

Schedule A

ANR Discovery Requests

Q.ANR:EN.1-15: What do you mean by “we will benchmark the industry to determine best practices;”

- a. How will you determine the benchmark?
- b. How many plants will be utilized to determine the benchmark?
- c. Identify the names of the nuclear power plants that will be evaluated in determining benchmark
- d. Identify the similar and distinguishing characteristics of the plants to which you will refer in determining benchmark
- e. Identify any and all plants discarded and explain why, in determining the benchmark
- f. For what period of time will the benchmark be determined?
- g. For what practices are you determining best practices
- h. Identify any and all practices that are going to be evaluated and benchmarked

Q.ANR:EN.1-16: Has VY ever evaluated the risk of radionuclide leakage for applicable structures, systems, and components?

- a. Identify any and all inspections and evaluations undertaken, for what structures, systems, and components, and for what period of time.
- b. If there have been evaluations for the risk of radionuclide leakage for applicable structures, systems, and components, identify any and all risks previously noted or reported and identify and explain any and all remediation or corrective or preventative actions taken to prevent such leakage.
- c. Was the leakage in AOG pipe or other underground piping identified?
- d. If yes, what actions were taken to prevent the leak?
- e. If the leak in the AOG pipe was not detected, please explain why not.

Q.ANR:EN.1-18: Identify any and all factors that will be considered in deciding whether and in what circumstances to replace or relocate below-grade pipe to above ground.

Q.ANR:EN.1-19: Explain any and all factors that would result in a decision to leave below-grade pipe below ground.

Q.ANR:EN.1-27: In CLF- EN-I-2, CLF asked you to admit that there have been leaks of radioactive material and radionuclides at the VT Yankee Nuclear Power Facility in Vernon, VT. Specifically, have there been any releases of cesium -137 at the VT Yankee Nuclear Power Facility? Produce any and all documents on which you rely for your response.

Q.ANR:EN.1-28: Have there been soil samples that show cesium-137 at the facility? Produce any and all documents on which you rely for your response.

Q.ANR:EN.1-29: Please identify the location of any and all spills containing cesium-137 that may have occurred in the past 40 years? Produce any and all documents on which you rely for your response.

Q.ANR:EN.1-30: Please produce all documents and communications that relate to the presence of cesium-137 found on the Entergy VY site.

Q.ANR:EN.1-45: Please produce any and all documents that Entergy VT has in its possession having to do with the human health effects of tritium. Please provide any and all documents on which you rely for your response.

Q.ANR:EN.1-46: Please produce any and all documents that Entergy VT has in its possession having to do with the environmental effects of tritium. Please provide any and all documents on which you rely for your response.

Q.ANR:EN.1-47:

- a. How is tritium handled within the facility?
- b. How is tritium disposed within your facility?
- c. Produce all documents on which you rely for this response including all permits governing the discharge of tritium and guidance documents.

Q.ANR:EN.1-52: Did the Teledyne-Brown tests reveal levels of cesium-137? Please produce any and all documents on which you rely for your response.

Q.ANR:EN.1-53:

- a. Did any tests conducted reveal the presence of cesium-137?
- b. Please identify the location of these deposits.
- c. Please provide any and all documents on which you rely for your response.

Q.ANR:EN.1-66: Produce the documents that have to do with the monitoring your company has completed for wells listed in A4 page 2 of your sworn testimony. Please provide any and all documents on which you rely for your response.

Q.ANR:EN.1-67: Please produce the document that allowed Entergy VY to fill lands at the river shoreline referred to in page 3 line 16 of your sworn testimony. Please provide any and all documents on which you rely for your response.

Q.ANR:EN.1-89: What equipment did VY use to detect the samples taken in 1993 around the Protected Area at the VY Station?

Q.ANR:EN.1-90: What was the cause of the levels of CO-60 in the amount of $3.8E-8$ uCi/gm, and CS-137 in the amount of $3.7E-7$ uCi/gm taken in 1993?

DPS Discovery Requests

Q.DPS:EN.1-1: The Nuclear Power Industry has agreed to implement the Nuclear Energy Institute (NEI) "Industry Ground Water Protection Initiative - Final Guidance Document" NEI 07-07 [Final] dated August 2007 (GPI). Please produce the initial plan and schedule on how Entergy would meet the objectives of the GPI at the Vermont Yankee Nuclear Power Station ("VY").

Q.DPS:EN.1-2: Please specify in detail the progress Entergy made in implementing the GPI at VY up until the discovery of elevated tritium in a ground water sampling well in January 2010.

Q.DPS:EN.1-3: Under the GPI, if additional test wells other than the three placed into service in 2007 were to be installed prior to January 2010 at VY, please explain in detail why their installation was postponed.

Q.DPS:EN.1-4: What other parts of the GPI plan for VY were not implemented on schedule prior to January 2010? Please explain in detail why implementation was not accomplished.

Q.DPS:EN.1-5: Please provide the Entergy plan and schedule to accomplish all the objectives of the GPI at VY since the discovery of the tritium in the sampling well in January 2010.

NEC Discovery Requests

Q.NEC:EN.1-3: Did Entergy VY perform an analysis or radiological measurement of a sample or samples from well GZ-3 prior to January 6, 2010?

- a. If not, why not?
- b. If so, please provide the results of those analyses and all relevant working documents (for example, correspondence, logs, notes, work orders, plans, condition reports, quality assurance reports, protocols, manuals, templates, meeting agendas and minutes, instrument printouts, etc).

Q.NEC:EN.1-4: Please provide installation dates and all sampling dates, lab results, and working documents (for example, correspondence, logs, notes, work orders, plans, condition reports, quality assurance reports, protocols, manuals, templates, meeting agendas and minutes, instrument printouts, etc) for wells GZ-1, GZ-2 and GZ-3.

- a. Are wells GZ-1, GZ-2 and GZ-3 sampled in sequence? If not, please explain why not.

Q.NEC:EN.1-5: Did Entergy VY take any other groundwater and/or drinking water samples for purposes of radiological measurement and/or analyses between August 1, 2009 and January 6, 2010?

- a. If not, why not?
- b. If so, please provide the location the sample was taken and the results of those analyses and all relevant working documents (for example, correspondence, logs, notes, work orders, plans, condition reports, quality assurance reports, protocols, manuals, templates, meeting agendas and minutes, instrument printouts, etc).

Q.NEC:EN.1-6: Please provide all documents regarding the siting, drilling, and sampling of groundwater test wells at the Vermont Yankee site since 2002.

Q.NEC:EN.1-7: Were borings (soils brought to the surface during drilling) from any test wells in the GZ series subjected to radiological measurement and/or analysis?

- a. If not, why not?
- b. If so, please provide the results of the testing and all relevant working documents (for example, correspondence, logs, notes, work orders, plans, condition reports, quality assurance reports, protocols, manuals, templates, meeting agendas and minutes, instrument printouts, etc).

Q.NEC:EN.1-15: Please provide the number and location of all drains existing in pipe tunnels at the VY station.

- a. Please indicate whether or not these drains are clogged, and how Entergy has determined this information.
- b. Please explain how Entergy has addressed, or plans to address, the potential for these drains to be or become clogged.
- c. Does Entergy have plans to investigate and address potential clogging or the existence of construction debris in other pipe tunnels? If so, please provide those plans and all relevant documentation.

Q.NEC:EN.1-23: Admit that one means of slowing or stopping the flow of fluid or tritium from the identified leak points would have been to shut down and depressurize the entire system?

- a. Why wasn't this done? Please provide all relevant documentation supporting your answer.

Q.NEC:EN.1-24: Admit that, all other things remaining equal (including the amount of time it took to find the source of the leak), if the plant had been shut down as soon as the tritium leaks were detected, less tritium would have been emitted into the soil and groundwater at VY.

Q.NEC:EN.1-25: The pathways to soil from the leaks were described, by Mr. Mitchell on Page 6 of 13 in Answer 8, as a void at "an interface or junction point... of the AOG pipe tunnel... where the pipe tunnel connects with a concrete-encasement..." as well as "a crack in the concrete surrounding the 2-inch condensate drain concrete encasement line."

- a. How many similar interface junction points exist in pipe trenches at VY?
- b. Please provide the location and current status (i.e. whether a void or crack exists) for every interface junction point and/or concrete encasement line, whether in a pipe tunnel or otherwise underground, at VY. Please provide the basis for determining this information and document your answer.
- c. Please explain how Entergy has addressed, or plans to address, the potential for these areas to form cracks or voids.

Q.NEC:EN.1-27: Please provide a description of the AOG pipe tunnel and associated piping as follows:

- a. What is the length of the AOG pipe tunnel?
- b. Please provide a complete list of all pipes contained in the AOG pipe tunnel.

- c. How many lines (pipes) in total are located in the leak affected section of the AOG pipe tunnel?
- d. Please describe the number, size, thickness, condition, contents, path, purpose and physical condition of the lines (pipes) in the affected section of pipe tunnel that carry radionuclides.
- e. What are pH levels of the fluid in the pipes that carry radionuclides in the AOG pipe tunnel?
- f. Please provide scale section drawings showing the location of the pipes within the affected area of the AOG piping tunnel.
- g. What means are used by Entergy to inspect these pipes?
- h. When, prior to January 7, 2010, was the most recent inspection of the AOG pipe tunnel performed? Was the inspection subjected to quality review? Please provide the relevant documents.
- i. Please describe the chemistry of “process” condensate, water, steam, or gas in the pipes that carry radionuclides in the AOG pipe tunnel?
- j. Please describe the radiological content of “process” condensate, water, steam, or gas in the pipes that carry radionuclides in the AOG pipe tunnel?
- k. Is the AOG pipe tunnel fitted with hatches, man-ways, or other fixtures that make it accessible for direct visual inspection?
- l. Is there at any point in the AOG treatment process the potential for service water to mix with fluids in the AOG piping; through a leaking cooler or condenser for example?

Q.NEC:EN.1-28: Please provide a description of the condensate tank and associated piping as follows:

- a. What is the length and course of the pipe tunnel or tunnels associated with the condensate tank?
- b. How many lines (pipes) in total are located in the associated pipe tunnel or tunnels?
- c. Please describe the number, size, thickness, condition, contents, path, purpose and physical condition of the lines (pipes) and associated pipe tunnel or tunnels that carry radionuclides.
- d. What means are used by Entergy to inspect these pipes?

- e. Is any part of the condensate tank itself below grade or configured in such a way that it is not accessible for visual examination?
- f. When, prior to January 7, 2010, was the most recent inspection the condensate tank and associated SSC's performed? Was the inspection subjected to quality review? Please provide the relevant documents.
- g. Please describe the chemistry of "process" condensate, water, steam, or gas in pipes associated with the condensate tank that carry radionuclides.
- h. What are pH levels of the fluid in the pipes associated with the condensate tank that carry radionuclides?
- i. Please describe the radiological content of "process" condensate, water, steam, or gas in pipes associated with the condensate tank that carry radionuclides
- j. Is the condensate tank pipe tunnel fitted with hatches, man-ways, or other fixtures that make it accessible for direct visual inspection?
- k. Is there at any point in the condensing process the potential for service water to mix with fluids in the condensate piping (through a leaking cooler or condenser for example)?

Q.NEC:EN.1-38: On page 4 in Answer 7, lines 7-8 Mr. Tkatch states that sampling was performed "in 1993 around the Protected Area at the VY Station...." Please provide documentation of the sampling Mr. Tkatch referred to and the results of that analysis.

- a. If the information obtained through the 1993 sampling has been incorporated or considered in decommissioning estimates, please show where and how this was done. Please provide the relevant documents.

Q.NEC:EN.1-39: Please provide any documents, including all correspondence, meeting minutes, notes, reports, etc. filed or shared or exchanged with the US Nuclear Regulatory Commission regarding tritium leak(s) and/or aging management and material condition of buried or underground piping, and/or AOG and/or condensate tank since August 1, 2009.

Q.NEC:EN.1-40: Please provide any documents, including all correspondence, meeting minutes, notes, reports, etc. filed or shared or exchanged between Entergy VY, Entergy, Inc. and/or Entergy Nuclear Operations regarding tritium leak(s) and/or aging management and material condition of buried or underground piping, and/or AOG and/or condensate tank since August 1, 2009.

Q.NEC:EN.1-41: Please provide any documents, including all correspondence, meeting minutes, notes, reports, etc. filed or shared or exchanged with any contractor, consultant, or nuclear trade organization (such as the Nuclear Energy Institute or the Institute of Nuclear Power

Operations or the Boiling Water Reactor Owners Group), regarding tritium leak(s) and/or aging management and material condition of buried or underground piping, and/or aging management of AOG and/or condensate tank since August 1, 2009.

WRC Discovery Requests

Q.WRC:EN.1-1: The prefiled testimony of Timothy Mitchell dated March 31, 2010 (page 3, line 4), identifies the date of an initial ground water sampling as November 17, 2009, and identifies the date the results were received as January 6, 2010. He identifies subsequent results from Entergy's own confirmatory tests as having been available much faster.

- i) Please describe why there was an extended delay between the November 17, 2009 sampling, and the date the test results were obtained (approximately 50 days).
- ii) Is there a process now in place to obtain test results in a timelier manner?
 - (1) Please explain this process, and provide assurances that future test results will be delivered in a timely manner.
- iii) What was the date of the most recent sampling prior to November 17, 2009?

Q.WRC:EN.1-10: In defining a remediation strategy for the tritium leak, Mr. Mitchell has described a process of soil and water removal (PWT dated March 31, 2010, page 9, line 18).

- i) Is the removal of soil and water considered an operational expense?
- ii) Are the current costs of removing contaminated soil and water going to be completely paid for with operating funds? If not, please explain what funds will be used.
- iii) Will Entergy commit to covering the costs of any future leak or contamination with operating funds, or with parental funds, and will Entergy provide assurance that no decommissioning funds will be used to remediate damage from similar leaks in the future?
- iv) Does Entergy, ENVY, ENO, or any other subsidiary maintain insurance that will provide payments for remediation of this or future leaks?

Q.WRC:EN.1-11: When asked if the tritium leakage will affect the cost of decommissioning, Mr. Mitchell stated the following: "We do not believe there should be any material effect since we are taking remediation measures now. However, the results of the current remediation effort will be reviewed in the preparation of the next decommissioning-cost study as will the adequacy of the current funding estimate for groundwater and soil remediation." (PWT of Timothy Mitchell dated March 31, 2010, page 12, line 4).

- i) Please identify exactly what expenses or what types of leak related remediation expenses will be borne by the decommissioning fund.
- ii) If your answer is dependent on a period of license extension beyond March 21, 2012, or if your answer assumes the use of SAFSTOR, please state the effect that

license termination on March 21, 2012, and the inability to use SAFSTOR, would have on decommissioning costs related to this leak.

- iii) Please identify when the next decommissioning cost study will be prepared.

Q.WRC:EN.1-13: Have there been leaks of radionuclides from either buried or underground pipes at other Entergy plants? Please describe any leaks that have occurred, the cause of each (if known), and how each was remediated including the costs. The purpose of this question is to assist the parties and the public to understand the recent ENVY leak relative to industry experience.

Q.WRC:EN.1-14: Please consider the official actions of ENVY executives, including but not limited to; Jay Thayer, David McElwee, John Dreyfuss, David Manai, Mike Netell, and Michael Colomb, as they were developing the response to Act 189 and assisting the Public Oversight Panel and Nuclear Safety Associates in defining the scope of the inspection. The intent of this question is to assist the parties in determining the appropriateness of requests for cost reimbursement, as has been briefed;

- i) Did any Entergy Executives attend legislative hearings at which the scope of Act 189 was discussed? If yes, please list the dates of those hearings and which executives were in attendance.
- ii) Were any Entergy executives who were communicating with Nuclear Safety Associates and the Public Oversight Panel aware of prior leaks of tritium or other radionuclides from buried or underground pipes at other Entergy plants?
- iii) Were any Entergy executives who were communicating with Nuclear Safety Associates and the Public Oversight Panel aware of leaks of tritium or other radionuclides from underground or buried pipes at plants not owned by Entergy?
- iv) Were any Entergy executives who were communicating with Nuclear Safety Associates and the Public Oversight Panel aware of any prior leaks, anomalies, or damage to pipes at the Vermont Yankee facility?

Q.WRC:EN.1-15: Prefiled testimony provided on March 31, 2010 included the affidavits of Timothy Trask and Timothy Mitchell (among others), both of whom list their employer as Entergy Services Inc. Please identify all employees of Entergy Services Inc., Entergy Corporation, and other Entergy subsidiaries who have been engaged on-site in the leak investigation and repair project, or who have otherwise had a significant role in the process. Please identify the name of each individual, what his/her employment status is, and what unit or subsidiary s/he works for. Please also identify the role each individual has played in the investigation and repair project. It is not necessary to list those who are normally employed by ENO or ENVY, however employees who are directly employed by Entergy Corporation or another subsidiary should be listed even if they regularly spend the bulk of their time at the Vermont facility. Please recognize this question seeks to determine the role Entergy Corporation and its subsidiaries have played in the process (as distinct from ENVY and ENO), and to assist in

understanding potential decision making conflicts and incentives that might have played a role in the response to this leak, or that could potentially play a role in a response to future leaks or anomalies. The question should be answered broadly to address that specified intent.

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