

**BEFORE THE PUBLIC SERVICE COMMISSION OF THE DISTRICT OF COLUMBIA**  
**FORMAL CASE NO. 977, IN THE MATTER OF THE INVESTIGATION INTO THE QUALITY OF**  
**SERVICE OF WASHINGTON GAS LIGHT COMPANY, DISTRICT OF COLUMBIA DIVISION, IN**  
**THE DISTRICT OF COLUMBIA**

**Testimony of David Jonas Bardin as to**  
**WGL's preparation for catastrophic events and long-term electric power outages for**  
**February 6, 2019, Community Forum**

Chairman Phillips and Commissioners Beverly and Gillis,

WGL's quality of service depends both on WGL itself and on vital networks of gas pipelines, producers, and storage fields — all of which depend on electricity (normally supplied by networks or grids) for communications and controls. WGL, our local distribution company (LDC), completes a gas network.

**How prepared are WGL and its pipeline suppliers for power outages that last more than days?**

A new report,<sup>1</sup> prepared by the National Infrastructure Advisory Council (NIAC), asks the natural gas industry (and all of us) to consider blackouts far worse than any yet experienced (lasting weeks or months), due to low-probability but high-impact “black sky hazards.” NIAC warns:

The risk posed by a catastrophic power outage ... is not simply a bigger, stronger storm. It is something that could paralyze entire regions, ... **[The NIAC was tasked to examine the nation's ability to withstand a catastrophic power outage of a magnitude beyond modern experience, exceeding prior events in severity, scale, duration, and consequence.]**

The NIAC Report calls for regional cooperation between electric and natural gas industries to prevent, prepare for, and overcome such catastrophic power outages. The PJM Interconnection is our regional electricity transmission coordinator [serving DC and all or part of 13 states]. PJM pays attention to fuel security.<sup>2</sup> It schedules regular *operational* information-sharing consultations with some pipelines. Customers of both industries could probably benefit from *planning* coordination for NIAC-scale events. I hope this PSC [and all PJM Stakeholder PSCs] will encourage such gas-electric coordination.<sup>3</sup>

**Gas-electric information sharing:**

Robust gas-electric information sharing [both planning and operational] will support safety, security and reliability.<sup>4</sup> But need to guard critical infrastructure information may inhibit information-sharing.<sup>5</sup>

**Questions for WGL and its gas pipeline suppliers:**

I hope WGL will answer these questions: Without electricity supplies —:

(A) Could WGL deliver gas to customers — and could pipelines deliver gas to WGL?

(B) Could pipelines (and WGL) operate automatic emergency controls?

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<sup>1</sup> *SURVIVING A CATASTROPHIC POWER OUTAGE* (Dec. 2018).

<sup>2</sup> See *PJM's Evolving Resource Mix and System Reliability* (2017) and *PJM, Fuel Security* (2108).

<sup>3</sup> Perhaps WGL should be invited to participate.

<sup>4</sup> North American Electric Reliability Corporation (NERC) held up a goal of gas-electric “InterOperability” in 2017 and its board of trustees’ interest continues (most recently at its November 7, 2018 meeting, agenda item 8.f).

<sup>5</sup> See *Communication of Operational Information Between Natural Gas Pipelines and Transmission Operators*, FERC Orders No. 787 (2013) and No. 787-A (2014).

(C) Could pipelines (and WGL) quickly locate, and communicate about, mishaps?

(D) Could they operate remote manual controls?

And (E) Could pipelines and WGL generate their own electricity during long-term power outages?

In our PJM region, an average of 20% of gas compressor capacity now runs on grid electricity (rather than gas) — and that trends upward. Such compressors would shut down during a power outage.

#### **Black start resources:**

PJM's plans for restoring the grid after blackouts (which it obviously wants to avoid) may rely on "black start resources" — units that can start up without grid electricity and operate initially at low output, so as to form balanced generation/load islands and support system restoration via expanding networks. <sup>6</sup>

PJM selects black start units by competitive bidding; and 72% of PJM black start capacity is gas fired. PJM wisely requires bidders to successfully test start their units without using grid power, but that testing can't assure gas-fired units would have a gas supply during a long-term, widespread outage.

[PJM does not ask whether the gas industry could deliver gas to those units during NIAC-scale outages. PJM (unlike other regions) has not experienced an outage so severe as to *necessitate* black starts].

PSCs should urge PJM to intensify work with pipelines and LDCs.

Would this PSC support appropriate incentives for enhanced gas industry participation? <sup>7</sup> [FERC/DOE will hold a March 28 Technical Conference on Security Investments for Energy Infrastructure at FERC.]

Would this PSC allow WGL (as well as Pepco) to help develop black start networks?

#### **Lessons from last week in DC and Michigan:**

During last week's bitter cold, WGL delivered gas that kept people warm and businesses working.

Experience in Michigan was not as good: A mishap and fire forced a large gas compressor station out of service, causing a gas shortage. People were asked to lower thermostats (to 65°) and 100 businesses closed. After two days, that LDC <sup>8</sup> restored full service.

Happily, an automatic emergency control ["fire gate"] worked, stopping gas flow to the compressors so that the fire burned itself out (ostensibly without doing much damage). It might have been worse. It might have affected performance of black start units during an electric power blackout.

This concludes my testimony. <sup>9</sup> I would be happy to try to answer any questions.

Respectfully submitted, *David Jonas Bardin* [[davidbardin@aol.com](mailto:davidbardin@aol.com)]

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<sup>6</sup> Black start units may use minimal, non-grid electricity for startup, e.g., from batteries.

<sup>7</sup> See my January 10, 2019, [letter to FERC re incentives & NIAC Report](#).

<sup>8</sup> That LDC, Consumers Energy, has more gas customers than WGL. It is also an electricity distributor (like Pepco).

<sup>9</sup> My longer statement was filed on 1.30.2019 in this FC977 docket.