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T. Michael Twomey
Vice President, External Affairs - Wholesale

February 2, 2011

Mr. James Marc Leas
37 Butler Drive
South Burlington, VT 05403

Re: Vermont Yankee

Dear Mr. Leas:

I have reviewed your recent correspondence regarding "extraordinary" reliability issues at Vermont Yankee. I am not certain what information you reviewed to reach your conclusion that the plant is, in your words, "a piece of machinery that is falling apart," but it appears that you may not have had access to credible technical information concerning Vermont Yankee in particular or the nuclear industry in general.

As described in more detail below, Vermont Yankee has been, and continues to be, a top industry performer under a variety of reliability measures. These measures range from equipment reliability to operational performance and compare Vermont Yankee to plants from across the country. These operational achievements follow Entergy's investment of hundreds of millions of dollars in upgrades at Vermont Yankee since it purchased the plant in 2002.

Before addressing the more general reliability record of the plant, it is worth noting that what is "extraordinary" at Vermont Yankee is the level of transparency that is observed. Vermont Yankee reports to federal and state authorities a wide range of technical information that far exceeds the information other industrial facilities are required (or choose) to provide. The Nuclear Regulatory Commission ("NRC") requires extensive reporting by all nuclear operators. The NRC reporting regime includes full-time resident inspectors (there are two at Vermont Yankee) who have unrestricted access to plant information. Moreover, under the terms of a memorandum of understanding with Vermont's Department of Public Service and as a result of the plant's voluntary commitment to transparency, Vermont Yankee provides more extensive reports to various state agencies in Vermont than most other nuclear plants in the United States provide to their respective states. Further, the State of Vermont employs a full-time nuclear engineer who also has access to the site and plant information. The consequence of this comprehensive reporting framework is that Vermont Yankee routinely reports many incidents and events under circumstances where there is no threat to nuclear safety, plant reliability, or public health and safety. These reported incidents may not – and indeed often do not – indicate that a plant is not operating reliably.

The nuclear industry has an indicator for Equipment Reliability (ERI) that measures nineteen (19) different parameters, such as Loss Rate, Unplanned Downpowers, Critical Component Failures, and Total Maintenance Backlogs. Tracked from month-to-month, these parameters provide a way to forecast issues that need attention and prevent failures. Vermont Yankee has a Unit Reliability Team made up of managers from all departments. This team reviews equipment issues, meets every week to review and prioritize issues, and directs actions to correct. The team develops long-range plans and funding for equipment upgrades to ensure reliability for the future. Of the 104 operating nuclear plants in the United States, Vermont Yankee ranks in the top 25% for Equipment Reliability with a score of 90 out of a possible 100.

Like all nuclear plants in the United States, Vermont Yankee is also subject to review under the NRC's Regulatory Oversight Program, which is based upon an evaluation of plant performance relative to seven cornerstones, each of which supports one of the three strategic performance areas of reactor safety, radiation safety, and security. The seven cornerstones are comprised of a number of system and plant Performance Indicators ("PI") which are monitored by the licensee. The categories for which a rating is assigned are:

- Unplanned scrams (automatic shutdowns) per 7,000 critical hours of operation
- Unplanned power changes per 7,000 critical reactor operating hours of operation
- Unplanned scrams with complications
- Safety system functional failures
- Mitigating Systems Performance Index, Emergency AC Power Systems
- Mitigating Systems Performance Index, High Pressure Injection System
- Mitigating Systems Performance Index, Heat Removal System
- Mitigating Systems Performance Index, Residual Heat Removal System
- Mitigating Systems Performance Index, Cooling Water Systems
- Reactor Coolant System Activity
- Reactor Coolant System Leakage

These PIs are assessed monthly and reported to the NRC at the end of each quarter. PI information is combined with the results of NRC inspections to assist the NRC in assessing overall plant performance. Assessment results for each plant are posted to the NRC's website for public information. The program uses a color rating system (green, white, yellow and red) to evaluate plant performance based on margin of safety. The color "green" represents that level of performance consistent with satisfactory application of problem identification and corrective action resolution.[1] All of Vermont Yankee's PIs are currently "green." Moreover, the NRC assessment reviews of Vermont Yankee from 2003 through 2010 indicate that plant performance has generally been "green." Inspection findings have

[1] "White" indicates the potential for increased NRC investigative inspection. "Yellow" and "red" represent reduced safety margins, and plants rated in these categories will receive significantly increased levels of NRC inspection.

been classified as having very low significance and performance indicators have indicated performance at a level requiring no additional NRC oversight.

Vermont Yankee has a strong record of reliable and continuous operations. The plant achieved a capacity factor of 100% in 2009, compared to an industry average of 90.5%. From 2003 to 2009, Vermont Yankee achieved an average capacity factor above 92%, ranking the Facility among the top performing similar "sister" Boiling Water Reactor ("BWR") plants in net capacity factor achieved. [2]

Net Capacity Factors

2003–2009

Power Station	Net Capacity Factor
Dresden-3	93.4%
Duane Arnold	93.1%
FitzPatrick	93.0%
Vermont Yankee	**92.6%**
Brunswick-1	92.5%
Monticello	92.4%
Pilgrim	91.9%
Oyster Creek	91.9%
Quad Cities 2	91.2%
Hatch-1	90.8%
Brunswick-2	90.7%
Dresden-2	90.4%
Nine Mile Pt-1	90.3%
Quad Cities 1	89.4%
Hatch-2	89.1%
Cooper	87.5%
Average	*91.3%*

Source: EIA

Prior to its most recent refueling outage, Vermont Yankee completed 532 days of continuous operation in April 2010, the second breaker-to-breaker run in the last five years. The record run for the plant is 547 days, which ended in 2007. Surpassing the performance of many other nuclear facilities, Vermont Yankee has experienced just one unplanned outage lasting more than one week (18 days) since 2002. Moreover, as indicated in a March 2009 Vermont Public Oversight Panel report, 41 of the 130 licensed nuclear reactors in the United States have experienced extended outages longer than one year.

[2] Similar sister plants include U.S. BWR plants of similar capacity and age to Vermont Yankee (i.e., plants that went online between 1969 and 1979), and operate GE nuclear steam systems.

Approximately half (46.7%) of the BWRs licensed to operate in the United States have had one or more outages of more than one year. Vermont Yankee has not had a single outage lasting one year or longer.

Since purchasing Vermont Yankee in 2002, Entergy has invested more than $400 million to maintain and improve the reliability of the plant. The list of investments includes:

- Complete rewind of the main generator stator and rotor;
- Replacement of the high-pressure turbine steam path with modern high-efficiency stationary and rotating blades;
- Four new, improved-design, high-pressure feedwater heaters;
- A new main output transformer of increased capacity;
- A new digital electronic pressure regulator for the turbine generator control system;
- A new digital feedwater heater control system;
- Replacement of last-stage low-pressure turbine blades for improved efficiency and strength;
- Strengthening modifications to the reactor steam dryer assembly;
- An additional reactor steam safety valve;
- Cooling tower upgrades, including structural modifications, new fans, motors, gear boxes
- Purchase of spare auxiliary transformer;
- Replacement of several large power cables;
- Security system upgrades;
- Refurbishment of service water pump motors;
- Condensate demineralizer control system & septum upgrades;
- Purchased 1 new, and refurbished 2 existing feed water pump motors;
- Replacement of several service water piping sections & valves;
- Purchase of 4 new RHR service water pumps; and
- Condensate pump motor refurbishment

Notwithstanding its impressive operational record, Vermont Yankee has been the focus of considerable media attention due to a leak of tritium identified in early 2010. Vermont Yankee worked diligently to identify its source, to stop the leak, and to remediate the effects of the leak on the environment. To date, Vermont Yankee has removed approximately 180 cubic feet of soil from the area

near the leak and transported the removed soil to a licensed facility outside of Vermont for proper disposal. In addition, Vermont Yankee has pumped more than 300,000 gallons of tritiated water from the ground on the plant site and shipped the tritiated water to a licensed facility outside of Vermont for proper disposal. Vermont Yankee takes the leak and its remediation very seriously and has committed significant resources to addressing the issue. While acknowledging that this event did not meet Vermont Yankee's high standards for operational excellence, it is important to keep the event in perspective. To that end, it is worth noting that:

- Neither the Vermont Department of Health nor the NRC has concluded that the leak presented a danger to the health and safety of the public;

- Despite hundreds of tests over the past year, detectable levels of tritium have never been found in any drinking water;

- Detectable levels of tritium have never been found in the Connecticut River, nor in any vegetation, beef, or milk from sources near the plant or down-river; and

- In accordance with NRC protocols, Vermont Yankee analyzed a "worst case scenario" related to the tritium leak and concluded that the highest exposure to radiation to any individual that could result from the leak, using the most conservative (i.e., the worst case) assumptions, would be less than one one-hundredth (0.01) mRem per year. To put that number in context, the average person is exposed to three (3.0) mRem of radiation on a typical cross country airline flight and to thirty (30.0) mRem from a typical dental x-ray examination.

In summary, measured against any credible standard, Vermont Yankee is in excellent condition, has been maintained and improved appropriately by its owner, and provides safe, clean, and reliable energy to Vermont.

Sincerely,

T. Michael Twomey

cc: Michael Colomb