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Indiana Utility  
Regulatory Commission

**Comments of the City of Fort Wayne**

**Indiana Michigan Power Company**

**Integrated Resource Planning Report**

**November 2, 2015**

The City of Fort Wayne (City) submits these Comments on Indiana Michigan Power Company's (I&M or Company) Integrated Resource Planning Report (IRP) submitted to the Indiana Utility Regulatory Commission (Commission or IURC) on November 2, 2015 pursuant to 170 IAC 4-7-2 (g). First the City would like to thank I&M for the opportunity to participate in the IRP stakeholder process and for listening to the City's concerns.

The City suggested that the Company look at cogeneration, or combined heat and power (CHP), as a separate cost-effective base load resource in its IRP, rather than simply including it in its load forecasts. I&M responded by including a CHP as a separate resource option in its Plexos modeling. The City believes this is an important step in recognizing the efficiency and other benefits of CHP in serving future electric loads, as well as meeting a customer's thermal requirements.

### **City's CHP Project**

The City, like many other municipalities throughout the U.S., is making a substantial investment in a combined heat and power (CHP) installation at its wastewater facilities as a means to stabilize operating costs and improve energy efficiency, sustainability and reliability. Wastewater utilities are unique in that these facilities are able to use methane gas from digesters as a free fuel for generating on-site electricity and waste heat recovery. Additionally, the heat recovered from electric generators is used to heat the digesters, reducing natural gas costs.

The City has recently installed two 400 kW electric engine generators, greatly improving the efficiency in meeting its electric and thermal energy requirements. It has reduced electric power consumption by thirty-two percent (32%), saving the City over \$500,000 annually. Due to customer demands for wastewater municipalities to handle high strength waste, the City plans to increase its CHP capacity through enhanced methane gas production by accepting and processing agricultural and industrial wastes which are difficult and expensive to dispose of.

### **CHP Potential**

I&M includes a CHP option in its Plexos modeling,<sup>1</sup> resulting in 27 MW of CHP capacity in its Preferred Portfolio over the 20 year planning period. The City believes that I&M's modeling may have underestimated the CHP capacity likely to be deployed in its service territory. There are multiple drivers for CHP, the most important of which are much higher electric prices and low, relatively stable, natural gas prices. In addition to the customer economics, there are other important benefits to the Company itself, ratepayers and public at-large.

CHP is not new technology. Currently, there are approximately 83 gigawatts (GW) of existing CHP capacity at 4,300 facilities. This is eight percent of total electric generation capacity in the U.S.<sup>2</sup> The total technical potential CHP capacity has been estimated to be 130 GW at existing on-site electric loads which have conditions favorable to CHP deployment.<sup>3</sup>

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<sup>1</sup> I&M IRP at 97.

<sup>2</sup> From Threat to Asset – How CHP Can Benefit Utilities, White Paper, Anne Hampson and Jessica Rackley, ICF International (2014) at 1.

<sup>3</sup> Id. at 4.

In Indiana, uptake of CHP has lagged behind other parts of the country due to low electric prices. This, however, has changed dramatically with Indiana industrial rates increasing approximately 83% since 2009, and with rates forecasted to increase another twenty-six percent (26%) in the near term future, without considering the impact of the Clean Power Plan.<sup>4</sup> Indiana's technical CHP capacity potential has been estimated to be 3,075 MW at industrial and commercial sites, which is a sizable amount of investment in new generating capacity that can be avoided.<sup>5</sup> This may also include avoided investment in transmission and distribution facilities.

Interest in CHP in Indiana has increased sharply, with several recent installations at industrial facilities. While most existing CHP capacity has been in the industrial sector, this is changing. CHP installations at both institutional (e.g. universities, hospitals and government facilities) and commercial facilities, has risen from fourteen percent (14%) of historic installed capacity to thirty-eight percent (38%) of total installed capacity.<sup>6</sup> Both Purdue University and Indiana University have plans for new and expanded CHP installations.<sup>7</sup> The 2015 General Assembly even created a special Interim Study Committee to look at CHP potential.

Growth in CHP capacity is expected to continue at a significant rate. There are many drivers and benefits to CHP, which are not going away any time soon, including:<sup>8</sup>

- Technology cost reductions
- Higher prices for electricity
- Lower and stable natural gas prices
- Deferred investment in GT&D plant
- Reduced distribution system congestion<sup>9</sup>
- Environmental regulations (Boiler MACT)
- Clean Power Plan
- Automated metering infrastructure
- Required customer reliability and resiliency
- Enhanced grid reliability
- Management of electric system risks

CHP creates certain cost recovery issues under the traditional regulatory business model used by today's electric utility which has result in push back by some utilities.<sup>10</sup> Utilities and regulators, however, are finding ways to adapt this business model to the market and structural changes occurring in the industry through rate design that provides for cost recovery and avoids unfair cost shifting. Utilities are now viewing CHP as a reliable base load resource and a possible source of new revenue. Utilities are providing financial incentives and capital cost sharing for

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<sup>4</sup> Indiana Electricity Projections: The 2015 Report, State Utility Forecasting Group (2015) at 3-6 to 3-7.

<sup>5</sup> Combined Heat and Power Potential and Barriers in Indiana, ICF International Presentation, Anne Hampson (2015) at 9.

<sup>6</sup> From Threat to Asset – How CHP Can Benefit Utilities, White Paper, Anne Hampson and Jessica Rackley, ICF International (2014) at 2.

<sup>7</sup> Indiana University, Integrated Energy Master Plan, Bloomington Campus (2012); and Purdue University, Comprehensive Energy Master Plan (2012).

<sup>8</sup> Combined Heat and Power Play Book, Anna Chittam, American Counsel for an Energy Efficient Economy and Steve Kismohr, Midwest Energy Efficiency Alliance (2014).

<sup>9</sup> From Threat to Asset – How CHP Can Benefit Utilities, White Paper, Anne Hampson and Jessica Rackley, ICF International (2014) at 6.

<sup>10</sup> Pathway to a 21<sup>st</sup> Century Electric Utility, Peter H. Kind, Ceres (2015).

CHP projects.<sup>11</sup> Some are participating in the design, installation, financing, operation and ownership of CHP facilities, generating new revenue from asset ownership and supporting services.<sup>12</sup>

Currently only three percent of CHP capacity is owned by electric utilities. The industry, however, will see more utility ownership of CHP.<sup>13</sup> Utilities are in a good position to take advantage of the CHP opportunities. There is the existing customer relationship, trust, and knowledge of the customer's energy requirements. There is the access to relatively low cost of capital, and experience in project financing, design, construction, and operation of electric utility infrastructure. Assuming regulatory approvals, there is nothing preventing utilities to providing "behind the meter" rate base investments and provision of support services.

As utilities embrace new customer-based CHP capacity, electric utility business strategies are developing which:<sup>14</sup>

- 1) identify top-tier customer facilities likely the benefit from CHP,
- 2) support customers in determining economic viability
- 3) provide financing options
- 4) offer design and installation services
- 5) offer O&M services, and
- 6) provide Tariffs in support CHP deployment

The key to future CHP deployment and maximizing the benefits to the utility, ratepayer and the public-at-large, will be partnerships which leverage customer and utility expertise and financial resources. CHP is a proven solution for meeting growing energy demand efficiently, cleanly and economically. CHP is a clean energy solution that immediately addresses a number of national priorities including improving the competitiveness of U.S. manufacturing, increasing energy efficiency, reducing emissions, enhancing our energy infrastructure, improving energy security and growing our economy.

## CONCLUSION

The electric industry will be producing and delivering electricity differently than it has in the past. CHP and other distributed generation will be integrated into the electric grid. The Company's IRP is the start of a process that will guide long-term capital project decisions for future electric generating plant and the modernization of I&M's transmission and distribution systems. Given the long investment recovery cycle, it is critically important that the Company's capital deployment today avoid future stranded costs in expensive and unneeded central plant capacity, or uneconomical investment in transmission and distribution facilities.

The City encourages the Company, Commission and the Director of the Electric Division to continue to carefully examine the potential of CHP as a cost-effective long-term base load resource within I&M's service territory. There are economic, operational and environmental

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<sup>11</sup> From Threat to Asset – How CHP Can Benefit Utilities, White Paper, Anne Hampson and Jessica Rackley, ICF International, (2014) at 5-7.

<sup>12</sup> Id. at 5-7.

<sup>13</sup> Id. at 1, 5-7.

<sup>14</sup> Id.

benefits that simply do not exist with other resources. CHP also is a resource that can be deployed incrementally and in the near term future eliminating risks of uneconomic investment in other electric utility plant.

The City hopes to create a successful partnership with the Company with respect to its own CHP project at its wastewater treatment facility. Much can be learned from the way this partnership is structured, and the synergies that exist between Indiana electric utilities and municipal utility systems. As this partnership unfolds, the City will be asking for Commission's support in finding solutions to issues that might necessarily arise from the transition to more efficient and clean energy resources.