Good morning Chairman Cahill and Chairman Brennan and members of the Assembly Committee on Energy and Committee on Corporations, Authorities and Commissions. My name is Joseph P. Oates and I am Con Edison’s Vice President, Energy Management and organization that I lead at Con Edison provides three important functions for the customers of the Consolidated Edison Company of New York (Con Edison) and Orange & Rockland Utilities (O&R). First, we monitor the status of the local economy in order to forecast the future electricity and natural gas needs of our customers. Second, we manage the natural gas supply needs of our full-service utility customers\(^1\) and natural gas pipeline requirements for all customers in the Con Edison and O&R service territories. Finally, we manage the wholesale electricity procurement process for our full-service electricity customers, which on an annual basis, amounts to between $3 to 4 billion in wholesale electricity supplies and services. The electricity supply component is approximately half of a typical customer’s bill in our service area. The remaining half of the bill is approximately equally split between taxes and fees that Con Edison pays and the cost of investing in, operating and maintaining the transmission and distribution system.

Con Edison sold Indian Point unit 2 to Entergy in September 2001 and since then, we have purchased electric energy and capacity from the Indian Point nuclear power plant. We currently purchase 350 megawatts (MW) of energy and capacity from Indian Point for Con Edison’s full-service electricity customers. We understand that the remainder of Indian Point’s electricity capacity is sold to others or directly into the New York Independent System Operator’s (NYISO) markets. Competitive retail suppliers have been very active in seeking to provide customers within our service territories with their electricity supply needs (as measured in kilowatt-hours). Con Edison is currently responsible for about 40% of the

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\(^1\) Full service customers are those utility customers who still obtain their energy supply from the utility. All of Con Edison and O&R’s electricity and gas customers may choose to obtain their energy supply from a competitive retail supplier. Each utility is still responsible for delivering energy for all customers in their respective service territory, whether they obtain that energy from the utility or from a competitive retail supplier.
electricity supply needs in our service territory, with the competitive retail suppliers and the New York Power Authority responsible for supplying about 45% and 15%, respectively, of the electricity used by customers in our service territory.

**Indian Point’s Electricity Output is A Significant Source of Electricity for Our Customers**

Con Edison and O&R are primarily energy delivery utilities that serve over 3.5 million customer accounts, which represent about 42 percent of the peak electricity demand during the summer in New York State. Delivering reliable, affordable electricity to customers is our primary goal. Indian Point’s annual energy output of roughly 16,000 gigawatt-hours\(^2\) serves approximately 30 percent of the Con Edison service area’s electricity consumption. Indian Point’s current electricity production is required to maintain electric system reliability. If replacement resources are not in place prior to the shutdown of Indian Point, the NYISO may be required, at certain times, to interrupt customers via emergency load shedding. Indian Point’s electricity also provides economic and environmental benefits to our region and to other New York State electricity consumers. The shutdown of the Indian Point units would increase the price of electricity for consumers, would increase greenhouse gases and other air emissions in the region, and would impact the local economy. The shutdown of the units would also adversely affect the fuel mix used to generate electricity in southeastern New York, resulting in the increased use of fossil-fuel based supplies. Such a change would potentially introduce risks associated with a less diverse fuel mix, including potential price and physical disruption impacts.

**Indian Point Is Needed to Maintain Electric System Reliability**

The Companies’ review shows that without the Indian Point units, there would be a degradation of statewide reliability and a shortfall of approximately 1000 MW in the downstate area by 2016. The shortfall would double in size by 2021 due to expected growth in electricity demand and assuming no new resources or significant system upgrades occur. If peak electricity demand grows more rapidly than currently forecasted between now and 2016, or if other resources cease to operate, these shortfall levels could be larger. Even a temporary shutdown of the Indian Point units to implement physical retrofits would need to be planned carefully to avoid negative impacts on electric system reliability. At a minimum, the Companies recommend that any work requiring a lengthy temporary shutdown of the Indian Point facility should consider staging the work so that only one unit is off line at any one time.

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\(^2\) One gigawatt-hour is equal to one thousand megawatt-hours or one million kilowatt-hours.
As a result of these potential impacts, new facilities and infrastructure must be built and placed into service before a permanent shutdown can happen; this means that replacement resources would need to be designed, receive all required permits, be constructed, tested and placed into operation to avoid reliability criteria violations.

There are a number of options that can be considered for replacing Indian Point’s electric capacity, energy and voltage support, including demand side management and energy conservation programs, new electric generating facilities or new electric transmission lines to import power from regions where there is a surplus. The replacement plan could also include a combination of these options.

The NYISO planning process should be allowed to work. If state policy determines that the two Indian Point units should be shutdown, that notice should be provided to the market. The NYISO would then be able to identify the electric system reliability need, and at the same time, request both market solutions and backstop projects from affected transmission owners. Experience has shown that with the right signals, including sufficient time, the market can develop needed solutions.

Among possible plans, a combination of new generation, natural gas pipeline and electric transmission assets could be expected to develop. Any plan would require significant effort for planning, siting, and construction. Given the lead time required to execute these activities, the Companies believe that it could be very challenging for such a plan to be implemented before the current Indian Point units 2 and 3 licenses expire in September 2013 and December 2015, respectively. The time required to plan, site and permit the needed solutions will likely be lengthy, and followed by what could also be a lengthy construction period, depending on the solution that is pursued. Indeed, experience shows that it could take up to ten years for some of these projects to be completed.

Lastly, if Indian Point’s electric capacity is not replaced exactly where it is on the Con Edison electric system, Con Edison may need to implement local transmission system reinforcements in order to maintain appropriate transmission system voltage levels to support the continued flow of reliable electricity supplies to Westchester County and New York City. Our initial assessment indicates that a series of large electrical devices to control system voltages may be required.

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3 These devices include capacitor banks, static VAR compensators or static synchronous compensators.
**Consumer Electricity Bills Will Increase If Indian Point is Shutdown**

From the consumer perspective, the retirement of Indian Point would cause a fundamental shift in the sources of electricity supply in the State, especially in the downstate region. Any replacement option will increase the overall costs of electricity supply and delivery costs for consumers. The loss of low marginal cost and zero emission electricity supply from Indian Point will result in the use of more expensive fossil fueled sources. In addition, the full cost of a replacement option, whether it is generation, transmission or energy conservation will ultimately be borne by consumers in the form of higher electricity supply costs, or via increased charges in their bills for the required transmission investments and energy conversation programs.

Con Edison performed an evaluation of various Indian Point replacement options that included new generation facilities in New York City and in the region around Indian Point in the lower Hudson Valley, new electric transmission lines from Canada to New York City and more aggressive demand side management (DSM) in the Con Edison service territory.

Each of these options resulted in higher electricity supply costs over the twenty year period of our analysis. The increased supply costs ranged from about $5 billion (in net present value dollars or NPV) for the two generation addition and more aggressive DSM scenarios, whereas the new transmission lines from Canada to the downstate region (and associated supply) was estimated to increase electricity supply costs by $15 billion (NPV) over the same period. For a typical Con Edison New York City residential customer, the increases in electricity supply costs result in annual bill increases of between five percent and ten percent.

In addition, because each option does not fully replace 2000 MW of zero emission baseload generation, all of our options result in the increased reliance on fossil fueled sources within New York State, particularly of natural gas, which has the potential to expose consumers to more volatile energy markets and higher carbon emissions compliance costs.

**Local Air Quality Will Be Negatively Impact by a Shutdown of Indian Point**

Finally, as noted above, our assessment indicates that Indian Point’s electricity output would be replaced predominantly by fossil-fueled generation that could lead to material increases in emissions of carbon dioxide (CO₂), nitrous oxides (NOₓ), and sulfur dioxide (SO₂), which contribute to climate change and have an adverse impact on local air quality. Carbon dioxide (CO₂) emissions are expected to increase anywhere from seven to fifteen percent depending on the replacement scenario, with SO₂ increasing by six to fourteen percent, and NOₓ increasing by three to nine percent. These increases can have a significant impact on both air quality, as well
as costs to consumers under the existing environmental rules and cap and trade emission regimes. These impacts should also be considered by policy-makers before a decision is made to shutdown Indian Point.

In summary, there would be significant reliability degradation if the Indian Point units retired without replacement resources, which could be further exacerbated by other electric resource retirements or increased customer demand growth. Therefore, we suggest that a detailed plan be developed and implemented, perhaps using the NYISO planning process, before any shutdown is allowed. Moreover, any replacement scenario will have economic and air emission impacts that will increase customer electricity bills, as well as adversely affect air quality as compared with continued operation of the Indian Point units.

Thank you for this opportunity to discuss Con Edison’s perspectives on the need for the continued operation of the Indian Point facility, until a replacement plan can be fully implemented. I am available to respond to any questions that the Committee may have of Con Edison on our review of the continued need for the Indian Point nuclear power plant.

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