**STATE OF ILLINOIS**

**ILLINOIS COMMERCE COMMISSION**

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|---|---|---|
| **Rock Island Clean Line LLC** | **)** | |
| | **)** | |
| **Petition for an Order granting Rock Island** | **)** | |
| **Clean Line a Certificate of Public Convenience** | **)** | |
| **and Necessity pursuant to Section 8-406 of the** | **)** | |
| **Public Utilities Act as a Transmission Public** | **)** | **Docket No. 12-0560** |
| **Utility and to Construct, Operate and Maintain** | **)** | |
| **an Electric Transmission Line and Authorizing** | **)** | |
| **and Directing Rock Island Clean Line pursuant** | **)** | |
| **to Section 8-503 of the Public Utilities Act to** | **)** | |
| **Construct an Electric Transmission Line.** | **)** | |

# SURREBUTTAL TESTIMONY OF

# GARY MOLAND

# ON BEHALF OF

# ROCK ISLAND CLEAN LINE LLC

# ROCK ISLAND EXHIBIT 3.7

**November 12, 2013**

**Q. Please state your name, business address and present position.**

A. My name is Gary Moland. I am the Director of Power Markets & Transmission Analysis at GL Garrad Hassan. My business address is 45 Main Street, Suite 302, Peterborough, New Hampshire 03458.

**Q. Have you previously submitted prepared testimony and exhibits in this proceeding?**

A. Yes, I have previously submitted prepared direct testimony, dated October 10, 2012, which is identified as Rock Island Exhibit 3.0, and accompanying exhibits identified as Rock Island Exhibits 3.1 through 3.4. I have also previously submitted prepared rebuttal testimony and an accompanying exhibit identified as Rock Island Exhibits 3.5 and 3.6.

**Q. What is the purpose of your surrebuttal testimony?**

A. The purpose of my surrebuttal testimony is to present the results of a sensitivity analysis to my previous analysis of the benefits of the Rock Island Project. The sensitivity analysis models the impacts of a potential operating limitation on the Rock Island transmission line in the event of an outage of one of two Commonwealth Edison ("ComEd") 765 kV lines (Plano-Collins and Wilton Center-Collins). I will present PROMOD results for additional sensitivities that incorporate the operating restriction, related to planned and unplanned outages on the two ComEd 765 kV transmission lines that can limit the amount of energy delivered over the Rock Island Clean Line. The results of the additional sensitivity analyses are presented in Rock Island Exhibit 3.8, which was prepared under my supervision and direction.

**Q. Did your previous analysis consider transmission line outages?**

A. No, it did not. In my experience, it is not typical for benefit studies of this nature to include modeled outages for transmission lines. Planned outages on large transmission lines are infrequent and are not expected to occur on an annual basis. Unplanned outages

are also rare, making it difficult to capture the impacts in a statistically accurate way in simulation models. It is more typical to study transmission outage impacts through specific "stress" scenarios such as the sensitivities that are described herein.

**Q. Please describe the changed assumptions for the sensitivities to evaluate the impact of the operating limitation relating to the outages of the ComEd 765 kV transmission lines on the economic and environmental benefits of the Rock Island Clean Line.**

A. To conduct the sensitivities, it was assumed that in the event of an outage of either of the two ComEd 765 kV transmission lines, the amount of energy that can be delivered over the Rock Island Clean Line is limited to 700 MW during the period of the transmission line outage. Based on historical operational data, one of these ComEd 765 kV transmission lines is out of service due to a planned or unplanned outage in 4.1% of the hours of the year, or about 360 hours. In the new sensitivities, the study scenarios for "Business as Usual" and "Slow Growth" were analyzed with each of these two 765 kV transmission lines placed on outage for 180 non-overlapping hours during both the 2016 and 2020 study years. For each line the outages were split between a 90 hour planned outage during the spring and 90 hours of unplanned hours randomly placed in blocks of 10 hours during a summer peak month. During all hours when one of the ComEd lines was on outage, energy delivery on the Rock Island Clean Line was capped at 700 MW rather than the 3500 MW full capacity. The other key assumptions for the "Business as Usual" and "Slow Growth" scenarios were as shown on Rock Island Exhibit 3.2. The revised cases were run both with and without the Rock Island Clean Line Project to determine revised benefits that include the impact of the operating limitation relating to outages of the ComEd transmission lines.

**Q. Do the sensitivity analysis results show that the operating limitation relating to the outages of ComEd's 765 kV transmission lines impact the benefits to Illinois consumers from energy delivered over the Rock Island Clean Line?**

A. Including the operating limitation relating to transmission outages on the two ComEd 765 kV transmission lines results in small reductions in benefits compared to the base case results. In most cases the savings due to the Rock Island Clean Line were decreased by 1% to 3% when compared to the original benefit results that did not include operating limitations relating to the outages of ComEd's 765 kV transmission lines. Full results for these sensitivity analyses are provided in Rock Island Exhibit 3.8.

**Q. What caused the small decreases in benefits in the sensitivity analyses?**

A. The benefits from the Rock Island Clean Line Project were impacted by two primary factors in the sensitivity analyses. First, energy delivery over the Rock Island Clean Line was capped at 700 MW in those hours with an outage of one of the ComEd 765 kV transmission lines. This reduced the total energy delivered over the Rock Island Clean Line by 1.7%, requiring more generation from other conventional generation to replace the curtailed energy that would have been delivered by the Rock Island Clean Line. This primarily impacted the benefits related to production cost reductions and emissions reductions. Second, the transmission outages changed congestion patterns that resulted in less efficient use of energy delivered by the Rock Island Clean Line. Congestion changes primarily impacted the benefits associated with locational marginal price reductions and demand cost savings.

**Q. Does the overall impact of the operating limitation relating to outages of the ComEd 765 kV transmission lines, which you analyzed in the additional sensitivities, change the overall findings of your original benefits analysis?**

**A.** No, the magnitude of the decreases in economic and environmental benefits for the Rock Island Clean Line Project due to including the operating limitation relating to the outages of ComEd's 765 kV transmission lines was small and did not change the basic findings from the original benefits analysis.

**Q. Does this conclude your prepared surrebuttal testimony?**

A. Yes, it does.