

**Response of  
Interstate Power and Light Company  
to  
OFFICE OF CONSUMER ADVOCATE  
Data Request No. 61**

Docket Number: EEP-08-1  
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Response Due: July 11, 2008  
Information Requested By: Jennifer Easler  
Date Responded: July 11, 2008  
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Subject: Non-Residential Programs – System-based Delivery

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IPL notes that “by promoting a system-based rather than technology-based approach to delivery of energy efficiency measures, in both commercial and industrial sectors, IPL expects to enhance opportunities for savings from individual projects.”

By this statement does IPL mean that it will be seeking all cost-effective efficiency with each customer, and if so, how will it operationalize this goal?

**Response**

IPL hopes that over time it achieves all cost-effective energy efficiency in each customer's facility. In the time frame of the proposed five-year plan in this docket, much of the cost-effective energy efficiency can be achieved by the proposed plan. The system-based approach has two main dimensions:

- building shell actions especially during construction, and
- equipment and processes within the facility.

The building shell dimension is addressed on the front end by IPL's commercial new construction program. See section 5.6 of IPL's application in this docket for more details on this program. After a facility has been occupied for some time it may be necessary to revisit the building and its operation, in which case retro-commissioning is in order. See part 5.4.2.2 of IPL's application.

Equipment and processes within a facility are addressed in a system-based approach via on-site assessments and technical studies. These can happen in two ways, depending on type of incentive that fits the customer's needs. A customer with a need for on-site assessment and a front-end lump payment would be directed to the custom

rebate program. A customer with a need for on-site assessment and project financing assistance—especially if there is also a need for more of a total project management approach—would be directed to the performance contracting program. This “system-based” approach is particularly relevant for the large customers, especially in the industrial sector. The rationale for focusing on systems comes from the fact that only a small fraction of total industrial process energy inputs are converted into actual, useful work. On-site losses, such as losses occurring within plant boundaries, account for about 32% of total energy loss. On-site losses occur throughout the manufacturing process and include distribution (steam traps, valves, pipes, and electric lines), energy conversion (process heating and cooling and conveyance), and motor systems.<sup>1</sup> While efficiency opportunities of between 3% and 5% may exist for motor equipment, there is the potential of 20% to 50% savings in motor-drive processes and control systems that govern how these processes operate.<sup>2</sup>

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<sup>1</sup>“Energy Use, Loss and Opportunities Analysis: U.S. Manufacturing and Mining,” Prepared by Energetics and Prepared by Energetics, Incorporated and E3M, Incorporated for the U.S. Department of Energy Office of Energy Efficiency and Renewable Energy, Industrial Technologies Program, December 2004.

<sup>2</sup> *Evaluation of the U.S. Department of Energy Motor Challenge Program*. Washington, DC: U.S. Department of Energy, prepared by Xenergy for the Oak Ridge National Laboratory, 2000.