December 31, 2003

Daniel A. Weekley
Director Northeast Government Affairs
Dominion Resources Services, Inc.
Millstone Power Station
Rope Ferry Road
Waterford, CT 06385

RE: **DOCKET NO. 265 -** Dominion Nuclear Connecticut, Inc. application to modify an existing electric generating facility (Millstone Power Station) to establish an independent spent fuel storage installation on property located off Rope Ferry Road, Waterford, Connecticut.

Dear Mr. Weekley:

The Connecticut Siting Council (Council) requests your responses to the enclosed questions no later than January 13, 2004. To help expedite the Council's review, please file individual responses as soon as they are available.

Please forward an original and 20 copies to this office. In accordance with the State Solid Waste Management Plan, the Council is requesting that all filings be submitted on recyclable paper, primarily regular weight white office paper. Please avoid using heavy stock paper, colored paper, and metal or plastic binders and separators. A list of parties and intervenors dated October 14, 2003 is enclosed. Fewer copies of bulk material may be provided as appropriate.

Yours very truly,

S. Derek Phelps
Executive Director

SDP/FOC

c: Council Members
Parties and Intervenors
Enclosure – Service List dated October 14, 2003

18. Identify all correspondence specifying date, author and recipient, topic of contents and volume exchanged between Dominion Nuclear Connecticut and the Nuclear Regulatory Commission in regards with the proposed Independent Spent Fuel Storage Installation Facility.

19. Why is it not prudent to maintain all spent fuel in the existing pools through 2010 when the Department of Energy may have a better understanding of choice in vendor and manner of spent fuel acceptance?

20. Is it possible to rerack spent fuel in the Unit 2 spent fuel pool? Provide a calculation for reracking the maximum amount of spent fuel in the Unit 2 spent fuel pool and the year this would happen?

21. Is it possible to store Unit 2 spent fuel in the Unit 3 spent fuel pool? Provide a calculation for reracking the maximum amount for both Unit 2 and Unit 3 spent fuel in the Unit 3 spent fuel pool? Provide the specific number of fuel assemblies from Unit 2 and Unit 3 that would be stored in the Unit 3 spent fuel pool.

22. Identify all approvals necessary for maximum storage of spent fuel in each individual spent fuel pool for Unit 2 and Unit 3.

23. Identify all approvals necessary for storage of Unit 2 spent fuel in the Unit 3 spent fuel pool.

24. List the advantages and disadvantages, including but not limited to economic, security, or public health and safety, to move Unit 1 fuel into dry storage.

25. Has DNC considered the possibility of having to transfer and maintain all fuel in dry storage and, if so, how would their plans change from those currently being considered?

26. Clarify the storage capacity of a single canister that would be housed in a single horizontal concrete module (HCM) relative to the licensed units identified on the Nuclear Regulatory Commission's (NRC) webpage (http://www.nrc.gov/reading-rm/doc-collections/fact-sheets/dry-cask-storage.html).

27. What is the nature of the quality control procedures governing welding of the metal canisters, both during manufacture and when on-site welding of the canister end covers takes place?

28. Have there been any studies to evaluate possible corrosive effects of moisture and salt air on the metal canister within the concrete module? Does coolant air flowing through the vent system contact the exterior metal surface of the canister? What is the type of corrosion likely on the steel canisters? In what time period? What is the treatment to correct or remove corrosion that may develop? What type of seal is used when the cover is bolted to the end of the module? Does the seal require maintenance?

29. When the concrete modules are assembled are there any joints or openings that would allow environmental water to leak to the surface of the metal canister?

30. Is the HCM concrete treated with any type of surface sealant? If so, does this require periodic treatment?

31. If a HCM vent were to become blocked, how long, under the FSAR 100 degree weather conditions, would it take for the temperature in a heavily loaded cask to reach a point where fuel or HCM thermal damage was possible?

32. Is it possible for rodents, birds, or other small animals to get into the HCM vents? Is there any difference, in Dominion company experience, between animal or plant behaviors and effects in cold versus hot climates in or around an ISFSI?

33. Is there any information as to the likelihood that the top surfaces of the concrete storage modules will encourage nesting there by osprey or other species? If so what are the dose implications for such species and/or what control/abatement programs would be implemented to prevent such nesting?

34. Explain under what circumstances the ISFSI requires a *site specific* license rather than a general license? Are you limited under the general license to storage of intact (nondamaged) fuel only? Does DNC have damaged fuel in its inventory? If yes, identify how much per unit. Under what NRC provision is damaged fuel allowed to be stored in dry cask under a general license for an ISFSI? Are the canisters the same as those for intact fuel assemblies?

35. Has DNC received any assurance from DOE that no inspection of the stored fuel, beyond that done by NRC inspector(s) when fuel is loaded from the pool to the canister, will be required prior to acceptance for shipment by DOE?

36. Given that DOE has requirements on the condition of fuel to be shipped and there could be a concern if questions of degradation of fuel rod integrity develop during dry storage, if reopening of a sealed canister were necessary, could it be done at the Millstone site?

37. Describe the crane mishandling event analysis. Include identification of crane type, ownership of crane, the age and weight capacity of the crane.

38. What procedures for documentation are in place that assure spent fuel and only spent fuel is placed in a canister? Is there both third party (independent) and non-NRC verification of the process of loading as well as review of documents that authenticate each canister's contents?

39. Describe and provide site-specific weather and climate studies used to calculate moisture and humidity levels in the HSM after operation. If none were used, explain what parameters were used and why.

40. What are the past histories of cases in which the full fuel core inventory of any of units 1, 2 or 3 has been required to be offloaded to the respective spent fuel pools?

41. Following the end of the Unit 3 license renewal period (presumably, 2045), and based on current thinking by DNC, is it likely that DNC would proceed to obtain approval to expand the ISFSI (in the unfortunate possibility that the DOE had still not removed any of the stored fuel) to accommodate the total of 234 storage units required for all the fuel?

42. If DNC does implement the proposed dry storage system and, if DOE does remove all or part of the dry-stored fuel prior to the end of license renewal periods for Unit 2 and/or 3, would it be DNC's plan to reuse existing concrete storage modules to receive more fuel (in canisters) from the spent fuel pools? Is there any time limit (aside from the 20 year license period for a particular cask design) on use of the storage modules? Are any special maintenance procedures or changes required for reuse of the modules?

43. Has the State of Connecticut Office of Emergency Management been provided a copy of the application? If so, did DNC receive any comments on the application? If so, provide a copy.

44. What kind of emergency do you envision? Why is dry storage the solution? Are you assuming a situation that requires federal intervention? What prevents DNC from obtaining assistance from federal agencies, for example, the Department of Energy under its contract, or Homeland Security agencies, for emergency situations?

45. List the types of actual stress tests that have been applied to the proposed canisters and HSMs. Are computer models used to test the designs of the proposed canisters and HSMs? If so, what type of tests has been modeled for the proposed canisters and HSMs? Has the NRC issued any requests for actual stress tests for the storage canisters and modules?

46. Please explain the advantages of horizontal storage over vertical storage and provide authority (peer review article(s)). Is there delayed corrosion, for example? Are there cost advantages? Please elaborate.

47. What factors led to the decision to delay submission for the payload license to the NRC in spring 2004? What are DNC's concerns, if any, should a siting approval condition include DNC's receipt of the transport license component of the NUHOMs system?

48. Provide external radiation dose calculations confirming HSM surface dose rates and dose rates at site boundary. How many loaded canisters were assumed present for the calculations? Were annual doses calculated at various radial distances from the storage site? If so, provide this data. Was the dose effect of operating and/or shutdown reactors added into dose results for the ISFSI?

49. Who is the resident inspector from the NRC assigned to Millstone? Does the inspector circuit ride in the region or is assigned as fulltime, 40 hour a week, at Millstone?

50. Did DNC file a license amendment for Unit 1 with the NRC? If so, is that amendment for "safe store," essentially a mothball status for up to 60 years? If not identify the status of Unit 1.

51. Is there any probability that Millstone Unit 1 could be restarted (as a nuclear plant) in the foreseeable future? If so, how would this affect the waste storage plan being proposed?

52. If the site layout for the 135 proposed units is approved, the surface area outside of the concrete pad and apron for 20 units is shown as consisting of gravel or crushed stone. (Millstone Power Station Independent Fuel Storage Installation Dominion Nuclear Connecticut Siting Council Application, Aug. 25, 2003, Drawing 2). To what extent do you expect this material require regular maintenance to ensure proper grading and minimize pooling of water in the ISFSI site?

53. Would soil removed from the ISFSI site be spread uniformly over the soil placement area? If not, how would the material be distributed. What effect would the changes in elevation have on water runoff? What would be the range in elevation change for a) build out for 19 units, b) for 135 units, and c) 234 units?

54. Will the 4 foot thick pad for Phase I or other concrete planned for future build out, be in contact with groundwater, or will surface water accumulate at any locations around the pad? Identify existing and proposed Ph levels in vicinity of the proposed ISFSI. Would any land or aquatic biota be adversely affected by elevated pH levels? Where is the peninsula's groundwater recharge area in relation to the ISFIS proposed site? Will the presence of the proposed concrete

pads and aprons have any significant effect on groundwater? Is there a study? If so, provide the study. If not, explain why one was not done.

55. Are there existing groundwater monitoring wells located in the vicinity of the proposed ISFSI? If not could groundwater monitoring wells be installed around the perimeter of the proposed ISFSI?

56. What types of radiation/radioactivity monitoring will be in place for the proposed ISFSI? How will this information be shared with the State?

57. What volume of low-level radioactive waste may be created as a result of the decommissioning of the proposed ISFSI?

58. Is DNC responsible for packaging spent fuel for shipment? If not explain. If DOE did not accept dry storage canisters licensed pre-2010, how would DNC prepare spent fuel for shipping? Is DNC aware of any NRC provisions that prohibits the storage of canisters as an alternative to repackaging and shipping spent fuel to a national repository if established and operating?