed during the fall 2011 refueling outage and the project cost was approximately 7% lower than budgeted; it was completed ahead of schedule and more importantly, with no personnel injuries during the outage. The unit returned to full load service without any need for turbine balancing, which is an exceptional accomplishment within the industry and is an indication of the quality of the construction. The need for turbine balancing would have required an additional 2-3 days and the project would have remained the critical path activity during the outage.

Q. IS THE REPLACEMENT OF THE UNIT 1 TURBINE BEING INCLUDED IN THE LCM PROJECT?

A. No. The turbine that was replaced in Unit 1 in 2011 was needed due to failure of the new turbine that was placed in-service in 2006 and failed in 2008. In the LCM Project, Cook is proactively replacing the original Unit 2 turbine to avoid any potential failure due to equipment ageing during the period of the extended NRC operating license.

Q. WHAT IS COOK'S EXPERIENCE LEVEL WITH EXECUTING THE TYPES OF SUB-PROJECTS PROPOSED IN THE LCM PROJECT?

A. The types of sub-projects that comprise the LCM Project have previously been performed at Cook or other power stations; there are no "first of a kind" type sub-projects in the LCM Project. Although some of the technologies are being updated to reflect current engineering standards (e.g., digital instrumentation replacing analog equipment), the Cook Projects team has benchmarked against other utilities for these types of projects and will integrate lessons learned in

project planning. As a result, the risk associated with executing sub-projects involving current concepts or types of equipment is reduced. This familiarity provides the Cook Projects team with a higher degree of confidence regarding the execution of LCM sub-projects on schedule and within budget.

Q. PLEASE DESCRIBE THE COOK LCM PROJECT SAFETY MANAGEMENT PROCESS.

A. The Projects Department will follow Cook Plant's Safety Program – Target Zero – during execution of LCM sub-projects. Target Zero distills safety into a simple idea – each employee, regardless of work location, is encouraged to ask oneself how to make activities safer. The initiative is aimed at targeting and maintaining a zero accident goal and focusing on the job at hand, looking and thinking about safety hazards before the job starts, and working smarter during the job and stopping work if necessary to avoid unsafe conditions.

All contractors will be required to adhere to AEP's safety policies and procedures as a minimum and implement the plans, programs, and requirements included in the latest revision of AEP's Supplemental Safety Terms & Conditions. Safety performance oversight will be provided by Cook Plant during construction. Routine meetings will be held with contractors at the site to assure communications of, and adherence to, AEP's requirements. Each sub-project is required to have a safety plan as part of the overall project plan.

Q. PLEASE DESCRIBE HOW THE LCM PROJECT COMMUNICATION WILL BE MANAGED.

A. The LCM Project communication will be managed to create a bridge between all stakeholders involved in the LCM Project. The focus is on communicating information that contributes to overall project success, such as identifying

stakeholders, planning communications, distributing information, addressing stakeholder expectations, and reporting performance. For each project such as the LCM Project, a communications management plan is developed that describes the communication needs and expectations for the project; how and in what format information will be communicated; when and where each communication will be made; and who is responsible for providing each type of communication. This communication plan is contained in, or is a subsidiary plan of the project management plan and contains the following elements: purpose; scope; roles and responsibilities; internal communications; external communications; and communications methods (e.g. type of correspondence).

Q. WHY IS IT NECESSARY TO ADDRESS STAKEHOLDER EXPECTATIONS?

A. Addressing stakeholder expectations helps to increase the probability of project success by ensuring that the stakeholders understand the project's benefits and risks. For example, actively communicating expectations with stakeholders will increase the likelihood of project acceptance by providing information for understanding the project's goals. It is also advantageous to proactively address concerns that have not yet become issues in anticipation of future challenges so that the risks associated with these concerns can be assessed. Deliverables that result from the incorporation of stakeholder feedback include corrective or preventive actions, project management plan updates, and updates to project documents.

Q. DOES COOK HAVE SPECIFIC PLANS TO ADDRESS STAKEHOLDER EXPECTATIONS DURING EXECUTION OF THE LCM SUB-PROJECTS?

A. Yes. As discussed by Company witnesses Chodak and Carlson, the Company is proposing to engage regulators and stakeholders to periodically review the

progress of the LCM sub-projects and inquire about any issues or concerns, including issues relative to the cost estimate, the project budget, and the project schedule. Cook's rigorous internal project management process requires any cost changes or budget overruns to be thoroughly justified.

Q. PLEASE DESCRIBE HOW SCOPE WILL BE MANAGED FOR THE LCM SUB-PROJECTS.

A. Each sub-project has a scope management plan that describes the processes involved in ensuring the sub-project includes all of the work required, and only the work required, for completing it successfully. Project scope control ensures that significant changes in project activities are effectively identified and managed to preclude unanticipated or undesirable effects on sub-project deliverables, cost, or schedule. Potential problems and changes to the work are recognized, evaluated, and addressed in a timely manner. Effectively managing scope is a key contributor to successful execution of a sub-project on schedule and within budget.

Q. HOW WILL CHANGES IN THE LCM SUB-PROJECT SCOPE BE PROCESSED?

A. Requests for a change to the scope of a sub-project should be reviewed and analyzed by the project team and project manager, project sponsor, and project director as necessary. The project manager has authority for approving minor changes in task scope, task completion dates, task cost targets, and risk estimates that do not affect the overall sub-project scope, completion dates, or cost targets. Significant changes require project sponsor and project director approvals. Changes in project scope, schedule, or cost will be facilitated through completion of a Project Change Request Form (PCRF); a template of this form is

included as Exhibit I&M-20 (TJB-3). A PCRF must be completed when at least one of the following conditions apply: 1) Scope is added or excluded from the original baseline; 2) The change requires additional funding from the LCM Project Management Reserve; or 3) There is a schedule change that impacts a milestone or causes a re-baseline. Only approved changes may be implemented. Controlling scope produces work performance measures. These performance measures are reported as project Key Performance Indicators (KPIs). Documenting corrective actions and specific reasoning resulting from controlling scope can be captured as lessons learned.

Q. HOW WILL COOK MANAGE LCM PROJECT RISK?

A. A risk management plan is initiated for each sub-project of the LCM Project as part of its Phase 1 activities. This activity is undertaken to help ensure that I&M and Cook Plant are protected against inadequate performance in the areas of cost, schedule, and quality. During this process, uncertainties or risks are distinguished from known challenges. If a sub-project activity has known challenges, mitigation strategies are developed and addressed in its project plan. An example of an uncertainty or risk is the currency exchange rate when purchasing hardware or services from a non-U.S. firm. This rate can change due to global financial or political conditions that Cook cannot control; mitigation strategies are needed.

To addresses these risks, analysis is expected to be accomplished primarily during the planning and implementation phases of a project once the work breakdown structure is developed. Part of the basis of the study phase is to identify and quantify high level project risks that will need to be addressed in later project phases. These risks will be further defined as the project definition is

elaborated in later phases. Part of this elaboration is development of a risk register; a template of this document is included as Exhibit I&M-21 (TJB-4). In this exercise, the critical project risks are prioritized so that project resources can be efficiently focused on mitigation efforts. The risk register included in the Risk Management Plan of each sub-project is a "living document" and is updated quarterly or as required; the risk register profile for each sub-project evolves through the phased project execution process – progressing from more risky to less risky as the project progresses within each phase and through the phases. I provide additional details on project risk later in my cost controls discussion concerning reserve. Effectively managing risk – in concert with managing scope – results in a successful project.

Q. PLEASE DESCRIBE COOK LCM PROJECT QUALITY MANAGEMENT PROCESS.

A. Project Quality Management helps control human performance, engineering, work planning products, materials, and field work; it includes the following:

- Design Quality
- Material Quality
- Process Quality
- Procurement Quality
- Installation Quality

A Quality Management Plan is designed to assist the Project Manager and the Project Management Team in establishing specific actions to be performed during execution of a project to ensure that both the process and resulting product meet Cook Plant expectations for quality and predictable performance. Specific to the nuclear industry are Quality Assurance and Quality Control

procedures that also help to achieve these expectations. The Project Quality Management Plan is developed and maintained in conjunction and with the approval of station quality personnel. As part of the effort to monitor quality, Cook Plant representatives visit vendor production facilities to assess product quality and vendor quality procedures. If expertise within the Cook team is not available, third-party consultants are hired to provide the evaluation. The Project Quality Management Plan is reviewed regularly, as needed, by the Project Team and Project Sponsor.

Q. WHEN WILL THE LCM SUB-PROJECTS BE EXECUTED?

A. For the most part, the sub-projects comprising the physical work of Phase 3 of the LCM Project will be executed during unit refueling outages that occur every 18 months as shown in witness Carlson's Exhibit I&M-X. This staging is standard outage procedure for Cook Plant and results in careful planning and detailed precise scheduling of outage activities to ensure that all of the sub-projects are completed so that the unit returns to service on schedule and without any challenges to nuclear safety. The result of successfully completing work during needed refueling outages is to maximize the time each unit is online and generating low-cost power for I&M customers.

Q. HOW WILL THE LCM PROJECT COST AND SCHEDULE BE MONITORED AND CONTROLLED BY COOK?

A. Project Controls provides governance and oversight of the LCM sub-projects. This group reports directly to me and is independent with respect to the rest of the Project Department so an objective review of the progress of each sub-project can be achieved. For cost and schedule, Cook uses Earned Value Management (EVM) as a tool for indication of how well these two areas are being

controlled. Earned Value (EV) is simply the value of completed work, often being used to describe the percentage completion of a project. Two indices I mentioned earlier, CPI and SPI, are used to demonstrate how well EV is being managed. The CPI is a measure of the value of the work completed compared to the actual cost or progress made on the project. Similarly, the SPI is a measure of progress achieved compared to progress planned on a project. In the case of both CPI and SPI, a value greater than "1.0" indicates favorable EVM, and less than "1.0" indicates unfavorable performance. Both cost and schedule (cumulative) indexes are updated monthly, and reviewed during the aforementioned project status meetings. Project schedules will also be monitored by reviewing milestone adherence.

Q. PLEASE DESCRIBE HOW HUMAN RESOURCES WILL BE MANAGED BY COOK FOR THE LCM PROJECT.

A. For each sub-project, a Human Resources Management plan is developed. It details the staff required to successfully execute the sub-project, and how the staff will be managed through the life of the sub-project. The underlying premise of the Human Resources Management plan is to ensure a sub-project has sufficient staff possessing the correct skill sets and experience to successfully complete it. This scope includes the planning, selection, acquisition, mobilization, development, deployment to project activities, managing and demobilization of project staff.

Q. DOES THE COOK PROJECTS TEAM RECEIVE ANY TRAINING?

A. Yes. Cook Plant is a continuous learning organization and training is an important component to ensure that lessons learned are effectively translated into improved results. The program used within the Cook Projects team is

designed to provide employees with a structured learning process with regard to the project management processes used in the Department. This "training" is designed to ensure that budgeting, scope management, and scheduling, as well as additional nuclear project management processes, is being carried out throughout the life cycle of a given project.

Q. DID COOK USE ANY THIRD-PARTY FIRMS TO REVIEW ANY LCM SUB-PROJECTS?

A. Yes, for certain sub-projects determined to bear higher risk. Cook has a long-standing relationship with Sargent & Lundy (S&L) for engineering-related work and S&L was engaged to review the LCM Project feasibility study. Areva was contracted to provide an independent third-party review of the first group of LCM sub-projects. As an example, in the past Cook has contracted with Work Management Incorporated (WMI) to provide an independent third-party review of the Unit 1 turbine replacement project successfully completed by Cook in 2011. For the LCM Project, Cook will selectively use the same process. In addition, the INPO performed a two-week assessment of our project processes using experts from the nuclear industry. Also, Cook utilized Utilities Service Alliance (USA) to perform audits of our processes and they provided recommendations for improvement. The individual that led this team is recognized as an industry leader and was part of the team that developed INPO 09-002.

Q. IN YOUR PROFESSIONAL OPINION, IS THE PROJECT MANAGEMENT PROCESS THAT COOK WILL USE FOR A COMPREHENSIVE UNDERTAKING LIKE THE LCM PROJECT REASONABLE?

A. Yes. Cook's project management processes are particularly relevant for multi-project undertakings such as the LCM Project that must be completed over a

number of years. They are based on industry standard principles (PMBOK) that have been used for many years worldwide. The proven track record of project management at Cook using these principles is evidenced by the certification of many Cook project managers as Project Management Professionals. The entire Cook Projects Department understands the importance of using the PMBOK methods to achieve project success.

LCM PROJECT COSTS

Q. WHAT IS THE CURRENT LCM PROJECT COST ESTIMATE?

A. The LCM Project cost estimate through 2018 is $1.169 billion, which includes actual costs incurred in the 2nd half of 2011. The cost of each of the 117 sub-projects including actual and forecast expenditures is shown in Confidential Exhibit I&M-22 (TJB-5); also provided for each sub-project in this exhibit is the outage for which the sub-project is scheduled for implementation (or that it is non-outage work) and the projected in-service year.

Q. HOW WAS THIS COST ESTIMATE DEVELOPED?

A. The estimate is a bottom-up estimate, which means that individual cost estimates have been developed for each LCM sub-project. The cost estimates from the EPC contractor were benchmarked by I&M and also by a 3rd party as previously discussed. Some of this work was then re-bid to other vendors and has resulted in cost decreases to the sub-project. The sub-projects have also been vetted through internal review boards to ensure the accuracy of scope and cost estimates. I discuss the estimating and cost control procedures from a project management standpoint later in my testimony.

Q. PLEASE DISCUSS THE LEVEL OF ACCURACY OF THE COST ESTIMATE.

A. Cost estimate accuracy for a given sub-project generally depends on the execution phase of the individual activity. The following are AEP standard project management accuracy guidelines at the beginning of each phase:

- Phase 1: +/-50%
- Phase 2A: +/-25%
- Phase 2B: +/-15%
- Phase 3: +0/-10%

In the LCM Project, sub-projects will be at different phases of execution, and therefore have different levels of accuracy. As engineering, procurement, and construction progresses, the project risk factors are mitigated and project accuracy is improved. Due to the nature of the bottom-up estimate, and the multi-year aspect of the LCM Project, the level of accuracy of the overall project is always evolving.

Q. DOES THIS IMPLY THAT THE FINAL LCM PROJECT COST COULD BE 50% LESS THAN, OR 50% GREATER THAN, THE PHASE 1 ESTIMATES?

A. No. As I stated earlier, these accuracy ranges are AEP standard accuracy guidelines. For several reasons, we believe that the LCM Project has a narrower range of accuracy than a traditional Phase 1 project. First, there are no sub-projects in the LCM Project which are "first of a kind." Second, the cost estimates have been both internally and externally benchmarked, which further bolsters our confidence. Third, some sub-projects are advancing in project definition and are entering Phase 2A. Fourth, early indications from sub-projects which are advancing show that costs are generally decreasing. Finally, the diverse nature of the sub-projects comprising the LCM Project, together with the long 6-year implementation time frame, increases the likelihood that cost

variances in one direction could be offset by cost variances in the opposite direction.

While we have a high level of confidence in the LCM Project engineering and cost estimating already performed, it would be unrealistic to assume that all anomalies have been both recognized and accounted for in the estimates. For this reason, we have chosen to apply a 20% reserve to overall cost estimate. I discuss this reserve further later in my testimony.

Q. WILL ANY OF THE EQUIPMENT FOR THE LCM SUB-PROJECTS BE SIZED TO ACCOMMODATE A POWER UPRATE IN THE FUTURE?

A. Yes. As mentioned by Company witness Carlson, a power uprate for each Cook unit remains a viable option for the future. Where appropriate, equipment will be sized for uprated capacity to be able to support a 4,000 MW core thermal power level to meet future customer demands. These incremental changes are synergistic and cost efficient within the LCM Project framework. The following LCM sub-projects will include costs associated with upsizing (Project Nos. in Confidential Exhibit I&M-22 (TJB-5)):

- Unit 2 Generator Step-Up (GSU) Transformer (PRF040174)
- Unit 2 Feedwater Heaters (PRF04064 & PRF04065)
- Units 1 & 2 Containment Spray (CTS) Heat Exchangers (HX) (PRF110008, PRF11009, PRF040300, & PRF040301)

Total upsizing costs are estimated to account for only 2% of the overall LCM Project cost, or approximately $23 million. The advantage with including the cost of upsizing in the LCM Project is that I&M will avoid having to replace this equipment at a large expense should the power uprate be needed by our customers.

COOK PROJECT CONTRACTING APPROACH

Q. PLEASE GENERALLY DESCRIBE THE CONTRACTING APPROACH THAT WILL BE USED FOR THE LCM PROJECT.

A. The Cook Projects team will self-manage the LCM Project versus using an outside firm to engineer, procure, and construct the sub-projects over the period in which the overall LCM Project will be executed. The primary type of contract to be used would be dependent on the project and the current levels of risk. Cook will utilize the most cost effective contracts available with the selected vendors – generally either time and material, fixed-cost, or a combination of the two. These decisions will be based on recommendations from the Cook Contracts and Legal Departments using procedures that must be followed.

Q. HOW WILL EQUIPMENT AND CONSTRUCTION SERVICES BE PROCURED FOR THE LCM PROJECT?

A. Procurement planning is the process of determining which project needs can best be met by procuring products or services outside of corporate resources. It involves consideration of whether to procure, how to procure, what to procure, how much to procure and when to procure. It is important that the project manager involve the contract services early in the project. The equipment manufacturers are selected through a competitive evaluation process based on Cook Plant performance standards and technical specifications. A similar process is utilized for the section of construction labor companies to perform the field installation of the equipment.

A procurement plan for each sub-project will be utilized to establish a clear understanding of what procurement needs will be by internal and external resources. The project manager will determine if using internal resources is the

best means of accomplishing the sub-project's goals. Use of internal resources is preferred, as it keeps technical knowledge and skills within Cook and provides for better ownership of the product or service when the sub-project is put in service.

If internal resources cannot be utilized, a request for proposal (RFP) will be initiated with details that will be sent out to potential candidates. In order to ensure that the project manager obtains the desired quality and results, expectations are clearly articulated to prospective suppliers within the RFP. Once the RFP is received, a decision will be made based on factors such as the ability to deliver (previous vendor history), quality, cost, and support infrastructure.

Q. ARE THERE ANY FEDERAL, STATE, OR LOCAL PERMITS REQUIRED TO EXECUTE THE LCM PROJECT?

A. No federal, state, or local permits are required to execute the LCM Project.

Q. WILL THE LCM PROJECT REQUIRE ANY TRANSMISSION SYSTEM MODIFICATIONS?

A. The LCM Project will not require any modifications to the transmission system that interfaces directly with Cook Plant.

Q. IS A MODIFICATION TO THE NATURAL GAS INFRASTRUCTURE NEEDED AS PART OF THE LCM PROJECT?

A. The natural gas infrastructure will not be modified in any way by the LCM Project.

Q. WILL ANY MODIFICATIONS TO EXISTING TRANSPORTATION FACILITIES, WATER, OR SEWER INFRASTRUCTURE NOT ON COOK PROPERTY REQUIRE MODIFICATION DUE TO EXECUTION OF THE LCM PROJECT?

A. Modifications to existing transportation facilities, water, or sewer infrastructure not on Cook property will not be required due to execution of the LCM Project.

Q. HOW WILL THE CONSTRUCTION WORK FORCE BE RECRUITED FOR THE LCM PROJECT?

A. As with all work performed at Cook Plant, local union halls will be contacted first to provide skilled crafts labor for the LCM Project.

COOK PROJECT COST CONTROLS

Q. PLEASE DESCRIBE THE COOK PROJECT COST MANAGEMENT PROCESS.

A. Project cost management involves the planning, estimating, budgeting, and controlling processes and metrics to be utilized during each phase of a sub-project. The initial refinement of the conceptual cost estimates developed for a sub-project during Phase 1 is derived from several inputs, including feasibility studies and recent market information which results in a cost estimating accuracy of +/- 50%.

At the end of Phase 2 engineering and design activities, the cost estimate is based on a better-defined scope of work which has been developed by completing a sufficient level of engineering and design to provide greater cost certainty in support of the project implementation schedule. A revised total cost estimate for the sub-project is then developed to include the balance of plant scope, construction costs, and owner's costs with an estimating accuracy of +/- 15%.

Q. WILL COOK HAVE CHECKS AND BALANCES IN PLACE TO CONTROL COSTS DURING EXECUTION OF THE LCM PROJECT?

A. Yes. As previously detailed in my testimony, Cook will calculate a CPI to monitor the level of EVM being created.

Q. WHAT HAPPENS IF A SUB-PROJECT COST IS GREATER THAN ITS PHASE 2 ESTIMATE?

A. One of our processes addresses a sub-project whose cost is under or over the current estimate. Justification has to be provided by the project sponsor with assistance from the project manager. This justification has to go through a series of reviews and approvals involving the Projects Department Management, Cook Senior Management, and I&M Corporate if a Capital Improvement (CI) revision is required. This justification will also include what sub-project or sub-projects the offset is coming from. This philosophy ensures the overall LCM Project does not exceed the approved authorization value.

Q. PLEASE DESCRIBE RISK AND MANAGEMENT RESERVE.

A. Risk reserve is included in the funding of each project to address discrete potential defined issues or “known unknowns” (examples are provided below). This amount of this reserve is based on the occurrence probability and consequences of the risk and where possible is based on data from similar projects that have been benchmarked. The level of risk and correspondingly the amount of risk reserve is higher during early project definition and is progressively reduced as the project proceeds from Phase 1 through Phase 4. The amount of reserve risk is developed by the project team, supported by the project manager, and approved by Projects Department management. If the given risk is not realized, then the funding reserved for its mitigation will not be expended.

Management reserve is allocated for “unknown unknowns,” and its amount is based on guidance established by organizations such as the American Association of Cost Engineers, which provides clear guidance based on the level of project definition. Accordingly, Cook is including a 20% management reserve for the entire LCM Project based on its current level of project definition.

Q. WHAT ARE SOME EXAMPLES OF MANAGEMENT RESERVE VERSUS RISK RESERVE?

A. Management reserve would be allocated to account for project costs that could not realistically be estimated or budgeted. For example, changes necessitated as a result of an unforeseen significant nuclear industry issue – e.g. upgrading security in response to the 9/11/2001 terrorist attacks. Other examples could be the price volatility of materials due to unforeseen world events, natural disasters, or unexpected issues discovered during project implementation. Risk reserve is incorporated into each sub-project budget; examples for which risk reserve would be budgeted are deviations from the projected inflation rate, abnormal seasonal weather (with attendant construction delays due to excessive rain, snow, or high winds), and variances in commodities prices.

Q. HOW MUCH MANAGEMENT RESERVE HAS BEEN ALLOCATED TO THE LCM PROJECT?

A. A total of $200 million or approximately 20% of the current LCM Project cost has been allocated for management reserve. To provide sufficient checks and balances, control of the management reserve has been allocated to different levels of senior I&M management. A formal process will be used to request any management reserve. Control of the LCM Project management reserve is as follows:

- Director of Nuclear Projects - $60 million
- Chief Nuclear Officer - $60 million
- I&M President - $80 million

Q. HOW WILL PROJECT MANAGERS RECEIVE A DRAW FROM MANAGEMENT RESERVE?

A. To ensure that checks and balances exist with disbursing management reserve, project managers will be required to justify the need for a draw with a documented request – i.e. preparing and presenting a PCRF for review and approval. Each request will be formally reviewed by Cook Projects Department management and, if determined appropriate, the project budget will be revised with the draw from management reserve. Review and approval will be elevated to senior Cook management if warranted, depending upon the magnitude of the requested change.

Q. HOW HAS THE MANAGEMENT RESERVE OF $200 MILLION BEEN BUDGETED DURING THE TERM OF THE LCM PROJECT?

A. The management reserve is allocated throughout the term of the LCM Project based on the annual sub-project budgets with consideration given to whether one or two outages are conducted in a given year. In years that contain two planned outages (i.e. – one for each Cook unit), it is reasonable to allocate a larger amount of management reserve due to the greater number or projects being implemented.

Q. DID COOK BENCHMARK COSTS FOR ANY LCM SUB-PROJECTS?

A. Yes. Benchmarking is a fundamental element of Cook's approach to project management and encompasses not only the project management processes but activities such as costs, vendor selection, operating experience, and lessons

learned for specific projects. Cook compared some of the LCM sub-projects against those of a similar, but not identical, LCM initiative for Florida Power & Light (FPL). Additionally as a member of USA we constantly share information regarding projects, including costs.

Q. WHICH SPECIFIC PROJECTS WERE BENCHMARKED?

A. Equipment replacements for the glycol chiller, control room chiller, control room annunciator system, GSU transformer, and the HP and LP turbines were all benchmarked by Cook.

Q. WHAT WERE THE RESULTS OF THIS BENCHMARKING EXERCISE?

A. Overall the Project Department benefits from the lessons learned which has a directed impact on scope and cost control. Some examples include:

- Received design work and studies for Glycol chiller replacement. This allowed projects to determine appropriate vendor and design which reduced the overall cost of the project. Also, it provided an economy of scale for the equipment and spare parts due to more than one utility utilizing this vendor.
- Received lessons learned for control room chillers issues that have shutdown plants in recent years due reliability issues. These lessons learned have been incorporated into our design phase.
- Benchmarked field installation of turbines to better understand methods (positive or negative) used to drive safety, quality, and schedule. These lessons learned were incorporated into the work management process for the Unit 1 turbine installation which was completed two days ahead of schedule.

Q. IN YOUR PROFESSIONAL OPINION, IS THE COST CONTROL PROCESS THAT COOK WILL USE IN MANAGING THE LCM PROJECT REASONABLE?

A. Yes. As previously mentioned, Cook has in place robust project management processes that are consistent with PMBOK and INPO 09-002. We also conduct project review meetings that are attended by senior managers at Cook and I&M in which projects are challenged. With these management processes and controls, in which the Project Department fully supports the manager of each project, I fully expect that the entire LCM Project will be executed within the overall Project cost estimate and the projected schedule outlined in the testimony of Company witness Carlson.

Q. DOES THIS CONCLUDE YOUR PRE-FILED DIRECT TESTIMONY?

A. Yes it does.

STATE OF MICHIGAN
BEFORE THE MICHIGAN PUBLIC SERVICE COMMISSION

In the matter of the application of) INDIANA MICHIGAN POWER COMPANY) for a certificate of necessity pursuant to) MCL 460.6s and related accounting authorizations.))	Case No. U-17026 **PROOF OF SERVICE**

Deborah A. Thompson states that she is an employee of Warner Norcross & Judd LLP and that, on July 30, 2012, she served copies of the Revised Pre-Filed Direct Testimony of Terry J. Brown and this Proof of Service upon the following parties via electronic mail.

Administrative Law Judge
Hon. Thomas E. Maier
maiert@michigan.gov

Michigan Public Service Commission Staff
Spencer A. Sattler
Amit T. Singh
sattlers@michigan.gov
singha9@michigan.gov

Attorney General
John A. Janiszewski
Donald E. Erickson
janiszewskij2@michigan.gov
ericksond@michigan.gov

Michigan Environmental Council
Christopher M. Bzdok
Ruth Ann Liebziet
Emerson Hilton
Kimberly Flynn
chris@envlaw.com
ruthann@envlaw.com
emerson@envlaw.com
kimberly@envlaw.com

Michigan Environmental Council
James Clift
james@environmentalcouncil.org

Staff's Experts
Steven Kulesia
Shannon Whiton
Lisa M. Kindschy
Kevin S. Krause
Eric W. Stocking
kulesias@michigan.gov
whitons@michigan.gov
kindschyl@michigan.gov
krausek@michigan.gov
stockinge@michigan.gov

Attorney General's Experts
John Hosmer
Tracy Klaes
Michael J. McGarry, Sr.
Donna Mullinax
Dan Salter
johnhosmer@bellsouth.net
tklaes@blueridgecs.com
mmcgarry@blueridgecs.com
dmullinax@blueridgecs.com
dsalter2@charter.net

ABATE
Robert A. W. Strong
Roderick S. Coy
rstrong@clarkhill.com
rcoy@clarkhill.com

Deborah A. Thompson

Digitally signed by Deborah A. Thompson
DN: cn=Deborah A. Thompson, c=US, o=Warner Norcross & Judd LLP
Date: 2012.07.30 11:45:10 -04'00'

Deborah A. Thompson