J. M. Heffley
Chief Nuclear Officer

Constellation Generation Group
1997 Annapolis Exchange Parkway
Suite 310
Annapolis, MD 21401
410-897-5020

Constellation Energy
Generation Group

July 31, 2006

Division of Inspection and Regional Support
Office of Nuclear Reactor Regulation
U.S. Nuclear Regulatory Commission
Washington, DC 20555-0001

ATTENTION: Mr. Stuart A. Richards, Deputy Director, NRR/ADRO/DIRS

SUBJECT: **Calvert Cliffs Nuclear Power Plant**
Unit Nos. 1 & 2; Docket Nos. 50-317 & 50-318
Nine Mile Point Nuclear Station
Unit Nos. 1 & 2; Docket Nos. 50-220 & 50-410
R.E. Ginna Nuclear Power Plant
Docket No. 50-244

Groundwater Protection – Data Collection Questionnaire

The nuclear industry, in conjunction with the Nuclear Energy Institute, has developed a questionnaire to facilitate the collection of groundwater data at commercial nuclear reactor sites. The objective of the questionnaire is to compile baseline information about the current status of site programs for monitoring and protecting groundwater, and to share that information with the Nuclear Regulatory Commission. Attachments 1 through 3, provided for your information, are the completed questionnaires for Calvert Cliffs Nuclear Power Plant, Nine Mile Point Nuclear Station, and R.E. Ginna Nuclear Power Plant.

This submittal contains no regulatory commitments.

Should you have any questions regarding the information in this submittal, please contact Dr. F.J. Mis at (410) 897-5028 or Frederic.Mis@constellation.com.

Very truly yours,

John M. Heffley
Chief Nuclear Officer

JMH/EMT/jmp

IE25

Attachments:
(1) Calvert Cliffs Nuclear Power Plant Industry Groundwater Protection Initiative Voluntary Data Collection Questionnaire
(2) Nine Mile Point Nuclear Station Industry Groundwater Protection Initiative Voluntary Data Collection Questionnaire
(3) R.E. Ginna Nuclear Power Plant Industry Groundwater Protection Initiative Voluntary Data Collection Questionnaire

cc: Document Control Desk
P. D. Milano, NRC
S. J. Collins, NRC
Resident Inspector, NRC (Ginna)
Resident Inspector, NRC (Calvert Cliffs)
Ralph Anderson, NEI
Resident Inspector, NRC (NMPNS)
T. G. Colburn, NRC
R. I. McLean, Maryland DNR
J. P. Spath, NYSERD
P. Eddy, NYS Dept. of Public Services

ATTACHMENT (1)

Calvert Cliffs Nuclear Power Plant

Industry Groundwater Protection Initiative

Voluntary Data Collection Questionnaire

Constellation Generation Group, LLC
July 31, 2006

Calvert Cliffs Nuclear Power Plant

Industry Groundwater Protection Initiative
Voluntary Data Collection Questionnaire

1. ***Briefly describe the program and/or methods used for detection of leakage or spills from plant systems, structures, and components that have a potential for an inadvertent release of radioactivity from plant operations into groundwater.***

   The condition of structures, systems, and components is constantly monitored in the normal course of plant operation. In addition, the system engineering group does a walkdown of plant components (e.g., the refueling water tank) and inspects the area for visual indication of liquid leakage (e.g., boric acid buildup, wetted areas). Shallow monitoring wells (water table is approximately 38 feet below grade) are monitored for gamma and tritium activity as required by plant procedures. Any unusual conditions are captured in the plant corrective action program.

2. ***Briefly describe the program and/or methods for monitoring onsite groundwater for the presence of radioactivity released from plant operations.***

   There are five shallow monitoring wells (piezometer tubes) onsite. All of these piezometer tubes are sampled quarterly as required by approved plant procedures. The shallow monitoring wells are monitored for gamma and tritium activity as required by plant procedures. Samples can also be taken from the deep-water aquifers, if required.

3. ***If applicable, briefly summarize any occurrences of inadvertent releases of radioactive liquids that had the potential to reach groundwater and have been documented in accordance with 10 CFR 50.75(g).***

   On December 3, 2005, tritium was discovered in a shallow monitoring well. The contamination was due to an eroded pipe in a sub-surface drainage system connected to the plant circulating water system, which is a normal discharge pathway for permitted releases. During an annual surveillance of piezometer tubes (i.e., shallow monitoring wells), low levels of tritium (1,800 pCi/l +/- 960 pCi/l) were found in piezometer tube #11. No gamma activity was detected. The piezometer tubes are 2-inch diameter, partially slotted, PVC pipe buried in the soil to a depth of about 49 feet. The piezometer tubes were installed during original plant construction to measure the depth of the water table and are not used for drinking water. The tritium contamination is contained within the protected area on site. Piezometer tube #11 is located approximately 40 feet from the turbine building and is approximately 273 feet from the nearest location to the Chesapeake Bay. Additionally, Piezometer tube #11 is approximately 3,400 feet from the nearest land based site boundary. No tritium contamination associated with Piezometer tube #11 is known to have migrated off site. Tritium is currently below detection limits for Calvert Cliff's instruments; however, analysis by a vendor laboratory indicates tritium in this Piezometer tube is approximately 88 pCi/l.

4. ***If applicable, briefly summarize the circumstances associated with any <u>onsite</u> or <u>offsite</u> groundwater monitoring result indicating a concentration in groundwater of radioactivity released from plant operations that exceeds the maximum contaminant level (MCL) established by the USEPA for drinking water.***

   Calvert Cliffs has not had any onsite or offsite groundwater monitoring results exceeding the maximum contaminant level for drinking water.

5. ***Briefly describe any remediation efforts undertaken or planned to reduce or eliminate levels of radioactivity resulting from plant operations in soil or groundwater onsite or offsite.***

Sampling as described will be continued. The spill prevention program is also supported by the walkdown described in Question 1. No remediation efforts have been undertaken for the tritium discussed in Question 3. The source of the contamination has been repaired. The well and surrounding wells will continue to be monitored.

In general, when a spill or leak is discovered, some form of remediation is generally undertaken immediately to minimize any potential for the spread of contamination and to minimize the efforts that may later be required at decommissioning. This remediation may be as simple as excavating small amounts of soil or using absorbents or mops to remove contamination. Alternatively, remediation may involve removing larger sections of asphalt or rocks. Additional details for each spill or leak are contained in the 50.75(g) file maintained on site.

ATTACHMENT (2)

Nine Mile Point Nuclear Station

Industry Groundwater Protection Initiative

Voluntary Data Collection Questionnaire

Constellation Generation Group, LLC
July 31, 2006

Nine Mile Point Nuclear Station

Industry Groundwater Protection Initiative
Voluntary Data Collection Questionnaire

1. ***Briefly describe the program and/or methods used for detection of leakage or spills from plant systems, structures, and components that have a potential for an inadvertent release of radioactivity from plant operations into groundwater.***

   The condition of structures, systems, and components is constantly monitored in the normal course of plant operation. In addition, the operations group does a walkdown of plant components (e.g., discharge piping) and inspects the area for visual indication of liquid leakage (e.g., wetted areas). Groundwater is monitored in shallow wells (10-20 feet below grade) for gamma and tritium activity as required by plant procedures. Any unusual conditions are captured in the plant corrective action program.

2. ***Briefly describe the program and/or methods for monitoring onsite groundwater for the presence of radioactivity released from plant operations.***

   There are two up-gradient shallow wells and several shallow wells down-gradient that are used for monitoring purposes. These are not drinking water wells. Storm drains for NMP-2 include depression cone water (groundwater) and building sumps in NMP-1 and -2 serve to collect water with possible contamination. The wells are monitored for tritium on a semi-annual basis. Gamma spectroscopy is performed weekly and tritium analysis is performed quarterly on the storm drains, which include building sumps.

3. ***If applicable, briefly summarize any occurrences of inadvertent releases of radioactive liquids that had the potential to reach groundwater and have been documented in accordance with 10 CFR 50.75(g).***

   Nine Mile Point has not had any inadvertent releases that had the potential to reach the groundwater.

4. ***If applicable, briefly summarize the circumstances associated with any <u>onsite</u> or <u>offsite</u> groundwater monitoring result indicating a concentration in groundwater of radioactivity released from plant operations that exceeds the maximum contaminant level (MCL) established by the USEPA for drinking water.***

   Nine Mile Point has not had any onsite or offsite groundwater monitoring results exceeding the maximum contaminant level for drinking water.

5. ***Briefly describe any remediation efforts undertaken or planned to reduce or eliminate levels of radioactivity resulting from plant operations in soil or groundwater onsite or offsite.***

   Nine Mile Point has not had any unmonitored releases or spills that required remediation efforts.

ATTACHMENT (3)

R.E. Ginna Nuclear Power Plant

Industry Groundwater Protection Initiative

Voluntary Data Collection Questionnaire

Constellation Generation Group, LLC
July 31, 2006

R.E. Ginna Nuclear Power Plant

Industry Groundwater Protection Initiative
Voluntary Data Collection Questionnaire

1. ***Briefly describe the program and/or methods used for detection of leakage or spills from plant systems, structures, and components that have a potential for an inadvertent release of radioactivity from plant operations into groundwater.***

   The condition of structures, systems, and components is constantly monitored in the normal course of plant operation. In addition, the system engineering group does a walkdown of plant components (e.g., the refueling water tank) and inspects the area for visual indication of liquid leakage (e.g., boric acid buildup, wetted areas). Shallow monitoring wells (approximately 17 feet below grade) are monitored for gamma and tritium activity as required by plant procedures. Any unusual conditions are captured in the plant corrective action program.

2. ***Briefly describe the program and/or methods for monitoring onsite groundwater for the presence of radioactivity released from plant operations.***

   Ginna has four total groundwater wells and one bedrock well. The down-gradient well is screened at three depths in order to catch any radionuclides in any form. Another well is in the generally down-gradient direction between the Retention Tank and the lake, and is adjacent to the bedrock well. Another well is between the Contaminated Storage Building and the onsite creek in a generally up-gradient direction. These are not drinking water wells. The shallow monitoring wells are monitored for gamma and tritium activity as required by plant procedures.

   Soil sampling is conducted in association with moving dirt from onsite or for excavation activities where dirt is to be relocated out of the protected area. Soil sampling is also conducted in accordance with the Radiological Environmental Monitoring Program for selected areas onsite, and those samples are analyzed for gamma activity.

3. ***If applicable, briefly summarize any occurrences of inadvertent releases of radioactive liquids that had the potential to reach groundwater and have been documented in accordance with 10 CFR 50.75(g).***

   In 1982, a steam generator tube rupture released activity into the ground. This incident is documented in NUREG-0909, NRC Report on the January 25, 1982 Steam Generator Tube Rupture at R.E. Ginna Nuclear Power Plant.

   In 1995 the Steam Generator overboard blowdown piping was discovered to have degraded and secondary coolant was in contact with groundwater. Ginna had significant (50 cc/min) primary-to-secondary leakage at that time. A spike of 20,000 pCi/L of tritium, with no other radionuclides, was detected in down-gradient sample wells. This unmonitored release was discussed with the NRC Region I office under Information Notice 80-10 criteria. The blowdown piping was repaired, the steam generators have since been replaced, and subsequent groundwater monitoring has detected no further tritium releases

4. ***If applicable, briefly summarize the circumstances associated with any <u>onsite</u> or <u>offsite</u> groundwater monitoring result indicating a concentration in groundwater of radioactivity released from plant operations that exceeds the maximum contaminant level (MCL) established by the USEPA for drinking water.***

   Ginna has not had any offsite groundwater monitoring results exceeding the maximum contaminant level for drinking water.

The 1995 steam generator overboard blowdown piping resulted in an unmonitored release from operations that met the MCL established by the USEPA for drinking water.

5. ***Briefly describe any remediation efforts undertaken or planned to reduce or eliminate levels of radioactivity resulting from plant operations in soil or groundwater onsite or offsite.***

Sampling as described will be continued. The spill prevention program is also supported by the walkdown described in Question 1. The contamination resulting from the steam generator events was monitored and did not result in continued contamination.