

Clinton Power Station
8401 Power Road
Clinton, IL 61727

U-604054
February 21, 2012

10 CFR 50.83

U.S. Nuclear Regulatory Commission
ATTN: Document Control Desk
Washington, DC 20555-001

Clinton Power Station, Unit 1
Facility Operating License No. NPF-62
NRC Docket No. 50-461

Subject: Additional Information for Request for Partial Site Release

- References:
1. Letter from Mr. William G. Noll to U.S. NRC, "Clinton Power Station Request for Partial Site Release," dated November 18, 2011
 2. Email from Mr. Joel Wiebe, NRC to Mr. Mitch Mathews, Exelon, Non-acceptance with Opportunity to Supplement, dated January 30, 2012

In Reference 1, Exelon Generation Company, LLC (EGC) requested a partial site release of a few acres of real estate to Creek Township for the purpose of expanding the Lisenby Cemetery.

In Reference 2, the NRC requested that EGC provide supplemental information in support of their review of Reference 1. The NRC request for supplemental information and the specific EGC responses are provided in Attachment 1 to this letter.

There are no commitments contained in this letter.

If you have any questions concerning this letter, please contact Mr. Mitchel Mathews at (630) 657-2819.

Respectfully,

 *W. G. Noll*

William G. Noll
Site Vice President
Clinton Power Station

EET/bif

Attachment: Supplemental Information Supporting the Request for a Partial Release of the Clinton Power Station Site

cc: Regional Administrator
NRC Senior Resident Inspector – Clinton Power Station
Office of Nuclear Facility Safety – Illinois Emergency Management Agency

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NRC RSI 1a:

1. 10 CFR Part 50.83(c)(2) requires a determination whether the licensee's classification of any release areas as non-impacted is adequately justified. The staff determined that the following items are not adequately justified:

- a. Exelon's November 18, 2011, submittal states that the shallow groundwater flow is "predominately toward the lake." The land to be released is toward the lake (from the perspective of site structures), but is on the opposite side of the lake. The submittal does not address any potential, deeper groundwater aquifers nor whether those aquifers (if they exist) could impact the land to be sold.

Additionally, the submittal states "Station release pathways are monitored and summarized as follows...Surface water, drinking, and well water samples were analyzed.... No tritium activity has been detected." A review of the CPS 2010 Annual Radiological Environmental Operating Report (AREOR) indicates the following:

"Background levels of tritium were detected at concentrations greater than the self-imposed LLD of 200 pCi/L in three of 17 groundwater monitoring locations. The tritium concentrations ranged from 184 +104 pCi/L to 744 ± 130 pCi/L."

The CPS 2010 AREOR indicates tritium is localized around three groundwater wells. The NRC finds the highest levels of tritium limited to one groundwater well, MW-CL-21S, and that the results are consistently and significantly higher than other wells in the area. Two other wells very near MW-CL-21S show lower levels of tritium. All other monitoring wells in the 2010 AREOR indicated tritium was not detected. The licensee characterizes this tritium as "background levels."

Provide justification that demonstrates that the areas to be released are not impacted by any potential deep aquifers, including providing information regarding any relationship between shallow and potentially deep aquifers and the background levels of tritium in the vicinity of the areas to be released.

Response 1a:

From the Summary and Conclusions Section of the 2010 Annual Radiological Groundwater Protection Program Report (AREOR) (Reference 2), tritium was not detected in any of the groundwater or surface water samples at concentrations greater than the Clinton Power Station (CPS) Offsite Dose Calculation Manual (ODCM) lower limit of detection of 2000 pCi/L.

Background levels of tritium were detected at concentrations greater than the Exelon Generation Company, LLC (EGC) self-imposed Lower Limit of Detection (LLD) of 200 pico Curies per liter (pCi/L) in three of 17 groundwater monitoring locations. The tritium concentrations ranged from 184 ± 104 pCi/L to 744 ± 130 pCi/L, all well below the 2000 pCi/liter LLD specified in the Clinton ODCM. The monitoring wells which are sampled for tritium are located around the plant site. The proposed area for release is not within this affected area, so no monitoring wells are located in that area.

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AREOR Table B-I.1, "Concentrations of Tritium in Groundwater Samples Collected in the Vicinity of Clinton Power Station, 2010," shows the tritium results for monitoring well MW-CL-21S. This well is in the expected groundwater path of the Cycled Condensate (CY) Tank to the Unit 2 excavation. The groundwater flow from this excavation and the lands surrounding the lake is towards the lake, there are no shallow aquifers in the vicinity of the plant. The shallow groundwater path is separated from a deep aquifer buried 100 to 200 feet below the surface by nearly water-tight, clay-rich glacial till. There is very slow movement of groundwater through this glacial till to the aquifer. The flow of this aquifer at the Clinton site is away from the proposed area for release and towards the operating site.

NUREG 1844, "Safety Evaluation Report for an Early Site Permit (ESP) at the Exelon Generation Company, LLC (EGC) ESP Site," (Reference 3) Section 2.4.12, "Groundwater," and Section 2.4.13, "Accidental Releases of Liquid Effluents to Ground and Surface Waters," discusses the relationship of regional geologic stratigraphy and the regional ground water flow system.

NRC RSI 1b:

Exelon's November 18, 2011, submittal states that "Station release pathways are monitored and summarized as follows... Grass samples were analyzed for concentrations of gamma emitting nuclides. Concentrations of Cosmogenic Be-7 and naturally occurring K-40 were consistent with those detected in previous years. No fission or activation products were detected."

Provide the approximate percentage of samples that were taken in the areas proposed to be released. Provide justification that this adequately confirms that the areas can be classified as non-impacted.

Response 1b:

From the AREOR, Environmental Dosimetry uses a ring of Thermo-Luminescent Dosimetry (TLDs) to monitor release pathways. There are sixteen (16) TLDs that comprise the inner ring, one of which is within 100 feet of the edge of the cemetery property with two others in close proximity. From Table C-X.1, "Quarterly TLD Results for Clinton Power Station, 2010," the readings from this TLD are consistent with the others in the inner ring which is indicative of normal environmental gamma radiation. Table C-X.3, "Summary of the Ambient Dosimetry Program for Clinton Power Station, 2010," provides details of the number and results of analyzed samples. These radiation monitors provide assurance that 100% of the proposed area for release has been monitored and shows that only background levels of radiation have been detected.

There are ten air particulate sample points, one of which is near the proposed area for release.

The grass samples are taken downwind of the predominant winds, and are not located as near the proposed area for release as TLDs. Since the predominant areas do not show indications of being impacted, as confirmed by TLD readings, the proposed area for release has been classified as non-impacted.

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NRC RSI 2:

10 CFR Part 50.83(a) states, in part, "Section 50.75 specifies recordkeeping requirements associated with partial release." Exelon's submittal does not address 10 CFR Part 50.75 recordkeeping requirements.

Discuss how 10 CFR Part 50.75 recordkeeping requirements will be met.

Response 2:

EGC complies with 10 CFR Part 50.75 recordkeeping requirements through the use of the Quality Assurance Topical Report (QATR) which describes retention of records required by regulation. These requirements are implemented through EGC procedure RM-AA-101, "Records Management Program," and RM-AA-101-1004, "Standard Records Retention Schedule." EGC records associated with the release and final disposition of any licensed property are recorded and maintained for the life of the plant plus ten years under Record Retention Number 5C.103.

NRC RSI 3:

Provide a specific reference to the issued Early Site Permit and the docketed site safety analysis report. Provide a reference to sections of the early site permit, including the site safety analysis report, that are potentially impacted by the proposed partial release and demonstrate why this is not considered a change.

Response 3:

NUREG-1844, Early Site Permit (ESP) Section 2.4.1, "Hydrologic Description," discusses the ESP facility lake intake structure and blowdown discharge would use the Unit 1 discharge flume. The proposed area for release does not impact these structures or process.

NUREG-1844, ESP Section 2.4.12, "Groundwater". The proposed area, of approximately four acres adjacent to an existing cemetery and not used for any part of the operation of the plant, does not alter any of the descriptions in this section.

NUREG-1844, ESP Section 2.4.13, "Accidental Releases of Liquid Effluents to Ground and Surface Waters". The proposed area is not used in any plant activities and is not in an area that is affected by plant activities. Radiological monitoring will continue to be performed.

NUREG-1844, ESP Section 2.4.15, "Thermal Discharges". The proposed area is not used for flood control, is not part of the cooling lake shoreline or the cooling water discharge flume, as shown on Attachment 4 to Reference 1, and does not alter any of the descriptions in this section.

NUREG-1844, ESP Section 2.4.16, "Site Characteristics Related to Hydrology". The proposed area does not alter any of the descriptions in this section.

The summary of these references is that the proposed area for release is not used by plant activities and is not in an area affected by plant activities as demonstrated by radiological monitoring documented in the plant's Annual Radiological Environmental Operating Report.

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References:

1. Letter from Mr. William G. Noll to U.S. NRC, "Clinton Power Station Request for Partial Site Release," dated November 18, 2011. (ML11340A077)
2. Clinton Power Station 2010 Annual Radiological Environmental Operating Report, dated April 28, 2011. (ML111250365)
3. NUREG 1844, "Safety Evaluation Report for an Early Site Permit (ESP) at the Exelon Generation Company, LLC (EGC) ESP Site," dated May 2006. (ML061240287)
4. Exelon Generation Company (EGC) Early Site Permit Application, dated September 25, 2003. (ML032721594)