

STATE OF NEW YORK
DEPARTMENT OF ENVIRONMENTAL CONSERVATION

In the Matter of

Entergy Nuclear Indian Point 2, LLC,
Entergy Nuclear Indian Point 3, LLC,
and Entergy Nuclear Operations Inc.'s

Joint Application for CWA § 401 Water
Quality Certification

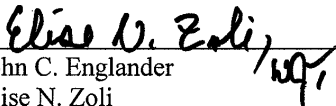
DEC App. Nos. 3-5522-00011/00030 (IP2)
3-5522-00105/00031 (IP3)

**PREFILED TESTIMONY OF MATTHEW J. BARVENIK
IN SUPPORT OF ENTERGY NUCLEAR INDIAN POINT 2, LLC, ENTERGY
NUCLEAR INDIAN POINT 3, LLC AND ENTERGY NUCLEAR OPERATIONS, INC.**

ISSUE FOR ADJUDICATION NO. 3 – RADIOLOGICAL MATERIALS

ENTERGY NUCLEAR INDIAN POINT 2,
LLC, ENTERGY NUCLEAR INDIAN POINT
3, LLC, AND ENTERGY NUCLEAR
OPERATIONS, INC.

By its attorneys,



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1 is regularly inspected to verify it is in good working condition. Following the discovery
2 of IP2 SFP releases, additional monitoring wells were put in place to monitor the
3 groundwater beneath IP3 as a proactive and precautionary measure.

4 **Q: Has the groundwater monitoring program allowed you to indentify and/or**
5 **characterize any additional releases to groundwater?**

6 Yes. As stated above, Entergy's broad array of monitoring installations, in addition to
7 characterizing the extent and movement of existing radionuclides in groundwater, is also
8 designed to assist Entergy in identifying possible future releases of radionuclides to the
9 groundwater beneath the site, and to assist Entergy in identifying and remediating the
10 source of such releases. This is part of Entergy's Long Term Monitoring Program
11 ("LTMP"), which is described more fully below. For example, since the LTMP began,
12 we have identified and/or characterized additional releases to groundwater beneath the
13 site:

- 14 • In the first quarter of 2009, a leakage of water occurred in a distillation tank valve
15 located within the IP1 chemical systems building. The result of this leakage was the
16 identification of a brief increase in tritium levels in a monitoring location in the area
17 of the chemical systems building. Since the leakage was repaired, levels in that
18 monitoring well have gone down to pre-leak levels. There is no indication that this
19 brief leakage caused any material increase in the amount of tritium reaching the river.
- 20 • In the fourth quarter of 2009, a leakage of water occurred during a temporary
21 operation to filter the water in the Refueling Water Storage Tank. This leakage
22 resulted in a temporary increase in tritium levels in various monitoring wells. The
23 leak was immediately fixed, and tritium levels have since gone down to pre-leak

1 levels. Entergy has subsequently determined that the radionuclide dose consequence
2 as a result of this leak was immaterial.

- 3 • Beginning in the third quarter of 2010, we noticed increased tritium levels in a
4 monitoring location adjacent to the IP2 SFP, which generally coincided with an
5 increase in the rate of water flowing into the leak-collection box on the outside of the
6 IP2 SFP. As an initial finding of the on-going investigation, the increased flow
7 appears to be attributable to the periodic raising of the SFP water level, resulting in a
8 leak path from light boxes near the top of the SFP, allowing water to get behind the
9 stainless steel liner plates on the face of the SFP. This leak path has had a temporary
10 repair applied, through sealing of the light boxes. Those light boxes are planned to be
11 removed and permanently sealed in the near future. There is no indication that this
12 leakage has resulted in any material increase in the tritium plume but additional
13 evaluations continue, so as to fully understand this issue.

14 While the concentrations of tritium identified above have resulted in no material increase
15 in the offsite dose analyses regularly performed by Entergy, all such instances are
16 enveloped by the reporting and analysis requirements of the NRC's effluent regulations.
17 As such, they are included in the annual environmental and effluent release reporting
18 documents provided to the NRC.

19 In my professional opinion, Entergy's ability to identify, characterize, and
20 respond appropriately to these sporadic releases, which occur at any large industrial
21 facility, demonstrates the efficacy of the LTMP.

22 **VI. DETAILS OF GZA'S SITE HYDROGEOLOGY STUDY**

23 **Q: Please provide an overview of the purpose and objectives of Indian Point's**