

*ATTORNEY-CLIENT PRIVILEGE
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**REPORT OF INVESTIGATION
ENERGY NUCLEAR VERMONT YANKEE**

MORGAN, LEWIS & BOCKIUS LLP

FEBRUARY 22, 2010

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REPORT OF INVESTIGATION

I. Introduction

A January 14, 2010 letter from the Vermont Department of Public Service (“DPS”) Commissioner David O’Brien indicated that Entergy Nuclear Vermont Yankee (“ENVY”) personnel did not provide accurate information to its contractor, Nuclear Safety Associates (“NSA”), during its Comprehensive Reliability Assessment (“CRA”).¹ Presentations to the Vermont Legislature in January 2010 and a range of Vermont media reports included allegations that ENVY personnel misled the NSA, DPS, the Public Oversight Panel (“POP”) and parties to the Public Service Board (“PSB”) proceeding, including misleading testimony by Entergy executives.

As a result, Entergy retained Morgan Lewis & Bockius, LLP (“Morgan Lewis” or the “Investigator”) to investigate statements regarding underground piping at Vermont Yankee (“VY”) made (i) by Mike Colomb and Jay Thayer in live testimony before the PSB in May 2009, (ii) in the written ENVY response to a specific discovery request, VPIRG:EN 4-6, filed in January 2009, and (iii) by ENVY personnel when responding to the State and its contractors regarding the CRA. Entergy directed the Investigator to focus on ENVY actions or inactions and whether any ENVY personnel engaged in any intentional misconduct.

Entergy made it clear that the Investigator would have complete independence in determining the facts surrounding the issues and freedom to explore any related issues it deemed appropriate. Entergy also pledged complete cooperation from its employees, including the time and resources of its Information Technology (“IT”) Department. The Investigator has conducted an independent investigation and received complete cooperation from Entergy employees. As

¹ A list of Acronyms is contained in Exhibit A attached to this Report.

detailed below, Entergy personnel have been available on nights and weekends to provide information to the Investigator and Entergy's IT Department has provided, and is still providing, a great deal of resources to support this on-going investigation.

This Report first describes the procedures used in the investigation, including the qualifications of the Morgan Lewis team, the documents collected and reviewed, and the witnesses interviewed. Next, the Report provides a summary of the issues addressed. As described in this section, after the investigation began, Entergy or the Investigator identified additional issues that required resolution in order for the Report to be complete with respect to the conduct of Entergy personnel. Thus, the original issues became nine issues, although the original issues remain the most significant. Finally, the Report addresses each issue by providing a statement of the issue, a detailed chronology of relevant documents and witness recollections, and analysis and conclusions.

II. Investigative Procedures

Entergy authorized this privileged internal investigation by Morgan Lewis on January 20, 2010. The Investigator immediately sent a team to the VY site to review documents and conduct interviews. Because of the accelerated schedule of the investigation and the dynamic nature of the information available to the Investigator, the Investigator conducted additional interviews, re-interviews and document reviews as necessary to complete the internal investigation. From January 20, 2010, to February 21, 2010, the Investigator expended more than 2,300 hours interviewing relevant personnel and reviewing more than 65,000 documents. This section sets forth the investigative procedure.

A. Qualifications of the Investigator

Morgan Lewis is an international firm with more than 1,200 attorneys. It has one of the largest Energy practices in the country with deep experience in the nuclear regulatory area, including regulatory proceedings before the Nuclear Regulatory Commission, licensing proceedings and investigations. Morgan Lewis also has one of the country's premier corporate investigations and white collar legal practices. The Morgan Lewis investigation team consists of attorneys from these two practices who have significant experience in investigations particular to the nuclear industry. Qualifications of these key team members are provided in Exhibit B.

B. Document Collection and Review

1. Litigation Hold of Potentially Relevant Documents

To preserve potentially relevant documents, on January 21, 2010, Entergy issued a litigation hold directing Entergy employees related to the investigation to preserve:

All documents, both electronic and hard copy, relating to statements made in connection with the Comprehensive Vertical Audit and Reliability Assessment by Nuclear Safety Associates or in connection with Vermont Public Service Board proceeding Docket No. 7440 (the "relicensing" proceeding) with regard to underground piping at Vermont Yankee that carried or carries radioactive materials, including any discussion of the Condensate Storage System, the Service Water System or any buried or underground piping systems, and including any communication regarding discovery responses or testimony prepared or given in that proceeding.

Documents subject to the litigation hold dated from June 1, 2008, until the present.

Entergy employees related to the investigation were directed to determine whether they possessed records relevant to the litigation hold, and to report such possession to Entergy management by 5:00 pm on January 21, 2010. Litigation holds were sent to the following Entergy employees: David McElwee, Gary Bailey, Mark LeFrancois, Jeffrey Hardy, Brian Naeck, Steve Skibniowsky, Henry Metell, Jim Rogers, Michael Colomb, Peter Guglielmino,

John Dreyfuss, Jay Thayer, William Glew, George Wierzbowski, Wayne Limberger, Norm Rademacher, Jeffrey Meyer, David Mannai, and Lynn DeWald. In accordance with the terms of the litigation hold, individual employees who held relevant physical and electronic materials provided these materials to Morgan Lewis. Hard-copy documents were subsequently converted into an electronic format to facilitate the Investigator's review. Hard copies were preserved nonetheless.

An organizational chart of ENVY employees dated May 19, 2009, is attached as Exhibit C to provide information regarding the Entergy employees and their reporting structure.

2. Entergy Document Collection

Another team composed of Entergy IT staff searched for and collected relevant electronic documents. The IT staff searched the hard drives, home server drives, and shared server drives of each individual relevant custodian for the term beginning March 1, 2008. The search yielded results that included emails, calendar files, word processing documents, spreadsheets, presentations, portable document formats ("pdf"), and text files. The IT staff also searched for and delivered the emails of particular Entergy custodians for various dates that were relevant to particular circumstances and issues of the investigation. A list of the custodians searched is provided at Exhibit D. A table showing the time periods and search terms used to search the records of each custodian is provided at Exhibit E.

The Entergy IT team searched the servers and systems reasonably likely to contain information from the targeted custodians. Entergy has preserved back-up tapes from December 2009 and from January 2010. They are currently processing a server with more than 1.5 terabytes of data to determine whether additional relevant documents exist. They have worked continuously since the investigation began to assist Morgan Lewis.

As a result of these efforts, Entergy provided the Investigator with more than 65,000 electronic documents in native format, based on a set of search terms and date restrictions applied to individual Entergy document custodians for the time period of March 1, 2008 to the present.

3. Collection of Downs Rachlin Martin PLLC Documents

Entergy's outside law firm in the PSB Docket No. 7440 proceeding, Downs Rachlin Martin PLLC ("DRM"), provided a number of hard-copy and electronic documents to Morgan Lewis. Hard-copy documents related to the investigation were physically shipped to the Investigator, or in some instances, scanned into an electronic format and electronically transferred. Electronic documents held by DRM were retrieved based on a set of search terms applied to each relevant DRM document custodian for the period from March 1, 2008, to the present. The request made to DRM is provided at Exhibit F. In response, DRM provided the Investigators with at least 124,152 electronic records, as well as a number of hard-copy documents, including 10, 3-inch, 3-ring binders containing hardcopy witness preparation documents.

Since many of the materials provided by DRM are subject to the attorney-client privilege, the Investigator reviewed these documents to first determine if they are relevant to the issues of this investigation. Non-relevant materials protected by the attorney-client privilege or attorney work product doctrine that exists between DRM and Entergy were not made a part of this Report of Investigation. Documentary materials from DRM that are relevant to the investigation were reviewed as part of the investigation.

4. Document Review and Production

The Investigator immediately embarked on an ambitious schedule to review the documents made available by Entergy and DRM. Morgan Lewis used additional attorneys to assist the key team members for an expedited review of all relevant documents. The electronic documents were uploaded into a Concordance database to facilitate the review. Morgan Lewis was able to review all of the documents produced to date by Entergy and DRM to support the delivery of this Report of Investigation and the preceding productions. More than 1,400 hours of attorney time were devoted to the review of the documents produced in the investigation.

In total, Morgan Lewis collected and reviewed a targeted cache of more than 65,000 electronic and hard copy documents related to the nine issues. These documents included documents held by both Entergy and DRM. The Investigator also reviewed the files of a former in-house attorney who worked on Docket No. 7440, Kim Bykov.² The documents included emails, calendar files, word processing documents, spreadsheets, presentations, engineering drawings, portable document formats, text files and cell phone records of the various Entergy employees whose records and files would likely relate to the issues being investigated. As the investigation progressed, the Investigator requested and reviewed additional documentation made available by Entergy and DRM.

The Investigator created document chronology files containing the most probative documents related to each of the nine issues. In addition, Morgan Lewis has identified more than 109,000 pages of electronic documents that consist of Entergy documents collected under the criteria above, reviewed, and satisfying the search parameters identified in Exhibit E, regardless of relevance. That number also includes all relevant DRM documents collected under the

² In some materials, Kim Bykov is identified by her maiden name, Kim Bridges.

aforementioned criteria, reviewed by the Investigator, and satisfying the search parameters identified in Exhibit E. Production to the investigation of electronic documents is still ongoing. The Investigator will continue to identify documents that meet these criteria as it receives and review materials from DRM and Entergy.

C. Witness Interviews

Morgan Lewis identified witnesses to be interviewed based on their connection to the nine issues identified as well as from information coming out of the review of the documents produced during the investigation. The Investigator ultimately interviewed 29 individuals in the conduct of the investigation. Exhibit G of this Report of Investigation provides a listing of witnesses interviewed. Due to the direction of Entergy to complete the investigation as quickly as possible, many of these witnesses were interviewed multiple times as new information became available during the course of the investigation.

Morgan Lewis interviewed the individuals who made statements regarding underground piping to the PSB, DPS or the POP. In addition, Morgan Lewis interviewed all available Entergy employees involved with: (1) responding to requests for information from Nuclear Safety Associates (“NSA”) during the Comprehensive Vertical Audit and Reliability Assessment (“CRA”); (2) discussing the preparation or contents of the NSA Report with NSA employees; (3) reviewing the NSA Report to determine whether Entergy should respond or preparing the errata sheet to it; (4) preparing Entergy’s response to the Vermont Public Interest Research Group (“VPIRG”) discovery request 4-6; (5) reviewing the POP Report to determine Entergy’s response; and (6) preparing Jay Thayer and Michael Colomb to testify before the PSB on May 20, 2009 and May 26, 2009, respectively. In addition to current ENVY personnel, the

individuals interviewed included contractors, one former employee, Entergy in-house counsel, and outside counsel from DRM.

In the majority of cases, the Investigator used two attorneys, at least one of whom took handwritten notes, to conduct each interview. The interviews were not otherwise recorded. As the investigation progressed, the Investigator returned to the VY site, and conducted follow-up interviews and interviewed additional witnesses, as required. Additionally, Morgan Lewis conducted follow-up telephonic interviews as required. One witness was not available to be interviewed during the period of the investigation. The Investigator is still diligently pursuing counsel for former Entergy in-house counsel, Kim Bykov, to schedule her interview.

D. Status and Limits of Investigation

The conclusions in this Report of Investigation represent an analysis of the facts that have been gathered through February 21, 2010. The Investigator will continue to accumulate additional facts as the Bykov interview is completed or other relevant documents become available. Entergy has identified a large server that contains electronic documents, some of which may be relevant to the investigation. Entergy has expended considerable effort to process the data on this server, which contains more than 1.5 terabytes of information. The review of those electronic records is ongoing and may lead to the discovery of additional relevant documents. As noted above, one former Entergy employee, an in-house counsel with a substantial role in several of the nine issues, has not yet been interviewed. The Investigator intends to conduct the interview as soon as individual counsel makes the witness available. The conclusions contained in this Report of Investigation are subject to modification in light of any additional data we may collect. Should any modifications be in order, the Investigator will notify Entergy promptly.

The Investigator also did not interview individuals other than its current or former employees and contractors. The Investigator has not sought interviews or documents from the NSA, DPS or its contractors, POP members or their staff, the Joint Fiscal Committees, or the Joint Financial Office or its contractors. To the extent the issues involve conversations or other information exchanges, such individuals also may have information relevant to the investigation.

III. Summary

Primarily, the investigation sought to determine whether Entergy personnel (or persons acting on behalf of Entergy) intentionally misled third parties with respect to the existence of underground piping that carry radionuclides at ENVY. The investigation focused on the interaction in the fall of 2008 between ENVY personnel and the contractors and State personnel or representatives conducting or overseeing the CRA, ENVY's response to a VPIRG discovery request in January 2009, and the testimony of two Entergy executives before the PSB in May 2009. As the investigation progressed, Entergy or the Investigator added additional issues, which included specific statements made by ENVY's Senior State Regulatory Affairs Engineer in the fall of 2008 and in the summer of 2009, and ENVY's response (or lack thereof) to statements contained in the December 22, 2008 NSA Report and the March 17, 2009 POP Report.³

As described in detail in the next section, the Investigator did not find that any ENVY personnel or representative intentionally misled third parties about the existence of underground piping at VY that carries radionuclides. Although the Investigator did not find a basis to substantiate intentional wrongdoing, as discussed below, the Investigator found that certain

³ As described in Issue No. 3, Morgan Lewis also investigated whether ENVY received an advance copy of the December 22, 2008 NSA Report and thus could have influenced the language in the final version. The investigation concluded that ENVY did not.

ENVY personnel failed at times to clarify understandings and assumptions and therefore allowed statements to be made that were incomplete or inaccurate when viewed in a context different from the one relevant to the CRA.

A. Genesis of the Issues

In June 2008, the Vermont Legislature required that DPS conduct a Comprehensive Vertical Audit (“CVA”) as part of a CRA at the VY plant. DPS contracted with NSA to conduct the CRA. The Legislature required the audit to take vertical slices of seven whole plant systems, including “[a]n underground piping system that carries radionuclides.” Although that language may appear clear, in the context of the requirements of the statute and the piping that exists at VY, it has caused a good deal of confusion. ENVY personnel operated under an understanding of the meaning of an “underground piping system that carries radionuclides” that was shared, apparently, by NSA and DPS personnel, but which was not obvious outside of the context of the CRA.

The shared understanding has three components. First, DPS and ENVY agree that the underground piping system in Act 189 referred “to underground pipe carrying contaminated *liquids*.” See Issue No. 1, Tab 39, Letter from D. O’Brien to R. Smith, Jan. 14, 2010 (emphasis added). As Commissioner O’Brien explained, DPS, NSA and Entergy all agreed that “Act 189’s underground piping language [was] limited to pipes carrying liquids due to their ability to contaminate soils in the event of a leak.” Therefore, gaseous pipes that were underground did not fall within the statute’s mandate.

Second, Act 189's mandate to audit an "underground piping system that carries radionuclides" did not apply to pipes in trenches,⁴ even if the trenched pipe was below grade. NSA originally sought to review the Condensate Storage System ("CSS") to comply with Act 189's mandate, but when NSA learned that the CSS at VY was in trenches, it chose to audit the Service Water System ("SWS") instead. The SWS is "buried;" the CSS is "trenched." A member of the POP confirmed this distinction:

Act 189 3(a)7 designates "underground" piping. That's a term with some ambiguity and subject to interpretation.

Underground could mean "buried" or it could mean "below grade."

We did not interpret the term in any of our considerations that I am aware of, but I would take "buried" to be a much better fit than below grade because much of the plant piping is below grade. The systems evaluated for 3(a)2, 3(a)3, 3(a)4, and 3(a) 5 have lots of "below grade" radioactive piping that could might have been interpreted as underground radioactive piping. Therefore, I would not have considered piping run in concrete tunnels to have met the definition for underground piping. Below grade – yes, underground – no.

See Issue No. 1, Tab 42, Email from W. Sherman to A. Gundersen et al. re: refreshing your memory, dated Jan. 30, 2010 (ENVYHC00434-35).

The third element of this shared understanding was that the Act required a vertical slice review of a "whole system" and not a "sub-system." "The legislature was clear that they wanted *whole systems* vertically sliced, not individual components or sub-systems." See Issue No. 1, Tab 42G, Notes on Panel, Draft Detail Comparison: Consultants' proposed work scope compared with Act 189 statutory requirements, dated Sept. 27, 2008 (ENVYHC00445) (emphasis added).

⁴ At ENVY and other companies in the nuclear industry, there is a distinction between "buried" piping and piping that is in trenches. "Buried" refers to pipes in direct contact with the soil or concrete and therefore subject to certain corrosion risks. Pipes in trenches are not in direct contact with the soil or concrete; instead, they are surrounded by air and not susceptible to the same corrosion mechanisms.

It was this shared understanding that led to much, but not all, of the questionable ENVY statements, because it allowed various Entergy personnel to understand NSA's statement that there are "no underground piping systems carrying radionuclides at ENVY" to mean that there are no *buried* (in contact with soil), *liquid* piping systems (*whole plant*) carrying radionuclides at VY. To ENVY personnel, the latter statement in the CRA context was, and remains, accurate.

B. Summary of Issues

As of the date of this Report, the Investigator has drawn the following conclusions regarding the issues. The Investigator concluded that ENVY personnel did not intentionally mislead NSA, DPS or POP in the fall of 2008 with regard to the existence of underground piping systems at ENVY. The documentary evidence demonstrates that ENVY personnel supplied NSA, a nationally known nuclear energy consulting contractor staffed principally by nuclear engineers, with data and information regarding its Buried Piping and Tank Inspection Program and the contaminated pipes contained within the scope of that program. Thus, the decisions that NSA made in terms of what systems to review with respect to Act 189's mandate were based on accurate information from ENVY. The ultimate choice by NSA, in consultation with DPS and POP, to conduct the vertical audit on the plant's Service Water System appears to have been logical given that DPS and the Legislature were concerned primarily with reliability-related issues.

As to the response to the VPIRG interrogatory, which stated there were no underground piping systems that carried radionuclides, the investigation did not conclude that the inaccurate statement resulted from an intent on the part of the ENVY or DRM personnel to mislead the parties in the PSB proceeding. The investigation found, however, that the incomplete answer to VPIRG 4-6 resulted in part from a faulty process, from failings by certain ENVY personnel to

provide thorough and clear information as required, and from ENVY counsel not following up on information learned subsequent to the discovery response.

As for the May testimony, the investigation concluded that Thayer did not intend to mislead the parties to the PSB proceeding. The investigation did find that, after Thayer testified, some ENVY personnel understood and others should have understood that there were potential inconsistencies between Thayer's testimony and the earlier response to VPIRG 4-6 on the one hand and, on the other hand, the existence of contaminated buried piping at ENVY when this issue is seen in a less restrictive context (outside of the CRA). Despite identifying this potential discrepancy, ENVY personnel failed to correct or clarify Thayer's testimony, failed to correct or clarify the ENVY response to VPIRG 4-6 and failed to prepare Mike Colomb so that he could make clear the context of his testimony on May 26, 2009. Although these failures are serious, the investigation did not substantiate that these ENVY employees intended to mislead the PSB or other parties. Because Colomb had not been specifically alerted to this inconsistency, the investigation did not conclude that he intended to mislead the PSB or other parties when he testified.

As to the other issues, the investigation did not find that the ENVY Senior State Regulatory Affairs Engineer intentionally misled POP members or a local official in the fall of 2008, or the Legislature's contractor in the summer of 2009, with respect to the existence of underground piping that carries radionuclides. In addition, based in part on the shared understanding of the meaning of the term an "underground piping system that carries radionuclides," the investigation did not conclude that ENVY intentionally failed to address statements in the NSA Report and the POP Report that there were no such pipes at VY.

IV. Findings and Conclusions

- A. **Issue No. 1: Did ENVY intentionally mislead Nuclear Safety Associates, the Department of Public Safety, or the Public Oversight Panel as to the existence of underground piping systems that carry radionuclides so that they opted to review the Service Water System to satisfy Act 189's requirement that the Comprehensive Reliability Assessment review "[a]n underground piping system that carries radionuclides"?**

1. Issue

In a January 14, 2010 letter to Entergy senior management, DPS Commissioner David O'Brien wrote:

In preparing the scope of the CRA in conjunction with the Public Oversight Panel (POP), the DPS and NSA assessment team *were informed by ENVY* that there were no piping systems that met the description of section 3(a)(7) of Act 189. *As a result*, the scope of the assessment substituted ENVY's Service Water System (SWS) for the underground piping described in Act 189, including a review of ENVY's Buried Pipe and Tank Inspection Program (BPTIP) as it is applied to the SWS.

See Tab 39, Letter from D. O'Brien to R. Smith dated Jan. 14, 2010 at 1 (footnotes omitted) (emphasis added) (ENVYHC00403-03A). This letter suggests that ENVY personnel misinformed the DPS and NSA as to the existence of an "underground piping system that carries radionuclides" at VY and that the misinformation caused DPS and NSA to review the Service Water System ("SWS") under Act 189's requirement.

2. Chronology

January 2008 – A report on the proposed scope of the CRA did not propose an audit of the underground piping. *See* Tab 3, Vermont Yankee Comprehensive Vertical Audit Recommended Methodology to Thoroughly Assess Reliability and Safety Issues at Entergy Nuclear Vermont Yankee (Jan. 2008) (ENVYHC00013-33).

Spring 2008 – Mike Metell (Senior Project Manager, ENVY) created an undated ENVY side-by-side matrix that compared proposed legislation with existing audits and inspections required by the Nuclear Regulatory Commission ("NRC"). The matrix showed no legislative requirement for a vertical review of an underground piping system that carries radionuclides. *See* Tab 1, Draft #3 of Side-By-Side Matrix (ENVYHC00001-9).

Metell – Created chart to demonstrate that proposed legislation was unnecessary because previous or planned NRC inspections adequately addressed these same issues.

Spring 2008 – Section 3(a)(7) of an undated draft of Vermont Senate Bill No. 364 shows the addition of “An underground piping system that carries radionuclides” as part of the seven systems to be inspected. *See* Tab 4, Draft of Vermont Senate Bill No. 364 (ENVYHC00034-40).

Dreyfuss – (John Dreyfuss is Director, Nuclear Safety, ENVY) Interviewed by House Committee with respect to the Act; does not know why provision was added.

McElwee – (David McElwee is Senior State Regulatory Affairs Engineer, ENVY) Testified before House and Senate Committees as to license renewal issues; does not know why provision was added. Knew Rep. Sarah Edwards was concerned about underground piping and presumes that she probably put it in the legislation.

Spring 2008 – An undated summary of Vermont Senate Bill No. 364 described “a vertical/horizontal inspection methodology and work plan [to] be employed in the assessment.” *See* Tab 7, undated summary of Vermont Senate Bill No. S. 364 (ENVYHC00057-58).

May 20, 2008 – Metell provided an updated “side-by-side matrix” comparing Act 189’s requirements with existing audits. The entry regarding “An underground piping system that carries radionuclides” stated “XXXXXX Need info on any tritium audit and design changeXX.” It is highlighted in red. *See* Tab 8, Email from M. Metell to D. McElwee et al. re: RE: DRM-VY Preparations for LR/Restructuring/ISA Interface – Recurring Call – Privileged and Confidential, dated May 20, 2008 (ENVYHC00059-64).

Metell – Highlighted this point in red because this was the only aspect of the CRA for which he had not identified an existing NRC inspection covering the same subject.

June 6, 2008 – The Vermont Legislature enacted Act 189, requiring a broad-scope CRA be performed at VY that included a vertical slice review of, among other things, “an underground piping system that carries radionuclides.” *See* Tab 5, Vermont Legislative Bill Tracing System (ENVYHC00041-42); Tab 6, Act 189, section 3(a)(6) and (7) (ENVYHC00044-56).

June 10, 2008 – Metell provided his review of the proposed CVA (Comprehensive Vertical Audit), stating: “My review of the proposed inspection shows that the NRC and State did an excellent job of meeting each others goals” With respect to an “Underground system carrying radionuclides,” Metell stated:

After relocating our chemistry lab line to “above-ground,” I believe that we do not have any significant underground water systems carrying radioactive materials. We basically only have non-radioactive underground water lines that are monitored for potential contamination. We are not a water discharge plant and manage water via fuel pool evaporation. Our significant underground lines carrying radioactive materials would be AOG. However, since that is a low pressure system that is not subject to corrosion (e.g. the significant aging mechanism) and contains primarily noble radioactive gases that are monitored and released

at the stack anyway, we should be able to demonstrate that this is a low-risk system to the public.

See Tab 9, Email from M. Metell to J. Callaghan et al. re: CDBI Inspection List – Privileged and Confidential, dated June 10, 2008 (ENVYHC00074). Recipients of that email included McElwee, Mannai, Dreyfuss, Guglielmino, Rademacher, Weirzbowski, and Bykov, as well as DRM attorneys Marshall, Miller, and Johnson.

Metell – The discussion regarding underground piping in this email was more detailed than discussion of the other six systems because, at that point, Metell did not believe that ENVY had a fully-developed buried underground pipe inspection program or that the NRC had not already conducted an inspection of ENVY's underground piping. Metell believes that this e-mail contained a pretty good summary of VY's underground piping. He thinks he probably spoke with Rogers about this.

July 16, 2008 – McElwee emailed Jay Thayer (Vice President, Entergy Nuclear Operations, Entergy Services, Inc.) setting forth an overview of what Act 189 required Vermont DPS to do with regard to VY. It listed the seven systems to be assessed and did not make any specific comment with regard to the underground piping system. See Tab 10, Email from D. McElwee to J. Thayer et al. re: Overview of the State Comprehensive Reliability Audit (CVA), dated July 16, 2008 (ENVYHC00077-78).

July 16, 2008 – DPS State Engineer Uldis Vanags forwarded the draft agenda for the meeting of the DPS and CVA Oversight Panel set for July 17 and 18, 2008. See Tab 11, Email from U. Vanags to A. Gundersen et al. re: Draft Agenda for CVA Oversight Panel, dated July 16, 2008 (ENVYHC00080-81).

McElwee – No recollection of specific discussion of underground piping at the July meeting.

July 28, 2008 – DPS circulated a draft Reliability Assessment Scope document that had for section 3(a)(7):

Underground Piping System (Rad) NEI requirement for ground water monitoring/ Decommissioning Rule / Buried pipe and tank inspection program – potential for ground contamination.

See Tab 12, Email from M. Metell to R. Wanczyk re: Reliability Assessment Scope, dated July 28, 2008 (attaching Scope of Work) (emphasis in original) (ENVYHC00082-86).

Metell – Vanags likely sent this to him in discussion over the scope of the CRA.

August 4, 2008 – DPS provided a revised “Scope of Work for the Reliability Assessment of the Vermont Yankee Nuclear Station” with an attached Audit Requirement – TABLE 1, which has for section 3(a)(7):

Underground Piping System (Rad) NEI requirement for ground water monitoring/ Decommissioning Rule / Buried pipe and tank inspection program – potential for ground contamination.

See Tab 13, Email from D. McElwee to P. Guglielmino (Project Manager for CVA Response, RCM, Technology) re: Final scope, dated Aug. 4, 2008 (emphasis in original) (ENVYHC00088-92); Tab 14, Email from P. Guglielmino to G. Wierzbowski et al. re: FW: Final scope, dated Aug. 5, 2008 (emphasis in original) (distributing document to larger team) (ENVYHC00093-98).

August 12, 2008 – ENVY leads for the upcoming NSA audit held an internal meeting to prepare for a meeting with the DPS and NSA. See Tab 15, Meeting Notification to D. McElwee, J. Dreyfuss, M. Metell, P. Guglielmino, J. Stasolla, G. Wierzbowski, S. Naeck, R. Wanczyk re: State inspection meeting, dated Aug. 12, 2008 (ENVYHC00099). That evening, Guglielmino circulated an “updated Information Index we discussed during today’s meeting.” The Information Index has under “Underground Piping,” document EN-DC-343R1 titled “Buried Piping and Tank Inspection and Monitoring Program” with the contact listed as G. Wierzbowski. See Tab 16, Email from P. Guglielmino to J. Dreyfuss et al. re: CRA Information Index, dated Aug. 12, 2008 (attaching Information Index) (ENVYHC00101-106).

Guglielmino – Before any official document request, ENVY prepared an initial document package for NSA. (Items 1-22 on NSA Request Matrix were sent to NSA around this time. Guglielmino put five copies of these items on disks and gave to NSA.)

Wierzbowski – Was technical lead on this project and the primary interface with Woysner on technical issues. Denies steering them away from anything or towards something else related to underground piping.

August 13, 2008 – Meeting agenda for NSA and ENVY stated that the NSA will present the scope of their investigation. Another stated that Vanags will present the scope of work. See Tab 17, State Reliability Inspection Meeting Agenda, dated Aug. 13, 2008 (ENVYHC000107); Tab 18, Agenda August 13, 2008, Vermont State Comprehensive Reliability Assessment (CVA), dated Aug. 13, 2008 (ENVYHC00109).

August 28, 2008 – In a detailed scope of work, NSA proposed reviewing the Condensate Storage System (“CSS”) Underground Piping to satisfy section 3(a)(7) of Act 189. See Tab 20, Reliability Assessment of the Vermont Yankee Nuclear Facility Detailed Scope of Work, Provided by Nuclear Safety Associates to State of Vermont Department of Public Services, dated Aug. 28, 2008 (ENVYHC00114-20).

Dreyfuss – May have seen scope of work before it came out. ENVY would have developed white papers to discuss systems and programs. LeFrancois, Wierzbowski or Bailey told him that CSS would not be a good candidate because it was not buried (i.e., trenched). Never discussed the meaning of “buried” or “underground” with Woysner. No discussion with Woysner on what to replace CSS with. Woysner may have targeted CSS due to problems with that system in the past. Dreyfuss was aware of

abandoned buried radwaste piping, but did not discuss proposing other piping for NSA review. Did not believe that abandoned radwaste piping would be related to reliability.

Dreyfuss stated it was not ENVY's role to interpret the Act for NSA. Did not think CSS was a good fit because it is not buried. Thought SWS was an odd selection because it did not carry radionuclides, but understandable from a reliability perspective. Did not steer NSA. Did not know why NSA shifted. Did not recall discussions about SWS, but knew SWS is related to reliability.

McElwee – Received draft of NSA scope of work beforehand, but did not try to influence what was in that draft. Scope of underground piping did not raise a concern with him.

Guglielmino – No discussion of ENVY's preference for what system NSA should look at regarding underground pipes.

Breite – (Harry Breite is Lead, Service Water System; Engineering Code Programs, ENVY). Aware that NSA was interested in SWS as part of scope. It was included already in 3(a)(6). Heard of no efforts to get NSA to change underground pipe inspection from CSS.

September 1, 2008 – Woysner emailed McElwee stating that the “recommended system[] for vertical evaluation” included an “Underground piping system that carries radionuclides – Condensate storage system underground piping – Balance of plant system.” See Tab 21, Email from B. Woysner to D. McElwee re: Visit to VY – September 8th week, dated Sept. 1, 2008 (ENVYHC00121-122).

September 3, 2008 – Guglielmino circulated to a large group of ENVY personnel assigned to support the Audit, a copy of the CRA Presentation that Dreyfuss had given on that day. On the slide that discussed the seven systems, it had: “Underground Piping System that Carries Radionuclides – Condensate Storage System Underground Piping. A second slide, from the VYNS 2008 CRA State-VY interface presentation, noted that the “CST Underground Piping” system would be evaluated. See Tab 22, Email from P. Guglielmino to G. von der Esch et al. re: CRA Presentation & System Overview Presentation Template, dated Sept. 3, 2008 (attaching CRA PowerPoint and VYNS 2008 CRA State-VY interface PowerPoint) (ENVYHC00123-135 and ENVYHC01816).

September 8, 2008 – ENVY held a “kickoff” meeting among the ENVY senior site management and NSA that introduced the Entergy organization and discussed the CRA at a high level. See Tab 23, PowerPoint, “Comprehensive Reliability Assessment: Station Reliability Overview, Engineering,” dated Sept. 8, 2008 (ENVYHC00138-62).

None of the ENVY attendees interviewed (Dreyfuss, McElwee, Rademacher, Sullivan, Wierzbowski, Callaghan, Stasolla, Philippon, Drouin) recalled any discussion of underground piping at this kick-off meeting.

September 9, 2008 – ENVY provided full-size drawings of the P&ID's for Main Transformer, HPCI, Condensate & Feedwater, Residual Heat Removal, Cooling Tower, Service Water, and Condensate Storage with underground piping. See Tab 26, Vermont Yankee 2008 CRA, VDPS Information / Question Request Form No. 45, dated Sept. 9, 2008 (ENVYHC00272-284).

Bailey – (Gary Bailey is the Lead, Buried Piping and Tank Inspection Program, ENVY). Noted that this drawing showed that part of the CSS is underground in trenches.

September 11, 2008 – LeFrancois sent an updated “CRA Meeting on Buried Underground Piping” appointment. The text stated: “The inspectors are focused on any previous inspections of buried piping that have taken place. Service water is a focus.” See Tab 27, Email from M. LeFrancois to J. Hardy et al. re: Updated: CRA Meeting on Buried Underground Piping, dated Sept. 11, 2008 (ENVYHC00285).

LeFrancois – (Mark LeFrancois is Supervisor of Code Programs, ENVY.) LeFrancois believes that Rademacher (Director of Engineering) or Wierzbowski (Manager of Engineering Programs and Component Engineering) would have told him he was meeting with NSA. Does not remember what he referred to by saying service water was a focus. Does not recall meeting beforehand to determine what to give NSA. No one told him to prevent NSA from reviewing the CSS or anything else.

Breite – Does not recall email, but had already been told that NSA was going to look at SWS. Not surprised because everyone looks at SWS. SWS across the industry consistently raised reliability concerns. Not involved in any discussion regarding transition from CSS to SWS.

Rademacher – Around this date in a hallway conversation, Woysner asked if CSS was a good candidate for review; Rademacher responded that the CSS was in a concrete trench so it was not directly buried in soil. Woysner asked for his opinion, and Rademacher said that he thought NSA ought to look at something else. Did not represent to Woysner that there were no underground pipes that contain radionuclides. Did not suggest SWS. No advocacy and no reason to get NSA to switch to SWS. SWS is a more vulnerable system. SWS was more important to reliability, but Rademacher did not suggest SWS. No discussion that SWS does not carry radionuclides, although believed NSA knew that because they were very experienced. Up to NSA to select the systems for the audit; ENVY to support information requests for whatever NSA selected.

Wierzbowski – Had no conversations with NSA on switch from CSS to SWS; certainly no advocacy or lobbying to switch.

Guglielmino – No discussion of steering NSA from underground pipes. Set up a team to deal with underground piping that included Bailey. Everyone took this seriously.

Rogers – (Jim Rogers is Manager, Design Engineering, ENVY.) Does not remember any discussion of switch from CSS to SWS. Made sense to him because of reliability focus of CRA.

September 11, 2008 – ENVY personnel responsible for the Buried Piping and Tanks Inspection Program (“BPTIP”) first met with NSA to discuss the program. Guglielmino’s calendar entry reflects: “Underground Piping – Hopkins, Shannon, Pyrih / LeFrancois, B. Naeck, J Hardy, J Rogers, S Skibniowsky, G Bailey, J Callaghan.” See Tab 24, Guglielmino calendar for September 11, 2008 (ENVYHC00238).

September 11, 2008 – At the NSA–ENVY meeting, ENVY personnel gave PowerPoint presentation entitled “Buried Underground Piping (BUP).” The VY Team included LeFrancois (Lead), Bailey – Engineering, Hardy – Chemistry, Naeck – Engineering and Skibniowsky – Chemistry. The PowerPoint slides contained the following relevant information:

- Program Scope-
 - Piping and Tanks identified in License Renewal
 - Piping that could provide a path of plant-generated radioactive material contamination to groundwater
 - other as they could present an environmental concern
- * * *
- Fleet Program-Procedure EN-DC-343-Includes All BUP
 - Screening/classification of VY systems complete
 - Future Inspection of identified systems
- Tritium Studies
 - Identified all plant systems potentially containing tritium
 - Added new monitoring wells to supplement existing wells
 - Used as a basis for VY BUP Program development

The tritium studies and monitoring also were discussed in connection with two other slides, one involving “Site Monitoring/Results” and the other involving “Corrective Action Process”:

- VY Monitors for Tritium/Radioactive Particulates
 - Monitoring sites
 - Quarterly samples
 - Nothing above required minimum detectable levels (>2000 picoCuries/liter)

See Tab 28, Meeting Request, Required Attendees: LeFrancois, Hardy, Skibniowski, Naeck, Bailey, Briete, Guglielmino, Wierzbowski, Callaghan et. al. dated Sept. 11, 2008 (attaching PowerPoint “Overview: Buried Underground Piping (BUP)” (ENVYHC00286-292).

LeFrancois – The presentation lasted about an hour. Thinks that only he and Bailey were there, maybe Skibniowsky. NSA personnel were experienced, knowledgeable nuclear engineers familiar with boiling water reactors (“BWRs”). Discussed PowerPoint, including discussion of tritium studies and development of BPTIP. Discussed buried piping systems. Not sure if NSA asked if there were underground piping that carried

radionuclides. Explained that CSS was in trenches and accessible, therefore not in the scope of BPTIP.

NSA appeared to understand; NSA did not question or challenge ENVY's definition of buried. Likely discussed the Auxiliary Offgas ("AOG") system and drain lines, which carry radionuclides. Does not recall if they talked about other specific piping contained in the BPTIP Scope Table. Does not see how NSA could come away from the meeting thinking that there were no underground pipes that were contaminated.

Described excavations that ENVY had done. ENVY presented objective information and did not try to convince NSA to change its focus. NSA chose SWS on their own. It would have been easier to look at CSS.

Bailey – LeFrancois and he were at the meeting. Does not remember the PowerPoint, but remembers going through many of the items in the PowerPoint. Told NSA BPTIP program scope, status, action plan and long range plan. Does not recall telling NSA about site monitoring, corrective action process, or piping identified in license renewal, but could have been stated at meeting. Does not recall explaining definition of buried piping – assumed they understood that buried meant contacting soil. NSA people were knowledgeable nuclear engineers.

NSA asked about the CSS. Told them it was in trenches, and therefore not in BPTIP. Does not recall that NSA was surprised or upset. Before meeting, LeFrancois said that NSA is going to ask about CSS, and we need to explain that it is not buried, and therefore not on the BPTIP table. NSA did not ask to see all of the underground piping that carried radionuclides. Gave overview of the SWS. Gave them his copy of an Ebasco pipe coating guide. Showed pictures of opportunistic inspections. Met with NSA at least two more times as well. Each meeting lasted about one hour. Did not tell them what pipes or systems to focus on.

Hardy – (Jeff Hardy is Manager, Chemistry, ENVY.) Does not specifically recall the meeting, but likely was there. Helped create the PowerPoint, especially the "Site Monitoring/Results" page. Does not know why NSA shifted from CSS to SWS, although it makes sense because ENVY had issues with the SWS. Never heard that someone wanted NSA to not review the CSS.

Naeck – (Brian Naeck is in Engineering, Mechanical Systems) Attended meeting where they reviewed PowerPoint presentation and every item listed in PowerPoint related to the tritium studies. Naeck was principal author of the VY Tritium Review. Not surprised that NSA chose SWS because that is the piping program VY had the most trouble with. Consistent pre-job briefing was to give NSA what they asked for and to be very responsive. Does not recall receiving questions from NSA on Tritium Review.

September 11, 2008 – At the ENVY-NSA meeting, ENVY personnel also presented and discussed a list of all underground piping systems then subject to the BPTIP at VY (the BPTIP Scope Table). The table's fifth column is for "Tritium Study" and indicates with a "Yes" if the

pipe is potentially contaminated. The table also has a column that indicated whether the pipe was high risk based on contamination. See Tab 44, Spreadsheet, Buried Piping and Tanks Inspection and Monitoring Program (ENVYHC00447-452). The table included in addition to AOG and RW piping systems, other systems associated with the tritium review, including: Floor Drains: Floor Drains from DG Rooms, Service Air Compr Rm, House Heating Boilers Rm to oil separator (OSMH-6) to river via storm drain system (via DMH-3).

LeFrancois – Reviewed with NSA a copy of the BPTIP Scope Table that had all of its columns at the September 11, 2008 meeting, but is not sure if they gave it to them at this meeting. Discussed table in general terms. Does not remember a specific conversation about risk ranking. Clear that BPTIP procedure stated that if risk ranked high, then the pipe is contaminated.

Bailey – Had the large version (11” x 17”) of the BPTIP Scope Table out on the room table and went through at least several pages with NSA. Believed he gave them a copy. Explained how table was developed, used tritium study supplied by Naeck. No doubt that NSA understood that there was an underground radwaste line and an AOG line that carried radionuclides. Also discussed with NSA that the pipes were risk rated – high, medium, low, which determines the inspection frequency. Also gave them another copy of EN-DC-343R1.

Naeck – Went over large print-out of BPTIP Scope Table with NSA at the meeting. NSA was a smart, seasoned team. Would know what “RW” stood for in the table, and, if not, they would have asked. Very surprised if NSA did not know of the existence at VY of buried piping that carried radionuclides.

Rademacher – Before the September 11 meeting, discussed with Wierzbowski what they were going to show NSA with respect to the underground piping system that carried radionuclides. Wierzbowski showed him the BPTIP Scope Table. Later, told by Wierzbowski that NSA was provided a copy of that table of underground piping.

September 15, 2008 – Action log transmitted by NSA showed that NSA had switched its review to the SWS: “The condensate system is recommended for removal and the parts of the SW system will be added. The Underground Piping [m]anagement Program will be reviewed specific to the SW system.” See Tab 29, Email from B. Woysner to J. Dreyfuss, D. McElwee, P. Guglielmino, G. Wierzbowski, U. Vanags et al. re: VY Reliability Assessment Action Log, dated Sept. 15, 2008 (attaching VY Evaluation Project Action Log 091408.xls)(ENVYHC00293-303).

Dreyfuss – Was involved in discussions with NSA Evaluation Project Manager Woysner on how to translate Act 189’s requirements into achievable goals. Thinks he spoke with Woysner about CSS being a good system because of past reliability challenges. Dreyfuss was aware of abandoned-in-place radwaste piping. But does not recall underground piping ever coming up in those discussions. Recalls thinking SW was an odd choice. No recall of discussion with DPS or NSA on reason for the shift.

September 17, 2008 – Woysner reported to Dreyfuss that he was pulling forward the “Buried Piping Program eval.” The attached table for “Buried Piping Inspection Program Review” assigns Tom Shannon and Lu Pyrih to “Interview Buried Piping Program Lead and Service Water System Engineer,” “Continue Interview with Buried Piping Program Lead,” and “Follow up activities for evaluation of Buried Piping Program.” The schedule is for September 23 through 25, 2008. *See* Tab 30, Email from B. Woysner to J. Dreyfuss et al. re: VY-On-site activities schedule, dated Sept. 17, 2008 (attaching Requested Plant Interactions to be Performed) (ENVYHC00304-00311).

September 23, 2008 – Woysner provided a schedule for the week of September 29, 2009, which included a Wednesday activity: “Meet with Service Water System Engineer (Rosen, Schweizer) – this will not include the underground piping program review.” *See* Tab 31, Email from B. Woysner to D. McElwee re: Week 4 schedule of activities, dated Sept. 23, 2008 (attaching list of activities/schedule) (ENVYHC00312-00314).

September 24, 2008 – Guglielmino’s tracking calendar indicated a meeting between NSA and LeFrancois and Bailey: “Interview with Buried Piping Prgm Lead and Service Water Sys Eng. – Shannon, Pyrih / G. Bailey, LeFrancois.” *See* Tab 24, Guglielmino calendar for September 24, 2008 (ENVYHC00241).

September 24, 2008 – Guglielmino’s tracking index of NSA information requests, at no. 238, showed a request from Pyrih of NSA for a “Copy of Buried piping procedure and OP-5265 and PP-7030, Copies of PPF7030.01, and NDE Reports for each of the 3 available inspection[s], copy of EBASCO buried piping specification.” The table indicates LeFrancois was responsible for this request and that it was closed. *See* Tab 45, All Requests – VYNPS Comprehensive Reliability Assessment – 2008, at 24 (ENVYHC01702).

September 25, 2008 – Guglielmino’s calendar indicated: “Follow up activities for eval. of Buried Piping Program – Shannon, Pyrih.” *See* Tab 24, Guglielmino calendar for September 25, 2008 (ENVYHC00242).

September 27, 2008 – POP discussion draft of a chart entitled: “DETAIL COMPARISON: Consultants’ proposed work scope compared with Act 189 statutory requirements” identified the SWS as the system to be evaluated for “Section 3(a)(7): An underground piping system that carries radionuclides.” In addition, “Buried Pipe and Tank Inspection Program (BPTIP)” is listed under section 6(b) additional inquiries. A note to this section stated:

The Service Water System is non-radioactive. No underground radioactive pipes will be assessed unless BPTIP is evaluated. Consultants have stated that BPTIP will be evaluated as part of vertical slice review of SWS. (Emphasis added.)

In addition, appended to the entire chart is a “Notes from panel” sheet that stated:

The intent of Act 189 is that seven vertical slice inspections, not component inspections, be reviewed by the Department to assist in the

legislature's decision making process. Neither the 20 components chosen by the NRC in the CDBI nor any "sub-systems" suggested by NSA/WSC qualify as Vertical Slice Inspections because by definition "sub-systems" are pieces of whole systems and can not be vertically sliced. Looking at sub-systems is more of a component based review which the legislature rejected. The legislature was clear that they wanted whole systems vertically sliced, not individual components or sub-systems. The C in "CDBI" stands for COMPONENT Based Design Inspection and all parties acknowledge that it can not be a whole system review by definition. For example, the NRC looked at pieces of the Diesel, but did not perform an entire review of how all the Diesel's pieces perform as an integrated system.

See Tab 42G, Draft Detail Comparison: Consultants' proposed work scope compared with Act 189 statutory requirements, dated Sept. 27, 2008 (ENVYHC00441-45) (Emphasis added).

September 28, 2008 – Woysner sent an email to Vanags and Bruce Hinkley (as referred to in a January 30, 2010 Sherman email) stating: "2. We changed the condensate storage system underground piping to service water underground piping based on our telecon with the state of Vermont and the plant." *See* Tab 42D, Email from W. Sherman to POP Members, DPS, VY re: RE: refreshing your memory, dated Jan. 30, 2010 (ENVYHC00437).

October 3, 2008 – according to a January 2010 Sherman email, the POP decided on the matrix of what to examine at VY. *See* Tab 42, Email from W. Sherman to A. Gundersen, P. Bradford, F. Sears, S. Hofmann, D. McElwee, R. Ellis re: RE: refreshing your memory, dated Jan. 30, 2010 (ENVYHC00434).

October 10, 2008 – Sherman sent comments on a matrix dated October 9, 2008. Those comments included: "5. Service Water System should be removed from the Section 3(a)(7) column and placed in column Section 3(b). It's not 'an underground piping system that carries radionuclides.' It is an additional system the Panel agrees should be examined," and "7. A single Note should be provided in the Section 3(a)(7) column - The Panel is informed that there are no underground piping systems carrying radioactivity at Vermont Yankee." He also stated:

A note similar to Note 6 can be retained for the Service Water System. I would suggest:

Since the Panel is informed there are no underground piping systems carrying radioactivity, the Panel designates the Service Water System, which has buried piping, to be evaluated. The Buried Pipe and Tank Inspection Program (BPTIP) will be evaluated as part of the review of SWS.

See Tab 42C, Email from W. Sherman to A. Gundersen, F. Sears, P. Bradford and D. Lochbaum et al. re: FW: Act 189 Matrix as of 10-9-08, dated Oct. 10, 2008 (ENVYHC00435-436).

October 23, 2008 – Larry Hopkins (NSA) forwarded a request from Lu Pyrih (NSA) to Guglielmino, stating: “I discussed Lu’s last request for a discussion with someone about some details concerning the buried piping program.” Pyrih asked for:

In developing its site specific program for Buried Piping, VY developed an action plan and completed items 1-6 of that plan. I need the following information as it relates to the Service Water System:

1. Identification of piping sections that are buried – Don’t need drawings a description will do.
2. Impact assessment and corrosion risk assessment of the buried Service Water piping sections.

Pyrih indicated that he had reviewed the action plan for VY’s BUP program and recalled that LeFrancois was the lead presenter for the underground piping team. Pyrih also requested clarification of ENVY’s opportunistic inspection data of its BUP. *See* Tab 33, Email from L. Pyrih to L. Hopkins re: Additional Information on Buried Piping of Service Water System, dated Oct. 23, 2008 (ENVYHC00318-00319).

October 24, 2008 – Vanags forwarded an email from D. Lochbaum (POP) regarding an incident that occurred while removing the reactor head that raised questions regarding how McElwee characterized the incident in terms of the (non)release of radiation. *See* Tab 34A, Email from D. Lochbaum to U. Vanags et al. re: Transmit Information to the Oversight Panel, dated Oct. 23, 2008 (ENVYHC00320).

October 28, 2008 – Sherman submitted to DPS Commissioner O’Brien POP’s determination that NSA’s scope of work in an attached matrix would satisfy the intent of the legislation. Note 3 to the Table, under the heading “Section 3(a)(7): An underground system that carries radionuclides,” stated:

Note 3: The panel is informed that there are no underground piping systems carrying radioactivity at Vermont Yankee. POP Report. Appendix C.

October 30, 2008 – Guglielmino entered into the NSA Request Table the October 23, 2008 request from Pyrih as request Nos. 414 and 417.

- 414 Impact assessment and corrosion risk assessment for buried SW Piping Sections; and
- 417 List of buried SW piping sections.

See Tab 45, All Requests – VYNPS Comprehensive Reliability Assessment – 2008, dated Jan. 25, 2010 at 53 (ENVYHC01731).

November 6, 2008 – ENVY provided NSA responses to 414 and 417. The response to request No. 414 included excerpts of two corrective action program documents describing milestones in completion of the impact assessment and performance of the corrosion risk assessment required by the BPTIP action plan. Attached was a copy of the BPTIP Scope Table (previously shared with NSA in September) as of August 11, 2008. The table listed numerous buried piping sections identified in the Tritium Review as contaminated or potentially contaminated, including AOG, CW, Floor Drains (“to river via storm drain sys”), RW, RHRSW, and Yard Drains. See Tab 35, Vermont Yankee 2008 CRA VDPS Information/Question Request Form, Request No. 414, dated Nov. 6, 2008 (ENVYHC00324-342).

The Response to request No. 417 included a copy of the September 11, 2008 PowerPoint presentation “Overview, Buried Underground Piping” and the most current snapshot of the scoping document. (This updated version of the BPTIP Scope Table included the contaminated or potentially-contaminated piping sections noted above as well.) See Tab 36, Vermont Yankee 2008 CRA VDPS Information/Question Request Form, Request No. 417, dated Nov. 6, 2008 (ENVYHC00343-363).

Limberger – Collected responses on November 3, 2008. Believes LeFrancois gave him the PowerPoint presentation; did not know that the paper version provided was missing the right-hand columns. Definitely gave NSA a hard copy document, believes the copy he gave NSA included the right-hand columns.

December 10, 2008 – Sherman stated that McElwee has told him that there are no underground piping systems that carry radionuclides and discussed the Chem Lab Drain Line:

When McElwee and VY said there was no underground radioactive piping (when we were doing the matrix), I specifically quizzed him about this piping. He said the same thing to me as to Tom Buch – the line was abandoned and the current drain is no longer buried piping. Therefore, I was satisfied there was no buried radioactive piping. This is also the reason for the wording in the matrix, “Since the panel is informed there is no underground piping systems carrying radioactivity”

See Tab 42B, Email from W. Sherman to P. Bradford re: Act 189 Underground Pipe System, dated Dec. 10, 2008 (quoted in a January 30, 2010 email from A. Gundersen to B. Sherman) (ENVYHC00435).

February 5, 2009 – DPS counsel Hofmann forwarded to Marshall a draft DPS document that provided answers to POP questions regarding the NSA report, stating:

Did any underground piping at ENVY ever have radionuclides?

Response:

The study of piping that previously carried radionuclides was not part of the NSA scope for this Reliability Assessment as established by the agreed-upon regulatory matrix.

See Tab 37, Email from J. Marshall to J. Dreyfuss, D. McElwee re: FW: Any of this confidential, dated Feb. 5, 2009 (attachments: Exhibit DPS-Panel-3 Draft.docs.doc) (emphasis in original) (ENVYHC00364-366).

January 30, 2010 – Sherman sent an email to Gundersen that highlighted an issue as to interpretation of “underground piping system”:

Act 189 3(a)7 designates “underground” piping. That’s a term with some ambiguity and subject to interpretation.

Underground could mean “buried” or it could mean “below grade.”

We did not interpret the term in any of our considerations that I am aware of, but I would take “buried” to be a much better fit than below grade because much of the plant piping is below grade. The systems evaluated for 3(a)2, 3(a)3, 3(a)4, and 3(a) 5 have lots of “below grade” radioactive piping that could might have been interpreted as underground radioactive piping. Therefore, I would not have considered piping run in concrete tunnels to have met the definition for underground piping. Below grade – yes, underground – no.

See Tab 42, Email from W. Sherman to A. Gundersen re: refreshing your memory, dated Jan. 30, 2010 (ENVYHC00434).

3. Analysis & Conclusion

The investigation found no evidence that ENVY personnel intentionally misled NSA, POP or DPS about the existence of an underground piping system that carries radionuclides at ENVY so as to cause NSA to review the SWS instead of the CSS to satisfy Act 189’s mandate for the CRA review to include “an underground piping system that carries radionuclides.”

NSA originally had planned to inspect the CSS to fulfill section 3(a)(7) of Act 189’s requirement to review an underground piping system that carries radionuclides. There was no testimony or documentary evidence that ENVY personnel intentionally misled NSA about the existence of underground piping that carries radionuclides or the status of the CSS system. In addition, there was no testimony or documentary evidence that ENVY personnel attempted to steer NSA to review the SWS as opposed to the CSS to fulfill section 3(a)(7)’s mandate.

- a. ENVY personnel provided accurate information to NSA with regard to the piping at VY.

ENVY personnel provided accurate information on the CSS and on buried piping that existed at the VY site. As for information regarding the CSS, ENVY accurately informed NSA that the CSS at VY is in trenches. It is not "buried" and therefore is not part of the Buried Piping and Tank Inspection Program ("BPTIP").⁵ The CSS is not on the BPTIP Scope Table supplied by ENVY to NSA in the fall of 2008. *See* Tab 36, Vermont Yankee 2008 CRA, VDPS Information/Question Request Form No. 417, dated Nov. 6, 2008 (ENVYHC00343-363). At the September 11 meeting, ENVY personnel discussed the CSS and explained that it was not part of the BPTIP because it was not "buried." Instead, it ran in trenches, did not come in contact with soil, and was accessible. In addition, both Dreyfuss and Rademacher commented to Woynshner that the CSS was trenched. There is no suggestion from any document or any witness that the information about the CSS that ENVY supplied to NSA was at all inaccurate or incomplete.

As for information that was provided regarding buried piping, ENVY personnel responsible for the BPTIP met at least three times with NSA personnel to discuss the BPTIP. At the first meeting on September 11, 2008, the evidence supports that ENVY gave NSA accurate information with respect to its buried piping program, which included information about buried piping that carried radionuclides. ENVY discussed a PowerPoint presentation entitled "Overview, Buried Underground Piping." *See* Tab 28, Meeting Request, Required Attendees: M. LeFrancois, J. Hardy, S. Skibniowsky, B. Naeck, G. Bailey, H. Briete, P. Guglielmino, G. Wierzbowski, J. Callaghan et al. dated Sept. 11, 2008 (attachment: PowerPoint, "Overview: Buried Underground Piping (BUP)"(ENVYHC00286-292). A copy of that presentation was later provided to NSA at NSA's request. *See* Tab 36, Vermont Yankee 2008 CRA, VDPS Information/Question Request Form No. 417, dated Nov. 6, 2008 (attachment: BUP Presentation, (ENVYHC00343-363). That presentation indicates that the BPTIP was based on tritium studies that looked at pathways to ground contamination – buried piping. The NSA Report relied on this PowerPoint for the section of the report on the underground piping program. *See* Issue 4, Tab 1, NSA Report at 264, Ref. 11 (ENVYHC00524).

ENVY participants uniformly recalled that they discussed the BPTIP Scope Table with NSA at the September 11 meeting. The BPTIP Scope Table lists numerous sections of buried piping at VY that are designated as potentially contaminated and high risk. The ENVY participants may have given NSA a copy of the table at the meeting. It was definitely provided on November 6, 2008, pursuant to a specific request and referred to in the NSA Report. *See* Issue 4, Tab 1, NSA Report at 263-64, Refs. 2, 3, 11 and 13 (ENVYHC00523-00524). In addition, at least some of the ENVY personnel recall discussing certain systems such as the AOG system, which carries radionuclides, at the September 11, 2008 meeting.

⁵ ENVY personnel consistently stated that ENVY and other companies in the nuclear industry make a distinction between "buried" piping and piping that is in trenches. "Buried" refers to pipes in direct contact with the soil or concrete and are therefore subject to certain corrosion risks. Pipes in trenches are not in direct contact with the soil or concrete; instead, they are surrounded by air and not susceptible to the same corrosion mechanisms.

That ENVY gave information about contaminated and potentially contaminated piping listed on the BPTIP Scope Table and that NSA understood that what was in that table is supported independently by the NSA Report. The NSA Report refers specifically to the BPTIP and stated that the “program covers the piping and tanks identified in the license renewal application, piping that could provide a path of plant-generated radioactive material contamination to groundwater, and other piping that could present an environmental concern.” *See id.* NSA Report at 263 (ENVYHC00523).

The evidence suggests that NSA was not interested in the potentially contaminated pipes listed in the BPTIP Scope Table because those pipes primarily carry gaseous matter, and the NSA was more concerned about pipes carrying liquids, that is, pipes that could leak and cause soil contamination. The January 14, 2010 letter from DPS Commissioner O’Brien made this understanding clear when it stated that the underground piping system in Act 189 referred “to underground pipe carrying contaminated *liquids*.” *See* Tab 39, Letter from D. O’Brien to R. Smith, dated Jan. 14, 2010 (emphasis added) (ENVYHC00403-403A). Commissioner O’Brien specifically stated that DPS, NSA and Entergy all agreed that “Act 189’s underground piping language [was] limited to pipes carrying liquids due to their ability to contaminate soils in the event of a leak.” This understanding is similar to ENVY witnesses’ recollection of what NSA was interested in – large, liquid, buried piping system that carries radionuclides. This letter also explains why NSA was not interested in the potentially contaminated AOG system pipes listed in the BPTIP Scope Table, which primarily carry gaseous matter.

ENVY recently added seven pipe sections to the BPTIP Scope Table. *See* Tab 46, BPTIP Scope Table as of February 18, 2010 (ENVYHC01787-96). Wierzbowski stated that these seven pipe sections are of a similar nature to the piping sections previously identified on the BPTIP table. The investigation found no evidence that ENVY personnel intentionally excluded these pipes from the BPTIP Scope Table presented to NSA. Instead, the person in charge of the BPTIP stated that he did not know of these pipes because they were not in the original Tritium Review.

In addition, a question was raised about radioactive contamination in the storm drains at the VY plant. Those storm drains were listed in the BPTIP table presented to NSA, and thus NSA had information regarding those drains. Thus, the information provided by ENVY accurately identified the then known buried piping that was contaminated or potentially contaminated.

- b. The evidence suggests that NSA independently arrived at its decision not to review the CSS to fulfill section 3(a)(7)’s mandate.

NSA had initially designated the CSS to satisfy section 3(a)(7)’s requirement to review an underground piping system that carries radionuclides. The CSS is a large system that carries large volumes of liquids that contain radionuclides. Witnesses stated that at some boiling water reactor plants, including one that was the subject of an Integrated Safety Assessment, the system was “buried” – the CSS pipes were in direct contact with the soil. At some plants, there were known issues about corrosion to the CSS pipes due to their contact with the soil. Therefore, CSS was a logical initial choice to review. At VY, however, the CSS is not part of the ENVY BPTIP because it is not “buried.” Although parts of it are below grade, the system is trenched and the pipes generally do not contact soil or concrete directly. The CSS is accessible for inspection.

No document or e-mail reviewed suggested, and no ENVY witness interviewed stated, that ENVY tried to steer NSA to review a different system from the CSS. Although when asked for his opinion, Rademacher stated his view that CSS was not a good choice because it was not buried, Rademacher made it clear that he did not steer NSA in one direction or the other.

In addition, ENVY witnesses agreed that the decision not to review the CSS is logical because the CSS at VY is not buried and is not part of the BPTIP. The evidence shows NSA personnel understood this and determined not to review it. A member of the POP supports this logical decision not to review the CSS. William Sherman wrote in 2010:

Act 189 3(a)7 designates “underground” piping. That’s a term with some ambiguity and subject to interpretation.

Underground could mean “buried” or it could mean “below grade.”

We did not interpret the term in any of our considerations that I am aware of, but I would take “buried” to be a much better fit than below grade because much of the plant piping is below grade. The systems evaluated for 3(a)2, 3(a)3, 3(a)4, and 3(a) 5 have lots of “below grade” radioactive piping that could might have been interpreted as underground radioactive piping. Therefore, I would not have considered piping run in concrete tunnels to have met the definition for underground piping. Below grade – yes, underground – no.

See Tab 42, Email from W. Sherman to A. Gundersen et al. re: refreshing your memory, dated Jan. 30, 2010 (ENVYHC00434-35). NSA apparently reached the same conclusion in the fall of 2008. There is no evidence that ENVY intentionally provided misinformation about the CSS or tried to steer NSA away from the CSS at VY.

- c. The evidence shows that NSA independently arrived at its decision to review the SWS to fulfill Section 3(a)(7)’s mandate.

The evidence shows that NSA and DPS made the decision to review the SWS independently of ENVY. After stating that “there are no underground piping systems carrying radionuclides at ENVY,” the NSA Report stated:

As an alternative and in agreement with the Department of Public Service and the Public Oversight Panel, the buried piping in the Service Water System was selected for a detailed examination of the ENVY underground piping inspection program.

See Issue 4, Tab 1, NSA Report at 262 (ENVYHC00522). Thus, NSA’s contemporaneous report states that NSA, DPS and POP agreed to review the SWS. ENVY is not included in the discussion. The Investigation uncovered a September 28, 2008 Woyshner email to Vanags and Hinckley that apparently stated: “2. We changed the condensate storage system underground

pipng to service water underground piping based on our telecon with the state of Vermont and the plant.” See Tab 42, Email from W. Sherman to A. Gundersen re: RE: refreshing your memory, dated Jan. 30, 2010 (ENVYHC00434).⁶ No ENVY witness interviewed, however, recalled such a conversation, and witnesses were consistent in stating that NSA and DPS guarded their independence throughout the CRA. See Tab 42C, Email from B. Sherman to A. Gundersen re FW: Act 189 Matrix as of 10-9-08, dated Oct. 10, 2008 (ENVYHC00437).

Moreover, the timing of the decision to switch to the SWS supports that the decision was made with complete information. NSA’s decision to review the SWS came after NSA reviewed the BPTIP and the BPTIP Scope Table at the September 11, 2008 meeting. The ENVY witnesses present at that meeting believe that, as knowledgeable and experienced nuclear engineers, NSA understood the table and therefore understood the contaminated buried piping existing at VY.⁷

NSA made its decision to review the SWS by September 15, 2008, when the NSA Action Log reflected: “The condensate system is recommended for removal and the parts of the SW system will be added. The Underground Piping [m]anagement Program will be reviewed specific to the SW system.” See Tab 29, Email from B. Woysner to J. Dreyfuss et al. re: VY Reliability Assessment Action Log, dated Sept. 15, 2008 (attachment VY Evaluation Project Action Log 091408.xls) (ENVYHC00293-00303). The Draft POP Matrix dated September 27, 2008, also confirms that by that date the POP and DPS were aware of the NSA decision to review the SWS at VY. See Tab 41A, CRA Consultants’ Proposal dated Sep. 27, 2009 (ENVYHC00430-33).

Only by reviewing and digesting the BPTIP and the BPTIP Scope Table could NSA reach the decision in the September 27, 2008 matrix to review the BPTIP program as a horizontal review in addition to the SWS. Moreover, such a review of the BPTIP was necessary to reach the conclusions stated in section 2.9 of the NSA Report. Thus, NSA decided to review the SWS knowing of the existence of potentially contaminated pipes listed in the BPTIP Scope Table. No

⁶ The investigation did not have access to the original email from Woysner. In addition, in December 2008, Sherman wrote that they were informed that there were no underground piping that carries radionuclides at VY and mentioned that McElwee told him that. See Tab 42B, Email from W. Sherman to P. Bradford re: Act 189 Underground Pipe System, dated Dec. 10, 2008 (quoted in a January 30, 2010 email from A. Gundersen to B. Sherman) (ENVYHC00435). The decision to change, however, was made in September, not December. It is therefore unlikely that McElwee’s statement influenced NSA’s decision on what to review. For a discussion of the issue of what McElwee stated to Sherman, see *infra* Issue No. 2.

⁷ The vast nuclear experience of the NSA team (NSA Report at Appendix H) and the POP members (POP Report at Appendix B) give particular credence to the statements of ENVY personnel interviewed that they believed the auditors understood very well what ENVY’s personnel were saying. See Appendix H of Reliability Assessment of the Vermont Yankee Nuclear Facility, dated December 22, 2008, available at <http://publicservice.vermont.gov/dockets/7440/Reliability%20Assessment%20VY%20Final%20-%20REDACTED.pdf>; Issue No. 6, Tab 1, Report of the Public Oversight Panel on the Comprehensive Reliability Assessment of the Vermont Yankee Nuclear Power Plant at 46-49 (ENVYHC01049-52). The more than 500 information requests from NSA for information and follow-up information and narrow specific requests underscore the conclusions by ENVY personnel that they were having effective two-way communications with the auditors. See Issue No. 6, Tab 1, Report of the Public Oversight Panel on the Comprehensive Reliability Assessment of the Vermont Yankee Nuclear Power Plant at 46-49 (ENVYHC01049-52).

document or email or witness interviewed suggests that ENVY tried to steer NSA away from the other underground piping that carries radionuclides.

That the POP also understood that there were buried pipes that carried radionuclides at VY and supported NSA's switch is clear. Note 6 to the September 27, 2008 discussion draft matrix stated: "The Service Water System is non-radioactive. No underground pipes will be assessed unless BPTIP is evaluated." (Emphasis added.) This language demonstrates that the NSA and POP understood that the BPTIP included buried pipes that carry radionuclides. See Tab 42G, Draft Detail Comparison: Consultants' proposed work scope compared with Act 189 statutory requirements, dated Sept. 27, 2008 (ENVYHC00441-445).

The evidence further shows that the decision to review the SWS instead of any of the potentially contaminated pipes listed on the BPTIP Scope Table was a logical decision to make, given the legislative mandate that a major, whole plant system important to plant reliability be reviewed as part of the CRA. The Vermont Legislature mandated the CRA to review vertical slices of entire plant systems. The systems designated to be reviewed in the statute are large, major systems important to plant reliability.⁸ See also Issue No. 6, Tab 1, Report of the Public Oversight Panel on the Comprehensive Reliability Assessment of the Vermont Yankee Nuclear Power Plant at 14, dated March 17, 2009 ("This section identifies seven whole plant systems for comprehensive, in-depth assessment . . .") (ENVYHC01017).

When looked at in the context of the first six systems identified in the statute for vertical slice review, it is reasonable that NSA would initially focus on the CSS as a possible subject for its review because it is a whole plant system of similar magnitude. It also is logical that upon learning that CSS is entrenched, NSA would conclude that there are no systems at VY of the type that the legislature sought to review, because the underground pipes that are potentially contaminated do not constitute a major piping system. In this context, it makes sense that NSA would: (i) look at another whole plant liquid piping system that is buried in soil⁹ and (ii) look at

⁸ The systems listed in Act 189 are:

1. The backup electrical supply including the diesels, batteries, and tie line from the Vernon dam. (These are the major, high voltage power systems.)
2. The emergency core cooling system including high pressure- and low pressure safety injection. (These are the bedrock safety systems designed to keep the reactor core covered in the event of a loss of coolant accident such as from a major pipe rupture.)
3. The condensate feedwater system, including the condenser. (This is the water that goes into the reactor to make steam to turn the turbine. The condenser is a huge heat exchanger.)
4. The primary containment, including residual heat removal and containment spray. (This is the giant steel can encased in thick concrete that surrounds the entire reactor building. It is the barrier that prevents radionuclides from getting out to the public in the event of a major accident and core melt.)
5. Cooling towers. (Both those used for power production and emergency cooling, essential to operation of the plant.)
6. Alternate cooling system and emergency service water. (These are large diameter concrete pipes that carry river water all over the site.)

See Tab 6, Act No. 189: A Comprehensive Vertical Audit and Reliability Assessment of the Vermont Yankee Nuclear Facility, Section 3 (ENVYHC00046-47).

⁹ The SWS is a large, liquid carrying system that is vulnerable to certain corrosion mechanisms because it is buried. There had been issues associated with that system at VY as well as at other nuclear power plants.

the BPTIP as a horizontal assessment designed to assess the reliability of those other buried piping sections that do carry radionuclides. The draft September 27, 2008 matrix supports that this is exactly what NSA did.

The matrix, which set forth the scope of the CRA, was agreed upon at an October 3, 2008 POP meeting. Per Sherman, ENVY was excluded from that meeting. That matrix includes a "Notes from panel" page, which states that:

The intent of Act 189 is that seven vertical slice inspections, not component inspections, be reviewed by the Department to assist in the legislature's decision making process. Neither the 20 components chosen by the NRC in the CDBI nor any "sub-systems" suggested by NSA/WSC qualify as Vertical Slice Inspections because by definition "sub-systems" are pieces of whole systems and can not be vertically sliced. Looking at sub-systems is more of a component based review which the legislature rejected. The legislature was clear that they wanted whole systems vertically sliced, not individual components or sub-systems.

See Tab 42G, Draft Detail Comparison: Consultants' proposed work scope compared with Act 189 statutory requirements, dated Sept. 27, 2008 (ENVYHC00445). The evidence supports that the kinds of contaminated pipes listed on the BPTIP table, such as condensate drains off of the AOG system, would likewise be rejected for vertical study.

Moreover, the notes to the matrix state: "No underground radioactive pipes will be assessed unless BPTIP is evaluated." The matrix then provides that "The BPTIP will be evaluated as part of the review of SWS." ENVY personnel provided NSA with information regarding underground radioactive lines as part of the BPTIP evaluation, which NSA did evaluate. As Sherman concluded in a recent email:

The bottom line is that, notwithstanding the confusion of whether there were or were not underground radioactive lines:

1. DPS/NSA stated that "No underground radioactive pipes will be assessed unless BPTIP is evaluated."
2. The Panel matrix states that "The BPTIP will be evaluated as part of the review of SWS."
3. VY provided NSA information regarding underground radioactive lines as part of the BPTIP evaluation.
4. NSA did evaluate underground radioactive piping as part of the BPTIP evaluation.

There was an industry-wide reliability concern with respect to service water systems. It was a logical system to study for underground piping as part of a reliability audit. For these reasons as well, there was no motive for ENVY to have NSA review the SWS instead of one of the smaller pipes in the BPTIP table. All ENVY witnesses agree that the SWS was a more vulnerable system from a reliability perspective, and therefore potentially bigger problems could be uncovered.

5. NSA identified open items that could have been followed as part of its continuing work.

See Tab 42, Email from W. Sherman to A. Gundersen et al. re: refreshing your memory, dated Jan. 30, 2010 (ENVYHC00435-438).

The evidence does not support that ENVY intentionally misled NSA, DPS or POP with regard to the existence of contaminated underground piping at VY. Instead, NSA was provided all relevant information about the BPTIP, including information about piping lines containing radionuclides. The evidence shows that the NSA independently reached its decision to review the SWS and conduct a horizontal assessment of the BPTIP.

B. Issue No. 2: Did David McElwee intentionally mislead Tom Buchanan at a December 8, 2008 lunch or William Sherman in the fall of 2008 when he stated that there were no underground pipes that carried radionuclides at ENVY?

1. Issue

According to Tom Buchanan, the Chairman of the Wyndham Regional Commission (“WRC”), on December 8, 2008, he had lunch with McElwee and McElwee told him that “there were no underground pipes that carry radionuclides” at ENVY. McElwee also reportedly stated “there had been such a pipe that leaked in the early 1980’s, and that it had been abandoned in place.”

In addition, a December 10, 2008 email from William Sherman, then a member of the Public Oversight Panel (“POP”),¹⁰ stated:

When McElwee and VY said there was no underground radioactive piping (when we were doing the matrix), I specifically quizzed him about this piping. He said the same thing to me as to Tom Buchanan – the line was abandoned and the current drain is no longer buried piping. Therefore, I was satisfied there was no buried radioactive piping. This is also the reason for the wording in the matrix, “Since the panel is informed there is no underground piping systems carrying radioactivity”

See Tab 3B, Email from W. Sherman to P. Bradford et al. re: Act 189 Underground Pipe System, dated Dec. 10, 2008 (ENVYHC00480).

Thus, it appears that McElwee stated words to the effect that there were no underground piping systems carrying radioactivity at VY to at least two people in the fall of 2008. Because McElwee does not dispute that he may have made such statements, the issue is whether McElwee made such statements with the intent to mislead.

¹⁰ Sherman had formerly served as the State Engineer at VY from 1988 until 2007.

2. Chronology

December 8, 2008 – Buchanan and McElwee met for lunch. An email from Buchanan to McElwee immediately after the lunch discussed the history of how an inspection of “an underground piping system that carries radionuclides” got into Act 189, confirming that such a subject was a topic at lunch. See Tab 1, Email from T. Buchanan to D. McElwee re: Riverside Cafe confirmed at noon <EOM>, dated Dec. 8, 2008 (ENVYHC00453).

December 9, 2008 – Buchanan emailed Peter Bradford, a POP member, and stated that he had spoken with McElwee about Act 189’s requirement that the audit review an underground piping system. Buchanan stated:

The panel reported to VSNAP at the last meeting that there is no such system, and thus it could not be inspected. In our conversation Dave mentioned very quickly in passing that there had been such a pipe (singular) at VY, but that it was abandoned in the 1980’s.

* * *

Ideally when your final report discusses why you did not inspect an underground piping system that carries radionuclides as requested by the legislature you would say there is no such operational system, but there is an abandoned pipe that once served that purpose, and it was not inspected because it is not operational.

See Tab 3D, Email from T. Buchanan to P. Bradford re: Act 189 Underground Pipe System, dated Dec. 9, 2008 (ENVYHC00480-81).

McElwee – Does not recall the specific conversation with Buchanan. Believed that he would have told Buchanan words to that effect. Believed that the context of the conversation was that Buchanan and the WRC had an interest in decommissioning costs, which to McElwee meant contaminated soil removal. Recalled the one incident with the Chem Lab Drain Line leak and discussed that with Buchanan. Knew NSA’s apparent view that there was no buried piping of radiological concern – i.e., with a large volume of contaminated water contained within pipes in contact with soil. Believed that the NSA and DPS were not concerned with underground pipes that carried gas.

December 10, 2008 – Sherman confirmed that Buchanan had told him that McElwee had stated that there are no underground piping systems that carry radionuclides and discussed the Chem Lab Drain Line:

When McElwee and VY said there was no underground radioactive piping (when we were doing the matrix), I specifically quizzed him about this piping. He said the same thing to me as to Tom Buchanan – the line was abandoned and the current drain is no longer buried piping.

See Tab 3B, Email from B. Sherman to P. Bradford et al. re: Act 189 Underground Pipe System, dated Dec. 10, 2008 (ENVYHC00480).

McElwee – Does not recall being quizzed on the subject of underground piping in general by Sherman. Does recall telling Sherman about the Chem Lab Drain Line leak.

January 14, 2010 – Buchanan emailed McElwee to provide the above information so that McElwee could have it for his chronology: “I don’t know if this discussion is relevant to your review, but thought I’d pass it along.” See Tab 2, Email from T. Buchanan to D. McElwee re: Rutland Herald Story, dated Jan. 14, 2010 (ENVYHC00478).

3. Analysis & Conclusion

In the fall of 2008, McElwee told at least Buchanan and Sherman words to the effect that there were no underground piping systems carrying radionuclides at the VY plant. The investigation did not substantiate that McElwee intentionally misled Buchanan or Sherman about the existence of an underground piping system that carries radionuclides at the VY plant.

The conversation between McElwee and Buchanan appears to have occurred substantially as reflected in the contemporaneous emails. McElwee likely made a similar statement to Sherman. Based on our interviews with McElwee about his conversation with Buchanan and conversations with Sherman, the investigation did not substantiate that McElwee intended to mislead Buchanan or Sherman. This conclusion is based on the following:

First, McElwee’s stated belief that NSA and DPS understood Act 189’s requirement with respect to underground piping to be limited to systems that carry liquids is supported by independent evidence. David O’Brien, the Commissioner of DPS, stated in January 2010 that the underground piping system in Act 189 referred “to underground pipe carrying contaminated liquids.” See Tab 4, Letter from Commissioner O’Brien to R. Smith at 1 n.3 (Jan. 14, 2010) (emphasis added) (ENVYHC00482). Commissioner O’Brien specifically stated that DPS, NSA and Entergy all agreed that “Act 189’s underground piping language [was] limited to pipes carrying liquids due to their ability to contaminate soils in the event of a leak.” As the O’Brien letter states: “The pipe inspection discussed on page 262 of the NSA CRA report (Exh. DPS-Panel-1) discussed a gaseous vent pipe and thus is not considered to be a disclosure by ENVY of underground piping covered by section 3(a)(7) of Act 189.” See *id.* McElwee’s interpretation of the scope of the question was consistent with DPS’s understanding as set forth by Commissioner O’Brien. In addition, the investigation found no evidence that McElwee was aware of either the condensate drain lines off of the gaseous piping systems or that the storm water drains were ever considered to be an “underground piping system that carries radionuclides.”¹¹

¹¹ Annual NRC Radiological Environmental Operating Reports by VYNPC and ENVY dating back to 1994 have reported detectable activity from trace Cobalt-60 and other radionuclides accumulated in sediment traps in the storm water drain system. These reports have indicated detectable activity but at levels below applicable regulatory limits. The service lists show VYNPC and ENVY provided copies of these reports to DPS and the Vermont Department of Health annually. Accordingly, the presumption that storm water drains were not

Second, McElwee's recollection and statements regarding the conversation and his thought process at the time are consistent with WRC's and Buchanan's interest in decommissioning costs. Buchanan's email to Bradford suggests that Buchanan was concerned with soil contamination for "greenfielding" of the site. Buchanan's entire December 9, 2008 email stated:

I had a conversation with Dave McElwee yesterday in which we spoke very briefly about Act 189, and the requirement that the Public Oversight Panel inspection include "An underground piping system that carries radionuclides." The panel reported to VSNAP at the last meeting that there is no such system, and thus it could not be inspected. In our conversation Dave mentioned very quickly in passing that there had been such a pipe (singular) at VY, but that it was abandoned in the 1980's. That bit was news to me, and is probably important to know later on when we discuss greenfielding of the site.

Could your panel research that issue, and if there was such a pipe or system that is no longer operational make note of it in your report so there is a follow-up point with regard to greenfielding conditions? Ideally when your final report discusses why you did not inspect an underground piping system that carries radionuclides as requested by the legislature you would say there is no such operational system, but there is an abandoned pipe that once served that purpose, and it was not inspected because it is not operational.

See Tab 3D, Email from T. Buchanan to P. Bradford re: Act 189 Underground Pipe System, dated Dec. 9, 2008 (ENVYHC00481).

Furthermore, Sherman's December 10, 2008 email to Bradford also focused on "contaminated soil that is in the decommissioning estimate":

For decommissioning, it is part of the contaminated soil that is in the decommissioning estimate. At different times, I would quiz McElwee and VY about aspects of the contamination – for example, in connection with borings taken as part of the engineering for the dry cask storage area.

See Tab 3B, Email from B. Sherman to P. Bradford et al. re: Act 189 Underground Pipe System, dated Dec. 10, 2008 (ENVYHC00480). Thus, McElwee's explanation of why he interpreted the question narrowly is supported by contemporaneous documentation.

Third, there does not appear to have been a motive for McElwee to intentionally mislead Buchanan or Sherman in the fall of 2008. McElwee was not involved in discussions with NSA to determine the scope of the CRA's review of an "underground piping system that carries

within the legislature's intent for "an underground piping system carrying radionuclides" does not appear unreasonable. See also *infra* Issue No. 9.

radionuclides.” Instead, he was just responding to what he understood NSA’s stated scope was. As discussed in Issue No. 1 above, the Investigator did not find that ENVY personnel intentionally misinformed NSA as to the existence of underground piping systems that carry radionuclides at VY. McElwee appeared credible with regard to this issue in our interviews with him.

C. Issue No. 3: Did Entergy obtain a draft of the final NSA Report before the report was issued to the public on December 22, 2008?

1. Issue

Entergy requested the Investigator to determine whether ENVY personnel obtained an advance copy of the NSA Report before that report was issued to the public on December 22, 2008.

2. Chronology

November 3, 2008 – Woysner (NSA) emailed McElwee, Dreyfuss, and Guglielmino, with copies to DPS personnel Hinckley and Vanags, attaching a draft outline of the planned table of contents of the NSA Report. See Tab 1, Email from B. Woysner to D. McElwee, J. Dreyfuss, P. Guglielmino et al. re: Reliability Assessment report Outline, dated Nov. 3, 2008 (ENVYHC00485-94). The outline did not preview any of the report’s content, only the section and sub-section headings. See Tab 1A, Attachment, Draft “Nuclear Safety Associates, Reliability Assessment of the Vermont Yankee Nuclear Facility” (ENVYHC00486-94).

November/December 2008 – ENVY personnel at various levels of the organization and counsel from DRM stated that they requested an opportunity to review the NSA Report in draft to comment on potential inaccuracies.

Dreyfuss – Requested advance copy of the NSA Report but was unsuccessful. Saw only a draft outline of the report with no substance.

Mannai – Recalled that ENVY personnel wanted to see the report pre-issuance, but could not get it. He recalled that Dreyfuss and Colomb, who had taken over from Sullivan on October 15, 2008, were interested. He recalled that Sullivan also wanted a copy.

Metell – First thought he may have seen an advance draft of the NSA Report, but then stated that he did not think he had seen a draft and thought he would have been on vacation. We saw no documentary evidence suggesting he received an advance copy.

McElwee – ENVY pushed hard to see a draft of the NSA Report. McElwee reported that he asked Woysner, Hinckley, Vanags and possibly Sherman for an opportunity to review it. McElwee stated that Woysner told him that NSA

would ask if it needed any facts checked. McElwee reported that his efforts to obtain a preview were not successful.

Naeck – Described a draft that he thought may have been an advance copy of the NSA report that he marked up, and sent to Wierzbowski. Naeck appeared to be discussing the final report which was circulated by Wierzbowski.

Rademacher – Stated that he asked twice for an advance copy (once to Bill Woysner), but did not receive one.

Thayer – Did not try to get the report beforehand. He knew Dreyfuss wanted it early but was aware of a strong desire by the State to maintain the aura of independence. He only got the report when issued and does not know of anyone at the site getting it early.

Wierzbowski – Stated that he did not ask Woysner for an advance copy of the NSA Report. He asked internally and learned that NSA had declined.

Glew – Recalled that ENVY tried to get an advance copy but was told no by DPS, that DPS wanted the report to go to all parties at the same time. Glew did not recall who said this, but thought it was at a status conference. He doubted anyone in ENVY received an advance copy because plans were already in place to begin the review by Dreyfuss and McElwee. The report was much anticipated.

Marshall – Recalled a telephone call in which Hofmann of DPS said it would not be released prior to public disclosure. DRM received the report when it was made public. Marshall recalled that this led to the need for a confidentiality review post-issuance.

Miller – NSA did not allow ENVY to see the report prior to issuance. He thought that McElwee was in those conversations with Hofmann and Marshall. He recalled NSA would issue the report without ENVY's prior review and that the proprietary review had to follow because NSA was over-inclusive.

Bykov – Was not interviewed. Her contemporaneous notes do not reflect prior access to or review of the NSA Report.

December 22, 2008 – Cover letter from Sarah Hofmann (DPS) to PSB Clerk Susan Hudson, transmitting the NSA Report, stated that ENVY was not provided an advance copy:

The Department did not provide VY with an advance opportunity to review the report and the company has therefore not yet been able to provide any input into what information should or should not be considered proprietary.

See Tab 2, Letter from S. Hofmann to S. Hudson at 2 n.3, dated Dec. 22, 2008 (ENVYHC00496).

December 30, 2008 – Wierzbowski disseminated the final NSA Report to ENVY personnel with section review assignments for ENVY’s formal review and comment. See Tab 3, Email from G. Wierzbowski to VTY – Managers Directors & Site VP Only, J. Dreyfus, D. McElwee et al. re: Comprehensive Reliability Assessment (CRA) report review request, dated Dec. 30, 2008 (ENVYHC00497-98).

December 30, 2008 – Dreyfuss forwarded the recently-issued NSA Report to several plant managers and two Entergy Vice Presidents (Thayer and Young) stating: “we were not afforded an opportunity to review the report in draft to validate facts or challenge conclusions.” See Tab 3A, Email from J. Dreyfuss to VTY – Managers Directors & Site VP Only et al. re: Comprehensive Reliability Assessment report, dated Dec. 30, 2008 (ENVYHC00498).

February 11, 2009 – Colomb’s prefiled testimony stated that ENVY “was not provided an opportunity to check facts in a draft version of the CRA Report.” See Tab 4, Colomb Prefiled Testimony at 2:19-20 (Feb. 11, 2009) (ENVYHC00513).

3. **Analysis & Conclusion**

Although ENVY personnel at several levels of the organization requested an opportunity to review the NSA Report in draft for accuracy, the investigation found no evidence that ENVY personnel saw or obtained an advance draft of the report.

The chronology above demonstrates that several ENVY personnel and outside counsel at DRM made multiple requests for an opportunity to review an advance draft of the NSA Report. The available evidence provides no indication that any of these efforts was successful. Contemporaneous statements by ENVY personnel and DPS counsel and the prefiled testimony by Colomb in the PSB proceeding confirm the witness statements that no advance draft report was provided to or received by ENVY personnel. Additionally, as discussed in the analysis of Issue No. 4, below, the efforts of ENVY personnel to review and comment on the NSA Report after December 22, 2008, also are consistent with the conclusion that ENVY did not have an opportunity to do so earlier.

ENVY and DRM witnesses interviewed consistently denied seeing an advance copy of the NSA Report, or hearing that someone else in the organization had seen one. Additionally, the Investigator collected and reviewed ENVY’s email records for communications between ENVY and NSA between July 2008 and January 2009. This search uncovered no evidence suggesting that ENVY personnel obtained an advance copy of the NSA Report.

D. Issue No. 4: Did ENVY intentionally fail to address, in its Response and Errata, the statement at page 262 of the NSA Report that “there are no underground piping systems carrying radionuclides at ENVY”?

1. Issue

The NSA Report, dated December 22, 2008, stated at page 262:

Act 189 included an in-depth inspection of ‘an underground piping system that carries radionuclides.’ However, there are no underground piping systems carrying radionuclides at ENVY.

See Tab 1A, Reliability Assessment of the Vermont Yankee Nuclear Facility, dated Dec. 22, 2008 (ENVYHC00522).

ENVY personnel conducted a significant review of the NSA Report and prepared a 65-page Review of Vermont Yankee Comprehensive Reliability Assessment, presented as Exhibit EN-MJC-2 to M. Colomb’s prefiled testimony in the DPS proceeding on February 11, 2009 (“Response”). See Tab 9B, Review of the Vermont Yankee Comprehensive Reliability Assessment, Entergy Nuclear Vermont Yankee, Exhibit EN- MJC-2 and Appendix C (undated) (ENVYHC00626, 00655). ENVY personnel reviewed in detail the NSA Report and provided a written response that included an analysis of the report’s major conclusions and an errata sheet enclosed as Appendix C. Neither the ENVY Response nor the attached Errata sheet (“Errata”) addressed the second sentence of the statement quoted above.

2. Chronology

December 22, 2008 – NSA issued its Reliability Assessment of the Vermont Yankee Nuclear Facility. Section 2.9 on underground piping stated:

Act 189 included an in-depth inspection of ‘an underground piping system that carries radionuclides’. However, there are no underground piping systems carrying radionuclides at ENVY. As an alternative and in agreement with the Department of Public Service and the Public Oversight Panel, the buried piping in the Service Water System was selected for a detailed examination of the ENVY underground piping inspection program.

See Tab 1A, Reliability Assessment of the Vermont Yankee Nuclear Facility, dated Dec. 22, 2008 (ENVYHC00522).

Upon receiving the NSA Report, multiple ENVY personnel reviewed it. ENVY executives and senior managers stated that they generally focused on NSA’s conclusions and recommendations, and paid comparatively less attention to the voluminous detail in the 415-page report.

Dreyfuss – His review of the NSA Report focused on the conclusions and recommendations. He was overall responsible for development of the Response and Errata. Thought he assigned Guglielmino to pull together inputs for the Errata. In hindsight, section 2.9's error should have been clear because there is buried radwaste piping that carries radionuclides. NSA personnel are nuclear engineers with experience at the director level or above, with BWR experience. NSA personnel must have known that VY has Auxiliary Offgas piping that carries radionuclides.

Guglielmino – Read the NSA Report only in part – the recommendations section and other sections as questions came up. At the time he reviewed the NSA Report, he was not very familiar with the configuration of VY as an early BWR. Played a role as a clearing house for development of ENVY's Errata sheet. Recalled assigning section 2.9 for review by Bailey, LeFrancois, or both, and receiving Bailey's comments back. Recalled a comment from Bailey asking what Act 189 was and not including it in the Errata.

Rademacher – He noticed the statement on page 262 during his review, but did not raise the issue. He believed the report to have many inaccuracies. Knew that NSA had been provided with detailed information on underground piping systems, and believed that NSA had selected which underground system it wanted to review based on its own criteria. Recalled discussing with Woysner (NSA) about Condensate Storage System not being a good candidate system for the audit because it was trenched. Rademacher knew that NSA already had the table of underground pipes when it shifted its focus to Service Water. Recalled having been rebuffed by NSA when he asked for an opportunity to review and comment on the report in draft. His bottom line was that the executive summary was correct and ENVY agreed with it, thus he took no action about the statement.

Thayer – Did not read the NSA Report in its entirety; only read the executive summary, open items, and recommendations. Liked the conclusions and recommendations, and observed that it was a substantive document, so he did not worry further. No one directed his attention to section 2.9. Knew that Colomb had asked a team of his people at the plant to look at the NSA Report. Thayer was not involved with the Errata sheet.

Colomb – Reviewed NSA Report and concentrated on the recommendations. Recalled an ENVY commitment to review the recommendations and address them. Some insights were good, others less so. Did not recall reading section 2.9, but believes he probably did. Viewing it now, he recognizes that the statement taken literally and out of context would not be accurate. Has not worked with NSA before, but they enjoy a very good technical reputation, suggesting that the inaccuracy of the statement, read literally, would have been obvious to NSA as well.

McElwee – Focused primarily on NSA's conclusions and recommendations. Did not recall anyone pointing out the statement quoted above or any other conversation regarding section 2.9.

LeFrancois – Did not recall reviewing the NSA Report. He said he tried to get a copy but became busy doing other things. LeFrancois reported that he was not asked to fact check the NSA Report. LeFrancois observed that the Errata section is long and the review of section 2.9 would likely have been performed by Bailey. LeFrancois stated that the first time he discussed the error in section 2.9 of the NSA Report was January 2010.

Hardy – His review of the NSA Report focused on section 2.4. Wierzbowski directed him to provide comments, but recalled he had none.

Metell, Mannai, Rogers, Skibniowsky, Limberger – Did not recall reviewing the NSA Report.

December 30, 2008 – Wierzbowski directed particular individuals to review their sections and provide any comments or corrections to Guglielmino. See Tab 2, Email from G. Wierzbowski to VTY – Managers Directors & Site VP Only re: Comprehensive Reliability Assessment (CRA) report review request, dated Dec. 30, 2008 (ENVYHC00525).

Wierzbowski – Did not participate in ENVY’s Response or development of the Errata, although acknowledged sending the December 30, 2008 email assigning sections of the NSA Report to individual ENVY personnel for development of the Response. Was the technical lead for the NSA audit. Did not read the entire NSA Report, but likely read the systems sections. Recalled noticing the statement about no underground piping carrying radionuclides in section 2.9, but also recalled noticing in the references that NSA had reviewed the documents that showed what underground piping systems there were at the site. Wierzbowski also knew that the NSA had been provided documents and briefings detailing the underground piping at ENVY. Wierzbowski stated that he believed that NSA had a sophisticated understanding of ENVY’s BPTIP, and was not concerned that NSA had any significant misunderstanding.

January 9, 2009 – Screen printout of CRA Review Response Summary showed that Bailey was assigned to review section 2.9. See Tab 3, Screen printout of CRA Review Response Summary, dated Jan. 9, 2009 (ENVYHC00532).

January 14, 2009 – Assignment Matrix spreadsheet confirmed that Bailey was assigned to review section 2.9. See Tab 4C, CRA Report Review Assignments (undated) (ENVYHC00536).

January 15, 2009 – Guglielmino forwarded Bailey’s comments on sections 2.8 and 2.9 of the NSA Report. Bailey sent in two comments for section 2.9. The first one was for page 262 and the Assessment Finding was “Act 189 included an in-depth inspection . . .” The VY Response section stated: “Do not know what ‘Act 189’ is. Not listed in the references.” See Tab 5, Email from P. Guglielmino to T. Girroir, dated Jan. 15, 2009 (ENVYHC00540-00542).

Bailey – Had no recollection of reviewing section 2.9 of the NSA Report. He thought it unlikely that he reviewed it because the language about no underground piping jumps out as wrong today. When shown the e-mail assignment to him and his written comments on pages 262 and 263, including a question regarding Act 189, Bailey acknowledged that he

likely read the section and commented. Bailey stated that he still had no recollection of reading or commenting on that language. He stated that he must have completely missed this issue. No one suggested to him how he should respond to section 2.9.

January 17, 2009 – Wierzbowski notified Rademacher and others that the “consolidation/ resolution phase of the CRA Report response” has started. *See* Tab 7, Email from G. Wierzbowski to N. Rademacher et al. re: CRA Report Review Comments, dated Jan. 17, 2009 (ENVYHC000551).

Late January 2009 – Following development of ENVY’s Response, Thayer, Colomb, Dreyfuss and Rademacher met with Woyshner, Rainey and Allshouse of NSA in Brattleboro to discuss ENVY’s observations and corrections to the NSA Report. ENVY personnel requested that NSA review their comments, and issue a revision to the NSA Report. NSA personnel stated that there would be no revision. Rademacher recalled that Rainey offered that ENVY could make any corrections it thought necessary in testimony in the proceeding.

Rademacher – Recalled that there was a pre-meeting held in which there may have been some discussion of underground piping and that the NSA Report statement with regard to underground piping had to be viewed in context. At the meeting with NSA, recalled ENVY personnel brought a copy of the Errata to the meeting.

Colomb – Does not recall discussing underground piping either at the pre-meeting or at the NSA meeting. Instead, purposefully stated that we would not nit-pick the NSA Report because the plant agreed with the conclusions. Kept the discussion on a high level.

Dreyfuss – Does not recall discussing underground piping either at the pre-meeting or at the NSA meeting. Recalled that it was a high-level discussion. Felt that validation by experts on ENVY’s Response was appropriate.

Thayer – Does not recall attending either the pre-meeting or the NSA meeting.

February 11, 2009 – ENVY submitted its Response with the Errata in M. Colomb’s prefiled testimony. The ENVY Response stated:

Entergy VY concurs with the CRA Report’s conclusions relative to Underground Piping, exclusive of errata and technical corrections provided in Appendix C.

See Tab 9B, Review of the Vermont Yankee Comprehensive Reliability Assessment, Entergy Nuclear Vermont Yankee, Exhibit EN- MJC-2 and Appendix C (undated) (ENVYHC00653). In addition, the Errata filed as an appendix did not note any issues at page 262 of the NSA Report. *See* Tab 9B, Review of the Vermont Yankee Comprehensive Reliability Assessment, Entergy Nuclear Vermont Yankee, Exhibit EN- MJC-2 and Appendix C (undated) (ENVYHC00667).

McElwee – ENVY personnel prepared the technical review, Bykov and DRM counsel focused on editing the written product. Marshall at DRM issued a directive to ENVY personnel working on Response letting them know it likely would be included in the regulatory proceeding, informing them that their conclusions likely would influence ENVY's strategy going forward and to maintain confidentiality of drafts, inputs and comments.

3. Analysis & Conclusion

In reviewing the NSA Report, ENVY executives and senior managers focused on NSA's overall conclusions regarding plant reliability and recommendations. Only two ENVY witnesses recognized the inaccurate statement. Those two, Rademacher and Wierzbowski, also understood that NSA team members were very capable senior nuclear engineering managers with experience on similar BWR plants. They knew that information on ENVY's underground piping and its program, BPTIP, had been provided to NSA in response to NSA requests, and that NSA personnel had interviewed the most knowledgeable individuals on site regarding that program. These witnesses noted that, although the statement was not literally accurate, they understood the purpose of NSA's assessment was focused on plant reliability, and did not believe NSA actually misunderstood the extent of underground piping systems carrying radionuclides. Rather, they assumed that NSA was not interested in those relatively minor systems or systems that did not carry liquids. The Investigator found no evidence that either Rademacher or Wierzbowski communicated their separate observations to their superiors or anyone else, or that others also recognized the language was inaccurate.

ENVY's development of a Response to the NSA Report incorporated reviews of particular sections by the subject matter experts. In the case of section 2.9, the engineer responsible for the BPTIP, Bailey, reviewed this language and apparently missed it. He had personally delivered a table of underground piping at the site to NSA personnel and discussed the program with them in at least three meetings. No review identified the discrepancy. The review was single track with no independent peer review.

The focus of ENVY senior management in responding to the NSA Report was on areas where NSA provided, in their view, an incomplete picture, or painted ENVY in an inappropriately poor light (e.g., issues already known or corrective actions already underway but not noted). The focus of ENVY management was on the main body of the report addressing NSA's principal conclusions and other recommendations and conclusions.

Only two ENVY personnel noticed the statement on page 262. For those two, the investigation found no evidence their decision not to raise the issue was animated by intent to bury an issue or avoid controversy. Both indicated they believed that NSA well understood the kinds of buried piping that carried radionuclides at VY when it chose to write what it did on page 262 of the NSA Report.

E. Issue No. 5: Did ENVY intend to mislead parties to Docket No. 7440 by responding to VPIRG discovery request No. 4-6 that there have not been any underground piping systems carrying radionuclides during ENVY's ownership of the VY Station?

1. Issue

On January 12, 2009, the Vermont Public Interest Research Group (VPIRG) promulgated its fourth round of discovery requests, issuing ten new discovery requests referencing and seeking information related to the recently-issued NSA Report. Request No. 4-6 stated:

The Reliability Assessment on page 262 states that "there are no underground piping systems carrying radionuclides at ENVY."

- a. Have there been underground piping systems carrying radionuclides at ENVY at any time in the past?
- b. Did any previously-used underground piping systems that carried radionuclides ever leak? If so, please specify for each leak: isotope, quantity of leak, date of leak, and duration of leak.

See Tab 6C, Fourth Round Discovery Requests Served By The Vermont Public Interest Research Group on Entergy Nuclear Vermont Yankee, dated Jan. 12, 2009 (ENVYHC00824-25).

On January 27, 2009, ENVY asserted objections and responded:

- a. There have not been any underground piping systems carrying radionuclides during ENVY's ownership of VY Station. Prior to 1992, the Chemistry Laboratory Drain Line carried radionuclides.
- b. Yes, but prior to ENVY's ownership of VY Station. See Attachment A.VPIRG:EN.4-6.1 (Vermont Yankee letter to NRC: BVY-91-113, Nov. 18, 1991) (detailing the date and duration of the leak, the quantity of the leak and the isotopes involved) and Attachment A.VPIRG:EN.4-6.2 (NRC Finding of No significant Impact (Feb. 27, 1996)), which contains the NRC's finding of no significant impact and which approves the disposal-in-place proposal.

See Tab 26, State of Vermont Public Service Board; Docket No. 7440; Response of Entergy Nuclear Vermont Yankee, LLC, and Entergy Nuclear Operations, Inc. To Vermont Public Interest Research Group Fourth Set of Discovery Requests, dated Jan. 27, 2009 (ENVYHC00959).

The response to VPIRG:EN.4-6 was inaccurate to the extent that there are buried pipes at VY that carry radionuclides. See *supra* Issue No. 1.

2. Chronology

a. Background

March 2008 – John Marshall of DRM, on behalf of ENVY and Entergy Nuclear Operations Inc. (ENOI) submitted a Petition for authority to continue operation of Vermont Yankee after 2012. On March 20, 2008, Marshall and Robert Miller, also of DRM, issued a guidance memorandum to ENVY and ENOI on responding to the anticipated discovery requests. The memorandum describes the process for responding to discovery requests. It provides email contacts for DRM counsel to whom answers should be submitted. It counsels ENVY to provide separate answers to each individual question and subpart and instructs them to “read the question carefully before drafting your response.” See Tab 2A, Memorandum to Entergy Nuclear Vermont Yankee, LLC, Entergy Nuclear Operations, Inc., and affiliated Entergy Corporation entities from J. Marshall, R. Miller, Jr., Downs Rachlin Martin PLLC re: Responding to Discovery Requests in Vermont Public Service Board Docket No. 7404, dated March 20, 2008 (ENVYHC00691). It also instructs, “[y]our responses should be directed solely to the question asked and should not offer information, analysis or opinions not requested.” See *id.*

April 3, 2008 – Marshall and Miller issued a memorandum to Dennis, Dreyfuss, McElwee and Metell addressing “Document Management in Connection with State Approval of License Renewal.” This memorandum is tailored more specifically to the issues anticipated in the proceeding on continuing operations and set as goals:

1. The establishment of a document management team with expertise (or access to expertise) regarding (a) Entergy VY personnel and procedures, (b) the subject matter of license renewal, (c) legal requirements for document retention and production, (d) company activities related to relicensing and (e) information technology processes.
2. A thorough understanding of what documents currently exist that specifically relate to relicensing.

See Tab 38, Memorandum to W. Dennis et al. from R. Miller and J. Marshall, Downs Rachlin Martin PLLC re: Document Management in Connection with State Approval of License Renewal 09674-00032, dated April 3, 2008 (ENVYHC01776).

DRM’s April 3, 2008 memorandum also recommended that ENVY:

develop a company/legal/technical team that will be prepared to obtain issue- and component-specific documents and information from company or vendor records when specific questions or discovery is directed at the company

See id.

The addressees for DRM’s memorandum align the above goals and recommendation. Dennis was a senior Entergy in-house counsel in White Plains, NY with responsibility for legal support

for plants in the northeast including VY. Dreyfuss was the VY Director of Nuclear Safety Assurance, McElwee was the Senior State Regulatory Affairs Engineer, and Metell was the VY Project Manager for the License Renewal Project, including state and federal approval processes.

June 2008 – Kim Bridges (later Bykov) joined Entergy as an in-house counsel reporting to Dennis in the White Plains, New York office in early 2008. Shortly after joining the Company, Dennis assigned Bykov to oversee Vermont counsel in the already ongoing regulatory proceeding. Discovery in the proceeding had not yet begun. Bykov's working notes related to this matter begin on June 9, 2008.

Metell, the ENVY site Project Manager for license renewal, had been identified as the technical contact on site for DRM personnel in responding to discovery in the PSB proceeding. The process that DRM and ENVY established was to conduct a "triage" telephone call quickly upon receipt of discovery requests to develop an initial plan for responding and to assign responsibility to specific individuals.

Marshall – Explained the process as having been established by DRM with substantial input from Bykov. Marshall indicated that time frames for responding to discovery requests in the PSB proceeding were very tight and that Entergy had experienced difficulties in an earlier proceeding, resulting in sanctions. Marshall said that DRM would circulate the questions immediately upon receipt. The next day, Metell, McElwee, Bykov, Marshall would discuss whether to object or respond and how the response would be generated. Metell was responsible for assigning to personnel within the ENVY organization those requests that called for plant history or a technical response. Metell had hired Guglielmino and others to assist in researching responses. Individuals assigned to respond to particular requests sent their inputs directly to DRM. Marshall recalled that Bykov did not want a process that burdened plant management. DRM, usually Johnson, would assemble the inputs into an integrated ENVY response. DRM would then issue the draft response to Metell, McElwee, and Bykov for their review and concurrence before sending an integrated draft response to ENVY senior management for review. ENVY senior management approval was not something that DRM affirmatively monitored. Marshall explained that DRM did not submit discovery responses until Bykov approved. Marshall indicated that, under the protocol established for this proceeding, whether prior senior manager approval was necessary for particular discovery responses was up to Bykov. Affidavits supporting the responses generally were circulated for signature shortly after the responses were issued.

Johnson – Described the triage and discovery response process in terms similar to Marshall. He noted that early rounds of discovery were voluminous and involved more DRM and plant personnel.

Metell – Described the general triage process similarly to Marshall's explanation. Bykov, McElwee, Marshall and usually Johnson participated. Sometimes others from the plant assigned to assist Guglielmino and Limberger.

McElwee – Described triage in generally the same terms.

June 6, 2008 – the Vermont Legislature passed Act 189 establishing a requirement for a Comprehensive Reliability Assessment (CRA) to be conducted by an Audit Inspection Team, selected by the Department of Public Service (DPS) comprised of a sufficient number of qualified consultants, experts and technicians, none of whom may have worked for or at any Entergy nuclear plant within the last three years. *See* Issue No. 1, Tab 6, Act 189, section 7 (ENVYHC00044-56).

July 11, 2008 – Miller sent an email memorandum to Bykov titled “Entergy VY; Information Related to Discovery Process.” Miller provided Bykov links to the PSB rules and the Vermont Rules of Civil Procedure (VRCP). He provided a short summary of discovery practice before the PSB. He also attached the March 20, 2008 “standard” memorandum (described above) and, as an example, ENVY’s responses to the second round of discovery requests in the PSB proceeding dated May 12, 2008. *See* Tab 2, Email from B. Miller to K. Bridges re: Entergy VY: Information Related to Discovery Process, dated July 11, 2008 (attachment: Response to Dept of Public Service Second Set of Information Requests.pdf; En.Restrict.Discovery.Instructions.Memo (5).Doc.) (ENVYHC00688-792).

July 31, 2008 – Metell issued an email to Entergy personnel participating in the PSB proceeding. DRM had provided a copy of a 2003 PSB Order in an earlier ENVY proceeding in which the Company had been sanctioned for failures in the discovery process. The DRM handwritten note says: “Mike, This should be required reading for all involved in discovery! DRM.” Metell forwarded the sanctions Order to Bykov, Dennis, Rademacher, Dreyfuss, Mannai, Guglielmino, Wierzbowski, Rogers, and others, highlighting lessons learned from a PSB sanction in the Extended Power Uprate preceding, including delay, a fine of more than \$50,000 and harsh words for counsel from the Board. Metell credited McElwee for finding the Order, and closed with the observation:

In any case, this serves as a good lessons-learned reminder on how important disclosure is, and the diligence that we will need to apply during our upcoming state disclosures.

See Tab 1, Email from M. Metell to K. Bridges et al. re: Lessons Learned From EPU on Disclosure, dated July 31, 2008 (attachments: ZXZhmm.PDF (Order Re: NEC Motion For Sanctions And Schedule, dated Oct. 7, 2003)) (ENVYHC00669).

August-December 2008 – In addition to responding to discovery requests from the various parties in the PSB proceeding, ENVY personnel, beginning in August 2009, were responding to information needs of the team retained by DPS to conduct the CRA, Nuclear Safety Associates (NSA). Similar to responding to PSB discovery requests, ENVY also set up a process during the CRA for information requests from NSA to be collected, vetted and provided to NSA. Dreyfuss was the ENVY Management Sponsor for the CRA. Guglielmino was the Project Manager responsible for supporting NSA’s information requests. Wierzbowski was the ENVY technical lead. Guglielmino, himself a contractor, drew upon a retired ENVY manager to respond to information requests from NSA. Responses to information requests from NSA were tracked and

vetted using an Information/Question Request Form. Before responses were provided, they were peer reviewed and approved by Wierzbowski, or in his absence McElwee.

In anticipation of discovery requests in the PSB proceeding, DRM instructed ENVY personnel to maintain copies of communications among ENVY, NSA, DPS and the POP during NSA's conduct of the CRA. DRM also collected copies of documents that ENVY personnel provided in response to information requests from NSA, and provided those materials in response to data requests to the other parties in the VSPB proceeding.

December 3, 2008 – Miller and Marshall exchanged emails regarding an electronic document, “Buried Piping Action Plan.pdf,” discussing whether it was proprietary. Marshall explained, “I did this one with Mike [Metell], and it’s not. VY will piggyback other plants on buried pipe, and it is part of the commitments.” See Tab 3, Email from J. Marshall to B. Miller re: RE: Emailing: Buried Piping Action Plan.pdf, dated Dec. 3, 2008 (ENVYHC00793). The Buried Piping Action Plan is an Entergy Nuclear fleet-wide document that describes the process that would be used to develop common inspection, test and repair methods across the fleet. It does not identify piping systems at the VY site.

December 22, 2008 – NSA issued the “Reliability Assessment of the Vermont Yankee Nuclear Facility” (NSA Report). See Issue 4, Tab 2B, Reliability Assessment of the Vermont Yankee Nuclear Facility, Provided by Nuclear Safety Associates to the State of Vermont Department of Public Service, dated Dec. 22, 2008 (ENVYHC00527-31).

b. Initial Response to VPIRG:EN.4-6

January 12, 2009 – VPIRG issued its Fourth Set of Discovery Requests to ENVY. Each of the ten requests referenced language in the NSA report. Eight of the ten requests referenced Section 1.0, Management and Organizational Performance Assessment. One (VPIRG:EN.4-7) referred to Attachment D to Appendix G (a timeline related to investigation of a cooling tower event). The remaining request, VPIRG:EN.4-6, referred to the language regarding underground piping at page 262. The prior week, VPIRG had served a similar, larger, set of discovery requests on DPS. (VPIRG:DPS.1-14 is identical to VPIRG:EN.4-6.) See Tab 5C, Fourth Round Discovery Requests Served By The Vermont Public Interest Research Group on Entergy Nuclear Vermont Yankee, dated Jan. 12, 2009 (ENVYHC00811-18).

VPIRG's Instructions in the request to ENVY included the direction, “The response to each request should be made under oath by a person competent to testify concerning the response . . .” See Tab 5C, Fourth Round Discovery Requests Served By The Vermont Public Interest Research Group on Entergy Nuclear Vermont Yankee, dated Jan. 12, 2009 (emphasis in original) (ENVYHC00811). It also defined these requests as “continuing to the full extent permitted by law,” and directed supplementation as additional information becomes available. See Tab 5C, Fourth Round Discovery Requests Served By The Vermont Public Interest Research Group on Entergy Nuclear Vermont Yankee, dated Jan. 12, 2009 (ENVYHC00811). Finally, it noted:

Some of VPIRG's requests may make particular reference to a portion of a filing in this matter. Notwithstanding this specific direction, these items

should be understood to seek discovery of all available information available to you that is responsive to the questions stated.

See id. at ENVYHC00812.

Request No. 6 stated:

The Reliability Assessment on page 262 states that “there are no underground piping systems carrying radionuclides at ENVY.”

- a. Have there been underground piping systems carrying radionuclides at ENVY at any time in the past?
- b. Did any previously-used underground piping systems that carried radionuclides ever leak? If so, please specify for each leak: isotope, quantity of leak, date of leak, and duration of leak.

See id. at ENVYHC00814-15.

January 12, 2009 – Approximately 30 minutes after VPIRG issued the requests, Marshall reported to Bykov, Metell, McElwee, Miller a conversation with VPIRG counsel: “I pointed out several of the questions [that] ask Entergy to speculate about NSA’s conclusions, and she [DPS counsel] agreed that that might be the case” *See* Tab 6A, Email from J. Marshall to K. Bykov, H. Metell et al. re: [blank], dated Jan. 12, 2009 (ENVYHC00819). Marshall closed, “Mike, as discussed, we may be able to shortcut the triage/assignment procedures. Please advise.” *See* Tab 6A, Email from J. Marshall to K. Bykov, H. Metell et al. re: [blank], dated Jan. 12, 2009 (ENVYHC00819).

January 12, 2009 – Twenty-five minutes later, Metell responded to Marshall, with copies to McElwee, Miller, Johnson, Guglielmino, Bykov et al.:

John: I have reviewed the questions and believe they must all be answered by NSA and DPS. All questions require knowledge of the report writers and not the report recipients. Although we can interpret the written word, we can not guess at what the original authors intended. Conversely, if NSA and DPS add clarification, I would be very interested in that.

See Tab 6, Email from H. Metell to J. Marshall re: 4th VPIRG Disclosure Request, dated Jan. 12, 2009 (attachments: Today’s VPIRG Discovery Filing, Docket 7440-Contains Proprietary Information; Docket 7440: VPIRG’s Letter to Entergy) (ENVYHC00819).

Metell – On December 20, 2008, he suffered an injury that required surgery and he worked primarily from home for the next six weeks. He worked from home on all days relevant to this issue except January 26, 2009. Understood that VPIRG:EN.4-6 raised difficult issues regarding how to respond based on his general knowledge of the existence of underground piping systems at the plant and his knowledge of the abandoned radwaste

dilution line. He recalled Gary Bailey having Ebasco (Architect/Engineer) drawings of pipe routings below ground on this VY site.

January 12, 2009 – On a telephone conference that afternoon, Marshall, McElwee, Metell and Guglielmino conducted a “limited triage” of VPIRG’s Fourth Round requests. Metell assigned the response to VPIRG:EN.4-6 to Guglielmino, to find the response to the question with instructions to speak with Rogers. Because Bykov was not on the call, Metell sent her an email summary of the results. See Tab 8A, Email from K. Bykov to H. Metell re: Your voice Mail, dated Jan. 12, 2009 (ENVYHC00840).

Metell replied:

Kim- I discussed VPIRG questions with John Marshall, Dave McElwee, and Peter G after our 4:30 PM telecom on procedures. We basically agreed to:

- Object to the “mind-reading” questions
- Provide some existing answers to previous disclosure questions that closely match VPRIG [sic] (e.g. Long Range Plan)
- Provide some documents to the ones that we could (Peter G[u]glielmino) had the lead on 3 items)

Based on the above, I believe things are resolved and John is comfortable with the direction chosen.

See Tab 8, Email from H. Metell to K. Bykov re: RE: Your voice Mail, dated Jan. 12, 2009 (ENVYHC00840).

Metell – No discussion of scope of the request during the call. Metell understood the scope to be within the context of the CRA audit; did not see the request as new start of general discovery. Knew that most of the underground piping at VY is trenched, and so outside the scope of NSA. No recall of discussion of this limitation, but believed it was the shared perspective. Rogers was the first person who came to his mind for question 4-6, because of his history at the plant and because, as Manager of Design Engineering, he would have knowledge of modifications to address past leaks. Not very familiar with Bailey at this time, who was a relatively new hire. Did not discuss the abandoned radwaste discharge line. Assigned Guglielmino to speak with Rogers. No specific recollection that he shared his feeling about this question being potentially difficult with anyone. The one person who Metell speculated that he could have shared this feeling with, Miller of DRM, denied that he did.

McElwee – Recalls Guglielmino and Limberger participated in call; Metell probably on the phone; does not recall which lawyers, probably Marshall, Miller or Bykov. No recall of discussion of reasons for request or special discussion about no. 4-6 as being an outlier; does not recall assignment, would have been made by Metell. Understood scope of late discovery as limited to the scope of the NSA Report; direction from senior

management to avoid expansions of the scope of the audit or proceeding; believed this was a common understanding, not discussed.

Guglielmino – No previous involvement with earlier rounds of discovery in the PSB proceeding; assumed that Metell assigned him to this project because he had been the lead on responding to information requests from NSA, whose report the discovery requests referenced; focused on subpart (b); recalls being assigned to talk with Rogers. Ran into Drouin before talking to Rogers; Drouin told him of the Chem Lab Drain Line leak and report to the NRC; assigned Limberger to find the report to NRC. Did not refer the question to Bailey, the person responsible for the buried piping inspection program, or to Bailey's supervisor, LeFrancois.

Limberger – Recalls attending the limited triage call in McElwee's office; recalls PSB discovery process as less formal than that used for NSA requests; recalls being assigned by Guglielmino to track down Rogers and being unsuccessful; recalls finding report to the NRC on Chem Lab line leak.

Marshall – Recalls the requests arriving at the same time as work on preparation of ENVY's response to the NSA Report; addressed VPIRG Fourth Round requests at the end of a call set up for NEC Third Round requests. Marshall has no notes from the calls. He recalls Metell, not others, does not recall assignments made for specific requests.

Johnson – No recall of participation on the triage call.

January 13, 2009 – Limberger reported to Metell that, among other things, he had taken care of "a special request from Peter [Guglielmino] regarding buried piping containing radionuclides." See Tab 9, Email from W. Limberger to H. Metell re: RE: Status of VPIRG Response – Privileged and Confidential, dated Jan. 13, 2009 (ENVYHC00841).

Limberger – No recall of the email, the special request or how he had addressed it.

January 15, 2009 – Johnson sent Rogers an email, with copies to Metell and McElwee, quoting the language of VPIRG:EN.4-6 and asking, "Can you answer subpart (b)?" See Tab 11A, Email from B. Johnson to J. Rogers re: RE: Contact info for Jim Rogers, dated Jan. 15, 2009 (ENVYHC00843).

Johnson – No recall of why he directed the request to Rogers or why limited to subpart (b).

Rogers – Very limited recall; recalls the subject generally, but no specific conversations; not sure whether he saw the question. Expects the initial input was done by Metell or Guglielmino.

January 16, 2009 –Metell responded to Johnson:

Barclay [Johnson]: As part of the "limited" triage call on 3rd (sic) round VPIRG questions that we had earlier this week, we assigned Peter G[uglielmino] the lead to contact Jim Rogers. Peter now has all the background information on this item (e.g. historic design change, radioactive element assessment).

Jim Rogers always has an extremely tight meeting schedule and is tough to reach. Therefore please contact Peter first, as he has horsed up on the background material and has the documentation you need. Also note that today is an off Friday for VY.

See Tab 11, Email from H. Metell to B. Johnson re: RE: Contact Info Jim Rogers, dated Jan. 16, 2009 (ENVYHC00843).

January 20, 2009 – Guglielmino emailed a draft answer to Johnson with copies to Metell and McElwee. Rogers is not copied. Guglielmino wrote:

- a. Have there been underground piping systems carrying radionuclides at ENVY at any time in the past?

Response: Yes. Pre 1992 – Chemistry Laboratory Drain *Line*

- b. 1) Did any previously-used underground piping systems that carried radionuclides ever leak?

Response: Yes

- b. 2) If so, please specify for each leak: isotopes, quantity of leak, date of leak, and duration of Leak.

Response: See attached document –Vermont Yankee letter to NRC:BVY-91-113, dated November 18, 1991.

Guglielmino attached a copy of the referenced letter to the NRC. See Tab 12B, Email from P. Guglielmino to B. Johnson. re: VPIRG 4th Set of Discovery – Question 6, dated Jan. 20, 2009 (Attachment: VPIRG:EN.4-6 (Vermont Yankee letter to the NRC: BVY-91-113, Nov. 18, 1991)) (*italics in original*) (ENVYHC00845-46).

January 20, 2009 – Half an hour later, Johnson revised the answer to DRM's format for the proceeding and forwarded it to Marshall:

Based on what Peter [Guglielmino] has provided, the answer appears to be as follows:

A.VPIRG:EN.4-6:

- a) Yes, prior to 1992, the Chemistry Laboratory Drain Line carried radionuclides.

b) Yes. See Attachment A.VPIRG:EN.4-6 (Vermont Yankee letter to NRC: BVY-91-113, Nov. 18, 1991), which details the date and duration of the leak, the quantity of the leak, and isotopes involved.

See Tab12A, Email from B. Johnson to L. Nugent, K. Shufelt, J. Marshall re: VPIRG.4-6, dated Jan. 20, 2009 (Attachments: BVY 91-113.pdf) (ENVYHC00845).

January 20, 2009 – Marshall directed his secretary to insert the response into the draft answer. See Tab 12, Email from J. Marshall to L. Nugent re: FW: VPIRG.4-6, dated Jan. 20, 2009 (Attachments: BVY 91-113.pdf) (ENVYHC00845).

Marshall – Had no independent knowledge of underground piping at VY that carried radionuclides; was not aware that Metell was limiting the response to this question to piping systems he understood to be within the scope of the CRA; no reason to question the information that was being provided.

Johnson – Has substantially same recollection as Marshall's.

January 21, 2009 – DPS provided its response to VPIRG:DPS.1-14 (identical to VPIRG:EN.4-6), sponsored by State Nuclear Engineer U. Vanags:

NSA did not seek out the information requested because it was beyond the work scope and matrix agreed upon by the POP and DPS. However, the DPS is aware that there is one abandoned underground pipe that was in the past used to carry radionuclides. The Department understands that the Vermont Department of Health monitors a number of sampling wells. To date, the DPS is unaware that the Department of Health has detected any evidence of intrusion into the groundwater from the abandoned pipe.

Marshall – Viewed this as consistent with Guglielmino's input; no knowledge of other lines; no discussion of this response. No other witnesses interviewed recalled discussion of VPIRG:DPS.1-14.

January 22, 2009 – Johnson sent to Guglielmino, McElwee and Metell, copy to Marshall, draft responses to the VPIRG 4th round discovery requests and asked for sponsors to be identified as Persons Responsible for each answer. Johnson proposed names based on earlier calls or similar discovery responses. For VPIRG:EN.4-6, he suggested either Rogers or Guglielmino. The draft response was unchanged from his earlier reformatting of Guglielmino's input except that Guglielmino is added as the Person Responsible. See Tab 14, Email from B. Johnson to P. Guglielmino, D. McElwee, H. Metell re: Draft Responses to VPIRG 4th Round, dated Jan. 22, 2009 (attachment: EN_Relicensing_DISC.DRAFT.VPIRG 4th Round Responses (2).DOC. (ENVYHC00873).

January 22, 2009 – Metell responded later that day, agreeing that either Guglielmino or Rogers should be named as the Person Responsible for VPIRG:EN.4-6. Metell also suggested a

substantive addition to the response – to add the NRC’s response closing out the 1991 letter on the Chem Lab Drain Line leak. See Tab 15D, Email from H. Metell to B. Johnson re: RE: Draft Responses to VPIRG 4th Round, dated Jan. 22, 2009 (ENVYHC00888).

January 22, 2009 – The same day, McElwee indicated that he also agreed with the responder assignments; Johnson asked Guglielmino for assistance finding the NRC response to the plant’s notification as suggested by Metell, and Guglielmino indicated he would check. Marshall then replied to the same group that he wanted to get a draft to Bykov that evening, and circulate it to management before the weekend. See Tab 15B, Email from D. McElwee, H. Metell, B. Johnson re: RE: Draft Responses to VPIRG 4th Round, dated Jan. 22, 2009 (ENVYHC00887).

Johnson – No recall why the Person Responsible was changed to Jim Rogers; no other witness interviewed recalled a reason for the shift.

Guglielmino – Stated that he is a contractor without history at the plant, and that he would be identified as a Person Responsible only when the response was to provide a document.

January 22, 2009 – Shortly before 5:00 p.m. that same evening, Johnson sent the draft responses to Bykov for her review, noting that bracketed comments “stem largely from the responses received yesterday from NSA to identical questions.” There were no bracketed comments related to VPIRG:EN.4-6. See Tab 18B, Email from B. Johnson to K. Bykov re: Draft VPIRG Fourth Round Responses 1-22-09, dated Jan. 22, 2009 (ENVYHC00913).

Glew – Stated that he monitored the NSA audit and PSB proceeding from the perspective of the prospective plant owner. Stated he was copied on most correspondence; recalls he had input to review of ENVY’s response to NSA report at a big-picture level, not engineering details. Recalls DRM copied him on discovery requests, responses and meeting notices, but he did not participate unless a question went to a particular area of interest to the future owner, e.g. capital investments, forward looking commitments.

January 23, 2009 – At approximately 11:00 a.m. the following morning, Bykov returned her comments to DRM, which she characterized as “line edits as well as areas where I’ve asked for additional clarification,” asked to discuss them, and suggested a revised draft to go to management that day. See Tab 19A, Email from K. Bykov to J. Marshall, B. Johnson, L. Nugent re: RE: Draft VPIRG Fourth Round Responses 1-22-09, dated Jan. 23, 2009 (ENVYHC00919).

Bykov’s edits on 4-6 made the following changes:

OBJECTION: Entergy VY objects to the extent this question seeks information prior to EVY’s ownership of VY station and thus outside the scope of its possession, custody or control. Without waiving any objection, Entergy VY responds:

- a. There have not been any underground piping systems carrying

radionuclides during EVY's ownership of VY station. Yes. Prior to 1992, the Chemistry Laboratory Drain Line carried radionuclides.

- b. Yes, but prior to EVY's ownership of VY Station. See Attachment A.VPIRG:EN.4-6 (Vermont Yankee letter to NRC :BVY-91-113, Nov. 18, 1991), (which detailed the date and duration of the leak, the quantity of the leak and the isotopes involved.)

See Tab 20B, EN Relicensing DISC.Draft. VPIRG 4th Round Response, dated Jan. 23, 2009 (ENVYHC00935).

January 23, 2009 – Marshall directed his assistant to accept all of Bykov's comments and sought the requested call with Bykov to address her questions. See Tab 19, Email from J. Marshall to K. Bykov, B. Johnson et al. re: RE: Draft VPIRG Fourth Round Responses 1-22-09, dated Jan. 23, 2009 (ENVYHC00935).

Marshall – Recalled that Bykov wanted to ensure that response was limited to information within its possession, custody or control; VYNPC is a separate entity with information of its own. Marshall agreed with Bykov; point was not to limit time scope of response to term of Entergy ownership, but rather to say ENVY's only obligation is to provide info within its possession, custody or control. Did not see the amendment to part a. as substantive. Saw it as a clearer restatement of earlier implication. No discussion about need to validate. Believes he had been told by McElwee, Metell and others that there were no underground piping carrying radionuclides, no independent knowledge to the contrary; no discussion of abandoned radwaste dilution line.

Johnson – Recalled reading the objection and not thinking it remarkable; understood Bykov's desire to limit to information within client's possession, custody or control; did not recall whether similar objection had been invoked in earlier broad-scope requests. Did not understand the change to part a. as substantive.

c. ENVY Approval of Responses to VPIRG Fourth Round Requests

January 23, 2009 – Early afternoon, Johnson emailed Guglielmino, McElwee, and Metell with copies to Bykov and Marshall, circulating the next draft of the responses, reflecting Bykov's comments (above) and also attaching the DPS responses to similar questions (including Vanags' response to VPIRG:DPS.1-14 quoted above). Johnson wrote: "Please also note that given the due date we would like to recirculate these to management at the end of the day." See Tab 20, Email from B. Johnson to P. Guglielmino, D. McElwee, H. Metell re: VPIRG 4th Round Comments/Questions, dated Jan. 23, 2009 (ENVYHC00920).

The answer to VPIRG:EN.4-6 had been modified to include Bykov's comments and to include reference to the NRC's February 1996 Environmental Assessment. The Responsible Person is identified as Rogers. See Tab 20B, EN Relicensing DISC.Draft. VPIRG 4th Round Response, Jan. 23, 2009 (ENVYHC00935).

Guglielmino – Explained that he would not normally be assigned as a responsible person for a substantive response. He might be identified as a responder when a response simply provided a document, such as one he provided to the NSA during the CRA. No recall of specific conversation.

Johnson – No recall of why Rogers was not included.

January 23, 2009 – Metell and McElwee gave their approvals. Metell wrote to Johnson: “Barclay – your edits work for me. From my view, it is appropriate to point out (as you have done) that we can not get into the minds of the authors.” McElwee immediately responded to all: “I’m good as well.” See Tab 23, Email from D. McElwee to H. Metell, B. Johnson re: Re: VPIRG 4th Round Comments/Questions, dated Jan. 23, 2009 (ENVYHC00945).

Metell – When he reviewed the answer, he believed he had a good answer from a credible person (Rogers). Metell also thought it was a clever answer that avoided saying too much. Metell knew about the Chem Lab Drain Line issue, and also expected that the other parties would know about it as well. When asked whether he would have signed off on the answer himself, Metell answered that he did not know.

McElwee – Does not recall the approval of this response.

Rogers – Brought into the process late; recalls he was shown a draft at some point and being asked about the Chem Lab Drain Line; sometime he was asked to be the person responsible for the entire response.

January 23, 2009 – Marshall set up a conference call for 3:45 p.m., with Bykov, McElwee, Guglielmino, Metell and Miller to discuss ENVY’s responses to other NEC Discovery Requests – to which DRM and ENVY personnel also were responding at the same time. Guglielmino responded to the group with a copy to Johnson, requesting:

Can we also discuss NSA’s response to VPIRG’s fo[u]rth set of discovery requests – Especially those areas that Barclay Johnson asked us to consider?

See Tab 22, Email from P. Guglielmino to J. Marshall, K. Bykov, D. McElwee, W. Glew, H. Metell et al. re: Re: Entergy Conference Call re NEC 4th Set Discovery Requests, dated Jan. 23, 2009 (ENVYHC00943).

Guglielmino – Does not recall the email or what issue he wanted to discuss.

January 23, 2009 – Just before 4 p.m., Marshall’s secretary addressed Thayer, Colomb, Dreyfuss, Rademacher, Metell, Bykov et al.:

Please note that VY Station management is revisiting all responses in light of NSA’s responses to identical questions and is paying particular

attention to questions 4-2, 4-3, 4-4, 4-5, & 4-10 where the following questions remain . . .

Rogers was not included on this distribution. *See* Tab 24, Email from L. Nugent to J. Thayer, M. Colomb et al. re: Dkt 7440: Draft responses to VPIRG 4th Round Discovery, Jan. 23, 2009 (ENVYHC00948).

January 26, 2009 – At 5:30 p.m., Johnson emailed Bykov, copy to Marshall, reminding her:

We haven't received comments on the 4th Round of VPIRG requests, but I understand from Dave McElwee that John Dreyfuss is, or will be, looking at these presently and that they may be able to provide input later. John Marshall mentioned that you may want to recirculate these to management. Would you like me to recirculate these or wait for any input from the Plant?

Bykov responded shortly before 6:00 p.m.:

Barclay – thanks very much. On the 4th round, which are due tomorrow, please have an email sent tonight to the management group, with a gentle reminder that these responses are due tomorrow. Please also give them a reasonable time by which they should provide comments to DRM.

See Tab 25, Email from J. Marshall to B. Johnson re: FW: Draft NEC Third Round Responses & VPIRG Fourth Round 1-26-09, dated Jan. 26, 2009 (ENVYHC00950).

January 26, 2009 – At 6:35 p.m., Johnson sent an email to ENVY management reminding them that the response was due the following day, and asking for substantive comment by 9:30 a.m. *See* Tab 27, Email from B. Johnson to J. Thayer, M. Colomb, J. Dreyfuss, N. Rademacher et al. re: Dkt 7440: Draft Responses to VPIRG 4th Round Discovery, dated Jan. 26, 2009 (ENVYHC00966). Rogers was not included on this distribution.

January 27, 2009 – At 5:39 a.m., Rademacher replied, "No Comments. Norm." *See* Tab 34, Email from N. Rademacher to B. Johnson, J. Thayer, M. Colomb et al. re: RE: Dkt 7440: Draft Responses to VPIRG 4th Round Discovery, dated Jan. 27, 2009 (ENVYHC01761-63). At 9:13 a.m., Metell replied to all with comments to another question, and noting, "Excellent draft to tough questions." *See* Tab 27, Email from M. Metell to B. Johnson et al. re: RE: Dkt 7440; Draft Responses to VPIRG 4th Round Discovery, dated Jan. 27, 2009 (ENVYHC00965-66). *See* Tab 27B, Email from M. Metell to B. Johnson et al., re: RE: Dkt 7440; Draft Responses to VPIRG 4th Round Discovery, dated Jan. 27, 2009 (ENVYHC00965-66). Johnson did not agree with Metell's suggested change to the other question and explained why to Marshall and Bykov, who agreed with Johnson and rejected the change. *See* Tab 27A, Email from B. Johnson to J. Marshall and K. Bykov re: RE: Dkt 7440; Draft Responses to VPIRG 4th Round Discovery, dated Jan. 27, 2009 (ENVYHC00965). At 12:23 p.m., Marshall wrote to Bykov:

*ATTORNEY-CLIENT PRIVILEGE
ATTORNEY WORK PRODUCT*

Kim, other than Mike's one comment, addressed below, and Norm's [Rademacher] sign-off, we have received no further comments. Is there anyone else to whom we should reach out, or may we begin production?

See Tab 27, Email from J. Marshall to K. Bykov, B. Johnson re: RE: Dkt 7440; Draft Responses to VPIRG 4th Round Discovery, dated Jan. 27, 2009 (ENVYHC00965).

January 27, 2009 – At 12:58 p.m., Bykov replied: “Yes, please begin production on the response due today. Thanks.” *See* Tab 35, Email from K. Bykov to J. Marshall, B. Johnson re: RE: Dkt 7440; Draft Responses to VPIRG 4th Round Discovery, dated Jan. 27, 2009 (ENVYHC01764).

Rademacher – No recall of approving the responses; approval was not necessary because he was not a person responsible; was on vacation during the development of the response and had left Rogers in charge; no recall of discussion with Rogers. No recall of focusing on the accuracy of the statement cited in the question on page 262 of the NSA report in the context of this response.

Rogers – Not sure he had seen changes since Guglielmino's initial submittal; no recall of discussions.

Marshall – No recall or records of other approvals; likely Dreyfuss responded, perhaps by phone related to those questions for which he was the Persons Responsible; did not always get replies from Colomb or Thayer; no knowledge of what, if any, additional approvals Bykov received separately.

Johnson – No recall of other approvals. Believes Metell or Guglielmino would have gone to Rogers if necessary, because Metell pushed him away when he originally contacted Rogers; knew Rogers would get affidavit after; did not view the Bykov changes as a substantive change to the response necessarily requiring confirmation from Rogers.

January 27, 2009 – DRM issued ENVY's responses to VPIRG's Fourth Set of Discovery Requests. VPIRG:EN.4-6 identifies Rogers as the person responsible. *See* Tab 29C, Docket No. 7440, Response of Entergy VY to VPIRG's Fourth Set of Discovery Requests, dated Jan. 27, 2009 (ENVYHC00972).

Marshall, Miller and Johnson – Each stated that he did not understand that there was any issue about either the accuracy of the statement on page 262 of the NSA Report that there were no underground piping systems carrying radionuclides, or the response to VPIRG:EN 4-6. Each stated a belief that there were in fact no underground piping systems carrying radionuclides at the plant. According to them, no one at ENVY expressed any concern that there was even a potential issue with the question or that to make the answer non-controversial, one had to read the question as limited to the scope of the CRA. They said that no one indicated they were responding by interpreting the

phrase “underground piping that carried radionuclides” as they understood NSA had done.

d. Subsequent Consideration

February 5, 2009 – DPS Counsel Hofmann forwarded to Marshall a draft DPS document that provided answers to POP questions regarding the NSA Report, stating:

Did any underground piping at ENVY ever have radionuclides?

Response:

The study of piping that previously carried radionuclides was not part of the NSA scope for this Reliability Assessment as established by the agreed-upon regulatory matrix.

See Issue No. 1, Tab 37, Email from J. Marshall to J. Dreyfuss, D. McElwee re: FW: Any of this confidential, dated Feb. 5, 2009 (attachment: Exhibit DPS-Panel-3 Draft.docs.doc) (ENVYHC00364, 66).

March 4, 2009 – After reviewing an ENVY document, “Assessment of Potential for Radioactivity and Hazardous Materials on the Vermont Yankee Plant Site that Will Have an Effect on Decommissioning,” dated April 1999, Johnson sent an email to Marshall:

My question about the underground piping stems from items 3, 9, & 14 on pages 9-11 of the attached Radioactive & Chemical Release Study. VPIRG.4-6 asked about underground piping that carried radionuclides. Our response focused on the chemistry line and I wonder now if any of the items in the Radioactive & Chemical Release Study are responsive to VPIRG.4-6.

If appropriate, I will follow up with Wayne and let him know this is something to be done after the current supplementation efforts.

See Tab 30, Email from J. Marshall to B. Johnson re: FW: Underground Piping, dated March 4, 2009, dated March 4, 2009 (ENVYHC00986).

Items 3, 9 and 14 of the referenced 1999 Radiation and Chemical Release Study provided:

3. There is a abandoned IOG piping which contains charcoal, at the base of the stack.

* * *

9. During the Recirc Outage, a septic system was identified to contain trace amounts of contamination. Contractors were previously hired to spread waste in fields. Because of the potential hazard, we

now dispose of all sludge on site. All of the septic tanks on site need to be considered potentially contaminated.

* * *

14. Other lines in house heating boiler and makeup pretreatment rooms may go into the ground also. These lines may be contaminated and could leak as the chem drain line did. Rich Pagodin performed an assessment of these lines.

See Tab 29D, Assessment of Potential For Radioactivity and Hazardous Materials on the Vermont Yankee Plant Site That Will Have an Effect on the Site Decommissioning, dated April 1999 (ENVYHC00979-80).

March 4, 2009 – At 3:41 p.m., Marshall emailed Metell:

Pages 9-11 of the attachment refer to pipes at the base of the stack having charcoal filters and pipes under the Chem lab. Entergy VY responded as indicated in the second attachment to a question about underground pipes containing radionuclides. Are the pipes referenced at those pages the same as the pipes referenced in the attached response and/or ones that did not include radionuclides?

See Tab 29B, Email from J. Marshall to H. Metell re: Underground Pipes, dated March 4, 2009 (ENVYHC00971). Marshall apparently meant to include a copy of the document Johnson had identified and a copy of the response to VPIRG:EN.4-6 in the email to Metell. The email records show that Marshall inadvertently included two copies of the discovery response, but did not include the 1999 Radioactive & Chemical Release Study.

March 4, 2009 – At 4:10 p.m., Marshall told Johnson: “I emailed Mike. Give Wayne [Limberger] a call.” See Tab 30, Email from J. Marshall to B. Johnson re: FW: Underground Piping, dated March 4, 2009 (ENVYHC00986).

March 4, 2009 – At 5:30 p.m. Metell responded to Marshall, with a copy to Bykov:

I believe there is a context issue here:

- As I understand it, the underground radionuclides piping asked for in the CRA primarily referred to water systems. The chem drain line was the only water system and VYNPC dealt with that line before Entergy purchased the plant.
- There are underground concrete headers that go out to the stack that carry radioactive gaseous material for release to the stack (e.g., Advanced Offgas or AOG). This is a common configuration for all boiling water reactors by GE. However, there is no particular aging mechanism as there would be for water systems (e.g. corrosion), and so leakage is not

commonly considered an issue. This is probably why NSA did not identify it as an underground piping systems subject to leakage.

- The Chem lab pipe and the Advanced Offgas header systems are 2 different systems.

See Tab 29A, Email from H. Metell to J. Marshall re: RE:Underground Pipes, dated March 4, 2009 (ENVYHC00971).

March 4, 2009 – At 6:02 p.m., Marshall forwarded Metell’s reply to Johnson, noting “This should answer your question.” See Tab 29, Email from J. Marshall to B. Johnson re: FW: Underground Pipes, dated Mar. 4, 2009 (attachment: Entergy VY’s Response to VPIRG 4th Round Requests 1-27-09.pdf) (ENVYHC00971).

Metell – Does not recall any discussion with Marshall or writing the email; his summary is consistent with his understanding of the scope of NSA audit. Metell does not know whether he independently sought the 1999 document; thinks not.

Marshall – Does not recall any conversation with Metell. The email refreshed his recollection of having seen this issue. He thinks a conversation with Johnson likely preceded email from Johnson; no recall of any subsequent conversation. Marshall does not believe he critically compared Metell’s response Johnson’s study cites. Believes he would have accepted technical response from client’s designated technical lead; acknowledges he was surprised to learn of another type of piping underground – different from original understanding. He recalls now that he learned that the response included a “context” (scope of the NSA audit) interpretation. He thought that Metell’s answer was technically sufficient, and therefore DRM did not need to supplement the response to 4-6. He also was aware that DPS had interpreted the same request language addressed to them in the that way.

Johnson – Recalls receiving Marshall’s reply without follow-up instructions, actions, or concerns; understood Marshall to be saying nothing else needs to be done, i.e., no supplement to VPIRG:EN.4-6 necessary; probably did not critically examine Metell’s response, does not recall doing so. No one told him to forget it, or to bury the issue. Had no concerns about the answer. Does not believe he called Limberger, no records of having done so.

Limberger – No recall or record of addressing this subject.

March 5, 2009 – DRM paralegal sends affidavit for VPIRG Fourth Round Responses to Rogers. See Tab 36, Email from L. Bezio to J. Rogers re: RE: Dkt 7440; Draft Responses to VPIRG 4th Round Discovery, dated Mar. 5, 2009 (ENVYHC01767).

March 16, 2009 – DRM paralegal sends reminder to Rogers, “I have not yet received your affidavit . . .” See Tab 37, Email from L. Bezio to J. Rogers re: VT PSB Affidavit for Round 4, dated Mar. 16, 2009 (ENVYHC01769).

March 17, 2009 – Rogers responds to DRM paralegal, “I have no idea where this is.” DRM Paralegal provides another copy with instructions. Rogers replies: “Any idea what the response was? I have not read the document.” DRM paralegal responds, “Attached are the Responses,” attaching the full response to all Fourth round requests. *See* Tab 37, Email from L. Bezio to J. Rogers re: VT PSB Affidavit for Round 4, dated Mar. 17, 2009 (ENVYHC01769).

March 18, 2009 – Rogers signed an affidavit for his response in VPIRG’s Fourth Set of Requests for Information. *See* Tab 31, Docket No. 7440, Affidavit of Jim Rogers, dated March 18, 2009 (ENVYHC00987).

Johnson – Affidavits generally were performed after submittal of discovery responses, usually within a few days; does not know why this one was so late; no recall of problems or issues with the Rogers affidavit.

Rogers – No clear recall of when he read the final discovery response, recalled that he would not have signed an affidavit without reading the response; thinks he misunderstood the question as “radwaste” rather than “radionuclide.” Did not think of radwaste dilution line, which was abandoned in place. No current recall of having that interpretation in early 2009.

April 2009 – DRM and ENVY personnel prepared ENVY’s Fourth Supplementation of Discovery. No update to VPIRG:EN.4-6 was included.

January 23, 2010 – Metell brought to the Investigator at his interview a document that he said he had typed that morning, and explained that it reflects his current view of how subpart a. of VPIRG:EN.4-6 should have been answered:

At VY there are 3 types of underground piping systems. The first type is underground pipe that is inside buildings and is regularly monitored by operator rounds and air sampling equipment. The second type is piping that is trenched. This piping is set apart from the environmental elements and for some trenches there are drains to funnel potential leakage to Radwaste. The third type is buried pipe that is covered with soil. Out of the buried type, there are gaseous piping (including water drains and associated with ventilation offgas), and water piping. The gaseous piping is directed to the stack and has not significant pressure to drive elements into the ground, and is being legally released to the air. The buried water piping can be broken up into two groups, e.g., radioactive and non radioactive. Out of these two groups, the Chem Lab line and the River Dilution line are the only 2 lines that carried radioactive liquid.

See Tab 33, Draft Corrected Response to QVPIRG: EN.4-6, M. Metell, dated Jan. 27, 2009 (ENVYHC00988).

3. Analysis & Conclusion

The investigation did not substantiate that ENVY intended to mislead the parties to Docket No. 7440 by responding to VPIRG discovery request 4-6 that there have not been any underground piping systems carrying radionuclides during ENVY's ownership of the VY Station. The process followed by ENVY in responding to 4-6, however, failed to ensure that the underlying assumptions upon which the response was based were understood by all parties in Docket No. 7440.

The January 2009 Fourth Round requests from VPIRG, and VPIRG Third Round Requests to DPS and NSA, focused on the NSA Report. The ten questions to ENVY questions sought additional information regarding specific statements in the NSA Report. ENVY and DRM conducted a "limited triage" for this round of VPIRG requests. The participants were more limited in number and included individuals with direct knowledge of the discovery provided to NSA during their audit. This "limited triage" was less formal than the process used to respond to earlier requests.

The individuals involved in the limited triage included: Metell, the ENVY technical lead; Guglielmino, the ENVY Project Manager for the NSA audit; Marshall, the leader at DRM for this round of responses; and McElwee, the ENVY State Liaison Engineer. Limberger, a contract engineer hired to assist in responding to discovery, also may have participated. (Bykov, who also usually participated in discovery triage calls was not available. She received an email debrief after the call from Metell.)

When he first received the VPIRG Fourth Round discovery requests, Marshall discussed with VPIRG counsel that some of the requests called for ENVY to speculate about NSA's conclusions. Metell agreed with that view. In addition, Metell considered the scope of the questions as limited to the context of the NSA audit. Each of the ten questions in the Fourth Round requests cited to a specific page of the NSA Report. Although this narrow view was contrary to VPIRG's instructions, none of the participants in the triage call recalled discussion of the appropriate scope of the Fourth Round requests. McElwee reported having the same understanding of the scope, and direction from management to resist inappropriate expansions of the scope of either the PSB proceeding or NSA audit. Accordingly, ENVY personnel presumed the questions were bounded by the scope of that audit, and DRM attorneys were unaware of the presumed limitation. The DPS response to the same question, received between the triage call and the final response, reflects a similar understanding of the bounds of these discovery requests.

It does not appear that Metell shared with Marshall or anyone on that call that he was applying this limiting interpretation to VPIRG 4.6. Nor does it appear that Metell shared any concern that the question was potentially problematic if interpreted more broadly. Although Metell told the Investigator that he thought that the question was potentially problematic, it appears that in the triage call, Metell identified the line that was potentially most problematic for the proceeding – the Chem Lab Drain Line that had leaked in the past and would likely raise questions related to decommissioning cost estimates in the PSB proceeding.¹² Consistent with this scope

¹² Metell believed, however, that VPIRG already knew about the Chem Lab Drain Line leak.

interpretation, it does not appear that Metell intentionally failed to disclose other lines about which he was aware.

Metell expressed an internally consistent view that the gaseous AOG piping was outside the scope of the audit because its contents were gaseous. This view was shared by other witnesses, including McElwee. Metell also indicated that he had not previously been aware of AOG condensate drain lines. Thus, in the end, although Metell may have thought the question was potentially problematic in terms of raising an issue in the proceeding, it appears he disclosed the item about which he was concerned and set Guglielmino in the direction of finding the detailed information on that leak.

Marshall and Johnson indicated that they did not, at least initially, view the VPIRG Fourth Round responses as limited to the scope of the NSA audit, but did not recall this issue ever being discussed. Both said they were unaware of any other underground piping carrying radionuclides on the VY site and that they were unaware that any scope limitation was being applied to the information they were receiving from the plant.

After the triage call, Guglielmino proposed an initial response consistent with the direction he received at the triage and the information he says was known to him at that time. Guglielmino's search for the answer was limited to the direction he received to speak with Rogers. He also spoke with Drouin but did not conduct records searches or other research for past leaks. He did not send the first part of the question (about underground piping) to the ENVY personnel responsible for the Buried Piping and Tank Inspection Program, Mark LeFrancois and Gary Bailey. Guglielmino's limited investigation instead focused solely on the nature and extent of the Chem Lab Drain Line leak. The investigation found no evidence that Guglielmino possessed or found additional information that was not provided.

Bykov has not yet been interviewed. The investigation found no basis to conclude that Bykov possessed independent knowledge of underground piping that carried radionuclides at the VY site. Marshall and Johnson understood her edits to question a. as clarification to distinguish between the periods of ownership between ENVY and VYNPC. Marshall recalled Bykov's concern to make clear that ENVY's responses were limited to information within the Company's possession, custody or control, and to communicate that the Company was not going outside for information such as to VYNPC, not as a time scope limitation on information that the company would provide.

During the review process, several ENVY senior managers were copied on DRM's request for review including Thayer, Colomb, Dreyfuss, Rademacher, Rogers, Metell and McElwee. It appears neither Thayer nor Colomb commented on this set of responses. Neither recalls doing so. Nor does it appear that their sign-off was necessary to the established process for filing discovery responses.

Dreyfuss was identified as the Person Responsible for three of the responses and asked for review of the set. According to McElwee's email, Dreyfuss was reviewing the responses on Friday evening. Dreyfuss said he would have looked at and approved all questions for which he

was identified as responsible, and may have read the others. He did not recall reading or approving the VPIRG Fourth Round responses.

Rademacher was included in the management review distribution. Rademacher did email his approval of the response package. Although Rademacher acknowledges he had already noticed the statement on page 262 of the report as not technically correct, he does not recall focusing on that issue in the response to this request. He did not recall reviewing the VPIRG Fourth Round requests when they came in. He did recall turning over his responsibilities to Rogers for some period during development of these responses, but does not recall getting any turnover from Rogers on the responses. He does not know why he did not flag the issue or question the response.

The available evidence suggests Guglielmino or Limberger spoke with Rogers somewhat early in the process and that Guglielmino used that information to base the initial input to VPIRG:EN.4-6. There is no evidence that Rogers saw the revised response before it was issued on January 27, 2009. Rogers does not recall reading the response, but concludes that when he did, it is likely he read “radionuclides” as “radwaste.” The investigation did not find evidence that Rogers had any reason or motive to misinterpret the question or narrow the response.

Metell and McElwee’s approvals were consistent with their professed understandings at the time of the triage – that the question, and therefore the response, was limited to the scope of the NSA audit. Nonetheless, the one known pipe leak with significant implications for decommissioning costs was disclosed.

In March 2009, when Johnson raised a question to Marshall about pipes identified in a 1999 study, Marshall promptly, albeit imperfectly, relayed the question to Metell for clarification. Marshall inadvertently attached two copies of the VPIRG response 4-6, but not the document to which Johnson referred. Accordingly, Metell’s response failed to address the three issues Johnson specified. Metell did address the points and questions in Marshall’s email. Metell’s response appears to be the first communication to the lawyers that he, Metell, had applied a scope interpretation to the response to VPIRG:EN.4-6.

Marshall told the Investigator that he did not previously recall this limitation, but sees that it was communicated to him and acknowledges he understood a scope limitation was being applied. Marshall forwarded the response to Johnson indicating that “[t]his should answer your question.” Johnson told the Investigator that he accepted Marshall’s judgment that Metell’s technical answer resolved the issue. Metell also copied Bykov on his response. The Investigator has not spoken with Bykov. Neither Marshall, nor Johnson recalls discussing this issue with her.

Johnson’s question raised the possibility of an obligation to supplement the response to VPIRG:EN.4-6 with newly acquired information.¹³ However, Metell’s technical response

¹³ VRCPC Rule 26 (b)(1), as then in effect, provided that “Parties may obtain discovery regarding any matter, not privileged, which is relevant to the subject matter involved in the pending action . . .” VRCPC Rule 26(e) required:

provided a rationale why the response, as written, could be understood as complete. This scope limitation also was consistent with the approach taken in the DPS responses to the same question. DRM supplemented other discovery responses, including another in the VPIRG Fourth Round. The investigation did not find evidence that counsel knowingly ignored a duty to supplement. Rather, they understood the answer complete as given, albeit within a narrower scope than they originally understood the question.

The evidence demonstrates that the process at ENVY used to respond to this question was not rigorous or effective, that certain ENVY personnel failed to provide thorough and clear information to make assumptions in the response explicit and clearly understood, and that the attorneys after the fact did not thoroughly explore information presented to them regarding the existence of underground piping. The evidence did not substantiate that ENVY personnel or DRM attorneys responding to this request intentionally tried to hide the existence of buried piping carrying radionuclides at VY.

F. Issue No. 6: Did ENVY intentionally fail to address the statement at page 15 of March 17, 2009 Public Oversight Panel Report, which stated: “The Panel was informed that there were no systems with underground piping that carry radioactivity at VY”?

1. Issue

Page 18 of the POP Report contains the following statement: “The Panel was informed that there were no systems with underground piping that carry radioactivity at VY.”¹⁴ See Tab 1, POP Report at 18, dated March 17, 2009 (ENVYHC01018). ENVY never addressed the statement. The issue is whether ENVY’s failure to do so was intentional.

A party who has responded to a request for discovery with a response that was complete when made is under a duty to supplement or correct the response to include information thereafter acquired with respect to the following matters if the party learns that the response is in some material respect incomplete or incorrect and if the additional information has not otherwise been made known to the other parties during the discovery process or in writing:

* * *

(2) Any other prior response to an interrogatory, request for production, or request for admission.

The 2009 amendments to VRCP 26 regarding electronically-stored information and other issues did not alter these provisions.

¹⁴ A footnote at the end of the sentence stated: “There is a buried chemistry laboratory drain pipe that once carried radioactive material. In the early 1990’s, this drain was discovered to be leaking. After review, the NRC approved its being abandoned in place. The current chemistry laboratory drain is not buried. VY’s decommissioning plan accounts for the disposal of contaminated soil from this leakage.” See Tab 1, POP Report at 18, dated March 17, 2009 (ENVYHC01018).

2. Chronology

June 6, 2008 – Act 189 created the POP and charged it with overseeing and guiding the DPS and its consultants in performing the CRA, and providing transparency, public oversight and public involvement in the assessment. *See* Tab 1, POP Report at i, dated March 17, 2009 (ENVYHC00999).

Members of the POP individually and collectively possessed significant qualifications and experience in the nuclear power industry. *See* Tab 1, POP Report Appendix B, dated March 17, 2009 (ENVYHC01049-52).

The POP acknowledged that neither NSA, nor Act 189, defined the term “reliability.” Accordingly the POP assessed reliability in “commonly understood terms” and made reference to use of “nuclear power industry norms.” *See* Tab 1, POP Report at 4, dated March 17, 2009 (ENVYHC01007).

The Panel benefited from support from DPS personnel throughout their 2008 meetings. During the course of the CRA, the POP met approximately monthly for two days at a time from July through the end of 2008, and every two weeks in 2009 through issuance the POP Report. Additionally, from September through November 2008 the panel conducted weekly conference calls with DPS representatives, and sometimes NSA, to review the progress of the audit. The Panel received presentations from ENVY, NSA, and the NRC. *See* Tab 1, POP Report at 12, dated March 17, 2009 (ENVYHC01015).

The Panel ... had access to all records and documents consulted and generated in developing and conducting the reliability assessment and ... in any other audit of the Vermont Yankee Nuclear facility pertinent to the reliability assessment.

See Tab 1, POP Report at 12, dated March 17, 2009 (ENVYHC01015-16).

Two Panel Members, Mr. Gundersen and Mr. Sherman, elected to receive data disks of this information provided by [EN]VY. These disks represented all of the information provided to NSA through its data requests during the audit for its December 22 2008 report.

See Tab 1, POP Report at 13 n.26, dated March 17, 2009 (ENVYHC01016) (emphasis added).

The Panel played a significant role in defining the scope of the audit and the scope of work to be performed by NSA. The POP indicated:

The General Assembly designated the scope for the Reliability Assessment in Section 3 of Act 189. This section identifies seven whole plant systems for comprehensive, in-depth assessment . . .

See Tab 1, POP Report at 14, dated March 17, 2009 (ENVYHC01017) (emphasis added).

The Legislature delegated authority to POP and DPS to modify the scope of the assessment as they deemed necessary. The Panel recommended a number of scope adjustments, one of which is the focus of Issue No. 1, above:

The Panel was informed that there were no systems with underground piping that carry radioactivity at VY. Therefore the Panel recommended that the review of the service water system, Act 189 §3(6) (“a cooling system dependent upon Connecticut River water”), which has buried non-radioactive piping, specifically include a review of ENVY’s Buried Pipe and Tank Inspection Program.

See Tab 1, POP Report at 15(emphasis added) (ENVYHC01018) (This passage also referenced the chemistry laboratory drain pipe in n.27 set out above.)

October 1, 2008 – Bykov’s notes of a Status Conference indicated: “DPS POP report → not Dep’t evidence in this proceeding” and “DPS will not present the report as evid.” See Tab 3, K. Bykov Notes from Status Conference, dated October 1, 2008 (ENVYHC01798).

October 28, 2008 – The POP wrote to DPS Commissioner O’Brien providing a table of what they understood to have been agreed upon among the POP, DPS and NSA. See Tab 1, POP Report, March 17, 2009, Appendix C (ENVYHC01053-57). Note 3 in the table attached to that letter provides: “The panel is informed that there are no underground piping systems carrying radioactivity at Vermont Yankee.” See Tab 1, Table attached to Letter from W. Sherman to D. O’Brien, dated Oct. 28, 2008 (ENVYHC01056).

December 22, 2008 – NSA issued its report of the CRA, which included the statement at page 262, “there are no underground-piping systems carrying radionuclides at ENVY.” See Issue No. 4, Tab 1A, Reliability Assessment of the Vermont Yankee Nuclear Facility, dated Dec. 22, 2008 (ENVYHC00522).

February 6, 2009 – DPS submitted the NSA Report in the PSB proceeding through the prefiled testimony of Woysner. See State of Vermont Public Service Board Docket No. 7440: Direct Testimony of William S. Woysner and Bruce A. Allhouse on Behalf of Vermont Department of Public Service, February 6, 2009, available at <http://psb.vermont.gov/docketsandprojects/electric/7440/prefiled>.

February 11, 2009 – ENVY submitted its Response to the NSA Report, with Errata, in the PSB proceeding through the prefiled testimony of Colomb. See Issue No. 4, Tab 8, Email from W. Glew to K. Silman re: FW: VT Docket No. 7440 – Final Version Exhibit EN-MJC-2, Response to NSA Report (attaching Appendix C to Exhibit EN-MJC-2, Appendix A to Exhibit EN-MJC-2, Appendix B to Exhibit EN-MJC-2, EN Relicensing Response NSA Master), dated Jan. 21, 2009 (ENVYHC00552-618).

March 17, 2009 – Nearly three months following issuance of the NSA Report, the POP issued to the Vermont General Assembly, its “Report of the Public Oversight Panel on the Comprehensive

Reliability Assessment of the Vermont Yankee Nuclear Power Plant” (POP Report). See Tab 1, *supra*.

March 18, 2009 – Bykov wrote an e-mail to Thayer, McElwee, Metell, and Marshall, with copies to Glew and Miller, addressing her comments on planned testimony for Colomb.

The key open item for Jay and team is whether we want to respond at all to the Public Oversight Panel’s report in this round of testimony. We do not need to respond in this round because Sara Hofmann has clarified that the DPS will not offer the Panel’s report as evidence in this docket. And if one of the intervenors picks up on a recommendation made by the Panel, and advocates that we make such a recommendation a condition of continuing operation, we’d have a chance to respond to the intervenors accordingly. But if we think it would strengthen our stance from a strategic standpoint to respond to the Panel’s report now, we could put it in Mike Colomb's rebuttal testimony.

See Tab 2B, Email from K. Bykov to J. Thayer, D. McElwee, H. Metell, J. Marshall et al. re: RE: Comments to Colomb Testimony, dated March 18, 2009 (ENVYHC01061).

March 18, 2009 – Thayer responded to all within 20 minutes:

I recommend NOT addressing the POP report in this round. The Board has the NSA report and we are responding to that. The POP report is an action requested by the Legislature and I assume they will tell the Board what they want done with it. Either way, the POP report covers the same ground as the NSA report and we (Mike C) are responding to that.

See Tab 2A, Email from J. Thayer to K. Bykov, D. McElwee, H. Metell, J. Marshall re: Comments to Colomb Testimony, dated March 18, 2009, dated March 18, 2009 (ENVYHC01061) (Capitalization in original).

March 18, 2009 – Bykov responded to Thayer: “Jay – thanks very much. We will not address the Panel’s report, and can discuss again if it gets raised by an intervenor.” See Tab 2, Email from K. Bykov to J. Thayer re: RE: Comments to Colomb Testimony, dated March 18, 2009 (ENVYHC01061).

Colomb – Does not recall reviewing the POP Report.

Dreyfuss – Does not recall noticing the statement in the POP Report; was focused on whether there were new recommendations.

Guglielmino – Did not read the POP Report in detail. He does not recall any discussion on underground piping and had no action items related to the POP Report.

Mannai – Looked at POP Report; just the executive summary; does not think it was requested by NRC.

McElwee – Does not recall any discussion about the statement on page 15; does not recall any fact-check of the POP Report as was done with the NSA Report.

Metell – Thought he may have reviewed the POP Report for additional obligations. Did not consider the possibility of not satisfying the legislative mandate of 3(a)(7). Does not recall this issue coming up in connection with review of the POP Report.

Rademacher – Probably read the executive summary. He was on to other things. He did not know it contained the same language as the NSA Report.

Rogers – Believes he read the POP Report; does not recall noticing the statement.

Thayer – Thayer recalls reading the POP Report, but not this issue. He recalls the discussion of the buried piping program because of his familiarity with the issue while a loaned executive at the Nuclear Energy Institute. Thayer recalled thinking about liquid transfer pipes that could leak tritium. He remembered the chemistry drain line because it made sense to point out that abandoned line as the only line with liquid radwaste buried in soil. He recalled thinking that all other liquid piping was in tunnels. Thayer said he was not aware that there were other non-trenched systems. He said he would expect a design philosophy that would not put radioactive piping in soil. He thinks of the AOG system as gaseous. He interpreted the POP/NSA scope as liquid piping systems. Thayer recalled NSA members had experience at PECO, which he described as a BWR company. He stated that that is the reason that NSA went initially to CST, because industry history of tritium leaks in CST. But VY's is trenched. Thayer thinks NSA would know this design well. Thayer concluded that he does not remember the specific language on page 15, and said he focused mostly on pages 1 and 2.

Wierzbowski – Did not recall reading the POP Report.

Bykov – Not interviewed. Bykov's contemporaneous notes make no reference to the content of the POP Report.

3. Analysis & Conclusion

ENVY personnel did not conduct a comprehensive review of the POP Report. Instead, ENVY focused on the POP's conclusion that, with recommendations, the plant was suitably reliable for continued operation for 20 years.

No one interviewed who read the POP Report stated that he focused on/noted that particular statement. ENVY personnel interviewed stated that the Company was satisfied with the overall conclusion and recommendation and, therefore, saw no reason to conduct a comprehensive review. ENVY already had provided its views on the NSA Report, on which the POP Report was based.

The Investigation did not find evidence that ENVY personnel intentionally decided not to address the particular statement in the POP Report. Rather, the evidence collected indicates that ENVY management deferred on responding to the POP Report at all. None of the evidence the Investigator identified suggested that ENVY personnel believed that NSA or POP misunderstood the status of buried piping at VY. ENVY personnel were not privy to conversations among DPS, NSA and POP, except anecdotally. ENVY personnel appear to have believed that they and NSA had a common understanding of the types of piping systems NSA wanted to review to satisfy the requirement of section 3(a)(7) for the audit – whole-plant systems carrying process liquids, buried in dirt. The statement in the POP Report did not contradict that understanding.

G. Issue No. 7: Did Jay Thayer intentionally mislead the Vermont Public Service Board when he testified on May 20, 2009, that he believed that there were no active piping systems underground containing contaminated fluids today at the Vermont Yankee plant?

1. Issue

On May 20, 2009, Jay Thayer testified before the Vermont Public Service Board:

Q. Does Vermont Yankee have any underground piping that carries radio nuclides?

A. The reason I hesitate is I don't believe there is active piping in service today carrying radio nuclides underground. There was a line that was contaminated, radioactive liquid, which did leak back in the period before we purchased the plant, that line was abandoned. That is the reason for some of the contaminated soil on site. But I don't – I can do some research on that and get back to you, but I don't believe there are active piping systems underground containing contaminated fluids today.

Q. Okay.

MR. MARSHALL: You can ask that question of Mr. Colomb next Tuesday.

See Tab 6, Transcript, Technical Hearing before the Vermont Public Service Board, Docket No. 7440, May 20, 2009 at 70-71 (ENVYHC01183).

On January 15, 2010, Thayer issued a statement in which he apologized for “failing to provide full and complete information about the presence of underground pipes at Vermont Yankee.” See Tab 9, Statement for Jay Thayer, dated Jan. 15, 2010 (ENVYHC01770). Thayer also stated that he “should have confirmed the accuracy of [his] statements, and [he] should have followed up after the PSB hearing, as [he] said [he] would, to correct the record.” See *id.*

The issue is whether Thayer intentionally misled the PSB, despite what he said in his January 15, 2010 statement “that there never was any attempt to mislead the Department or the Board on the presence of the pipes.” *See id.*

2. Chronology

March 3, 2008 – ENVY filed Thayer’s prefiled testimony in the PSB proceeding, Docket No. 7440. Thayer’s prefiled testimony provided an overview of Entergy’s petition, introduced other witnesses, showed that ENVY met the PSB’s criteria to determine whether to grant a certificate of public good and summarized the benefits of the VY station. The March 2008 prefiled testimony also addressed ENVY’s financial commitments with regard to decommissioning and storage of spent-nuclear fuel. There was no mention of underground piping in this prefiled testimony. *See* Tab 2, Prefiled Testimony of Jay Thayer dated March 3, 2008 (ENVYHC01071-99).

Marshall – Thayer was ENVY’s overall management, big picture witness. Other witnesses were intended to drill down on financial issues, decommissioning and technical issues.

February 11, 2009 – ENVY filed Thayer’s supplemental prefiled testimony. The supplemental testimony responded to DPS witnesses’ testimony and addressed potential benefits of a long-term contract for power, the value of the revenue-sharing clause, decommissioning costs and funding, and long-term storage of spent-nuclear fuel. There was no mention of underground piping in this prefiled testimony. *See* Tab 4, Summary of Prefiled Testimony of Jay Thayer, dated Feb. 11, 2009 (ENVYHC01118-48).

March 23, 2009 – ENVY filed Thayer’s rebuttal prefiled testimony. Thayer’s testimony addressed the sale of VY from VYNPC to ENVY, decommissioning recommendations, spent-fuel management and decommissioning costs, financial assurances for decommissioning, and negotiation of a new Inspection Memorandum Of Understanding. It did not refer to underground piping. *See* Tab 5A, Rebuttal Prefiled Testimony of Jay Thayer, dated March 23, 2009 (ENVYHC01150-64).

March/April 2009 – DRM attorneys Marshall, Johnson and Sheila Grace were responsible for preparing Thayer for his testimony and assembled briefing notebooks for Thayer. Those briefing notebooks contained ENVY’s responses to discovery in the proceeding, including the response to VPIRG:EN 4-6. The prep outline prepared by DRM for Thayer’s testimony included only one item related to underground piping, which stated: “underground piping/radionuclides/soil contamination.” *See* Tab 1, Index and Outline to Witness Preparation Materials for Michael J. Colomb, undated (ENVYHC01064).¹⁵

April 28 and May 2009 – Joint prep session for Thayer and Colomb held on April 28 at the DRM office in Brattleboro. Present for this prep session were Dreyfuss, McElwee, Marshall, Johnson, Glew (in-house Entergy attorney) and Bykov (in-house Entergy attorney). According

¹⁵ According to Marshall, Tab 1 was used in the testimony preparation of both Thayer and Colomb.

to Marshall, there was an additional joint prep session with the same people on May 14, 2009, also at the DRM office in Brattleboro. Finally, on the morning of his testimony on May 20, 2009, Thayer met with Marshall, Johnson, Bykov, Dreyfuss, McElwee and Metell for a short prep session. As to the prep sessions, the individuals present recall the following:

Thayer – Prepped for his testimony by reviewing seven, three-inch binders with DRM attorneys. Focus was on decommissioning costs. Knew the intervenors wanted to look at the decommissioning funds, the Chem Lab Drain Line incident, and the quantification of soil that was contaminated at the site. Read ENVY response to VPIRG:EN 4-6 as part of his preparation, but response did not stand out to him given the context of the statement that was quoted from page 262 of the NSA Report and given that there is trenched piping and piping that carries gas that he knew about. Thayer did not know of underground piping (i.e., not trenched) that carried liquids, not gas, at VY.

Marshall – Does not recall anyone discussing or challenging the answer in the response to VPIRG:EN 4-6 that was in the prep binders for Thayer and Colomb. There was a discussion of the Chem Lab Drain Line. Thayer's second prep session involved mock cross-examination. Did not remember whether the Chem Lab Drain Line response was included in the mock cross. Believed that his hand-written notes from this prep session are his preparation for the mock cross. The notes do not mention underground pipes. Did not push Thayer in the prep session on the existence of underground pipes by stating that there must be other underground pipes because Marshall was not a technical expert and it was not obvious to him that there would be other pipes. There was no discussion in any prep session that this was a tricky issue or that they had to be careful about what to say about underground pipes. They did not discuss that there was a context necessary to understand ENVY's response to VPIRG:EN 4-6.

Grace – (Sheila Grace is of counsel at DRM.) Did not recall any discussion of the ENVY response to VPIRG:EN 4-6 during Thayer's prep sessions. Did not recall anyone in the prep session suggesting that there was any possible problem or inconsistency with the response. Did not have any notes of the prep session. Not as familiar with the subject matter and therefore not much on the substance stuck with her. Did not recall any discussion of underground piping. Believes she participated by phone, not in person.

Glew – Attended the April 28, 2009 session; notes do not have any references to underground piping. Has recollection of a discussion about underground piping and the plan was to kick it from Thayer to Colomb to handle, but believes that the discussion occurred after Thayer's testimony. Someone on Colomb's team was supposed to double check and confirm the underground piping. Does not recall any discussion of radionuclides; there was a back and forth about underground piping and there was an action item follow-up.

Colomb – Does not specifically remember any joint prep session with Thayer. Does not remember any questions regarding the broader question of the existence of underground piping during any prep session.

Dreyfuss – Did not go through the prep materials or briefing books before the prep sessions. Present at the prep sessions to give technical support. The hot issue at Thayer’s prep session was decommissioning costs. Buried underground pipe was discussed only in connection with how much contaminated soil was at the site and how much was associated with the Chem Lab Drain Line leak.

McElwee – Does not remember a discussion of underground piping that carried radionuclides at the April joint prep session. Additional cost of decommissioning due to contaminated soil was a focus. Does not recall a discussion of ENVY’s response to VPIRG:EN 4-6. The only discussion about underground piping at any prep session would have been associated with just the Chem Lab Drain Line leak.

Metell – Present only on the morning of Thayer’s testimony and does not recall any discussion of underground piping at that session.

May 5, 2009 – Bykov’ notes have “Bill Cloutier/Jay Thayer Prep.” Those notes do not have anything about underground piping. They do state:

soil contamination

- 1000 cubic yds vs. 5000 cubic yards → contingency
- ’99 site study – 1,000 substantiated

See Tab 10, Notes from K. Bykov Witness Prep, dated May 5, 2009 (ENVYHC01778).

May 20, 2009 – Thayer testified as indicated above.

Marshall – Uncomfortable with Thayer’s long pause before responding to the question about underground piping. Stated that Colomb would answer that question because Colomb was the designated witness for current operations. Not concerned that anything was wrong, only that Colomb should expect a question on it. Conducted follow-up through Garry Young’s testimony that touched on Oyster Creek. Marshall expected Colomb to address the Chem Lab Drain Line leak. Thayer did not request a debrief after his testimony and Marshall did not provide any feedback to Thayer.

Metell – Suspects he had some uneasiness about the testimony due to his knowledge of the scope of piping at VY. He did not say anything to Thayer or the attorneys about his uneasiness. He thought it was a good answer in a potentially tough area. It was good because it referred to pipes carrying liquids today. After Thayer’s testimony, Metell immediately tasked Guglielmino at the VY site to track down information with regard to underground piping. See Issue No. 8.

McElwee – Attended Thayer’s testimony; Thayer’s response to the underground piping question registered to some degree because he knew Colomb would be asked about it.

Dreyfuss – Did not attend Thayer’s testimony. Recalled that sometime after the testimony, McElwee called him and they discussed making sure that Colomb could speak

to the issue of the Chem Lab Drain Line leak. He did not recall a broader discussion of underground piping.

May 20, 2009 – Immediately after Thayer’s testimony, McElwee identified underground piping and contaminated soil as an issue that Colomb might have to address in his upcoming testimony. McElwee sent an email to Colomb, Dreyfuss and David Mannai, copied to Jeff Meyer, that stated:

Mike, you may be asked during your testimony up here if we have any underground piping carrying contaminated material. We have said no but used to have a chemistry sink drain line that was leaking back in the 80’s but has been abandoned once it was identified it was leaking. You may need to discuss during your time on the stand.

Jeff, I think chemistry can give you some supporting documents on it to brief Mike.

See Issue No. 8, Tab 4F, Email from D. McElwee to M. Colomb, J. Dreyfuss, D. Mannai, copied to J. Meyer re: FW: Underground piping, dated May 20, 2009 (ENVYHC01243). For a complete discussion of what occurred, see Issue No. 8, below.

McElwee – Email merely stated what he understood the testimony to be. Does not remember whether he wrote it this way so that they would follow up on the “no” to the underground piping question because there was now an issue about the existence of such piping. The correct punctuation for his sentence would be: “We have said: ‘No but used to have’” Sent to Meyer because Meyer worked for Mannai and Mannai was coordinating the gathering of information for the Colomb prep.

Dreyfuss – Does not recall this email or that it raised any question with him. McElwee had talked to him about Thayer’s response to the question and stated that they needed to make sure that Colomb could speak to the issue of the Chem Lab Drain Line leak. Does not recall a broader discussion of underground piping.

May 20, 2009 – Bill Glew sent an email with a short digest of the testimony from the hearing that did not mention this issue at all. *See* Tab 7, Email from W. Glew to J. Thayer et al. re: VY Continuing Ops CPG hearing – Day 3 report, dated May 20, 2009 (ENVYHC01220).

Glew – No recognition at Thayer’s testimony that it was a tricky issue or that ENVY had dodged a bullet. No doubts about Thayer’s accuracy on this point.

May 20, 2009 – Bykov’s notes from Thayer’s testimony stated, under the heading “Decommissioning,” “[p]iping carrying radionuclides – used to have during VYNPC, doesn’t believe there are.” *See* Tab 11, Notes from K. Bykov Witness Testimony, dated May 20, 2009 (ENVYHC01782). The note has an arrow in the margin. The last entry for this day has a heading “Questions” with six numbered entries. The first is: “1. Underground pipe –” *See* Tab 11, K. Bykov Notes from J. Thayer Testimony, dated May 20, 2009 (ENVYHC01786).

May 21, 2009 – Kim Bykov sent an email regarding “Items for Mike Colomb from Jay’s Testimony,” which mentioned one related item: “1. Thursday 5/21 testimony of Jay Thayer concerning soil contamination – Karen and Brenda, can you email a .pdf of the rough version of this transcript to John Dreyfuss and Dave McElwee (who are copied above) tonight, for review with Mike?” See Tab 8C, Email from K. Bykov to J. Dreyfuss, D. McElwee, M. Metell re: Items for Mike Colomb from Jay’s Testimony, dated May 21, 2009 (ENVYHC01222-23).

3. **Analysis & Conclusion**

The evidence does not substantiate that Thayer intended to mislead the PSB or others by testifying on May 20, 2009, that he did not believe there were active piping systems containing contaminated fluids.

Thayer testified that he did not “believe there are active piping systems underground containing contaminated fluids today” in response to a question that asked: “Does Vermont Yankee have any underground piping that carries radio nuclides?” That answer is inaccurate with regard to any underground piping that carries radionuclides as addressed previously in Issue No. 1.¹⁶ As demonstrated below, the evidence supports Thayer’s statement that he did not intend to mislead the PSB by giving that answer.

Thayer stated that he answered the question in the context of his preparation for testifying about decommissioning costs and the costs for removing contaminated soil. Thayer believed that he and ENVY knew that VY was a pretty clean site. When he read the VPIRG response it was consistent with his understanding of the site. Thayer stated that he also had been involved with older Yankee plants, and those commonly had pipes moving large amounts of liquids containing radwaste in them. He has seen the effects of that, and VY did not have that issue. By the time they built VY, VY had liquid-filled pipes in trenches. Thayer stated that this was his thought process at that time, because he was focused on decontamination. He was focused on events that cause soil contamination, and the Chem Lab Drain Line leak was the only one that led to soil contamination. The VPIRG response was therefore consistent with his understanding of the site.

Thayer further stated that he interpreted the question in the context of what he thought the POP/NSA was interested in – pipes carrying liquid as opposed to gases. Thayer stated that he hesitated when he responded to the question because he was going through an inventory in his mind that included the Chem Lab Drain Line and he wanted to be precise. He knew that line had been abandoned. He stated that he was focused on decommissioning and running through the inventory. He knew that this was a very different plant from Connecticut Yankee and others that experienced many more leaks. He felt that the intervenors believed there was something else out there, but all his experience showed him there was not. He gave his answer with modifiers not because he was trying to be cute or trying to dodge or give a narrow response. He was having a conversation on decommissioning liability.

¹⁶ For example, there is piping that carries gaseous radionuclides that have associated condensate drain lines.

Thayer's thought processes and recollection are supported by the independent evidence. First, the specific statement Thayer made at the hearing supports his explanation. He stated: "I don't believe there are active piping systems underground containing contaminated fluids today." Thus, his response aligns closely with his belief that the POP/NSA focus was on large systems carrying liquid with the potential to contaminate, instead of primarily gaseous systems.

Second, the context of the questioning at the hearing supports Thayer's explanation. The question about underground piping was part of a series of questions about decommissioning costs and costs associated with soil removal for contamination at the site. Approximately seven pages before this response in the testimony transcript, the questioning attorney stated: "I would like to switch to some decommissioning questions now." The questioning from that point and past the excerpt noted above is focused on decommissioning cost estimates.

Third, Thayer's supplemental 2009 prefiled testimony also supports Thayer's focus on decommission costs:

Q8. Dr. Jacobs also asks Entergy VY to survey the VY Station site to determine the amount of contaminated soil at the site and to include in decommissioning-cost studies the estimated cost to remove contaminated soil.

A8. When Entergy Corporation was considering whether to purchase the VY Station, the company evaluated the need during decommissioning for remediation of soil. Entergy VY determined that 135,000 cubic feet of radiologically-contaminated soil exists, and the decommissioning-cost study prepared by TLG Services includes \$9.1 million as the estimated cost to remediate this amount of soil.

Since Entergy VY acquired the VY Station in 2002, no events have occurred that have resulted in additional radiological soil contamination. In addition, Entergy VY (and the nuclear industry) has initiated a groundwater-monitoring program, which involves installation of additional monitoring wells and sampling analyses.

The company therefore believes that its decommissioning-cost study meets Dr. Jacobs' recommendation and that no other investigation is necessary or warranted at this time.

See Tab 4, Summary of Prefiled Testimony of Jay Thayer, dated Feb. 11, 2009 at 6-7 (ENVYHC01124-25).

Fourth, all who attended the prep sessions confirm that there was no discussion about underground piping and instead the focus was on decommissioning costs and the costs associated with removing contaminated soil. For example, the DRM attorneys who prepared Thayer confirmed that the prep sessions were focused on soil contamination. To the extent that "underground piping/radionuclides/soil contamination" was discussed it was discussed in the

context of how much contaminated soil existed at the site and therefore how much it would cost to remove it upon decommissioning.

Fifth, the two Entergy attorneys present at his testimony sent emails after his testimony that did not mention any issue regarding underground piping, suggesting that there was no particular focus on that issue or intentional effort to mislead anyone. See Tab 7, Email from W. Glew to J. Thayer et al. re: VY Continuing Ops CPG hearing – Day 3 report, dated May 20, 2009 (ENVYHC01220); Tab 8C, Email from K. Bykov to J. Dreyfuss, D. McElwee, M. Metell re: Items for Mike Colomb from Jay's Testimony, dated May 21, 2009 (ENVYHC01222-01223).

To the extent that certain Entergy personnel identified a potential issue regarding Thayer's testimony and the existence of underground piping systems that carry radionuclides, they did not alert Thayer to this issue. See *infra* Issue No. 8.

H. Issue No. 8: Did Mike Colomb intentionally mislead the Public Service Board on May 26, 2009, when he limited his testimony to the Chemistry Laboratory Drain Line leak in response to a question about the existence of underground piping systems that carried radionuclides at ENVY?

1. Issue

On May 26, 2009, Mike Colomb testified in the proceeding before the Vermont Public Service Board, Docket No. 7440, as follows:

Q. . . . You had one question referred to you from Mr. Thayer the other day and I know you weren't here. The discussion was about underground piping and possible contamination. He thought you would know the answer, so do you know if there's any underground piping at Vermont Yankee carrying radionuclides?

A. I believe we had identified one pipe that was underneath the chemistry laboratory that end – I believe leaked in the past, did contaminate some soil under the building, has since been sealed, and a new line that is not underground was routed.

Q. And there was discussion about where that line is. Can you clear that up?

A. It is under, yes, I said underneath the chemistry laboratory building and goes to a different building. It's all underneath the structure.

Q. Okay. What building does it go to because we had a pipe starting and ending?

A. I believe it was the radioactive waste building.

Q. Okay. And can you go back to your –

* * *

BOARD MEMBER BURKE: Do you know the depth of that pipe?

MR. COLOMB: I do not know the depth of that pipe.

BOARD MEMBER BURKE: Could it be more than three feet?

MR. COLOMB: It could be more than three feet.

See Tab 21, Transcript, Technical Hearing before the Vermont Public Service Board at 63-65 (May 26, 2009) (ENVY01392-93). The issue is whether Colomb intended to mislead the Public Service Board (“PSB”) or others by responding to the general question about the existence of underground piping at Vermont Yankee carrying radionuclides with a specific response that referred solely to the Chem Lab Drain Line. In addition, the investigators broadened this issue to include whether other ENVY personnel or representatives withheld information from Colomb about underground piping carrying radionuclides to intentionally mislead the PSB or others.

2. Chronology

February 11, 2009 – ENVY filed Colomb’s prefiled testimony in the Public Service Board proceeding, Docket No. 7440. Colomb’s testimony responded to the December 22, 2008 report by NSA on the Comprehensive Vertical Audit and Reliability Assessment required by Act 189. The testimony is three pages long and attaches a copy of the Entergy Response to the December 22, 2008 NSA Report. *See* Tab 1, Colomb Prefiled Testimony, dated Feb. 11, 2009 (ENVYHC01224-34).

March 23, 2009 – ENVY filed Colomb’s rebuttal prefiled testimony in the proceeding. Colomb’s rebuttal addressed ENVY’s plans to follow-up on the NSA Report’s recommendations. The testimony does not refer to underground piping. *See* Tab 2, Colomb Rebuttal Prefiled Testimony, dated March 23, 2009 (ENVYHC01235-40).

Spring 2009 – DRM attorneys Marshall, Johnson and Grace were responsible for preparing Colomb for his testimony. In April 2009, they assembled briefing notebooks for Colomb. Those briefing notebooks contained ENVY’s response to VPIRG:EN 4-6, but do not contain any other items directly related to underground piping that carries radionuclides. The response to VPIRG:EN 4-6 does not identify underground pipes other than the Chem Lab Drain Line. *See* Issue 5, Tab 14, ENVY Response to VPIRG:EN 4-6 (ENVYHC00959).

Spring 2009 – The prep outline prepared by DRM for Colomb’s testimony included only one item related to underground piping, which stated: “Underground piping/radionuclides/soil contamination.” *See* Issue 7, Tab 1, Index to Witness Preparation Materials for Michael Jay Colomb, undated (ENVYHC01064).

April 28 and May, 2009 – Joint prep session for Thayer and Colomb held on April 28 at the DRM office in Brattleboro. Present for this prep session were Dreyfuss, McElwee, Marshall, Johnson, Glew (in-house Entergy attorney) and Bykov (in-house Entergy attorney). According to Marshall, there was an additional joint prep session with the same people on May 14 or 15, 2009, also at the DRM office in Brattleboro. Colomb stated that he reviewed two or three volumes of briefing books and two CDs.

Marshall – Recalls going over response to VPIRG:EN 4-6 during prep session. Does not recall anyone discussing, challenging or stating that there was a context for the response to VPIRG:EN 4-6 that was in the prep binders for Thayer and Colomb. There was a discussion of the Chem Lab Drain Line. There was no discussion that this was a tricky issue or that they had to be careful about what to say about underground pipes.

Colomb's second prep session was basically mock cross-examination. Does not remember whether the Chem Lab Drain Line response was included in the mock cross. Believes his hand-written notes from this prep session are his preparation for the mock cross. The notes do not mention underground pipes. Did not push Colomb in the prep session by stating that there must be other underground pipes because Marshall was not a technical expert and not obvious to him that there would be other pipes.

Glew – Attended the April 28, 2009 session; his notes do not reference underground piping. Has recollection of a discussion about underground piping and the plan was to kick it from Thayer to Colomb to handle, but believes that the discussion occurred after Thayer's testimony. Someone on Colomb's team was supposed to double check and confirm the underground piping. Does not recall any discussion of radionuclides; there was a back and forth about underground piping and there was an action item follow-up.

McElwee – Does not remember a discussion of underground piping that carried radionuclides at the April joint prep session. Additional cost of decommissioning due to contaminated soil was a focus. Does not recall a discussion of ENVY's response to VPIRG:EN 4-6. The only discussion about underground piping at any prep session would have been associated with just the Chem Lab Drain Line leak.

Dreyfuss – Did not go through the prep materials or briefing books before the prep sessions. Present at the prep sessions to give technical support. The hot issue at Thayer's prep session was decommissioning costs. Buried underground pipe was discussed only in connection with how much contaminated soil was at the site and how much was associated with the Chem Lab Drain Line leak.

Thayer – Focus was on decommissioning costs. Knew the interveners wanted to look at the decommissioning funds, the Chem Lab Drain Line incident, and the quantification of soil that was contaminated at the site.

Colomb – Does not specifically recall his sessions; most of his prep sessions were on witness training as opposed to substance.

May 20, 2009 – Thayer testified before the Vermont PSB and was asked “Does Vermont Yankee have any underground piping that carries radio nuclides?” See Issue 7, Tab 6, Transcript, Technical Hearing before the Vermont Public Service Board, Docket No. 7440, May 20, 2009 at 70-71 (ENVYHC01183). Thayer responded that he did not “believe there are active piping systems underground containing contaminated fluids today.” See Issue 7, Tab 6, Transcript, Technical Hearing before the Vermont Public Service Board, Docket No. 7440, May 20, 2009 at 70-71 (ENVYHC01183).

Marshall – Uncomfortable with the long pause; stated that Colomb would answer that question because Colomb was the designated witness for current operations. Not concerned that anything was wrong, only that Colomb should expect a question on it. Follow-up through Garry Young’s testimony that touched on Oyster Creek. Marshall expected Colomb to address the Chem Lab Drain Line leak.

May 20, 2009 – The third page of Bykov’s contemporaneous notes of the hearing reflect a question about piping carrying radionuclides in the context of a line of questioning regarding decommissioning:

→ Piping carrying radionuclides – used to have during VYNPC, doesn’t believe there are

The seventh page of the notes reflecting the end of the hearing end as follows:

Pipe is underneath a driveway between the building wall & out to a sump

Questions

1. Underground pipe –
2. Financial assurance – produce Enexus NRC order
3. VYNPC – John to ask Nancy
4. Outline of fuel assemblies in dry & wet storage at each RFO
5. Spent fuel mgmt plan. error
6. Enexus will carry CPG commitments

See Issue 7, Tab 11, K. Bykov notes from J. Thayer Testimony, dated May 20, 2009 (ENVYHC01782, 01786).

May 20, 2009 –Glew sent an email with a short digest of the testimony from the hearing that did not mention underground piping issue at all. See Tab 3, Email from W. Glew to J. Thayer, K. Bykov, D. McElwee, M. Metell, M. Colomb et al. re: VY Continuing Ops CPG hearing – Day 3 report, dated May 20, 2009 (ENVYHC01241).

Glew – No recognition at Thayer’s testimony that it was a tricky issue or that ENVY had dodged a bullet. No doubts about Thayer’s accuracy on this point.

May 20, 2009 – as a result of Thayer’s testimony, different ENVY personnel began gathering information related to underground piping that carries radionuclides. This chronology follows each separate line of inquiry that began with Thayer’s testimony. The main threads started with Dave McElwee, Mike Metell and Kim Bykov, all of whom were present during the testimony.

a. McElwee’s request for information

May 20, 2009 – immediately after Thayer’s testimony, McElwee identified underground piping and contaminated soil as an issue that Colomb might have to address in his upcoming testimony. McElwee sent an email to Colomb, Dreyfuss and David Mannai, copied to Jeff Meyer, that stated:

Mike, you may be asked during your testimony up here if we have any underground piping carrying contaminated material. We have said no but used to have a chemistry sink drain line that was leaking back in the 80’s but has been abandoned once it was identified it was leaking. You may need to discuss during your time on the stand.

Jeff, I think chemistry can give you some supporting documents on it to brief Mike.

See Tab 4F, Email from D. McElwee to M. Colomb, J. Dreyfuss, D. Mannai re: FW: underground piping, dated May 20, 2009 (ENVYHC01243).

McElwee – Email merely stated what he understood the testimony to be; he does not remember whether he wrote it this way so that they would follow up on the “no” to the underground piping question because there was now an issue about the existence of such piping. The correct punctuation for his sentence would be: “We have said: ‘No, but used to have’” Sent to Meyer because Meyer worked for Mannai and Mannai was coordinating gathering information for the Colomb prep.

Dreyfuss – Asked Mannai to be point person on collecting this technical information. Did not tell Mannai that there was an issue about underground piping. Does not recall this email or that it raised any question with him. McElwee had talked to him about Thayer’s response to the question and stated that they needed to make sure that Colomb could speak to the issue of the Chem Lab Drain Line leak. Does not recall a broader discussion of other underground piping.

Colomb – Does not recall this email; only recalls issue with Chem Lab Drain Line.

May 20, 2009 – Meyer assigned Chemistry Superintendent Jeff Hardy to collect this information. See Tab 4E, Email from J. Meyer to J. Hardy re: FW: underground piping, dated May 20, 2009 (ENVYHC01243).

Meyer – Was not involved in witness prep and McElwee contacted him because he is frequently McElwee’s point of contact when McElwee is gone.

Hardy – Recalled being pulled in to help with Colomb testimony by Mannai because he had put together a summary of the Chem Lab Drain Line leak incident in 1992.

May 20, 2009 – Hardy asked Skibniowsky and Bailey to send the information to Meyer. *See* Tab 4D, Email from J. Hardy to S. Skibniowsky, G. Bailey re: FW: underground piping, dated May 20, 2009 (ENVYHC01243).

Hardy – Was asked to collect information related to the Chem Lab Drain Line leak, which he had worked on when it occurred. Does not know of any direction to ignore anything; only direction to make them smart on the Chem Lab Drain Line leak.

i. Bailey's response

May 20, 2009 – Bailey responded to Meyer (cc'ing Hardy, Skibniowsky) by attaching a spreadsheet that contains a list of piping from the Buried Piping and Tanks Inspection Program database. Bailey stated: "I've included piping sections that are potentially contaminated. Most of the piping is associated with the Offgas System that carries gaseous effluents." *See* Tab 4C, Email from G. Bailey to J. Meyer re: underground piping, dated May 20, 2009 (emphasis in original) (ENVYHC01242).

Bailey – Went to his BPTIP table and created a chart with all the pipes that had an "H" in the risk column ("high"). Did not have the technical background to state that they were definitely contaminated so he called them potentially contaminated. Did not pay attention to the testimony. Did not recall speaking with Meyer. Does not read all emails in a string. Said majority of pipes was associated with the AOG system because that is true – he was just trying to give them a feel for the piping. Never was told to say this or given any instruction on how to answer.

May 20, 2009 – Meyer responded to Bailey and specifically raised the relationship between this information and Thayer's testimony – "I am not sure how this corresponds to previous testimony that Dave mentioned, that said there was none. Anyway, Mike Colomb will need some briefing material so he can speak at hearing in Montpelier next week on the subject. Thus, some summary information for Mike is what is needed." *See* Tab 4B, Email from J. Meyer to G. Bailey, re: FW: underground piping, dated May 20, 2009 (ENVYHC01242).

Meyer – Does not recall anything related to his email in which he identifies the problem. Did not have any discussions about it with anyone else. He was just forwarding information. He was not saying that there was an inconsistency; he just did not know.

Bailey – Does not recall talking to Meyer after this email or noting any real issue. Recalls someone asked him about the Chem Lab Drain Line leak.

Skibniowsky – Collected requested information about the Chem Lab Drain Line leak and did not discuss the issue identified by Meyer.

McElwee – Does not remember identifying this as a big issue after reading Meyer’s response and, although he forwarded it to Dreyfuss, he does not know if he discussed it with Dreyfuss. It certainly did not rise to the level that he thought an Entergy executive just gave false testimony. No one told him not to discuss this with Thayer or Colomb. McElwee did not look at the table that Bailey had prepared and did not show the table to Metell. McElwee assumed that people at VY were taking care of the issue.

May 20, 2009 – McElwee responded to Meyer’s email: “Mike testify on Tuesday morning so with Monday a holiday and Friday off, he needs soon!” See Tab 4A, Email from D. McElwee to J. Meyer, G. Bailey re: RE: underground piping, dated May 20, 2009 (3:39 PM) (ENVYHC01242).

May 20, 2009 – McElwee forwarded the Bailey table and email string to John Dreyfuss. See Tab 5, Email from D. McElwee to J. Dreyfuss re: FW: underground piping, dated May 20, 2009 (5:25 PM), Attachment: “Potentially Contaminated Buried Lines.xls.” (ENVYHC01244, ENVYHC01246-87).

Dreyfuss – Does not recall this email. Did not speak with Bailey, McElwee or anyone else about this email or its contents. Did not talk to Colomb about this.

McElwee – Sent this to Dreyfuss because Dreyfuss was prepping Colomb and riding up with him to the testimony and he wanted Dreyfuss to know what he knew and to assess its level of importance. Does not recall a discussion with Dreyfuss about this. Did not view it as a big issue that Thayer may have said something incorrect under oath. Does not know why he did not view it as a big issue.

May 20, 2009 – Bailey separately forwarded his table and the previous email string to Peter Guglielmino. See Tab 6, Email from G. Bailey to P. Guglielmino re: FW underground piping, dated May 20, 2009 (9:55 AM), Attachment: “Potentially Contaminated Buried Lines.xls.” (ENVYHC01288).

Guglielmino – By the time he had received this email, he had talked to Metell about the information that Metell had requested. See below.

Bailey – Guglielmino had called him and asked him questions regarding underground piping so he copied him on his table.

May 20, 2009 – Bailey responded to McElwee’s 3:39 PM email:

Let me start over...

The chemistry sink line drain is not in my Program. I do not have information on it.

For the other potentially contaminated systems, that’s as far as I will go in characterizing those systems. For my Program, I took a conservative

stance that they were indeed contaminated. The Tritium Study performed years back is what I reference for this statement. I think an RP type would be of better help for this.

How I ask it is, "If I open this system, do I have to implement radiological controls?" I know it's considered a sign of insanity, but my answer to myself is, "I don't know."

See Tab 4, Email from G. Bailey to D. McElwee, J. Meyer re: RE: underground piping, dated May 20, 2009 (ENVYHC01242).

Bailey – Does not remember his emails on May 20, 2009. Does not recall any discussion between his first email and this one. No one told him to change his email or his statement. No pressure to change his table or to harmonize with previous testimony or answers. Did not elevate this as an issue. He was not raising a flag here, just answering the question.

McElwee – Does not recall Bailey's response; does not know whether information ever got to Colomb. His thought at the time was that this information needs to get to Colomb, not that there was an issue that needed to be cleared up.

LeFrancois – Does not remember this email and probably would not have read the entire email chain. Does not know whether he spoke with Bailey in between Bailey's emails, although possible because Bailey usually kept him informed of the issues he was working on. Did not discuss with anyone about a possible conflict with Thayer's testimony and did not understand there to be one.

ii. Skibniowsky's response

May 20, 2009 – Steve Skibniowsky, in the chemistry department, responded to Hardy's request as follows:

I believe the attached file should provide the information on the Chem Lab Drain Line Leak. I have also attached the file providing the location of the Interim Off Gas system that is buried just north of the plant stack. This piping contained radioactive gases from the Air Ejector. We also have contaminated underground piping from Radwaste to the Discharge Structure (Liquid Radwaste Discharge line) and, as Gary previously mentioned, the lines from the plant to the plant stack for Gland Seal Exhaust, AOG and Building Ventilation. I am not sure about the status of the lines from the CST to Radwaste or Radwaste Outside Tanks. Perhaps and engineer has some information on the underground portion of these contaminated pipe systems.

See Tab 8A, Email from S. Skibniowsky to J. Hardy re: RE: underground piping, dated May 20, 2009 (10:45 PM) (ENVYHC01292).

Skibniowsky – Does not recall discussing this issue with anyone. Included his knowledge of underground piping, but does not recall why he added that.

Hardy – Reviewed Skibniowsky's summary. Understood that people were in Montpelier for testimony and this had to be done quickly. Did not recall any follow-up to this.

May 21, 2009 – Meyer forwarded Skibniowsky's email to McElwee, stating: "This is what Chemistry came up with on underground potentially contaminated piping. What do you think?" See Tab 8, Email from J. Meyer to D. McElwee re: FW: underground piping, dated May 21, 2009 (ENVYHC01292).

McElwee – Does not remember email or focusing on the other pipes that Skibniowsky had listed. Would not have had the knowledge to try to distinguish all the pipes that were listed in Skibniowsky's email from pressurized liquid systems.

May 21, 2009 – Meyer forwarded Skibniowsky's email to Dreyfuss and Mannai. See Tab 12C, Email from J. Meyer to J. Dreyfuss, D. Mannai re: FW: underground piping, dated May 21, 2009 (ENVYHC01353).

Dreyfuss – Does not recall this email. Aware that there was other piping at VY, but this did not raise an issue with him. Did not think about the inconsistency because he did not view it as inconsistent. At some point, had a conversation with Skibniowsky regarding the Chem Lab Drain Line leak.

Mannai – Was the coordinator of emails. Does not recall any discussion about this issue. Saying "no" to existence of underground piping that carries radionuclides did not strike him as incorrect at the time. Focused more on the Chem Lab Drain Line. After reading Skibniowsky's email, Mannai thought he did not know the nature of the underlying question. Knew engineering was working on this and they had a better understanding of buried piping. His job was for a sanity check, not a quality check.

May 21, 2009 – Mannai requested Hardy to provide an "executive summary written up for the chemistry drain line issue by tomorrow." See Tab 12B, Email from D. Mannai to J. Hardy re: FW: underground piping, dated May 21, 2009 (5:23 PM) (ENVYHC01352).

May 22, 2009 – Skibniowsky sent the Executive Summary concerning the Chemistry Lab Drain Line failure to Mannai. See Tab 12A, Email from S. Skibniowsky to D. Mannai, copied to J. Hardy, J. Dreyfuss, D. McElwee, L. DeWald re: FW: Executive Summary – underground piping, dated May 22, 2009 (ENVYHC01352).

May 22, 2009 – Mannai responded to Skibniowsky's email with "Thanks Steve good work!" See Tab 12, Email from D. Mannai to S. Skibniowsky re: RE: Executive Summary – underground piping, dated May 22, 2009 (9:31 PM) (ENVYHC01352).

May 24, 2009 – Skibniowsky provided Mannai with a revised Executive Summary of the Chem Lab Drain Line issue. *See* Tab 17, Email from S. Skibniowsky to D. Mannai re: Chem Lab Drain Line Executive Summary – Rev. 1, dated May 24, 2009 (ENVYHC01364).

b. Bykov's Outline of Issues

May 21, 2009 – After the second day of Thayer's testimony, Bykov provided "a list of the subjects parties asked of Jay that are likely to come to Mike Colomb." Of the six items, one was listed as "Thursday 5/21 testimony of Jay Thayer concerning soil contamination – Karen and Brenda, can you email a .pdf of the rough version of this transcript to John Dreyfuss and Dave McElwee (who are copied above) tonight, for review with Mike?" *See* Tab 7B, Email from K. Bykov to J. Dreyfuss, D. McElwee, M. Metell re: Items for Mike Colomb from Jay's Testimony, dated May 21, 2009 (ENVYHC01291).

May 21, 2009 – Dreyfuss forwarded the Bykov email to a number of people and stated that Mannai was "to coordinate." *See* Tab 7A, Email from J. Dreyfuss to D. Mannai, N. Rademacher, et al. re: FW Items for Mike Colomb from Jay's Testimony, dated May 21, 2009 (ENVYHC01290).

Dreyfuss – Does not recall the email but recalls a discussion that centered on decommissioning costs and the number of cubic yards of contaminated soil.

May 21, 2009 – Later, Mannai responded and had Lynn DeWald and Skibniowsky responsible for the soil contamination item. *See* Tab 7, Email from D. Mannai to J. Dreyfuss, N. Rademacher, et al. re: Urgent Action Request – Items for Mike Colomb from Jay's Testimony, dated May 21, 2009 (ENVYHC01290).

May 21, 2009 – Mannai then sent an email to Guglielmino and Metell stating: "I understand you have provided or will provide an executive summary of any underground piping issues that are potentially contaminated for Mike Colomb's testimony on Tues. Please cc me or forward to me." *See* Tab 9, Email from D. Mannai to P. Guglielmino, H. Metell re: Underground Contaminated Piping Issues, dated May 21, 2009 (ENVYHC01344).

May 22, 2009 – McElwee emailed Dreyfuss responding to the six areas identified by Bykov. McElwee shortened Bykov's first point to "Soil contamination" and provided the following summary (which was his "best stab at where thing[s] are as of this time"):

Response: I believe this issue is specifically about underground piping that may be subject to soil contamination. Jay spent a fair amount of time on this issue. The NSA team identified the chemistry drain line as the only line which could have leaked out and contaminated some soil. The pipe has been sealed off, a new line installed to take its place and that is above ground. We have estimated the amount of soil potentially contaminated to be approximately 58 cubic yards and contained under the turbine / admin building floor and surrounded by foundations that go all

the way to bedrock. There are some other buried line – none of which are known to be leaking and none which are under any system pressure.

See Tab 15A, Email from D. McElwee to J. Dreyfuss, copies to J. Thayer, M. Colomb, J. Marshall, K. Bykov and B. Miller re: Potential Issues for Mike, dated May 22, 2009 (ENVYHC01359-60).

McElwee – Does not remember who gave him the information in the paragraph on soil contamination, but he would not have made it up by himself. Understood that the plant had condensate drain lines not under pressure, but does not know who told him. Metell may have told him because Metell was in Montpelier, but he does not remember. Does not think he talked about the substance of the last sentence with anyone who was copied on the email.

Metell – Was possible that McElwee got his information in this paragraph from Metell, although McElwee did not run the answer by him first.

Miller – Received this email, but no specific recollection of discussing it with anyone.

Colomb – Does not recall this email. Soil contamination was a concern. There was no conscious effort to be careful with the statement about underground piping at VY, or to state that it was limited to pressurized or leaking piping.

Thayer – Does not recall this email.

May 22, 2009 – Marshall responded to McElwee's email: "This is a good summary of where NEC appeared to be going." See Tab 10, Email from J. Marshall to D. McElwee, J. Dreyfuss re: Potential issues for Mike, dated May 22, 2009 (ENVYHC01345).

Marshall – Believed that McElwee would have someone at the plant brief Colomb on these issues. Asked his secretary to print this email and put in the conference room to prepare Colomb. No discussion of the "other buried line" with anyone. Did not read that last line as referring to pipes that carried radionuclides.

May 22, 2009 – Colomb responded to McElwee's email: "Dave, Good Summary." See Tab 14, Email from M. Colomb to D. McElwee re: RE: Potential Issues for Mike, dated May 22, 2009 (ENVYHC01357).

Colomb – Recalls the issue of how much contaminated soil, but did not recall these specific emails.

May 23 and 24, 2009 – Follow-up emails became focused on the issue of how much contaminated soil there was as a result of the Chem Lab Drain Line leak. See, e.g., Tab 15, Email from J. Thayer to D. McElwee re: RE: Potential issues for Mike, dated May 23, 2009 (ENVYHC01359) ("Check the numbers – the Chem Sink Drain Line was estimated at 58,000 cu ft. That's what is in my testimony.") (emphasis in original); Tab 19B, Email from M. Colomb to

K. Shufelt, J. Dreyfuss, D. McElwee, H. Metell re: RE: Items for Mike Colomb from Jay's Testimony, dated May 24, 2009 (ENVYHC01370) ("There are 2 numbers for contaminated soil.... Why?"); Tab 19A, Email from D. McElwee to M. Colomb re: RE: Items for Mike Colomb from Jay's Testimony, dated May 24, 2009) (ENVYHC01370) ("The 58000 is from the chem drain line – the 135000 is the total estimated possible for decommissioning [sic] funding estimates."); Tab 20A, Email from J. Thayer to M. Colomb, K. Shufelt, J. Dreyfuss, D. McElwee, H. Metell re: Re: Items for Mike Colomb from Jay's Testimony, dated May 24, 2009 (ENVYHC01372-73) (explaining what the two numbers are and stating: "The important point is that the cost estimate contains a liberal contingency for potential unknowns.").

c. Mike Metell's Request for Information and Summary of Underground Piping

Shortly after Thayer's May 20 testimony, Metell also requested personnel at the plant to gather information about underground piping that carries radionuclides at VY. In addition, Metell responded to Bykov's email and stated that he would provide a summary of underground piping at VY.

i. Metell's Request for Information

May 20, 2009 – after Thayer's testimony, Metell called Guglielmino at VY.

Metell – At the hearing, suspects he had some uneasiness about the testimony due to his knowledge of the scope of piping at VY. Did not say anything to Thayer or the attorneys about his uneasiness. Thought Thayer gave a good answer in a potentially tough area because Thayer referred to pipes carrying liquids. Believes McElwee came to him after Thayer's testimony and said that they needed to chase this down. Dreyfuss may have later requested that he do the same thing.

Called Guglielmino to run down issue on underground piping. Called Guglielmino back, who said Naeck said that there were drain lines off of AOG system. Metell was initially worried about the drain lines, but Guglielmino stated that NSA was not concerned about those. Metell responded "great." He felt better because NSA was not concerned. Metell thought that this information was awkward, but did not call the lawyers about it or talk to Dreyfuss or McElwee about it. There was no discussion about keeping this information from the proceeding.

Discussed with Guglielmino that NSA was not interested in the underground piping and that it was not in the scope of what the NSA team wanted to look at. Guglielmino knew this information because he worked with NSA. If NSA was not concerned, then Metell felt that Thayer's answer was correct in the total scope of things. Also, the lines were not under pressure. No specific recollection of having discussed with anyone other than Guglielmino, but probably would have talked to McElwee.

Guglielmino – Metell called and asked him to contact Bailey and find out information about underground piping and what ENVY reported to NSA regarding underground

pipng. Called Bailey, who said someone had already called him about that and that he was looking into the information. Bailey sent Guglielmino the table and they met and walked through some of the table. Spoke to Bailey about contaminated underground piping and what ENVY told NSA. Bailey did not recall what he said to NSA, but that they did give NSA the matrix and piping drawings. Bailey pointed out the AOG system and Guglielmino asked whether it carried liquids, and Bailey responded "no, gas."

When Metell called Guglielmino back, they discussed that AOG was not an issue because it vents gas. Told Metell what he had learned from Bailey. Does not recall telling Metell what Bailey remembered telling NSA. They did not discuss how it might affect the VPIRG response, although they might have talked about how this related to what ENVY said about not having any pipes. They agreed that they did not have anything that carried liquid and there wasn't anything that was a risk. What was said was not wrong and never talked about fixing it. They did not talk about who else needed to know. Did not discuss Thayer's testimony. Was alright with the idea that there were no applicable pipes. After this conversation, Metell told him to stand down. Received copies of later emails because Metell is in the habit of wanting a back-up for license renewal activities.

ii. Metell's Summary of Underground Piping

May 22, 2009 – After receiving Bykov's email, Metell told Mannai, "I'll work an executive summary on underground piping sometime today." See Tab 13A, Email from H. Metell to D. Mannai re: FW: Items for Mike Colomb from Jay's Testimony, dated May 22, 2009 (7:15 PM) (ENVYHC01355). Later that night of May 22, Mannai asked Metell the status of the executive summary because "This is the only outstanding item!" See Tab 13, Email from D. Mannai to H. Metell re: Re: Items for Mike Colomb from Jay's Testimony, dated May 22, 2009 (9:35 PM) (ENVYHC01355).

May 22, 2009 – At 9:54 p.m., Mannai emailed McElwee, with copies to Colomb and Dreyfuss, a summary of the cooling towers issue, stating: "This was provided earlier via Norm. But in case it didn't I cc Mike and John. Mike Metell is working on exec summary for underground piping." See Tab 28, Email from D. Mannai to D. McElwee, copied M. Colomb and J. Dreyfuss re: Fw: Cooling towers, dated May 22, 2009 (ENVYHC01817).

May 23, 2009 – Metell drafted a one-page summary on underground piping:

Underground Pipe Summary

- The CRA report stated that there are no underground piping systems carrying radionuclides at VY.
- In disclosure, VPIRG EN 4-6 asked if any previously used underground piping system carrying radioactive material leaked. Entergy noted that the Chemistry Lab Drain Line had carried radionuclides and had failed during VYNPC ownership. It was estimated to have conservatively contaminated about 58,000 cu-ft of soil under the Chem Lab. Since it was isolated by concrete and bedrock, VYNPC left it in place and the NRC okay-ed via a SER.

*ATTORNEY-CLIENT PRIVILEGE
ATTORNEY WORK PRODUCT*

- The CRA team talked with Gary Bailey who is the cognizant engineer for underground pipe. [VERIFY WITH GARY]. We understand that Gary discussed:
 - o Radwaste to River Discharge line – This line has not been used since 1981. Since it was used to discharge low radioactive fluids to the river, if it leaked, it would be inconsequential.
 - o CST to Radwaste line – Is in a trench.
 - o Piping to RW Hold Tanks (East Side) is above ground.
 - o AOG piping – Carries radioactive noble gases to the stack for release. Some of the gas decays into solid material.
 - o Drain lines from AOG, SBT, and Stack Sump return condensed water underground to Radwaste Equipment Drain Sump. Isotopes in this water would be dissolved gases which would have been allowed to be discharged to atmosphere.

- One problematic statement – VPIRG asked if there had been underground piping systems carrying radionuclides at VY in the past. We could have answered the above bullet, but did not.

See Tab16A, Document from Metell's computer, dated May 23, 2009 (ENVYHC01368); Meta-data shows Metell created it at 21:10 and last modified it at 16:00 on May 24, 2009. See Tab 18D, Screenshot of Metadata, dated May 23, 2009 (ENVYHC01678).

May 23, 2009 – Late at night, Metell emailed the document to Mannai stating “I would like to run this by Gary Bailey, as I have cobbled this information from several sources relating to some of his work. I will try to reach him tomorrow during the day.” See Tab 16, Email from H. Metell to D. Mannai re: Underground Piping Summary, dated May 23, 2009; Attachments: Underground Pipe Summary.doc (ENVYHC01362).

Metell – “cobbled . . . from several sources” means that he received it from Guglielmino’s phone call, who told him what Bailey had said.

May 24, 2009 – Mannai responded to the Metell email, stating: “Ok but I would like to get this to Mike Colomb today.” See Tab 18A, Email from D. Mannai to H. Metell re: Re: Underground Piping Summary, dated May 24, 2009 (ENVYHC01367).

Mannai – Had to fill in Colomb about the issues. Knew of Skibniowsky and Bailey’s work and thought that they were distributing a lot of good detail, including Bailey’s table. Received the Metell May 23 email. Focused on getting this information to Colomb. Does not remember the attachment or that it created any inconsistency. Metell sent this to Mannai as coordinator, not for him to validate. Thought it was good that others were helping Bailey because Bailey was fairly new. Spoke with Metell and told him to make sure he got the information and to validate the statements.

Understood that they could expect a question about underground piping that carried radionuclides; not just about the Chem Lab Drain Line. Did not recall any concern being expressed about the NSA Report or the VPIRG response. Never saw or read Thayer’s testimony on this issue. No conversation about limiting the answer to liquid, not gas.

May have been some conversation with Metell about having to be careful regarding underground pipes that carried radionuclides. There was a potential concern regarding what they had said previously and that Gundersen was concerned about underground stuff. Mannai agreed that "carefully parsed" is a good way to describe the approach. Mannai talked with Metell that weekend and felt that the information was incomplete.

Subsequent to this, he remembered that he did not want an inconsistency, he believes, with the VPIRG response. Believes that either Metell or McElwee would have brought up the subject of inconsistency, but does not recall specifically. Does not recall if the inconsistency was about testimony. Wanted to get the right information to Colomb. Words were going to be chosen pretty carefully about this information. Did not remember focusing on previous statements – just to be careful about characterizing the underground piping carrying radionuclides. They needed accurate information for Tuesday and they needed to be careful about characterizing it.

May 24, 2009 – Metell emailed a revised Underground Pipe Summary to Mannai, stating:

I talked with Gary Bailey today. Gary confirmed that he talked with the NSA team, but mostly on a programmatic level on underground piping. NSA didn't specifically discuss underground radioactive piping except briefly on the Chem Lab line, and how that was not in Gary's program as it was not active.

Please see the modified outline attached. It appears that we may have overstated answering VPIRG EN 4-6 Part a, unless you consider the function of the AOG, SBT, and Stack sump condensed water return lines as returning primarily water.

See Tab 18, Email from H. Metell to D. Mannai re: RE: Underground Piping Summary, dated May 24, 2009 (5:02 PM) Attachments: Underground Pipe Summary.doc. (ENVYHC01367). The attachment to the May 24 email sent at 5:02 pm modified the third paragraph of the earlier attachment to read:

- The CRA team talked with Gary Bailey who is the cognizant engineer for underground pipe. Gary discussed his underground pipe program in general terms with the CRA team.
- Gary indicated to Peter G and me, that the following underground lines exist:

Metell – Wrote the Underground Piping Summary based on what Guglielmino told him. Revised it after talking with Bailey on Sunday, but did not have the document in front of him, so did not go through it point by point. Asked Bailey what he said to NSA, and Bailey said he did not get into specifics. Asked whether NSA talked to Bailey about underground pipes that carried radionuclides and Bailey responded that he did not talk to them in those terms. Metell thought that was unfortunate and so wrote this email. This probably made him a little more uneasy with Thayer's testimony.

Copied the lawyers because they were involved in prep of witnesses. Did not think to include Marshall or Johnson, who were actually prepping Colomb. Copied Mannai and Dreyfuss because they were riding up with Colomb for the testimony on Tuesday.

No hotter issue for him than this one during Memorial Day weekend. Does not recall, but probably talked to Mannai about being uneasy. There was never any conversation about not letting this get out, keeping it from the proceeding or not derailing the proceeding. Cannot explain why he did not raise this as a huge issue. No conversation about potential consequences if this information came out. No one told him to keep it quiet. Did not send directly to Colomb because he does not usually send things to VPs. Could have raised this issue better, but there was no conspiracy to hold this back.

As to the language in the cover email about the response being "overstated unless you consider," the logic included in that sentence eliminates some of the bullets that were contained in his list in the Underground Piping Summary document. Also, if you apply his logic that the question is limited by the context of "of concern to the NSA," all of the items listed in the Summary fall out.

Mannai – Gave the Chem Lab Drain Line information to Colomb, but does not know if the underground piping information ever went to Colomb. He remembers feeling that this information was incomplete, but he does not recall following-up on this and does not know why he did not. It may have just fallen off his radar screen. Did not intend to withhold from Colomb. Does not know why he did not forward this email to Colomb. Thought he had dumped everything that Colomb needed on his lap. No discussion about withholding this information from Colomb or that Colomb did not need to see this.

Did not recall getting this to Colomb on Tuesday morning, but Mannai may or may not have done so. They got a lot of information to Colomb. Mannai had the thought that the inaccuracy in the response to VPIRG:EN 4-6 would get fixed, although he did not know of the specific inaccuracy. Does not remember talking with Dreyfuss that Tuesday morning. Believed that all the information got to Colomb.

McElwee – Does not know if he ever read the Underground Piping Summary. Was at vacation home and does not recall working over the Memorial Day weekend. If it did not pertain to him, he would not have paid a lot of attention to it. Definitely did not discuss with anyone the topic of the VPIRG answer being wrong. Sent this issue to Mannai who was at VY making sure that the information got to the right people. Does not recall any discussion with Mannai about this. This email was copied to the right people, including Dreyfuss, who was riding up with Colomb. If he had thought that there was a problem with a VPIRG response, he would have contacted Marshall.

Dreyfuss – Does not remember opening the Underground Piping Summary; never seen it before we showed it to him. Does not recall the Metell email, which referred to "overstating" our response to VPIRG. Does not recall any discussion about this. Did not discuss with Colomb and did not talk to Metell about the email or the attachment. Does not recall being alarmed about this issue.

Guglielmino – Did not provide direct input for the Underground Piping Summary, but some of the information might be Metell’s interpretation of Guglielmino’s discussion with Bailey. Did not recall seeing the “one problematic statement” in the attachment. Did not discuss this issue with anyone on the email except with Metell. Did not discuss with anyone that there was a need to clear up Thayer’s testimony. Believed at the time that, excluding gaseous piping, the answer to VPRIG 4-6 was correct.

Bailey – Remembers talking to Metell but does not recall discussing specific lines or what was discussed with NSA. Does not remember seeing the Underground Piping Summary document and is not likely to have looked at it over the Memorial Day weekend. Some details in the Summary did not come from him, e.g., at the time he did not know that the radwaste line was inactive. Does not recall any discussion of the VPIRG response with Metell. Thought he was providing clarification of the buried piping program, not background for testimony. Does not think he discussed the Chem Lab Drain Line with Metell because it was not within Bailey’s table.

Miller – Did not recall reviewing either the May 24 Metell email or the attachment. His electronic records indicate, however, that he did open the email because he placed a follow-up flag on it. Suspected that he did so on Monday morning because he worked early on Sunday of Memorial Day weekend, not late when this came in. Electronic records also indicate that on Friday, May 29, 2009, he placed the email in the Filesite storage system at DRM. He did not recall doing so. Electronic records confirm he did not forward this email to anyone including Marshall and Johnson. Had the email registered, he would have sent it to Marshall and Johnson. Did not discuss this with Bykov or anyone else. Did not ignore to avoid delay of the proceeding – they had been correcting answers and supplementing discovery throughout the proceeding. Metell should have known that Miller was not responsible for Colomb’s prep. Metell would not hesitate to contact Marshall on other things.

Colomb – Never saw or read the email or the attachment. (He was not copied on it.)

May 26, 2009 – In the morning, Guglielmino emailed the Metell chain with Underground Piping Summary document to Wayne Limberger, stating: “This shuffle of emails occurred last week. Has Mike or Dave discussed this with you?” See Tab 23B, Email from P. Guglielmino to W. Limberger re: FW underground piping summary, dated May 26, 2009 (ENVYHC01431).

Guglielmino – Wanted to make sure that Limberger was not duplicating efforts and they were working together. Knew that Limberger had pulled out documentation related to the Chem Lab Drain Line leak and the VPIRG response.

May 27, 2009 – Limberger replies to Guglielmino that he had not discussed this and that “There doesn’t seem to be a good record of VPIRG Round 4 responses in our electronic folders, at least not that I can find.” See Tab 23A, Email from W. Limberger to P. Guglielmino re: RE: Underground Piping Summary, dated May 27, 2009 (ENVYHC01431). Later that same day, Metell emailed Limberger, stating “Wayne – we are now OK on this item. We should talk but

we had a couple of twists that we had to handle over the weekend.” See Tab 23, Email from H. Metell to W. Limberger re: RE: Underground Piping Summary, dated May 27, 2009 (ENVYHC01431).

Limberger – Did some digging on the Chem Lab Drain Line leak and the amount of contaminated soil. Did not recall knowing that Colomb was testifying. Received the email at home and called Metell to ask what he should do. Metell said nothing at the moment. Does not recall seeing the Underground Piping Summary document. Did not recall the twists and did not consider it further when he did not have to do any work on it.

Metell – “Twists” were probably the discussion of open lines. Does not recall talking with Limberger. The issue had been closed.

McElwee – Does not remember this email or having a conversation regarding the content of the email.

Guglielmino – Did not know what the twist was.

d. Garry Young’s testimony

May 20, 2009 – Miller, who was responsible to prepare Garry Young for testimony, sent an email stating: “In preparation for Mike Colomb’s testimony, I think it would be useful for Mike to be aware of this situation at Oyster Creek and to confirm that the VY condensate system piping IS accessible for inspection unlike at Oyster Creek.” See Tab 24B, Email from B. Miller to D. McElwee, J. Dreyfuss re: FW: Oyster Creek-Lawmakers need to weigh in on Oyster Creek, dated May 20, 2009 (ENVYHC01433) (Capitalization in original). Later that day, Young emailed about an issue that arose during his testimony about the leaks in underground piping in the condensate system at Oyster Creek. See Tab 24C, Email from G. Young to H. Metell, J. Thayer, D. McElwee, K. Bykov, W. Glew, B. Miller, L. Smith re: FW: Oyster Creek-Lawmakers need to weigh in on Oyster Creek, dated May 20, 2009 (ENVYHC01433).

Miller – Thought the issue could come up in Colomb’s testimony so he forwarded it. Did not recall any conversations about the email or the subject.

Johnson – Marshall told him to print this email out and put it in the Colomb prep folder.

May 22, 2009 – Dreyfuss responded that he would brief Mike Colomb on the Oyster Creek issue. See Tab 26, Email from J. Dreyfuss to B. Miller and D. McElwee re: RE: Oyster Creek-Lawmakers need to weigh in on Oyster Creek, dated May 22, 2009 (ENVY0101685).

e. Final preparation of Colomb

May 25, 2009 – Johnson of DRM emailed Thayer, Colomb, Dreyfuss and McElwee (cc: Marshall, Miller, Glew, Bykov) with a brief “digest of the highlights of Jay’s testimony.” It has at the relevant pages “contaminated soil” as a description. See Tab 20, Email from B. Johnson to

M. Colomb et al. re: RE: Items for Mike Colomb from Jay's Testimony, dated May 25, 2009 (ENVYHC01372).

May 26, 2009 – Colomb drove from Vermont Yankee to Montpelier to testify. Dreyfuss was with him in the car.

Colomb – Does not recall talking about underground piping during the drive up. Believes he met Dreyfuss at the ENVY office in Brattleboro, not at the site.

Dreyfuss – Only thing related to underground piping discussed was the Chem Lab Drain Line leak – may have called Skibniowsky from the car that morning to get the background on it. Did not remember discussing with Colomb the issue of underground piping that carries radionuclides, but stated it was possible that he told Colomb that VY had underground pipes. He did not discuss Metell's May 24 email or the contents. His focus was on getting Colomb smart on decommissioning, the Chem Lab Drain Line leak and other issues. He did not discuss with Colomb harmonizing the testimony or a possible overstatement of the response to VPIRG.

LeFrancois – Remembers prepping Colomb once in Colomb's conference room and he thought it was on the morning of Colomb's testimony. He thinks that Bill Rice or Bailey was with him. It was about flow-accelerated corrosion or piping – he did not recall. No calendar entry confirms this and no one else remembers this meeting. LeFrancois stated it was a brief on the BPTIP for Colomb and what the BPTIP had in it. They spoke about the content of the program. The discussion did not include Metell's Underground Piping Summary because he has never seen it. Bailey does not recall this meeting or ever prepping Colomb. Rice did not participate in this kind of meeting with LeFrancois and Colomb. Dreyfuss does not recall this.

Mannai – Recalls possible discussion in the hallway with Colomb on the morning of Colomb's testimony. Does not remember talking about underground piping. He would have asked if Colomb had all the information he needed. Does not remember LeFrancois being there.

May 26, 2009 – Colomb had a short prep session at the DRM offices in Montpelier before testifying. Marshall, Dreyfuss, McElwee, Bykov and, for a short time, Johnson were present.

Colomb – Was not present at Thayer's testimony but did go over the testimony and was told the concern was a breached pipe. Was a focus in the prep session – was told that he needed to know the Chem Lab Drain Line leak and how much contaminated soil because it was not responded to completely before. No concern raised as to the existence of underground piping that carried radionuclides or being consistent with previous answer on that.

Johnson – May have spent at most an hour in that prep session before leaving for the hearing. He believes Bykov, McElwee, Metell and Marshall were present. He was not sure whether Glew was present at that prep session.

Marshall – No discussion of avoiding an issue about underground piping because of potential delay. This was not a significant issue and everything he understood was consistent with the Response to VPIRG:EN 4-6.

Dreyfuss – The issue related to underground piping did not come up during the prep session at the DRM office in Montpelier – decommissioning costs were the hot issue.

McElwee – Does not recall any discussion of underground piping at this prep session; did discuss contaminated soil from Chem Lab Drain Line leak.

May 26, 2009 – Colomb testified as stated above regarding the Chem Lab Drain Line leak and did not refer to any other underground pipes that carry radionuclides at VY.

May 26, 2009 – Bykov's contemporaneous notes from the hearing provide:

Soil Contamination

- Chem lab to radwaste bldg.
- ? - depth of pipe

See Tab 27, K. Bykov Notes, dated May 26, 2009 (ENVYHC01803).

Colomb – Does not recall if that was his entire answer or whether he was going to add anything before the follow-up questions came from the Board.

Dreyfuss – Colomb's response did not stand out to him.

Metell – Did not know if his information got to Colomb. He had no discussion with anyone about Colomb's testimony.

May 26, 2009 – Glew provided a short summary of Colomb's May 26 testimony, which does not mention anything about soil contamination or underground piping. See Tab 22, Email from W. Glew to M. Colomb et al. re: VY Continuing Ops CPG hearing – Day 5 report (Week 2), dated May 26, 2009 (ENVYHC01429). His contemporaneous notes from Colomb's testimony stated:

- underground piping – radionuclides
 - where is line?
 - under chem lab bldg.-
- ** - cld pipe be more than 3 feet below ground?
 - cleanup for decomm.

See Tab 29, Glew Notes from Colomb's 5/26/09 Testimony (ENVYHC01821-22).

3. Analysis & Conclusion

After Thayer's testimony on Wednesday, May 20, 2009, two separate ENVY personnel who attended the hearing, McElwee and Metell, identified a question posed to Thayer on underground piping carrying radionuclides as a potential issue for Colomb's testimony set for May 26, 2009. ENVY personnel at the plant gathered information that identified several underground pipes that carried radionuclides. In addition, two ENVY personnel identified the possible inconsistency of that information with either (1) Thayer's testimony, or (2) ENVY's response to VPIRG:EN 4-6. Despite identifying the possible inconsistencies, ENVY personnel failed to properly prepare Colomb for his testimony to explain in detail the underground piping that existed at ENVY, failed to provide the PSB complete information about underground pipes that carried radionuclides in the wake of Thayer's testimony, and failed to correct or clarify the ENVY response to VPIRG:EN 4-6.

The investigation did not substantiate that Colomb intended to mislead the PSB or others when he testified on May 26 in response to the question about underground piping. In addition, although ENVY personnel failed in their responsibilities to properly prepare Colomb, and in their responsibilities to ensure the accuracy of both ENVY's discovery responses and the record before the PSB, for reasons described below, the investigation did not substantiate that these failures resulted from an intent to mislead the PSB or the other parties to Docket No. 7440.

a. Colomb

Colomb denied that he intended to mislead the PSB in his testimony. He explained that the focus of his testimony and his preparation was on making sure that existing contamination was manageable. He also was told in his preparation that the main issue regarding underground pipes was about the breached Chem Lab Drain Line. Colomb stated that the context of the questioning supported what he thought the aim of the question was – how much contaminated soil existed at VY and would have to be remediated. Thus, he was narrowly focused when he responded to the question. He stated that he did not remember any preparation regarding the pure question of whether any contaminated underground pipes existed at VY.

Colomb's explanation for why he answered the question the way he did is supported by the evidence. First, the context of the testimony supports that the issue was soil contamination. DPS Counsel Hofmann stated that there was "one question referred to you from Mr. Thayer the other day . . ." She then stated: "The discussion was about underground piping and possible contamination. He thought you would know the answer, so do you know if there's any underground piping at Vermont Yankee carrying radionuclides?" Thus, as presented to him, the context was soil contamination, as he was prepared to expect (see below). When he responded with the Chem Lab Drain Line leak information, the follow-up questioning focused on the particulars of that line.

Second, the prep sessions for Colomb's testimony did not focus on the issue of the existence of underground piping that carried radionuclides. Instead, to the extent they discussed underground piping, it was in the context of soil contamination from the Chem Lab Drain Line leak. The

testimony and contemporaneous records of attorneys and Entergy personnel who attended Colomb's prep sessions all confirm this. Decommissioning costs, soil contamination and the Chem Lab Drain Line were a major focus.

Third, no ENVY person or representative interviewed remembers a conversation in which the issues that were identified (apparent inconsistency with Thayer's testimony and response to VPIRG:EN 4-6) concerning the existence of underground piping that carried radionuclides were discussed with Colomb. LeFrancois remembers a briefing on the morning of Colomb's testimony in which he discussed the BPTIP and what was in it, but did not discuss either of the two issues identified (because he did not know of those issues). (Colomb does not recall such a briefing.) Dreyfuss stated that it was possible that he told Colomb that VY had underground pipes, but does not specifically recall that and affirmatively states that he did not raise inconsistency as an issue with Colomb. Mannai does not recall giving Colomb the information on underground piping that carried radionuclides, and affirmatively states that he did not raise inconsistency as an issue with Colomb.

The investigation found two emails on which Colomb was listed as a recipient that could be interpreted as raising the existence of contaminated underground piping as a stand alone issue. McElwee's May 20, 2009 email stated that Colomb could be "asked during [his] testimony up here if we have any underground piping carrying contaminated material. We have said no but used to have a chemistry sink drain line that was leaking back in the 80's but has been abandoned once it was identified it was leaking." See Tab 4F, Email from D. McElwee to M. Colomb, J. Dreyfuss, D. Mannai re: FW: underground piping, dated May 20, 2009 (ENVYHC01243). It also suggested that chemistry could give supporting documents to brief Colomb. Colomb also was copied on an email from Mannai to McElwee that forwarded information on the cooling towers and stated: "Mike Metell is working on exec summary for underground piping." See Tab 28, Email from D. Mannai to D. McElwee, copied M. Colomb and J. Dreyfuss re: Fw: Cooling towers, dated May 22, 2009 (ENVYHC01817). Neither email highlighted that there was an inconsistency or a particular issue about the existence of contaminated underground piping. The only other chain that included Colomb was the discussion about how much contaminated soil existed due to the Chem Lab Drain Line leak. Thus, the focus of the emails that he received was on the Chem Lab Drain Line leak and not the existence or non-existence of other underground piping that carried radionuclides.

b. ENVY Personnel

Although the Investigation did not substantiate that Colomb intended to mislead the PSB, the evidence uncovered required the Investigator to determine whether other ENVY personnel intended to mislead the PSB by their actions or inactions. Several individuals understood, or had sufficient information to recognize, the apparent inconsistency between the information that was being gathered with respect to underground piping that carried radionuclides and (1) what Thayer had stated in his testimony on May 20, 2009, and (2) what ENVY had responded to VPIRG:EN 4-6 in January 2009. As to the inconsistency with Thayer's testimony, on May 20, 2009, Jeff Meyer stated clearly after receiving Bailey's information about potentially contaminated underground piping – "I am not sure how this corresponds to previous testimony that Dave mentioned, that said there was none." Meyer copied his superior McElwee on this

email and McElwee sent it on to Dreyfuss. Thus, both McElwee and Dreyfuss, who were present at the hearings should have had an understanding of the apparent inconsistency with Thayer's testimony.

As to the inconsistency with the VPIRG response, Metell prepared an Underground Piping Summary and the May 24 evening email that specifically raised the issue with VPIRG:EN 4-6 ("we may have overstated our response" in the email and "One problematic statement" in the document). This email went to Mannai, McElwee, Dreyfuss and two attorneys – Bykov and Miller.

Instead of ensuring that witnesses testifying on behalf of ENVY and the Public Service Board were aware of these apparent inconsistencies, ENVY personnel either rationalized away the inconsistency or downplayed it so that there was no true inconsistency left. This section discusses those ENVY individuals who had some responsibility to ensure that this issue was properly raised. Although others (Bailey, Skibniowsky, Hardy, Meyer and Guglielmino) were involved in gathering information related to this issue, the investigation found that the individuals below were ultimately responsible for how ENVY responded to the issue.

Mannai – Mannai was designated to coordinate getting information to Colomb. He stated that it was his responsibility to make sure Colomb received the information about the underground piping. On May 22, 2009, he told McElwee, with copies to Colomb and Dreyfuss, that Metell was working on an executive summary for underground piping. Again, on May 24, he told Metell that he wanted to get the information on underground piping to Colomb on that day. Mannai further understood that there was some issue about being consistent with the VPIRG:EN 4-6 response. Yet he did not follow-through when Metell sent him the final email with the Underground Piping Summary. Mannai recalled that he believed the information Metell sent was an incomplete product, but he cannot explain why he did not follow-up to ensure that it was complete, or forward it to Colomb. Mannai clearly did give other information to Colomb, so his failure to do so here is troubling. He did not recall why he did not do so. He stated that it may have dropped off his radar screen. He noted that Dreyfuss and McElwee were copied on the email as well and that they would be preparing Colomb for his testimony. Nonetheless, Mannai stated that it was his responsibility to get this information to Colomb.

Metell – Metell clearly understood the issue from Thayer's testimony because he was uneasy when he heard it and he was troubled when he learned of drain pipes off the AOG system. Instead of immediately raising a red flag to the highest level, Metell rationalized away the inconsistency by assuming that NSA was not concerned with those drain pipes when it reviewed the underground piping at VY. Metell believed that there would have been a goal of being consistent with how NSA viewed the underground piping at VY – that is, that there was none of consequence. The intent was to focus as NSA had focused. Although he stated that there may have been a discussion about NSA writing the statement and that ENVY should be consistent with what NSA wrote, he does not recall any specific conversations he had with anyone about that goal. He thinks he may have discussed this with McElwee, Bailey and/or Guglielmino. He did not discuss that subject

with Mannai, Dreyfuss, Bykov, Miller, Johnson, Marshall, Grace, Meyer, Hardy, Rogers, Thayer or Colomb.

Metell's desire to downplay the issue is evident in his May 24, 2009 email that attached his Underground Piping Summary. Instead of directly raising the issue, he stated: "It appears that we may have overstated answering VPIRG EN 4-6 Part a, unless you consider the function of the AOG, SBT, and Stack sump condensed water return lines as returning primarily water." Thus, he gives an apparent "out" for the issue he raised. Given Metell's understanding that there was a context to the ENVY response to VPIRG:EN 4-6 (*see* above Issue No. 5), his conduct here is especially troubling, although consistent with his view that it was NSA's interpretation that ENVY should support. Metell conducted no follow-up with DRM even though he was in charge of the discovery responses to the VPRIG's Fourth Round requests. Metell merely assumed that others would act appropriately on the information that he was providing, without ensuring that the issue was clearly understood.

McElwee – Between May 20 and 26, 2009, McElwee was involved in directing people to collect information regarding underground piping that carries radionuclides. Although he forwarded the information to his superior, Dreyfuss, McElwee does not recall any discussion with Dreyfuss about all the information regarding underground piping that carries radionuclides. He stated that he wanted to make sure that Colomb was prepared, but he does not remember doing anything to follow-up his emails. He agreed that one of his responsibilities was to make sure both Colomb and Thayer received correct information on this issue. He did not do anything to correct Thayer's testimony and he had no discussion about the interpretation of the question being necessary to understand the answer.

By the time Colomb testified, McElwee also apparently understood that there was a context to the answer that ENVY with regard to the existence of underground piping that carried radionuclides. Yet he did not alert anyone to the issue – not Thayer, not Colomb and not the attorneys representing ENVY. McElwee appears to have simply failed to follow-through on this issue and, instead, assumed that others would inform Colomb.

McElwee's position as liaison between ENVY and the State also places additional responsibilities on him to ensure that ENVY communicates accurately with the State, including the PSB. McElwee did not seek to clarify the context of either the Thayer testimony or the response to VPIRG:EN 4-6.

Dreyfuss – Between May 20 and May 26, 2009, Dreyfuss was copied on emails that raised the issue concerning the presence of underground piping that carries radionuclides at VY in the context of Thayer's testimony and the response to VPIRG:EN 4-6. Dreyfuss stated that although he does not recall the specific emails, he did not see the presence of such underground piping as an issue. He stated that he is not sure whether definitions of "radioactive" or "reliability" affected the way he viewed those emails. He does not recall any discussion about having to have a certain interpretation to understand ENVY's responses.

Given his receipt of emails, Dreyfuss had the opportunity to ensure that Colomb was properly prepared for this issue and to ensure that Thayer's testimony could be reviewed within the context of the information on underground piping that carried radionuclides. Dreyfuss, however, did not do so. Dreyfuss appears to have relied on others, and did not ensure that this was accomplished.

Dreyfuss's position as a Director, Nuclear Safety Assurance, and Management Sponsor for the CRA also places additional responsibilities on him to ensure that ENVY communicates accurately in the proceeding. Despite having received multiple emails that raised potential issues with Thayer's previous testimony and Colomb's upcoming testimony, Dreyfuss did not act on such information.

Bykov – The Investigator has not yet interviewed Bykov, although has plans to do so. Bykov was copied on Metell's May 24 email with the Underground Piping Summary that was attached. Bykov also was involved in preparing the response to the VPIRG:EN 4-6 request. Moreover, she received McElwee's May 22 response to her six issues that included a reference to "some other buried line – none of which are known to be leaking and none which are under any system pressure."

Glew – Glew was involved in the preparation for both Thayer and Colomb. He attended Thayer's testimony but did not follow-up with Thayer in terms of why he paused so long before responding to the question about underground piping that carries radionuclides.

According to all of these individuals, there was no discussion about keeping this information from Colomb or from the PSB proceeding. They stated emphatically that there was no intent to keep anything from the proceeding.

The failures this report identified are serious. Nonetheless, the investigation did not substantiate that the individuals identified above had the intent to mislead the PSB or other parties about the existence of an underground piping system that carries radionuclides.

c. DRM attorneys

In addition to ENVY personnel, Miller of DRM received Metell's May 24, 2009 email with the Underground Piping Summary attachment. Although Miller was not assigned to prepare Colomb and he received the email on Sunday evening of the Memorial Day weekend, he clearly opened it and flagged it and later in the week filed it. Thus, he had an opportunity to identify this as an important issue and he failed to do so. The Investigation did not substantiate that Miller intended to mislead the PSB by ignoring the email. Miller was the first to provide the Metell May 24 email to the Investigator and seemed genuinely surprised to have found it in the DRM files. It appears that he simply did not understand at the time the full import of the issue the email raised.

In addition, as discussed in Issue No. 5 above, Marshall and Johnson received information in March 2009 from Metell that discussed the "context" for understanding the response to

VPIRG:EN 4-6. Neither Marshall nor Johnson, however, identified that this context should be explained in testimony by Thayer and Colomb. The prep sessions did not address the context issue at all. Even though he was uncomfortable with Thayer's response to the question during testimony, Marshall again did not seek to determine what the issue was and whether there was additional context that should have been explained. The Investigator did not substantiate that either Marshall or Johnson intended to mislead the PSB in their actions or failure to act.

I. Issue No. 9: Did David McElwee intentionally mislead Arnie Gundersen when McElwee responded to Gundersen's August 13, 2009 question about underground piping carrying radionuclides at ENVY?

1. Issue

In July 2009, the Vermont Legislature's Joint Fiscal Office ("JFO") contracted with A. Gundersen to review the progress made by ENVY toward addressing the challenges identified in the CRA. Gundersen requested information from the DPS nuclear inspector and sent him an email stating: "I am aware of other underground pipes (other than the chemistry drain line) that are contaminated based on ENVY's own statements in published reports ... would you please ask ENVY to either elaborate on their previous statements that no such lines exist or to identify additional lines." See Tab 9A, Email from A. Gunderson to U. Vanags re: RE: Final Matrix & invitation for update, dated August 12, 2009 (ENVYHC01583).

DPS eventually forwarded the question to McElwee to address. See Tab 9, Email from U. Vanags to D. McElwee re: FW: Final Matrix & invitation for update, dated August 12, 2009 (ENVYHC01583). McElwee responded to Gundersen:

As for your outstanding question on underground piping goes, Act 189 requested that an underground piping system carrying radionuclide's (sic) be part of the inspection. Other than piping carrying gaseous material (with very low amounts of contamination and no median to contaminate the ground water which was the intent of this item from the legislature) we have none. Since this is not an item active in the review of CRA recommendations, we consider this issue closed.

See Tab 12B, Email from D. McElwee to A. Gunderson re: [blank], dated August 13, 2009 (ENVYHC01592-93). The issue is whether McElwee intended to mislead Gundersen by providing the above response to the question about an underground piping system that carries radionuclides.

2. Chronology

May 14, 2009 – ENVY submitted to the NRC its 2008 Annual Radiological Environment Operating Report (Annual Radiological Report) providing a summary and analysis of the radiological environmental data collected for the calendar year 2008. As had been the case in previous Annual Radiological Reports, copies were provided to DPS and the Vermont

Department of Health, Division of Radiological Health (VDH). Similar to previous reports, the 2008 Annual Radiological Report identified, among other things, detectable Cobalt-60 (a radionuclide byproduct of reactor plant operation) in a subset of samples taken of storm water drain system sediment. The report concluded that in no case did the detected level of radionuclides exceed the most restrictive federal regulatory or plant license limit for radionuclides in the environment:

Several sediment samples from onsite locations (from the plant storm drain system) had low levels of radioactivity resulting from emissions from the Vermont Yankee plant. In all cases, the possible radiological impact was negligible with respect to exposure from natural background radiation. In no case did the detected levels exceed the most restrictive federal regulatory or plant license limits for radionuclides in the environment. Measured values were several orders of magnitude below reportable levels

See Tab 1A, Attachment 1, Vermont Yankee Nuclear Power Station 2008 Annual Radiological Environmental Operating Report, dated May 14, 2009, at 112 (ENVYHC01560).

July 24, 2009 – Gundersen sent an e-mail titled “information request #2” to Vanags, Hofmann, O’Brien and Webster, with copies to (Senate President) Peter Shumlin and (Speaker of the House) Shapleigh Smith, no copies to ENVY personnel:

On page 24 of the POP report, we reported to the Vermont Legislature in March 2009 that: “The Panel was informed that there were no systems with underground piping that carry radioactivity at VY.” This statement was based on NSA’s assurances to the POP which in turn were based on ENVY’s statements to NSA. I have since become aware that there may be underground pipes that do indeed carry radioactivity at VY and am trying to understand this apparent discrepancy between the published ENVY reports indicating radioactive underground piping and what we said in the POP report.

Could you please ask ENVY to confirm in writing the following SPECIFIC question: “*Is there underground piping that carries radioactivity at VY?*” If, for some reason, the POP misunderstood NSA and ENVY and there is, in fact, underground piping that carries radioactivity, I would like ENVY to list those underground pipes it is aware of that may contain radioactivity.

See Tab 6D, Email from A. Gundersen to U. Vanags et al. re: information request # 2, dated July 24, 2009 (ENVYHC01577) (emphasis in original).

July 27, 2009 – Vanags replied to Gundersen, with copies to all plus to DPS consultant Hinkley, Allhouse of NSA, and McElwee of ENVY. Vanags congratulated Gundersen on his recent

appointment by the Joint Fiscal Committee, invited him to meet, and informed him of a planned meeting at the site. With respect to the information request, Vanags said:

In addition, the Department believes it will be more efficient and less prone to miscommunication if your questions are given directly to Vermont Yankee rather than going through the Department. I copied Dave McElwee to this email as the person at the plant who can help you.

See Tab 2, Email from U. Vanags to A. Gundersen re: RE: information request #2, dated July 27, 2009 (ENVYHC01562).

July 29, 2009 – Gundersen replied to Vanags and McElwee, with copies to Hinkley, Woyshner, Allshouse and Hofmann, stating that he did not have confirmation that McElwee should be his contact at ENVY and noting that his original question had not been answered. See Tab 6C, Email from A. Gundersen to D. McElwee, U. Vanags re: Re: Thanks Uldis, dated July 29, 2009 (ENVYHC01575). Vanags responded that McElwee was on vacation and that Gundersen likely would hear from McElwee on Monday. See Tab 6B, Email from U. Vanags to A. Gundersen re: [blank], dated July 29, 2009 (ENVYHC01575).

Early August 2009 – Entergy and ENVY personnel discussed how to accommodate and interface with the new legislative oversight by Gundersen in his new role. Entergy and ENVY personnel considered various options with respect to coordination among ENVY, DPS and Gundersen, and considered protocols for information sharing. Thayer advocated for providing as much accommodation as reasonably possible out of deference to the Legislature and to honor a request for cooperation he received from DPS Commissioner O'Brien. ENVY personnel at the site including Colomb and Dreyfuss were concerned about the burden on site personnel and the potential chilling effect that the anticipated agenda-driven oversight would have on the willingness of people working at the site to raise concerns and identify issues. Several options were discussed including asking Gundersen to sign a confidentiality agreement to protect ENVY proprietary information from unauthorized release to third parties. See Tab 3, Email from W. Glew to S. Agresta re: Another potential Vermont crisis, dated Aug. 3, 2009 (ENVYHC01565-66); Tab 4, Email from W. Glew to S. Agresta re: Vermont problem -- decision required by 3 pm Weds., August 5th, dated Aug. 3, 2009 (ENVYHC01567-69); Tab 5, Email from W. Glew to S. Agresta re: Revised Gundersen email, dated Aug. 4, 2009 (ENVYHC01570-73).

August 7, 2009 – On Friday morning, Gundersen emailed Vanags, with copies to McElwee, Hinkley, Woyshner, Allshouse and Hofmann, stating: "This is my third request for the same information . . ." See Tab 6B, Email from A. Gundersen to U. Vanags et al. re: third try, dated Aug. 7, 2009 (ENVYHC01575).

August 7, 2009 – That afternoon, McElwee responded:

Hello Arnie. I am in receipt of your e-mail and can tell you that we have been working internally and with the Department on how we will be interfacing with you on the follow-up to the NSA recommendations. We believe we have a positive workable approach to close out the

recommendations that we can put in place within the next few days. We will then be in a position to address any questions you have on the CRA recommendations. Regards,

See Tab 6, Email from D. McElwee to A. Gundersen re: [blank], dated Aug. 7, 2009 (ENVYHC01574).

August 7, 2009 – Gundersen replied, with copies to Vanags, Dreyfuss, Hofmann and Shumlin:

Thanks for the reply, Dave . . . It looks like soon I will be able to begin reviewing ENVY material, and that is good news. My legislative charter is somewhat broader than “following up on the NSA recommendations” and the Department has already suggested that I contact you directly on my specific concerns. We can have that discussion when I am allowed to see if your “workable approach” that you might be suggesting next week will address the entire legislative mandate, not just the “CRA recommendations.” Have a good weekend.

See Tab 6, Email from A. Gundersen to D. McElwee et al. re: Communication with ENVY, dated Aug. 7, 2009 (ENVYHC01574).

August 11, 2009 – Entergy and ENVY management still were considering the ENVY-Gundersen interface protocol and Entergy counsel prepared a draft confidentiality agreement. See Tab 7, Email from J. Cho to J. Thayer, D. McElwee, W. Glew and J. Dreyfuss re: RE J Cho’s comments Gundersen letter 8-6-09 draft (2), August 11, 2009 (ENVYHC01578).

August 12, 2009 – On Tuesday morning, Gundersen wrote to Vanags, Hinkley and Woysner, with copies to S. Klein and M. Obuchowski, thanking DPS and NSA for including him in their planning and for offering to brief him. He noted that ENVY and McElwee were considering a narrower scope than his view of his legislative mandate. He noted “The JFC workscope is somewhat different than what ENVY was proposing.” He also added among his “quick thoughts”:

2..... would you talk to WSC¹⁷ about the contaminated underground pipe issue. There are ENVY documents that indicate such pipes do exist.

See Tab 9C, Email from A. Gundersen to U. Vanags et al. re: RE: Final Matrix & invitation for update, dated Aug. 12, 2009 (ENVYHC01584-85) (footnote added).

August 12, 2009 – At 10:40 a.m., Vanags responded. On this point, he said:

Could you clarify the question to WSC? During the reliability inspection Vermont Yankee stated on many occasion (sic) that they do not have any

¹⁷ In this context, WSC apparently refers to WSC International, the employer of several members of the NSA Audit team. See NSA Report at Appendix H, Assessment Team Resumes.

underground active piping carrying radionuclides. They did note the chemistry drain line was found to be leaking in the past, but this is not in use any longer (inactive). As a result, we assessed the underground service water piping for the CVA to assess their BTIP program. WSC has asked the plant if there were any other active underground pipes that carry radionuclides and were told there are none.

See Tab 9B, Email from U. Vanags to A. Gundersen re: [blank], dated Aug. 12, 2009 (ENVYHC01583-84).

August 12, 2009 – At 11:29 a.m., Gundersen wrote back to Vanags, with copies to Klein, Obuchowski, Hinkley, Woyshner, Hofmann, and Cotter:

I am aware of other underground pipes (other than the chemistry drain line) that are contaminated based on ENVY's own statements in published reports . . . would you please ask ENVY to either elaborate on their previous statements that no such lines exist or to identify additional lines.

See Tab 9A, Email from A. Gundersen to U. Vanags re: RE: Final Matrix & invitation for update, dated Aug. 12, 2009 (ENVYHC01583).

August 12, 2009 – At 11:44 a.m., Vanags forwarded the above email string to McElwee:

Arnie has a concern that there maybe (sic) underground active pipes carrying radionuclides that we are not aware of. Could you address this?

See Tab 9, Email from U. Vanags to D. McElwee re: FW: Final Matrix & invitation for update, dated Aug. 12, 2009 (ENVYHC01583).

August 13, 2009 – The following day, at 11:28 a.m., McElwee sent an email to Colomb, Thayer, Cho, Glew and Malmquist (DRM) providing a draft of his planned email to Gundersen enclosing a proposed protective agreement, discussing Gundersen's assignment in terms of reviewing the CRA/POP recommendations (as distinguished from Gundersen's asserted broader role), and providing a response to Gundersen's question about underground piping. On this last point McElwee wrote:

As for your outstanding question on underground piping goes, Act 189 provides that an underground piping system carrying radionuclides be part of the inspection. Other than piping carrying gaseous material (with very low amounts of contamination and no median to contaminate the ground water which was the intent of this item from the legislature) we have none. Since this is not an item active in the review of CRA recommendations, we consider this issue closed.

See Tab 11A, Email from D. McElwee to M. Colomb, J. Thayer, J. Cho, W. Glew, N. Malmquist re: Protocol for working at VY, dated Aug. 13, 2009 (ENVYHC01590-91).

McElwee – Recalled a passing hallway discussion of the question with Skibniowsky and a telephone conversation with LeFrancois and Bailey; recalled he was told by LeFrancois and Bailey that NSA team originally was interested in condensate, was shown the BPTIP program and pipes in it, and they were not what NSA was looking for so they switched to service water. McElwee was already aware that AOG was gaseous; did not learn of condensate drains off of AOG until more recently; thinks he spoke to Metell on the subject of NSA's review. McElwee does not think he showed the proposed answer to Skibniowsky, LeFrancois, Bailey or Metell; just recalls discussing the subject matter.

Recalled discussing with Colomb the first paragraph of the proposed email, preceding the one quoted above – regarding the confidentiality agreement; did not recall Colomb having any discussion or question about the response to Gundersen's question on underground pipes; no reference back to May testimony in DPS proceeding; no discussion of any specific systems; no comments, edits or other feedback. Thinks it likely he would have shown the email to Dreyfuss before talking with Colomb; thinks he likely discussed with Thayer the protocol for working with Gundersen in a weekly meeting; does not recall any discussion about the specific email or the answer on underground pipes with Thayer. Also thinks he would have informed ENVY media representative, Rob Williams, about arrangements with Gundersen in anticipation of Gundersen-generated media attention.

Did not try to identify the previous statements to which Gundersen referred; presumed they were statements or documents given to NSA during the audit; understood that there were some underground gaseous pipes that carried radionuclides and believed that the NSA and DPS were not concerned with underground pipes that carried gas; primary focus was on making sure that Gundersen did not re-open the entire CRA process through the back-door; recalls Gundersen had been trying to reopen issues not identified in the NSA Report recommendations related to flow-accelerated corrosion, microbial-induced corrosion of underground piping; recalls direction not to permit Gundersen to range outside of his legislative mandate.

Skibniowsky, LeFrancois, Bailey, Metell – Do not remember conversations with McElwee on the issue.

Thayer – Did not recall a response to McElwee's email and stated that he did not think that McElwee's response raised an issue because it was consistent with his own understanding.

Colomb – Recalled seeing the language and approving; focus was on the larger issue of the confidentiality agreement, Gundersen's scope and impact on the site organization. Did not recall any discussion about the language regarding underground piping.

Dreyfuss – Did not recall seeing the language in McElwee's draft response, but recalls confidentiality being an issue with Gundersen.

August 13, 2009 – At 3:33 p.m. that afternoon, McElwee sent the email to Gundersen with the paragraph quoted above unchanged. *See* Tab 12B, Email from D. McElwee to A. Gunderson re: [blank], dated Aug. 13, 2009 (ENVYHC01592-93).

October 19, 2009 – Gundersen issued his Quarterly Status Report to the Joint Fiscal Committee. At page 10, he identifies as New Major Issues Impacting ENVY's Reliability, Issue 3.1: "Contaminated Underground Pipe Data Contradicted by State Department of Health." Gundersen discussed a legislative hearing on September 15, 2009, in which W. Irwin (VDH) informed the committee of contamination in VY storm drains and past leakage to the Connecticut River. The next four pages described Gundersen's view that this "new" information contradicts previous statements by ENVY during the CRA and by VDH in their reports. *See* Tab 14, Quarterly Status Report, ENVY, Reliability Oversight for Joint Fiscal Committee, Fairewinds Associates, Inc., dated Oct. 19, 2009 (ENVYHC01640-44).

Gundersen also described his view of the scope of his assignment from the legislature's JFC:

I was retained by the Joint Fiscal Committee (JFC) and the Joint Fiscal Office (JFO)(sic), to review the progress made by Entergy Nuclear Vermont Yankee (ENVY) toward addressing the challenges identified by *Act 189: An Act Relating To A Comprehensive Vertical Audit (CVA) And Reliability Assessment Of The Vermont Yankee Nuclear Facility.*

See Tab 14, Quarterly Status Report, ENVY, Reliability Oversight for Joint Fiscal Committee, Fairewinds Associates, Inc., dated Oct. 19, 2009 (ENVYHC01633).

October 21, 2009 – Irwin wrote to McElwee regarding Gundersen's Quarterly Report, advising McElwee of what he had reported to his Commissioner:

The comments of Mr. Gundersen are hyperbole, and, in my opinion, bordering on irresponsibility.

To consider the storm drains buried contaminated piping is a stretch. What is generally considered contaminated buried piping is that associated with contaminated systems of the plant, interconnecting plant components. The storm drain from which the Connecticut River cobalt-60 contamination arose carries ground run-off only, no plant systems or components are connected to the storm drains.

See Tab 15, Email from W. Irwin to D. McElwee re: RE: quarterly report, dated Oct. 21, 2009 (ENVYHC01674). Irwin explained the source of the cobalt-60, and indicated that this issue has been known since 1983, when plant personnel disclosed it to the NRC. *See* Tab 15, Email from W. Irwin to D. McElwee re: RE: quarterly report, dated Oct. 21, 2009 (ENVYHC01674).

October 21, 2009 – Irwin sent a nearly identical email to Vanags that McElwee circulated to Colomb, Thayer, Smith, Williams, Glew, Cho and Dreyfuss, with a note "For internal use only !!!!" *See* Tab 16A, Email from W. Irwin to U. Vanags re: FW: Arnie Gundersen's report to JFO

re: VY, dated Oct. 21, 2009 (ENVYHC01677); Tab 16, Email from McElwee to M. Colomb, et al. re: FW: Arnie Gundersen's report to JFO re: VY, dated Oct. 21, 2009 (ENVYHC01677).

Dreyfuss – Recalled the issue of storm drains being raised in a row related to disclosure of tritium in trace amounts, and that the Company had fully disclosed the sample results; assumed these were the reports to which Gundersen referred to in his October report about the storm drain issue.

3. Analysis & Conclusion

The investigation did not substantiate that McElwee intentionally misled Gundersen in his August 13, 2009 response.

The email exchanges show that Entergy and ENVY executives viewed Gundersen as a biased critic opposed to license renewal, and were concerned about his new legislative role as a contractor to the Legislature's JFO. They were concerned that Gundersen would seek to reopen issues from the audit. They also were concerned about establishing precedent for this new legislative oversight in addition to the DPS inspector assigned to the facility and the additional resources that might be necessary to accommodate Gundersen. They also expressed significant concern that Gundersen's involvement in site affairs would have a negative impact on the site safety culture and safety conscious work environment, potentially making site workers less willing to raise concerns or issues to management for fear they would be misrepresented in the media. Accordingly, Entergy and ENVY management devoted time and attention to the scope of Gundersen's mandate and the process they would use to assist him in accomplishing that scope of work.

In this context, McElwee – who would be Gundersen's primary point of contact – received Gundersen's first information request in his new role from Vanags. Gundersen asked:

Could you please ask ENVY to confirm in writing the following SPECIFIC question: "*Is there underground piping that carries radioactivity at VY?*" If, for some reason, the POP misunderstood NSA and ENVY and there is, in fact, underground piping that carries radioactivity, I would like ENVY to list those underground pipes it is aware of that may contain radioactivity.

See Tab 6D, Email from A. Gundersen to U. Vanags et al. re: information request # 2, dated July 24, 2009 (ENVYHC01577) (emphasis in original).

Gundersen's question fed directly into an area that ENVY management believed was unrelated to any of the NSA or POP recommendations. McElwee spoke with Skibniowsky, Metell, LeFrancois and Bailey and understood that NSA had in fact looked at the BPTIP and understood the extent of buried piping that carry radionuclides at VY. He stated he learned from them that NSA had considered this information and apparently concluded that it did not fall within their understanding of the scope of Act 189's requirement. McElwee said he did not ask about the

ENVY documents to which Gundersen referred, and presumed they were documents that had been given to NSA.

McElwee waited to respond to Gundersen's question while senior management made decisions about the protocols for information exchange and while a confidentiality agreement was prepared by counsel. McElwee's email was primarily a transmittal of the confidentiality agreement that Entergy hoped would establish a constructive process by which Gundersen could complete his assignment for the JFO and the company could mitigate to the extent possible the negative impacts on site resources and willingness of workers to raise concerns. In this email transmitting the document, McElwee also provided a response to the question about which Gundersen had expressed impatience.

Because Gundersen's new role was an issue for senior site management, McElwee shared his proposed email transmitting the confidentiality agreement with executives, senior management and counsel. To date, the investigation did not find email replies. Colomb recalled discussing the subject with McElwee and McElwee saying he would respond about the piping and the AOG system. Colomb did not recall reading the email. He did not recall relating the subject back to his testimony in May.

McElwee's response, which stated that there were none except for gaseous underground piping systems that carried radionuclides, was consistent with his earlier belief that NSA had looked at all of the underground piping systems and had determined that the ones that were potentially contaminated did not fit the legislative intent of Act 189's requirement to review an underground piping system that carries radionuclides. Therefore, there were no piping systems of concern. *See supra* Issue No. 2. His description of gaseous piping is also consistent with ENVY's understanding that these systems were not of interest to NSA, DPS and POP, which was subsequently confirmed by the January 14, 2010 O'Brien letter and the January 30, 2010 Sherman email. *See supra* Issue No. 1, Tabs 39 and 42.

McElwee vetted his draft response with appropriate ENVY personnel and none of those individuals recognized an issue with the response. The response reflects more the expressed concern that Gundersen stay within the Legislature's mandate, than any intent to mislead him on these issues.

To the extent that the alleged misinformation is that ENVY did not reveal the storm water drains as "an underground piping system that carries radionuclides," the investigation found no evidence that McElwee thought of the storm drains as such a system. "Yard drains" were identified in the BPTIP Scope Table that had been provided NSA. Neither ENVY, NSA, or POP personnel considered these within the scope of Section 3(a)(7). (*See* discussion in Issue No. 5.) Irwin of VDH agreed that it would be a "stretch" "bordering on irresponsibility" to consider the storm drains as one of the ENVY piping systems that carries radionuclides. Moreover, the presence of radionuclides in the storm drains had been reported publicly each year for at least the last ten years. ENVY also had disclosed information about radionuclides in storm drains in discovery in the DPS proceeding. *See* Tab 17 Site Contamination Matrix, Attachment A, NEC:EN.6-1K3, Map Locations A-1, A-2, A-3, One manhole in A-4, A-4, A-5, B-4, B-1, B-3, C-100, C-101, and C-104 (describing the results of radionuclide sampling on site including in

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ATTORNEY WORK PRODUCT*

various storm drains) (ENVYHC01804-5, 1807, 1814). Accordingly, the investigation did not find a motive to keep this information from Gundersen.

For the reasons above, the investigation did not substantiate that McElwee intentionally misled Gundersen in his August 13, 2009 response.

V. Exhibits

- A. List of Acronyms**
- B. Investigator Qualifications**
- C. ENVY Organizational Chart dated May 19, 2009**
- D. List of Custodians of Electronic Records**
- E. Search Terms for Electronic Records**
- F. Request for Downs Rachlin Martin PLLC**
- G. List of Witnesses Interviewed**

Exhibit A: List of Acronyms

| | |
|------------|---|
| AOG | Auxiliary Offgas |
| BPTIP | Buried Pipe and Tank Inspection Program |
| BUP | Buried Underground Piping |
| BWR | Boiling Water Reactor |
| CDBI | Component Design Basis Inspection |
| CR | Condition Report |
| CRA | Comprehensive Reliability Assessment |
| CSS | Condensate Storage System |
| CST | Condensate Storage Tanks |
| DPS | Department of Public Service |
| DRM | Downs Rachlin Martin PLLC |
| ENOI | Entergy Nuclear Operations Inc. |
| ENVY | Entergy Nuclear Vermont Yankee |
| FAC | Flow Accelerated Corrosion |
| MLB | Morgan Lewis & Bockius LLP |
| NSA | Nuclear Safety Associates |
| NSA Report | Reliability Assessment of the Vermont Yankee Nuclear Facility |
| PI&Ds | Piping & Instrument Diagrams |
| POP | Public Oversight Panel |
| PSB | Public Service Board |
| RFO | Refueling Outage |
| SWS | Service Water System |
| VPIRG | Vermont Public Interest Research Group |
| VPSB | Vermont Public Service Board |
| VRCP | Vermont Rules of Civil Procedure |
| VY | Vermont Yankee |
| VYNPC | Vermont Yankee Nuclear Power Corporation |
| WRC | Wyndham Regional Commission |

Exhibit B: Investigator Qualifications

Mark A. Srere, a partner in the law firm of Morgan, Lewis & Bockius LLP (Morgan Lewis), and a member of the Morgan Lewis Corporate Investigations practice group, has more than 22 years of legal experience, including extensive experience involving internal investigations in a variety of contexts and industries. He has handled multiple internal investigations for energy companies and nuclear utilities, including investigations of alleged inattentive security personnel at the Peach Bottom Atomic Power Station in 2007. He is an adjunct professor at Georgetown University Law Center; chairman of the Pro Bono Committee for the Morgan Lewis Washington, D.C. office; and serves on the Board of Trustees for the Legal Aid Society and on the Board of Directors of the Washington Lawyers Committee for Civil Rights and Urban Affairs. His education includes a Juris Doctor degree from the University of Texas School of Law and a Bachelor of Arts from Reed College.

Timothy P. Matthews, a partner in the nuclear energy practice group of Morgan Lewis, represents utilities, industrial, and other licensees before the Nuclear Regulatory Commission (NRC), the Department of Labor, and other regulatory agencies, as well as the federal courts. He advises clients on matters related to electric utility restructuring, new nuclear plants, wrongdoing investigations, discrimination allegations, regulatory compliance, and complex outage-related disputes, including proceedings in mediation, arbitration, and litigation before state and federal courts. Mr. Matthews played significant roles in the series of complex litigation and arbitration following the Millstone and Davis-Besse outages. Mr. Matthews worked as a project manager with the Nuclear Management and Resources Council (NUMARC) in Washington, D.C. from 1991 to 1992 and served as congressional liaison with the Office of the Secretary of the Navy from 1989 to 1991. He previously served as a nuclear-trained officer in the United States Navy and served on nuclear-powered warships, and qualified as Chief Engineer. His education includes a Juris Doctor degree from the George Washington University Law School and a Bachelor of Arts from the U.S. Naval Academy.

Edward S. Keefe, an associate in the Litigation Practice group of Morgan, Lewis, and a member of the Morgan Lewis Corporate Investigations practice group, has more than 9 years of legal experience, including extensive experience involving internal investigations in a variety of contexts and industries. He has handled multiple internal investigations for major corporations, including a number of investigations for nuclear licensees. Prior to joining Morgan Lewis, he was a trial attorney for four years in the Honors Program of the United States Department of Justice. He also served as a Special Assistant United States Attorney prosecuting criminal matters in the District of Columbia. His education includes a Juris Doctor degree from the University of Pennsylvania Law School and a Bachelor of Arts from the College of the Holy Cross.

Anna L. Vinson is an associate with the nuclear energy practice group of Morgan Lewis. She has been in this position since September 2007. For various nuclear licensees, Ms. Vinson has participated nearly a dozen investigations. She has provided legal advice in licensing matters, compliance and enforcement matters, and in cases of nuclear-related employee issues. Her education includes a Juris Doctor degree from Georgetown University Law Center and a Bachelor of Arts from Duke University.

Exhibit D: List of Custodians Searched

| Custodian | Affiliation | Position |
|-------------------------|---|--|
| Bailey, Gary | Entergy Nuclear Vermont Yankee ("ENVY") | Senior Engineer; Lead, Buried Piping Program |
| Breite, Harry | ENVY | Senior Engineer; Lead, Service Water System |
| Bykov (or Bridges), Kim | (Formerly Entergy) | Former Associate General Counsel |
| Colomb, Michael | ENVY | Site Vice President |
| Dreyfuss, John | ENVY | Director, Nuclear Safety Assurance |
| Glew, William | Enexus | Associate General Counsel |
| Grace, Sheila Renner | Downs Rachlin Martin, PLLC ("DRM") | Of Counsel |
| Guglielmino, Peter | RCM Technologies | Project Manager for CVA Response |
| Hardy, Jeffery | ENVY | Manager, Chemistry |
| Johnson, Barclay T. | DRM | Associate |
| Le Francois, Mark | ENVY | Supervisor, Code Programs |
| Limberger, Wayne | RCM Technologies | Contractor |
| Malmquist, Nancy S. | DRM | Director |
| Mannai, David | ENVY | Manager, Licensing |
| Marshall, John H. | DRM | Director |
| McElwee, David | ENVY | Senior State Regulatory Affairs Engineer |
| Metell, Henry M. | ENVY | Senior Project Manager |
| Meyer, Jeffrey | ENVY | Specialist, Licensing |
| Miller, Robert A. | DRM | Of Counsel |
| Naeck, Brian | ENVY | Engineering, Mechanical Systems |
| Philippon, Michel | ENVY | Manager, Operations |
| Rademacher, Norman | ENVY | Director, Engineering |
| Rogers, James | ENVY | Manager, Design Engineering |
| Skibniowsky, Stephen | ENVY | Senior Environmental Specialist, Special Effluent and Environmental Monitoring |
| Stasolla, John | ENVY | Engineer, Mechanical Systems |
| Thayer, Jay | Entergy Services, Inc. | Vice President of Operations |
| Wierzbowski, George | ENVY | Manager, Programs and Components; VY Technical Lead in CVA Response |

Exhibit E: Search Terms for Electronic Records

| Downs, Rachlin & Martin, PLLC | | |
|--|---|----------------------------|
| CUSTODIAN | SEARCH CRITERIA | |
| All Downs Rachlin & Martin, PLLC ("DRM") personnel who were involved with the Entergy Nuclear Vermont Yankee ("ENVY") matter, including: <ul style="list-style-type: none"> • Sheila Renner Grace • Barclay T. Johnson • Nancy S. Malmquist • John H. Marshall • Robert A. Miller | The following search criteria were applied to all DRM custodians: | |
| | <i>For these dates:</i> | <i>These terms:</i> |
| | Jan. 12-27, 2009 <i>(inclusive)</i> | underground |
| | | piping |
| | | VPIRG |
| | | 4-6 |
| | | 4.6 |
| | Apr. 15 – May 31, 2009 <i>(inclusive)</i> | Colomb |
| | | Thayer |
| | | underground |
| piping | | |
| soil contamination | | |
| Jan. 1 – Dec. 31, 2009 <i>(inclusive)</i> | [“VPIRG” and (“4.6” or “4-6”)] | |
| | underground | |
| | piping | |

Exhibit E: Search Terms for Electronic Records

| Entergy Nuclear Vermont Yankee | | | | |
|--------------------------------|---------------------------------|------------------------|------------------------------------|--|
| CUSTODIAN | TIME FRAME | SEARCH CRITERIA | | |
| Gary Bailey | Apr. 15 – May 31, 2009 | Colomb | Thayer | |
| | May 19 – 27, 2009 | <i>all emails</i> | | |
| | Mar. 1, 2008 – Dec. 31, 2009 | Act 189 | AOG | |
| | | Woyshner | SBGT | |
| | | Stack sump | BWoyshner@WSCinc.biz | |
| | | condensate | RW Hold | |
| | | CSS | chemistry | |
| | | CST | chem | |
| | | underground | leak(s) | |
| | | buried | testimony | |
| | | pipng | transcript | |
| | | radionuclides | radioactive | |
| | | service water | gary.schweizer@wscinc.biz | |
| | | public risk | Gary Schweizer | |
| | | risk ranking | tritium | |
| | | action log | problematic | |
| | | 2.9 | Gunderson | |
| | | 262 | Gaseous | |
| | | 263 | Larry Hopkins | |
| | | errata | hop7782@aol.com | |
| | | soil resistivity | Jerry Rainey | |
| | | Public Oversight Panel | jerry.rainey@wscinc.biz | |
| | | POP | Bruce Allshouse | |
| | | radioactivity | bruce.allshouse@wscinc.biz | |
| | | soil | Ted Nichols | |
| | | contaminated | tnichols.emnenergy@verizon.net | |
| | | contamination | Jay Rosen | |
| | | VPIRG | jrosen@opxconsulting.com | |
| | | discovery | Sam McDonald | |
| | | "4-6" | sam.mcdonald@nuclearassociates.com | |
| | 4.6 | Tom Shannon | | |
| radwaste | tom.shannon3@verizon.net | | | |
| Harry Breite | Mar. 1, 2008 – Dec. 31, 2009 | Act 189 | Larry Hopkins | |
| | | Woyshner | hop7782@aol.com | |
| | | Jerry Rainey | BWoyshner@WSCinc.biz | |
| | | condensate | jerry.rainey@wscinc.biz | |
| | | CSS | Bruce Allshouse | |
| | | CST | bruce.allshouse@wscinc.biz | |
| | | underground | Ted Nichols | |
| | | buried | tnichols.emnenergy@verizon.net | |
| | | pipng | Jay Rosen | |
| | | radionuclides | jrosen@opxconsulting.com | |
| | | service water | Sam McDonald | |

Exhibit E: Search Terms for Electronic Records

| Entergy Nuclear Vermont Yankee | | | | |
|--------------------------------|------------------------------|------------------------------------|------------------------------------|--|
| CUSTODIAN | TIME FRAME | SEARCH CRITERIA | | |
| | | public risk | sam.mcdonald@nuclearassociates.com | |
| | | risk ranking | Tom Shannon | |
| | | action log | tom.shannon3@verizon.net | |
| | | Gary Schweizer | gary.schweizer@wscinc.biz | |
| Kim Bykov | Apr. 15 – May 31, 2009 | Thayer | Colomb | |
| | May 19 – 27, 2009 | all emails | | |
| | Mar. 1, 2008 – Dec. 31, 2009 | 2.9 | chemistry | |
| | | Woyshner | chem | |
| | | leak(s) | BWoyshner@WSCinc.biz | |
| | | underground | testimony | |
| | | buried | transcript | |
| | | pipng | radioactive | |
| | | radionuclides | Gary Schweizer | |
| | | 262 | gary.schweizer@wscinc.biz | |
| | | 263 | tritium | |
| | | errata | problematic | |
| | | soil resistivity | Larry Hopkins | |
| | | Public Oversight Panel | hop7782@aol.com | |
| | | POP | Jerry Rainey | |
| | | radioactivity | jerry.rainey@wscinc.biz | |
| | | soil | Bruce Allshouse | |
| | | contaminated | bruce.allshouse@wscinc.biz | |
| | | contamination | Ted Nichols | |
| | | VPIRG | tnichols.emnenergy@verizon.net | |
| | | discovery | Jay Rosen | |
| | | "4-6" | jrosen@opxconsulting.com | |
| | 4.6 | Sam McDonald | | |
| | radwaste | sam.mcdonald@nuclearassociates.com | | |
| | AOG | Tom Shannon | | |
| | SBGT | tom.shannon3@verizon.net | | |
| | Stack sump | RW Hold | | |
| Mike Colomb | Apr. 15 – May 31, 2009 | Thayer | | |
| | May 19 – 27, 2009 | all emails | | |
| | Mar. 1, 2008 – Dec. 31, 2009 | 2.9 | chemistry | |
| | | Woyshner | chem | |
| | | leak(s) | BWoyshner@WSCinc.biz | |
| | | underground | testimony | |
| | | buried | transcript | |
| | | pipng | radioactive | |
| | | radionuclides | gary.schweizer@wscinc.biz | |
| | | 262 | tritium | |

Exhibit E: Search Terms for Electronic Records

| Entergy Nuclear Vermont Yankee | | | |
|--------------------------------|-------------------------------------|------------------------|------------------------------------|
| CUSTODIAN | TIME FRAME | SEARCH CRITERIA | |
| | | 263 | problematic |
| | | errata | Gunderson |
| | | soil resistivity | Gaseous |
| | | Public Oversight Panel | Larry Hopkins |
| | | POP | hop7782@aol.com |
| | | radioactivity | Jerry Rainey |
| | | soil | jerry.rainey@wscinc.biz |
| | | contaminated | Bruce Allshouse |
| | | contamination | bruce.allshouse@wscinc.biz |
| | | VPIRG | Ted Nichols |
| | | discovery | tnichols.emnenergy@verizon.net |
| | | "4-6" | Jay Rosen |
| | | 4.6 | jrosen@opxconsulting.com |
| | | radwaste | Sam McDonald |
| | | AOG | sam.mcdonald@nuclearassociates.com |
| | | SGBT | Tom Shannon |
| Stack sump | tom.shannon3@verizon.net | | |
| RW Hold | Gary Schweizer | | |
| John Dreyfuss | Apr. 15 – May 31, 2009 | Thayer | Colomb |
| | Jan. 12-27, 2009 | <i>all emails</i> | |
| | May 19 – 27, 2009 | | |
| | Mar. 1, 2008 – Dec. 31, 2009 | Act 189 | Stack sump |
| | | Woysner | RW Hold |
| | | BWoysner@WSCinc.biz | chemistry |
| | | condensate | chem |
| | | CSS | leak(s) |
| | | CST | testimony |
| | | underground | transcript |
| | | buried | radioactive |
| | | pipng | gary.schweizer@wscinc.biz |
| | | radionuclides | SGTB |
| | | service water | tritium |
| | | public risk | problematic |
| | | risk ranking | Gunderson |
| action log | Gaseous | | |
| 2.9 | Larry Hopkins | | |
| 262 | hop7782@aol.com | | |
| 263 | Jerry Rainey | | |
| errata | jerry.rainey@wscinc.biz | | |
| soil resistivity | Bruce Allshouse | | |
| Public Oversight Panel | bruce.allshouse@wscinc.biz | | |
| POP | Ted Nichols | | |

Exhibit E: Search Terms for Electronic Records

| Entergy Nuclear Vermont Yankee | | | |
|--------------------------------|------------------------------|------------------------------------|--------------------------------|
| CUSTODIAN | TIME FRAME | SEARCH CRITERIA | |
| | | radioactivity | tnichols.emnenergy@verizon.net |
| | | soil | Jay Rosen |
| | | contaminated | jrosen@opxconsulting.com |
| | | contamination | Sam McDonald |
| | | VPIRG | radwaste |
| | | discovery | Tom Shannon |
| | | "4-6" | tom.shannon3@verizon.net |
| | | 4.6 | Gary Schweizer |
| | | sam.mcdonald@nuclearassociates.com | |
| Bill Glew | Apr. 15 - May 31, 2009 | Thayer | Colomb |
| | Mar. 1, 2008 – Dec. 31, 2009 | VPIRG | chemistry |
| | | discovery | chem |
| | | "4-6" | leak(s) |
| | | 4.6 | testimony |
| | | 262 | transcript |
| | | radionuclides | radioactive |
| | | radwaste | soil |
| | | underground | contaminated |
| | | buried | contamination |
| | | piping | RW Hold |
| | | AOG | Stack sump |
| | | SBGT | tritium |
| | | | |
| Peter Guglielmino | Jan. 12-27, 2009 | all emails | |
| | May 19 – 27, 2009 | | |
| | Apr. 15 - May 31, 2009 | Thayer | Colomb |
| | Mar. 1, 2008 – Dec. 31, 2009 | Act 189 | "4-6" |
| Woyshner | | 4.6 | |
| radwaste | | BWoyshner@WSCinc.biz | |
| condensate | | AOG | |
| CSS | | SBGT | |
| CST | | Stack sump | |
| underground | | RW Hold | |
| buried | | chemistry | |
| piping | | chem | |
| radionuclides | | leak(s) | |
| service water | | testimony | |
| public risk | | transcript | |
| risk ranking | | radioactive | |
| action log | | tritium | |
| 2.9 | problematic | | |
| 262 | Larry Hopkins | | |
| 263 | hop7782@aol.com | | |

Exhibit E: Search Terms for Electronic Records

| Entergy Nuclear Vermont Yankee | | | |
|--------------------------------|------------------------------|--------------------------|------------------------------------|
| CUSTODIAN | TIME FRAME | SEARCH CRITERIA | |
| | | errata | Jerry Rainey |
| | | soil resistivity | jerry.rainey@wscinc.biz |
| | | Public Oversight Panel | Bruce Allshouse |
| | | POP | bruce.allshouse@wscinc.biz |
| | | radioactivity | Ted Nichols |
| | | soil | tnichols.emnenergy@verizon.net |
| | | contaminated | Jay Rosen |
| | | contamination | jrosen@opxconsulting.com |
| | | VPIRG | Sam McDonald |
| | | discovery | sam.mcdonald@nuclearassociates.com |
| | | Gary Schweizer | gary.schweizer@wscinc.biz |
| | | Tom Shannon | tom.shannon3@verizon.net |
| Jeff Hardy | May 19 – 27, 2009 | all emails | |
| | Mar. 1, 2008 – Dec. 31, 2009 | Act 189 | POP |
| | | Woyshner | radioactivity |
| | | BWoyshner@WSCinc.biz | soil |
| | | condensate | contaminated |
| | | CSS | contamination |
| | | CST | Larry Hopkins |
| | | underground | hop7782@aol.com |
| | | buried | Jerry Rainey |
| | | pipng | jerry.rainey@wscinc.biz |
| | | radionuclides | Bruce Allshouse |
| | | service water | bruce.allshouse@wscinc.biz |
| | | public risk | Ted Nichols |
| | | risk ranking | tnichols.emnenergy@verizon.net |
| | | action log | Jay Rosen |
| | | 2.9 | jrosen@opxconsulting.com |
| | | 262 | Sam McDonald |
| | | 263 | sam.mcdonald@nuclearassociates.com |
| | | errata | Tom Shannon |
| | soil resistivity | tom.shannon3@verizon.net | |
| Public Oversight Panel | Gary Schweizer | | |
| | gary.schweizer@wscinc.biz | | |
| Mark LeFrancois | May 19 – 27, 2009 | all emails | |
| | Apr. 15 – May 31, 2009 | Thayer | Colomb |
| | Mar. 1, 2008 – Dec. 31, 2009 | Act 189 | chemistry |
| | | Woyshner | chem |
| | | leak(s) | BWoyshner@WSCinc.biz |
| | | condensate | testimony |
| | | CSS | transcript |
| CST | radioactive | | |
| underground | tritium | | |

Exhibit E: Search Terms for Electronic Records

| Entergy Nuclear Vermont Yankee | | | |
|--------------------------------|------------------------------|------------------------|------------------------------------|
| CUSTODIAN | TIME FRAME | SEARCH CRITERIA | |
| | | buried | problematic |
| | | pipng | Gunderson |
| | | radionuclides | Gaseous |
| | | service water | Larry Hopkins |
| | | public risk | hop7782@aol.com |
| | | risk ranking | Jerry Rainey |
| | | action log | jerry.rainey@wscinc.biz |
| | | 2.9 | Bruce Allshouse |
| | | 262 | bruce.allshouse@wscinc.biz |
| | | 263 | Ted Nichols |
| | | errata | tnichols.emnenergy@verizon.net |
| | | soil resistivity | Jay Rosen |
| | | Public Oversight Panel | jrosen@opxconsulting.com |
| | | POP | Sam McDonald |
| | | radioactivity | sam.mcdonald@nuclearassociates.com |
| | | soil | Tom Shannon |
| | | contaminated | tom.shannon3@verizon.net |
| | | contamination | Gary Schweizer |
| | | VPIRG | gary.schweizer@wscinc.biz |
| | | discovery | AOG |
| "4-6" | SBGT | | |
| 4.6 | Stack sump | | |
| radwaste | RW Hold | | |
| Wayne Limberger | May 19 – 27, 2009 | <i>all emails</i> | |
| | Jan. 12 – 27, 2009 | | |
| | Apr. 15-May 31, 2009 | Thayer | Colomb |
| | Mar. 1, 2008 – Dec. 31, 2009 | Act 189 | contamination |
| | | Woyshner | testimony |
| | | BWoyshner@WSCinc.biz | transcript |
| | | condensate | chemistry |
| | | CSS | chem |
| | | CST | VPIRG |
| | | underground | Gary Schweizer |
| | | buried | gary.schweizer@wscinc.biz |
| | | pipng | leak(s) |
| | | radionuclides | tritium |
| | | service water | problematic |
| | | public risk | AOG |
| | | risk ranking | SBGT |
| action log | | Stack sump | |
| 2.9 | RW Hold | | |
| 262 | Larry Hopkins | | |
| 263 | hop7782@aol.com | | |
| errata | Jerry Rainey | | |

Exhibit E: Search Terms for Electronic Records

| Entergy Nuclear Vermont Yankee | | | | |
|--------------------------------|--------------------------------|------------------------------------|--------------------------------|--|
| CUSTODIAN | TIME FRAME | SEARCH CRITERIA | | |
| | | soil resistivity | jerry.rainey@wscinc.biz | |
| | | Public Oversight Panel | Bruce Allshouse | |
| | | POP | bruce.allshouse@wscinc.biz | |
| | | radioactivity | Ted Nichols | |
| | | soil | tnichols.emnenergy@verizon.net | |
| | | contaminated | Jay Rosen | |
| | | Tom Shannon | jrosen@opxconsulting.com | |
| | | tom.shannon3@verizon.net | Sam McDonald | |
| | | sam.mcdonald@nuclearassociates.com | | |
| Dave Mannai | May 19-27, 2009 | all emails | | |
| | Apr. 15 – May 31, 2009 | Thayer | Colomb | |
| | Mar. 1, 2008 – Dec. 31, 2009 | testimony | VPIRG | |
| | | transcript | leak(s) | |
| | | radionuclides | tritium | |
| | | radioactive | problematic | |
| | | radwaste | AOG | |
| | | underground | SBGT | |
| | | buried | Stack sump | |
| | | pipng | RW Hold | |
| | | chemistry | soil | |
| | | chem | contaminated | |
| | | contamination | | |
| Dave McElwee | Jan. 12 – 27, 2009 | all emails | | |
| | May 19 – 27, 2009 | | | |
| | Apr. 15 – May 31, 2009 | Thayer | Colomb | |
| | Mar. 1, 2008 – Dec. 31, 2009 | Act 189 | tritium | |
| | | Woysner | problematic | |
| | | BWoysner@WSCinc.biz | Gunderson | |
| | | condensate | Gaseous | |
| | | CSS | Buchanan | |
| | | CST | tombuch@aol.com | |
| | | underground | Larry Hopkins | |
| | | buried | hop7782@aol.com | |
| | | pipng | Jerry Rainey | |
| | | radionuclides | jerry.rainey@wscinc.biz | |
| service water | | Bruce Allshouse | | |
| public risk | bruce.allshouse@wscinc.biz | | | |
| risk ranking | Ted Nichols | | | |
| action log | tnichols.emnenergy@verizon.net | | | |
| 2.9 | Jay Rosen | | | |
| 262 | jrosen@opxconsulting.com | | | |
| 263 | Sam McDonald | | | |

Exhibit E: Search Terms for Electronic Records

| Entergy Nuclear Vermont Yankee | | | |
|--------------------------------|------------------------------|------------------------|------------------------------------|
| CUSTODIAN | TIME FRAME | SEARCH CRITERIA | |
| | | errata | sam.mcdonald@nuclearassociates.com |
| | | soil resistivity | Tom Shannon |
| | | Public Oversight Panel | tom.shannon3@verizon.net |
| | | POP | Gary Schweizer |
| | | radioactivity | gary.schweizer@wscinc.biz |
| | | soil | radwaste |
| | | contaminated | AOG |
| | | contamination | SBGT |
| | | VPIRG | Stack sump |
| | | discovery | RW Hold |
| | | "4-6" | chemistry |
| | | 4.6 | chem |
| | | transcript | leak(s) |
| | | radioactive | testimony |
| Mike Metell | Jan. 12 – 27, 2009 | <i>all emails</i> | |
| | May 19 – 27, 2009 | | |
| | Apr. 15 – May 31, 2009 | Thayer | Colomb |
| Mike Metell | Mar. 1, 2008 – Dec. 31, 2009 | Act 189 | tritium |
| | | Woyshner | problematic |
| | | BWoyshner@WSCinc.biz | Larry Hopkins |
| | | condensate | hop7782@aol.com |
| | | CSS | Jerry Rainey |
| | | CST | jerry.rainey@wscinc.biz |
| | | underground | Bruce Allshouse |
| | | buried | bruce.allshouse@wscinc.biz |
| | | pipng | Ted Nichols |
| | | radionuclides | tnichols.emnenergy@verizon.net |
| | | service water | Jay Rosen |
| | | public risk | jrosen@opxconsulting.com |
| | | risk ranking | Sam McDonald |
| | | action log | sam.mcdonald@nuclearassociates.com |
| | | 2.9 | Tom Shannon |
| | | 262 | tom.shannon3@verizon.net |
| | | 263 | Gary Schweizer |
| | | errata | gary.schweizer@wscinc.biz |
| | | soil resistivity | radwaste |
| | | Public Oversight Panel | AOG |
| POP | SBGT | | |
| radioactivity | Stack sump | | |
| soil | RW Hold | | |
| contaminated | chemistry | | |
| contamination | chem | | |

Exhibit E: Search Terms for Electronic Records

| Entergy Nuclear Vermont Yankee | | | |
|--------------------------------|------------------------------------|------------------------------|------------------------------------|
| CUSTODIAN | TIME FRAME | SEARCH CRITERIA | |
| | | VPIRG | leak(s) |
| | | discovery | testimony |
| | | "4-6" | transcript |
| | | 4.6 | radioactive |
| Jeff Meyer | May 19 – 27, 2009 | all emails | |
| | Apr. 15 – May 31, 2009 | Thayer | Colomb |
| | Mar. 1, 2008 – Dec. 31, 2009 | testimony | leak(s) |
| | | transcript | tritium |
| | | radionuclides | problematic |
| | | radioactive | AOG |
| | | radwaste | SBGT |
| | | underground | Stack sump |
| | | buried | RW Hold |
| | | piping | soil |
| | | chemistry | contaminated |
| | | chem | contamination |
| | | VPIRG | |
| | Brian Naeck | Mar. 1, 2008 – Dec. 31, 2009 | Act 189 |
| Woysner | | | contamination |
| BWoysner@WSCinc.biz | | | Larry Hopkins |
| condensate | | | hop7782@aol.com |
| CSS | | | Jerry Rainey |
| CST | | | jerry.rainey@wscinc.biz |
| underground | | | Bruce Allshouse |
| buried | | | bruce.allshouse@wscinc.biz |
| piping | | | Ted Nichols |
| radionuclides | | | tnichols.emnenergy@verizon.net |
| service water | | | Jay Rosen |
| public risk | | | jrosen@opxconsulting.com |
| risk ranking | | | Sam McDonald |
| action log | | | sam.mcdonald@nuclearassociates.com |
| 2.9 | | | Tom Shannon |
| 262 | | | tom.shannon3@verizon.net |
| 263 | | | Gary Schweizer |
| errata | | | gary.schweizer@wscinc.biz |
| soil resistivity | | | POP |
| Public Oversight Panel | | | radioactivity |
| soil | | | |
| Mike Phillipon | Mar. 1, 2008 – Dec. 31, 2009 | Act 189 | Ted Nichols |
| | | Woysner | tnichols.emnenergy@verizon.net |
| | | BWoysner@WSCinc.biz | Jay Rosen |
| | | condensate | jrosen@opxconsulting.com |
| | | CSS | Sam McDonald |
| CST | sam.mcdonald@nuclearassociates.com | | |

Exhibit E: Search Terms for Electronic Records

| Entergy Nuclear Vermont Yankee | | | |
|--------------------------------|------------------------------|----------------------|------------------------------------|
| CUSTODIAN | TIME FRAME | SEARCH CRITERIA | |
| | | underground | Tom Shannon |
| | | buried | tom.shannon3@verizon.net |
| | | pipng | Gary Schweizer |
| | | radionuclides | gary.schweizer@wscinc.biz |
| | | service water | Larry Hopkins |
| | | public risk | hop7782@aol.com |
| | | risk ranking | Jerry Rainey |
| | | action log | jerry.rainey@wscinc.biz |
| | | Bruce Allshouse | bruce.allshouse@wscinc.biz |
| Norm Rademacher | Mar. 1, 2008 – Dec. 31, 2009 | Act 189 | contaminated |
| | | Woyshner | contamination |
| | | BWoyshner@WSCinc.biz | Larry Hopkins |
| | | condensate | hop7782@aol.com |
| | | CSS | Jerry Rainey |
| | | CST | jerry.rainey@wscinc.biz |
| | | underground | Bruce Allshouse |
| | | buried | bruce.allshouse@wscinc.biz |
| | | pipng | Ted Nichols |
| | | radionuclides | tnichols.emnenergy@verizon.net |
| | | service water | Jay Rosen |
| | | public risk | jrosen@opxconsulting.com |
| | | risk ranking | Sam McDonald |
| | | action log | sam.mcdonald@nuclearassociates.com |
| | | 2.9 | Tom Shannon |
| | | 262 | tom.shannon3@verizon.net |
| | | 263 | Gary Schweizer |
| | | errata | gary.schweizer@wscinc.biz |
| | | soil resistivity | radioactivity |
| | | POP | soil |
| Public Oversight Panel | | | |
| Jim Rogers | Jan. 12 – 27, 2009 | all emails | |
| | Mar. 1, 2008 – Dec. 31, 2009 | VPIRG | pipng |
| | | discovery | AOG |
| | | "4-6" | SBGT |
| | | 4.6 | Stack sump |
| | | 262 | RW Hold |
| | | radionuclides | chemistry |
| | | radwaste | chem |
| | | underground | leak(s) |
| buried | | | |
| Steve Skibniowsky | May 19 – 27, 2009 | all emails | |
| | Mar. 1, 2008 – Dec. 31, 2009 | Act 189 | contaminated |
| | | Woyshner | contamination |
| | | BWoyshner@WSCinc.biz | Gunderson |
| condensate | Gaseous | | |

Exhibit E: Search Terms for Electronic Records

| Entergy Nuclear Vermont Yankee | | | |
|--------------------------------|------------------------------|------------------------|------------------------------------|
| CUSTODIAN | TIME FRAME | SEARCH CRITERIA | |
| | | CSS | Larry Hopkins |
| | | CST | hop7782@aol.com |
| | | underground | Jerry Rainey |
| | | buried | jerry.rainey@wscinc.biz |
| | | pipng | Bruce Allshouse |
| | | radionuclides | bruce.allshouse@wscinc.biz |
| | | service water | Ted Nichols |
| | | public risk | tnichols.emnenergy@verizon.net |
| | | risk ranking | Jay Rosen |
| | | action log | jrosen@opxconsulting.com |
| | | 2.9 | Sam McDonald |
| | | 262 | sam.mcdonald@nuclearassociates.com |
| | | 263 | Tom Shannon |
| | | errata | tom.shannon3@verizon.net |
| | | soil resistivity | Gary Schweizer |
| | | Public Oversight Panel | gary.schweizer@wscinc.biz |
| | | POP | radioactivity |
| John Stasolla | Mar. 1, 2008 – Dec. 31, 2009 | soil | |
| | | Act 189 | Ted Nichols |
| | | Woyshner | tnichols.emnenergy@verizon.net |
| | | BWoyshner@WSCinc.biz | Jay Rosen |
| | | condensate | jrosen@opxconsulting.com |
| | | CSS | Sam McDonald |
| | | CST | sam.mcdonald@nuclearassociates.com |
| | | underground | Tom Shannon |
| | | buried | tom.shannon3@verizon.net |
| | | pipng | Gary Schweizer |
| | | radionuclides | gary.schweizer@wscinc.biz |
| | | service water | Jerry Rainey |
| | | public risk | jerry.rainey@wscinc.biz |
| | | risk ranking | Bruce Allshouse |
| | | action log | bruce.allshouse@wscinc.biz |
| Larry Hopkins | hop7782@aol.com | | |
| Jay Thayer | May 19 – 27, 2009 | all emails | |
| | Mar. 1, 2008 – Dec. 31, 2009 | 2.9 | chem |
| | | Woyshner | leak(s) |
| | | BWoyshner@WSCinc.biz | testimony |
| | | underground | transcript |
| | | buried | radioactive |
| | | pipng | Colomb (April 15 to May 31, 2009) |
| | | radionuclides | tritium |
| | | 262 | problematic |
| | | 263 | Larry Hopkins |
| | | errata | hop7782@aol.com |
| | | soil resistivity | Jerry Rainey |

Exhibit E: Search Terms for Electronic Records

| Entergy Nuclear Vermont Yankee | | | |
|--------------------------------|------------------------------|---------------------------|------------------------------------|
| CUSTODIAN | TIME FRAME | SEARCH CRITERIA | |
| | | Public Oversight Panel | jerry.rainey@wscinc.biz |
| | | POP | Bruce Allshouse |
| | | radioactivity | bruce.allshouse@wscinc.biz |
| | | soil | Ted Nichols |
| | | contaminated | tnichols.emnenergy@verizon.net |
| | | contamination | Jay Rosen |
| | | VPIRG | jrosen@opxconsulting.com |
| | | discovery | Sam McDonald |
| | | "4-6" | sam.mcdonald@nuclearassociates.com |
| | | 4.6 | Tom Shannon |
| | | radwaste | tom.shannon3@verizon.net |
| | | AOG | Gary Schweizer |
| | | SBGT | gary.schweizer@wscinc.biz |
| | | Stack sump | chemistry |
| George Weirzbowski | Mar. 1, 2008 – Dec. 31, 2009 | RW Hold | |
| | | Act 189 | soil |
| | | Woysner | contaminated |
| | | BWoysner@WSCinc.biz | contamination |
| | | condensate | VPIRG |
| | | CSS | discovery |
| | | CST | "4-6" |
| | | underground | 4.6 |
| | | buried | radwaste |
| | | piping | AOG |
| | | radionuclides | SBGT |
| | | service water | Stack sump |
| | | public risk | RW Hold |
| | | risk ranking | chemistry |
| | | action log | chem |
| | | 2.9 | leak(s) |
| | | 262 | Larry Hopkins |
| | | 263 | hop7782@aol.com |
| | | errata | Jerry Rainey |
| | | soil resistivity | jerry.rainey@wscinc.biz |
| | | Public Oversight Panel | Bruce Allshouse |
| | | POP | bruce.allshouse@wscinc.biz |
| | | radioactivity | Ted Nichols |
| | | Gary Schweizer | tnichols.emnenergy@verizon.net |
| | | gary.schweizer@wscinc.biz | Jay Rosen |
| | | Tom Shannon | jrosen@opxconsulting.com |
| | | tom.shannon3@verizon.net | Sam McDonald |
| | | | sam.mcdonald@nuclearassociates.com |

Exhibit F: Request for Downs Rachlin Martin PLLC

**ENVY Document Searches
Downs Rachlin Martin PLLC**

A. Hard-Copy Documents: Please search all offices, files, folders, file cabinets, record rooms and other locations containing hard-copy documents for all documents in your possession related to your representation of Entergy Nuclear Vermont Yankee in connection with the assessment of “[a]n underground piping system that carries radionuclides” in the Comprehensive Vertical Audit and Reliability Assessment by Nuclear Safety Associates or as that system was raised in connection with Vermont Public Service Board proceeding Docket No. 7440 (the “relicensing” proceeding), including any communication regarding discovery responses or public testimony prepared or given in that proceeding.

B. Electronic Documents: Please search all e-mail, including archived e-mail, electronic files/documents, fileshare systems, computer servers, and other electronic media storage in use at Downs Rachlin Martin (“DRM”) for documents related to the subject matter described in Section A, or that contain the below-listed search terms, for the custodians listed in Section C (and any associated legal assistants, support staff, or paralegals). All searches should be restricted to the timeframe of March 1, 2008 to present.

In addition, please provide the e-mail records of the below-listed custodians for all e-mails (and any associated legal assistants, support staff, or paralegals) pertaining to Entergy Nuclear Vermont Yankee from January 19-27, 2009 (inclusive) and May 19-27, 2009 (inclusive). Please provide all electronic search results to Morgan, Lewis & Bockius LLP in the native format.

Please also provide a memorandum describing the steps taken to complete a comprehensive search for electronic and hard-copy documents.

C. Custodians:

- Robert A. Miller
- John H. Marshall
- Barclay T. Johnson
- Nancy S. Malmquist
- Sheila Renner Grace

Exhibit F: Request for Downs Rachlin Martin PLLC

D. Search Terms:

- Act 189
- condensate
- CSS or Condensate Storage System
- CST or Condensate Storage Tank
- underground
- buried
- piping
- radionuclides
- service water
- public risk
- risk ranking
- action log 2.9
- 262
- 263
- errata
- soil resistivity
- POP or Public Oversight Panel
- radioactivity
- soil
- contaminated
- contamination
- VPIRG or Vermont Public Interest Research Group
- discovery
- 4-6
- 4.6
- chemistry
- chem
- leak(s)
- testimony
- transcript
- radioactive
- RW or radwaste
- tritium
- problematic
- AOG or Advanced Offgas System
- SBT or Standby Gas Treatment
- Stack sump
- gaseous
- NSA or Nuclear Safety Associates
- Metell
- McElwee
- LeFrancois
- Bailey
- Dreyfuss
- Guglielmino
- Stasolla
- Philippon
- Drouin
- Callaghan
- Wierzbowski
- Naeck
- Hardy
- Skibniowski
- Limberger
- Rademacher
- Breite
- Colomb
- Thayer
- Bycov
- Glew
- Rogers
- Mannai
- Meyer
- Buchanan
- Gunderson
- Woysner
- Hockreiter
- Bradford
- O'Brien
- Rainey
- Hopkins
- Allshouse
- Nichols
- Rosen
- McDonald
- Shannon
- Schweizer
- Hinkley
- Pyrih
- dmcclwe@entergy.com
- kbridg3@entergy.com
- kim.bykov@ca.com
- jroger6@entergy.com
- pgugl90@entergy.com
- hmetell@entergy.com

Exhibit F: Request for Downs Rachlin Martin PLLC

- william.glew@enexusenergy.com
- jthayer@entergy.com
- mcolomb@entergy.com
- jdreyfu@entergy.com
- nradema@entergy.com
- gbaile3@entergy.com
- wlimber@entergy.com
- mlefran@entergy.com
- gwierzb@entergy.com
- dmannai@entergy.com
- bnaeck@entergy.com
- jmeyer5@entergy.com
- jhardy@entergy.com
- sskibni@entergy.com
- jstasol@entergy.com
- jcallag@entergy.com
- tdrouin@entergy.com
- mphili1@entergy.com
- hbreite@entergy.com
- tombuch@aol.com
- uldis.vanags@state.vt.us
- sailchamplain@gmail.com
- hop7782@aol.com
- BWoyshner@WSCinc.biz
- tom.shannon3@verizon.net
- bill.woyshner@wscinc.biz
- jerry.rainey@wscinc.biz
- bruce.allshouse@wscinc.biz
- tnichols.emnenergy@verizon.net
- jrosen@opxconsulting.com
- sam.mcdonald@nuclearassociates.com
- gary.schweizer@wsc.inc.biz
- bruce.hinkley@baa-inc.com
- lpyrih@aol.com

Exhibit G: List of Witnesses Interviewed

| Name | Affiliation | Position |
|---------------------|---|--|
| Bailey, Gary | Entergy Nuclear Vermont Yankee ("ENVY") | Senior Engineer; Lead, Buried Piping Program |
| Breite, Harry | ENVY | Senior Engineer; Lead, Service Water System |
| Cloutier, Bill | TLG Services, Inc. | Manager, Decommissioning |
| Colomb, Mike | ENVY | Site Vice President |
| DeWald, Lynn | ENVY | Special Effluent and Environmental Monitoring |
| Dreyfuss, John | ENVY | Director, Nuclear Safety Assurance |
| Glew, Bill | Enexus | Associate General Counsel |
| Grace, Sheila | Downs Rachlin & Martin ("DRM") | Of Counsel |
| Guglielmino, Peter | RCM Technologies | Project Manager for CVA Response |
| Hardy, Jeffery | ENVY | Manager, Chemistry |
| Johnson, Barclay | DRM | Associate |
| LeFrancois, Mark | ENVY | Supervisor, Code Programs |
| Limberger, Wayne | RCM Technologies | Contractor |
| Malmquist, Nancy | DRM | Director |
| Mannai, Dave | ENVY | Manager, Licensing |
| Marshall, John | DRM | Director |
| McElwee, Dave | ENVY | Senior State Regulatory Affairs Engineer |
| Metell, Mike | ENVY | Senior Project Manager |
| Meyer, Jeffrey | ENVY | Specialist, Licensing |
| Miller, Bob | DRM | Of Counsel |
| Naeck, Brian | ENVY | Engineering, Mechanical Systems |
| Phillipon, Mike | ENVY | Manager, Operations |
| Rademacher, Norm | ENVY | Director, Engineering |
| Rice, Bill | ENVY | Flow Accelerated Corrosion Program Engineer |
| Rogers, Jim | ENVY | Manager, Design Engineering |
| Skibniowsky, Steve | ENVY | Senior Environmental Specialist, Special Effluent and Environmental Monitoring |
| Stasolla, John | ENVY | Engineering, Mechanical Systems |
| Sullivan, Ted | | Former Site Vice President |
| Thayer, Jay | Entergy Services Inc. | Vice President of Operations |
| Wierzbowski, George | ENVY | Manager, Programs & Components; VY Technical Lead in CRA Response |