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OFFICE OF THE ATTORNEY GENERAL

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DIVISION OF SOCIAL JUSTICE
ENVIRONMENTAL PROTECTION BUREAU

November 27, 2013

Eric J. Leeds
Director
Office of Nuclear Reactor Regulation
Nuclear Regulatory Commission
Washington, D.C. 20555-0001

Re: Dockets 50-333, 50-271, and 50-293;
NRC Enforcement Proceeding No. 2013-0192

Dear Director Leeds:

The Office of New York State Attorney General Eric T. Schneiderman ("OAG") respectfully submits the following information relevant to the Nuclear Regulatory Commission's ("NRC") enforcement proceeding NRC-2013-0192. NRC initiated this proceeding to determine, among other questions, whether Entergy Nuclear Operations, Inc., and Entergy Nuclear FitzPatrick, LLC have the financial qualification required for the safe operation, maintenance and decommissioning of the FitzPatrick Nuclear Power Plant ("FitzPatrick"), located in Scriba, New York. Both corporations are subsidiaries of Entergy Corporation.¹

Under 10 C.F.R. § 50.33(f) & (k), the owner and operator of a nuclear power facility must demonstrate that it has the financial qualification to carry out the activities authorized by the operating license for the facility, including the capacity to pay costs associated with the personnel and equipment needed to safely operate the facility, its reactor, and its spent fuel pool and casks. In addition, 10 C.F.R. § 50.75 requires the owner and operator of such a facility to demonstrate that they have sufficient funds to properly decommission the facility.

OAG respectfully requests that as part of this proceeding, NRC examine the revenue attributable to FitzPatrick's power, the interconnection among Entergy business entities, and anticipated costs for facility operations, repairs, spent fuel storage and decommissioning. While publicly available information is severely limited, the information that is available – which is outlined in this submission – raises sufficient questions to merit an NRC examination in this proceeding of the financial qualification of Entergy Nuclear FitzPatrick and Entergy Nuclear

¹ This submission refers to these corporate entities as "Entergy Nuclear Operations," "Entergy Nuclear FitzPatrick," and "Entergy."

Operations related to the FitzPatrick facility. Such an examination should be conducted in a transparent manner and, at the end of the proceeding, NRC should detail and explain for New Yorkers the financial ability of these Entergy subsidiaries to safely operate, maintain and decommission FitzPatrick.

New York has an interest in this proceeding because, in addition to FitzPatrick's location within the state, Entergy Nuclear Operations operates and may control three additional nuclear facilities in New York – Indian Point Unit 1, Indian Point Unit 2, and Indian Point Unit 3. Therefore, the financial qualification of Entergy Nuclear Operations to safely operate, maintain, and decommission FitzPatrick is important to New York, and may extend to the company's financial qualification to safely operate, maintain, and decommission Entergy's reactors at the Indian Point site. In addition, Entergy Nuclear Operations operates the Vermont Yankee Nuclear Power Plant, the Pilgrim Nuclear Power Station in Massachusetts, and the Palisades Nuclear Power Plant in Michigan. The activities and expenditures of Entergy Nuclear Operations at those facilities may also affect its financial qualification in New York.

All of the Entergy nuclear facilities named above, including FitzPatrick, are "merchant reactors" that obtain revenues from the sale of power on the competitive wholesale power market, as opposed to through a fixed-price contract or a rate mandated by a state Public Service Commission.

Because Entergy Nuclear Operations operates the Entergy "merchant" nuclear facilities, NRC must consider the financial and operational interrelationships between Entergy Nuclear Operations, Entergy's subsidiaries that own these nuclear reactors, and other Entergy subsidiaries that market the electric power generated by these reactors. This inquiry should include an examination of the assets, revenue streams, and obligations between and among these Entergy subsidiaries. As Entergy files a consolidated financial statement with the U.S. Securities and Exchange Commission, information related to the assets, revenue streams and obligations of specific Entergy subsidiaries is not publicly available. That information must be obtained by NRC from Entergy.

The information in this submission regarding the interrelationships between Entergy Nuclear Operations and the Entergy subsidiaries – such as Entergy Nuclear FitzPatrick – that own the merchant reactors is relevant to NRC's inquiry in this enforcement proceeding concerning financial qualification of those companies. OAG provides this information to aid the NRC in conducting a fully informed investigation in this proceeding. The information is organized as follows:

- Part A outlines Entergy's corporate subsidiary structure regarding ownership and operation of FitzPatrick and other Entergy merchant nuclear facilities.
- Part B provides information indicating that Entergy Nuclear Operations may control the Entergy subsidiaries, such as Entergy Nuclear FitzPatrick, that own Entergy's merchant reactors. This information is (based upon?) from publicly-available filings of Entergy Nuclear Generating Company with the Massachusetts Secretary of State;

no other corporate or financial information is publicly available for Entergy merchant plant subsidiaries outside of Massachusetts.

- Part C provides information regarding another Entergy subsidiary – Entergy Nuclear Power Marketing, LLC – that purchases all of the power that Entergy’s merchant reactors generate, including the power generated at FitzPatrick, at an undisclosed price before selling it in the wholesale power market. Because revenue from power sales provides most, if not all, of the funds used to operate, maintain and decommission FitzPatrick and Entergy’s other merchant reactors, OAG requests that NRC include as part of this proceeding an examination of the prices that Entergy Nuclear Power Marketing pays for power generated at FitzPatrick and from Entergy’s other merchant reactors, and how those prices are determined.
- Part D identifies categories of financial and operational information regarding the assets, obligations, corporate operations, and capital requirements associated with the safe operation, maintenance, and decommissioning of FitzPatrick and other Entergy merchant reactors, as well as factors impacting revenue. OAG requests that NRC obtain facility-specific information from Entergy in these categories for consideration in examining financial qualification. New York provides information regarding known and probable future costs that should be included in this analysis, including costs related to:
 - Wholesale power markets within which FitzPatrick and Entergy’s other merchant reactors operate, impacting revenue;
 - Post-Fukushima and other reactor-specific capital improvements needed at FitzPatrick and Entergy’s other merchant reactors;
 - The impacts of climate change on operations at FitzPatrick and Entergy’s other merchant reactors; and
 - Entergy’s obligations to operate the independent spent fuel storage installations at FitzPatrick and other locations.

* * *

Part A: Entergy’s Corporate Subsidiary Structure

1) The financial qualification of Entergy Nuclear Operations and Entergy Nuclear FitzPatrick safely to operate, maintain and decommission FitzPatrick is intertwined with the assets and obligations of several other Entergy subsidiaries, including Entergy Nuclear Generation Company; Entergy Nuclear Vermont Yankee, LLC; Entergy Nuclear Indian Point 2, LLC; Entergy Nuclear Indian Point 3, LLC; Entergy Nuclear Palisades, LLC; and Entergy Nuclear Power Marketing, LLC.

- 2) The assets and obligations of the Entergy subsidiaries listed in paragraph 1 that are relevant to this NRC inquiry are maintained in the respective accounting records of those subsidiaries.
- 3) Entergy Nuclear FitzPatrick is a Delaware limited liability company that is an Entergy subsidiary. Entergy Nuclear FitzPatrick holds a license to possess the FitzPatrick plant, but it does not have a license to operate that merchant reactor.²
- 4) Entergy Nuclear Generation Company ("Entergy Nuclear Generation") is a Massachusetts corporation that is an Entergy subsidiary. Entergy Nuclear Generation holds a license to possess the Pilgrim Nuclear Power Station, but it does not have a license to operate that merchant reactor.³
- 5) Entergy Nuclear Vermont Yankee, LLC ("Entergy Nuclear Vermont Yankee") is a Delaware limited liability company that is an Entergy subsidiary. Entergy Nuclear Vermont Yankee holds a license to possess the Vermont Yankee Nuclear Power Station, but it does not have a license to operate that merchant reactor.⁴
- 6) Entergy Nuclear Indian Point 2, LLC ("Entergy Nuclear Indian Point 2") is a Delaware limited liability company that is an Entergy subsidiary. Entergy Nuclear Indian Point 2 holds a license to possess the functioning Indian Point Nuclear Generating Unit No. 2 and the retired Indian Point Nuclear Generating Unit No. 1 located in Buchanan, Westchester County, New York. However, Entergy Nuclear Indian Point 2 does not have a license to operate either of those merchant reactors.⁵
- 7) Entergy Nuclear Indian Point 3, LLC ("Entergy Nuclear Indian Point 3") is a Delaware limited liability company that is an Entergy subsidiary. Entergy Nuclear Indian Point 3 holds a license to possess the Indian Point Nuclear Generating Unit No. 3, but it does not have a license

² NRC Docket No. 50-333, In the Matter of Power Authority of the State of New York (James A. FitzPatrick Nuclear Power Plant), Order Approving Transfer of License and Conforming Amendment (Nov. 9, 2000) (*available at* ML003768011).

³ NRC Docket No. 50-293, In the Matter of Boston Edison Company (Pilgrim Nuclear Power Station, Unit No. 1), Order Approving Transfer of License and Conforming Amendments (April 29, 1999) (*available at* ML011910099); Dockets Nos. 50-293 & 30-34378, In the Matter of Entergy Nuclear Generation Company

(Pilgrim Nuclear Power Station), Order Approving Transfer of Operating Authority and Conforming Amendments (March 15, 2002) (*available at* ML013410065).

⁴ Docket No. 50-271, In the Matter of Vermont Yankee Nuclear Power Corporation (Vermont Yankee Nuclear Power Station), Order Approving Transfer and License Conforming Amendment (May 17, 2002) (*available at* ML020390198).

⁵ Docket Nos. 50-003 and 50-247, In the Matter of Consolidated Edison Company of New York, Inc. (Indian Point Nuclear Generating Unit Nos. 1 and 2), Order Approving Transfer and Conforming Amendments (Aug. 21, 2001) (*available at* ML012250459).

to operate that merchant reactor.⁶ The Indian Point Unit 3 nuclear facility is located adjacent to the Indian Point Unit 1 and Indian Point Unit 2 nuclear facilities.

8) Entergy Nuclear Palisades, LLC (Entergy Nuclear Palisades”) is a Delaware limited liability company that is an Entergy subsidiary. Entergy Nuclear Palisades holds a license to possess the Palisades Nuclear Plant, but it does not have a license to operate that merchant reactor.⁷

9) Entergy Nuclear Operations has the authority to operate Entergy’s merchant reactors located in New York, Massachusetts, Michigan, and Vermont.

10) Entergy Nuclear Operations is a Delaware corporation that is an Entergy subsidiary. Entergy Nuclear Operations holds licenses to operate FitzPatrick Nuclear Power Plant, Pilgrim Nuclear Power Plant, Vermont Yankee Nuclear Power Plant, Indian Point Unit 1 Nuclear Power Plant, Indian Point Unit 2 Nuclear Power Plant, Indian Point Unit 3 Nuclear Power Plant, and Palisades Nuclear Power Plant,⁸ but does not own any of those merchant facilities.⁹

⁶ Docket No. 50-286, In the Matter of Power Authority of the State of New York, (Indian Point Nuclear Generating Unit No. 3), Order Approving Transfer of License and Conforming Amendment (Nov. 9, 2000) (*available at* ML003767953).

⁷ Docket No. 50-255, Renewed License No. DPR-20, In the Matter of Consumers Energy Company Nuclear Management Company (Palisades Nuclear Plant), Order Approving Transfer and Conforming Amendment (April 6, 2007) (*available at* ML070780051). In addition, Entergy Nuclear Palisades has a license to possess the Big Rock Point Independent Spent Fuel Storage Installation, but it does not have a license to operate this facility. Docket Nos. 50-155 & 72-043, License No. DPR-06, In the Matter of Consumers Energy Company (Big Rock Point Facility), Order Approving Transfer of License and Conforming Amendment (April 6, 2007) (*available at* ML070740758).

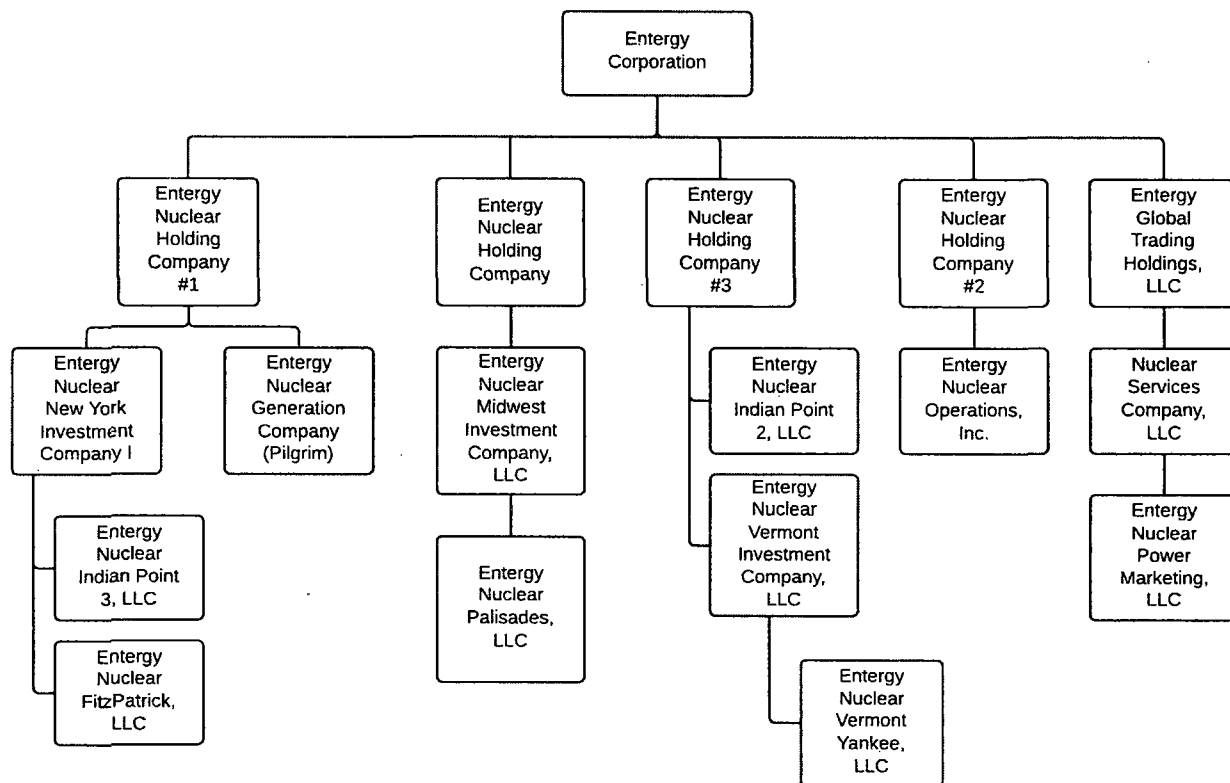
⁸ Entergy Nuclear Operations also operates Entergy’s Big Rock Point Independent Spent Fuel Storage Installation, which is at the site of a dismantled nuclear power reactor owned by Entergy Nuclear Palisades.

⁹ NRC Docket No. 50-333, In the Matter of Power Authority of the State of New York (James A. FitzPatrick Nuclear Power Plant), Order Approving Transfer of License and Conforming Amendment (Nov. 9, 2000) (*available at* ML003768011); Dockets Nos. 50-293 & 30-34378, In the Matter of Entergy Nuclear Generation Company (Pilgrim Nuclear Power Station), Order Approving Transfer of Operating Authority and Conforming Amendments (March 15, 2002) (*available at* ML013410065); Docket No. 50-271, In the Matter of Vermont Yankee Nuclear Power Corporation (Vermont Yankee Nuclear Power Station), Order Approving Transfer and License Conforming Amendment (May 17, 2002) (*available at* ML020390198); Docket Nos. 50-003 and 50-247, In the Matter of Consolidated Edison Company of New York, Inc. (Indian Point Nuclear Generating Unit Nos. 1 and 2), Order Approving Transfer and Conforming Amendments (Aug. 21, 2001) (*available at* ML012250459); Docket No. 50-286, In the Matter of Power Authority of the State of New York, (Indian Point Nuclear Generating Unit No. 3), Order Approving Transfer of License and Conforming Amendment (Nov. 9, 2000) (*available at* ML003767953); Docket No. 50-255, Renewed License No. DPR-20, In the Matter of Consumers Energy Company Nuclear

11) Entergy Nuclear Power Marketing, LLC (“Entergy Nuclear Power Marketing”) is a Delaware limited liability company that is an Entergy . Entergy Nuclear Power Marketing has no license to own or operate any nuclear reactor.

12) The schematic below illustrates the Entergy’s corporate structure as it applies to the ownership of FitzPatrick and Entergy’s other five operating merchant reactors, Entergy Nuclear Operations, and Entergy Nuclear Power Marketing.

Figure 1. Entergy Corporation’s Corporate Structure as it applies to Entergy Merchant Reactors, Entergy Nuclear Operations and Entergy Nuclear Power Marketing



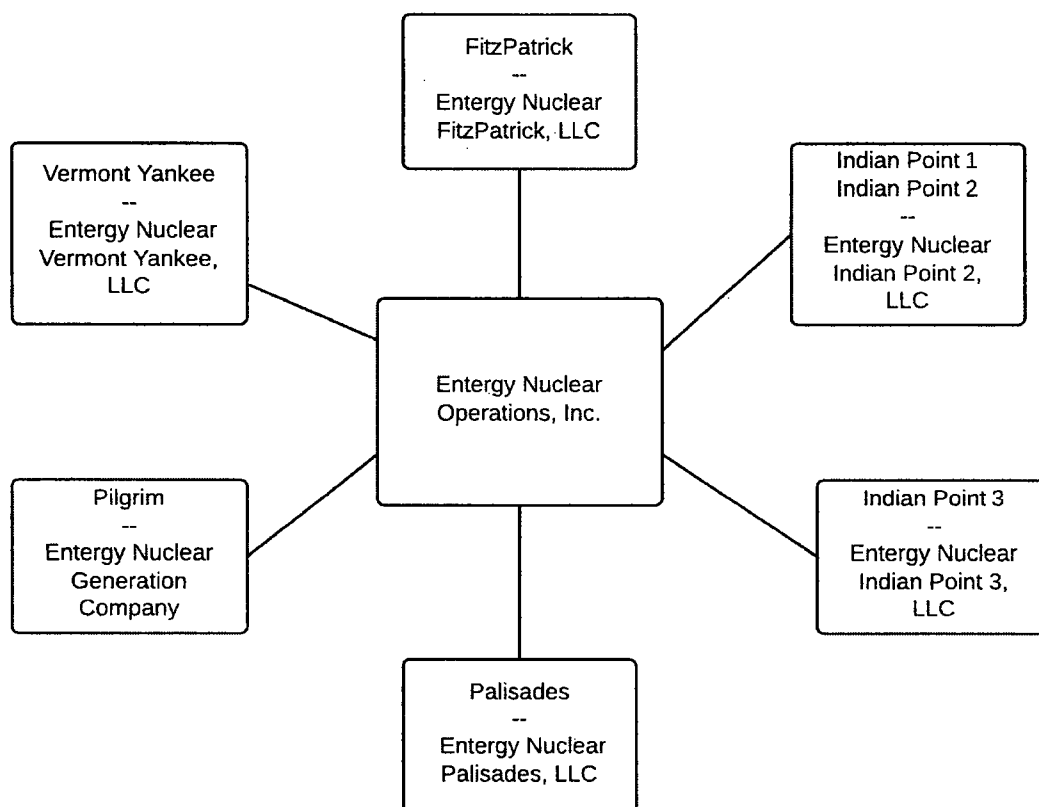
Management Company (Palisades Nuclear Plant), Order Approving Transfer and Conforming Amendment (April 6, 2007) (*available at* ML070780051); Docket Nos. 50-155 & 72-043, License No. DPR-06, In the Matter of Consumers Energy Company (Big Rock Point Facility), Order Approving Transfer of License and Conforming Amendment (April 6, 2007) (*available at* ML070740758).

Part B: Entergy Nuclear Operations' Control of Entergy's Merchant Reactors

13) Entergy Nuclear Operations officers, managers and personnel operate Entergy's merchant reactors, including FitzPatrick. Entergy Nuclear Operations officers make the ordinary business decisions and perform the day-to-day work at Entergy's merchant reactors.¹⁰

14) The schematic below illustrates the operations of Entergy's merchant reactors and facilities by Entergy Nuclear Operations, and the licensed owner entity.

Figure 2. Operation of Entergy's Merchant Reactors by Entergy Nuclear Operations



¹⁰ See, e.g., Entergy Corporation Securities and Exchange Commission Form 10-K for the year ending December 31, 2012, at 228, 246 (*available at* <http://www.sec.gov/Archives/edgar/data/7323/000006598413000050/a10-k.htm>). (Entergy disclosed that in 2012 Entergy Nuclear Operations had 3,688 employees but listed no employees for the formal owner of any Entergy merchant nuclear power reactor)

15) The following information pertains to the financial and operational relationships between and among several Entergy subsidiaries. In several instances, information about the finances and operations of the Entergy subsidiaries is not readily available to the public. For that reason, the following discussion includes an analysis of Entergy Nuclear Generation Company, another subsidiary of Entergy that is also a subject in this proceeding. Entergy Nuclear Generation Company is a corporation based in Massachusetts; information about this corporation is on file at the Massachusetts Department of State and thus available to the public. As detailed further, the financial and operational relationship between Entergy Nuclear Operations and Entergy Nuclear Generation Company is likely similar to, and indicative of, the financial and operational relationships between Entergy Nuclear Operations and several other Entergy subsidiaries, including Entergy Nuclear FitzPatrick.

16) An examination and comparison of the officers and directors of Entergy Nuclear Operations with those of Entergy Nuclear Generation Company, the formal owner of the Pilgrim nuclear facility, illustrates how Entergy Nuclear Operations appears to control Entergy's merchant nuclear power plants. Lists of officers for the two corporations contain many identical names, indicating that Entergy Nuclear Operations may control Entergy Nuclear Generation Company and the Pilgrim Nuclear Power Station.

17) A current Entergy Nuclear Operations filing with the Secretary of the Commonwealth of Massachusetts lists 29 officer positions and 4 director positions for this corporation.¹¹

18) A current Entergy Nuclear Generation Company filing with the Secretary of the Commonwealth of Massachusetts lists 14 officer positions and 1 director position for this corporation.¹²

19) The public Massachusetts filings show the same name for the President and CEO of Entergy Nuclear Operations as for the President and CEO of Entergy Nuclear Generation Company.¹³

¹¹ Secretary of the Commonwealth of Massachusetts, Corporations Division, Entergy Nuclear Operations, Inc., Business Entity Summary ID Number: 134120330 (*available at* http://corp.sec.state.ma.us/CorpWeb/CorpSearch/CorpSummary.aspx?FEIN=134120330&SEARCH_TYPE=1) (copy attached).

¹² Secretary of the Commonwealth of Massachusetts, Corporations Division, Entergy Nuclear Generation Company, Business Entity Summary ID Number: 640900523 (*available at* http://corp.sec.state.ma.us/CorpWeb/CorpSearch/CorpSummary.aspx?FEIN=640900523&SEARCH_TYPE=1) (copy attached).

¹³ *Compare* Secretary of the Commonwealth of Massachusetts, Corporations Division, Entergy Nuclear Operations, Inc., Business Entity Summary ID Number: 134120330 (*available at* http://corp.sec.state.ma.us/CorpWeb/CorpSearch/CorpSummary.aspx?FEIN=134120330&SEARCH_TYPE=1) *with* Secretary of the Commonwealth of Massachusetts, Corporations Division, Entergy Nuclear Generation Company, Business Entity Summary ID Number: 640900523 (*available at* http://corp.sec.state.ma.us/CorpWeb/CorpSearch/CorpSummary.aspx?FEIN=640900523&SEARCH_TYPE=1).

20) The Massachusetts filings show the same name for the Vice President and Treasurer of Entergy Nuclear Operations as for the Vice President and Treasurer of Entergy Nuclear Generation Company.¹⁴

21) The Massachusetts filings show the same name for the Vice President, Site - Pilgrim Nuclear Power Station for Entergy Nuclear Operations as for the Vice President, Operations for Entergy Nuclear Generation Company.¹⁵

22) The Massachusetts filings show the same name for the Vice President, CFO - Nuclear Operations for Entergy Nuclear Operations as for the Vice President, CFO - Nuclear Operations Entergy Nuclear Generation Company.¹⁶

23) The Massachusetts filings show the same name for the Assistant Secretary for Entergy Nuclear Operations as for the Assistant Secretary for Entergy Nuclear Generation Company.¹⁷

24) The Massachusetts filings show the same name for the Tax Officer for Entergy Nuclear Operations as for the Tax Officer for Entergy Nuclear Generation Company.¹⁸

25) The Massachusetts filings show the same name for the six top officers (President; CEO; Vice President Site Operations; Vice President, CFO - Nuclear Operations; Treasurer; and Secretary) for Entergy Nuclear Operations as for Entergy Nuclear Generation Company.¹⁹

26) The Massachusetts filings show that for 10 of the 14 Entergy Nuclear Generation Company officers listed the name is the same as that of the officers with the same title at Entergy Nuclear Operations.²⁰

27) The Massachusetts filings show that the name of Entergy Nuclear Generation Company's sole listed director is the same as that of one of Entergy Nuclear Operation's four directors.²¹

28) If the identical names for officers and a director at both corporations means that Entergy Nuclear Operations' six top officers (President; CEO; Vice President Site Operations; Vice President, CFO - Nuclear Operations; Treasurer; and Secretary) and the Entergy Nuclear Operations director hold the same positions at Entergy Nuclear Generation Company, this suggests that Entergy Nuclear Operations controls Entergy Nuclear Generation Company and the Pilgrim Nuclear Power Plant.

¹⁴ *Id.*

¹⁵ *Id.*

¹⁶ *Id.*

¹⁷ *Id.*

¹⁸ *Id.*

¹⁹ *Id.*

²⁰ *Id.*

²¹ *Id.*

29) The current Entergy Nuclear Operations filing with the Secretary of the Commonwealth of Massachusetts that lists officer and director positions for this corporation includes among its officer positions those of: (a) Vice President, Operations - FitzPatrick; (b) Vice President, Operations - Vermont Yankee; (c) Vice President, Operations - Indian Point Energy Center; and (d) Vice President, Operations - Palisades; and (e) as well as Vice President, Site - Pilgrim Nuclear Power Station.²²

30) Filings by Entergy's subsidiaries with the Secretaries of State in New York (FitzPatrick and Indian Point Unit 1, Unit 2, and Unit 3), Michigan (Palisades), and Vermont (Vermont Yankee) and other public records do not disclose either officer titles or the names of those who are officers of the subsidiaries that are the formal owners of Entergy's merchant reactors in those States.²³

31) Other than the Entergy Nuclear Generation Company, which is a Massachusetts corporation, the formal owners of Entergy's merchant reactors located in New York, Michigan, and Vermont are Delaware limited liability companies and do not have directors.²⁴

32) If Entergy Nuclear Operations' top officers hold the same top positions at one or more of the limited liability companies that are the formal owners of Entergy's merchant reactors in New York, Michigan, and Vermont, this suggests that, like Entergy Nuclear Generation Company, Entergy Nuclear Operations controls these limited liability companies and the respective merchant reactors.

²² Secretary of the Commonwealth of Massachusetts, Corporations Division, Entergy Nuclear Operations, Inc., Business Entity Summary ID Number: 134120330 (*available at* http://corp.sec.state.ma.us/CorpWeb/CorpSearch/CorpSummary.aspx?FEIN=134120330&SEARCH_TYPE=1) (copy attached).

²³ See, e.g., New York State Department of State, Division of Corporations, Entity Information, "Entergy Nuclear Operations, Inc." (*available at* http://appext20.dos.ny.gov/corp_public/CORPSEARCH.ENTITY_INFORMATION?p_nameid=2557406&p_corpid=2521734&p_entity_name=%45%6E%74%65%72%67%79&p_name_type=%41&p_search_type=%42%45%47%49%4E%53&p_srch_results_page=0); New York State Department of State, Division of Corporations, Entity Information, "Entergy Nuclear FitzPatrick, LLC" (*available at* http://appext20.dos.ny.gov/corp_public/CORPSEARCH.ENTITY_INFORMATION?p_nameid=2557343&p_corpid=2521656&p_entity_name=%45%6E%74%65%72%67%79&p_name_type=%41&p_search_type=%42%45%47%49%4E%53&p_srch_results_page=0).

²⁴ See, e.g., State of Delaware, Department of State: Division of Corporations, File No. 3170190, "Entergy Nuclear FitzPatrick" (*available at* <https://delecorp.delaware.gov/tin/controller>); Delaware Code, Title 6, Chapter 18. Limited Liability Company Act (*available at* <http://delcode.delaware.gov/title6/c018/sc04/>).

Part C: Control of Revenue from the Output of Entergy's Merchant Reactors

33) The formal owners of Entergy's merchant reactors sell their reactors' entire electricity output to another Entergy corporate entity, Entergy Nuclear Power Marketing, which then resells the electric power.²⁵

34) Because both the formal owners of Entergy's merchant reactors and Entergy Nuclear Power Marketing are Entergy subsidiaries, it is unlikely that the price that Entergy Nuclear Power Marketing pays for the reactors' output is determined by arms-length negotiation or bargaining.

35) The price that Entergy Nuclear Power Marketing pays the formal owners of Entergy's merchant reactors provides most, if not all of the funds that Entergy Nuclear Operations uses to maintain and operate Entergy's merchant reactors.²⁶

36) Any assessment of the financial qualification of Entergy Nuclear Operations and Entergy Nuclear FitzPatrick should determine both what Entergy Nuclear Power Marketing pays for the output of FitzPatrick and for the output of Entergy's other merchant reactors, and how the price that Entergy Nuclear Power Marketing pays is determined.

37) Neither what Entergy Nuclear Power Marketing pays for the output of Entergy's merchant reactors nor how that price is determined are matters of public record. Consequently, this information must be obtained from Entergy.

Part D: Financial Qualification, Assets, and Obligations

38) Given Entergy Nuclear Operations' apparent control of Entergy Nuclear Generation Company, and of the formal owners of Entergy's other merchant reactors including FitzPatrick, and its operation of these reactors, New York requests that any assessment of the financial qualification of Entergy Nuclear Operations and Entergy Nuclear FitzPatrick include examination of the following:

- a. The extent of Entergy Nuclear Operations' control of Entergy Nuclear FitzPatrick, and of the formal owners of Entergy's other merchant reactors.
- b. The nature and extent of the assets in Entergy Nuclear Operations' name.

²⁵ Entergy Corporation Securities and Exchange Commission Form 10-K for the year ending December 31, 2012, at 228 (*available at* <http://www.sec.gov/Archives/edgar/data/7323/000006598413000050/a10-k.htm>).

²⁶ Entergy Nuclear Operations receives revenue from the Cooper Nuclear Power Plant located in Nebraska for the services Entergy Nuclear Operations performs at Cooper. Entergy Nuclear Operations could use any profits from its Cooper services to support Entergy's merchant nuclear reactors. Entergy Nuclear Operations profits from its services at Cooper are not a matter of public record and must be obtained from Entergy Nuclear Operations.

- c. The nature and extent of the assets in the names of Entergy Nuclear FitzPatrick, and the formal owners of Entergy's other merchant reactors.
- d. The nature and extent of Entergy Nuclear Operations' obligations to Entergy Nuclear FitzPatrick, and to the formal owners of Entergy's other merchant reactors; and
- e. The capital requirements at FitzPatrick and at Entergy's other merchant reactors as it relates to the continued safe operation, maintenance and decommissioning of those reactors.

Information related to the specific assets of the Entergy subsidiaries is not publicly available, and, therefore, it must be obtained by NRC from Entergy and its subsidiaries and/or related entities.

39) In the following paragraphs, OAG provides information pertaining to categories of known and probable future costs to Entergy Nuclear Operations, Entergy Nuclear FitzPatrick, and/or other Entergy subsidiaries that should be included by NRC in the financial qualification analysis, as well as factors impacting revenue. These include: wholesale power market factors, post-Fukushima and other reactor-specific capital expenses, climate change, and operation of Entergy's independent spent fuel storage installations.

Wholesale Power Markets

40) In August 2013, Entergy publicly announced that it would close the Vermont Yankee nuclear power plant between October 1 and December 31, 2014.

41) Among other factors, Entergy cites sustained low wholesale energy prices due to increasing natural gas supplies and the "high cost structure for [a] single unit plant" as reasons for its decision to retire the Vermont Yankee Nuclear Power Station in 2014.²⁷

42) As Entergy recognizes, increasing natural gas supplies have caused "sustained low natural gas and wholesale energy prices."²⁸

43) Entergy states that its Vermont Yankee nuclear power plant is a single reactor facility with no opportunity for economies of scale.

44) FitzPatrick also is a single reactor facility.

²⁷ *Id.*

²⁸ Entergy Wholesale Commodities President Bill Mohl, "Fundamental change needed in Northeast power markets to avoid future energy cliff," The Hill (Sept. 19, 2013) (*available at* <http://thehill.com/blogs/congress-blog/energy-a-environment/323153-fundamental-change-needed-in-northeast-power-markets-to-avoid-future-energy-cliff->) (copy attached).

45) NRC's assessment of the financial qualification of Entergy Nuclear Operations and Entergy Nuclear FitzPatrick should examine the prices that Entergy Nuclear Power Marketing is receiving and may receive for the output of Entergy's merchant reactors.

46) NRC's assessment of the financial qualification of Entergy Nuclear Operations and Entergy Nuclear FitzPatrick should examine the current and probable future structures of the wholesale power markets within which Entergy Nuclear Power Marketing is selling the power output of Entergy's merchant reactors.

47) New York Independent System Operator, Inc. ("NYISO") manages the New York Power Pool and New York's wholesale power auctions. NYISO may provide some information about potential changes in New York's wholesale power market design, transmission capability, and new wholesale power sources that may affect the market value of FitzPatrick's and Indian Point's output. For example, NYISO's current Interconnection Queue lists 84 generation and transmission projects in various stages of approval.²⁹

Fukushima Costs

48) As noted, Entergy's FitzPatrick, Palisades, Pilgrim, and Vermont Yankee nuclear power plants are merchant facilities.

49) Entergy's FitzPatrick, Palisades, Pilgrim, and Vermont Yankee reactors employ a boiling water reactor design ("BWR") and have Mark 1 containments that need capital improvement to "hardened" containment pressure relief vents like those that failed in the BWR Mark 1 units at Fukushima.³⁰

50) Entergy estimates that "Fukushima fixes" for its Mark 1 containments will cost about \$50 million each.³¹

51) The NRC's assessment of the financial qualification of Entergy Nuclear Operations and Entergy Nuclear FitzPatrick should examine the cost of certain and probable future Fukushima improvements at Entergy's merchant reactors.

²⁹ Available at http://www.nyiso.com/public/webdocs/markets_operations/services/planning/Documents_and_Resources/Interconnection_Studies/NYISO_Interconnection_Queue/NYISO_Interconnection_Queue.xls.

³⁰ See, e.g., February 28, 2013 letter from M. Colomb, Site Vice President, FitzPatrick, to the NRC (ADAMS accession no. ML13063A286). However, Entergy may retire Vermont Yankee before the target date for completing the required Mark 1 upgrade.

³¹ F. Mand, "Part 2: Interview with Entergy's Bill Mohl: a balanced portfolio," Wicked Local (Oct. 2, 2013) (available at <http://www.wickedlocal.com/plymouth/news/x1843597804/PART-2-INTERVIEW-WITH-ENTERGY-S-BILL-MOHL-A-balanced-portfolio>)(copy attached).

Reactor Specific Capital Improvements

52) FitzPatrick faces significant capital costs specific to its equipment, in particular its main condenser. Entergy has indicated that it is considering replacing main condenser tubes during FitzPatrick's next refueling outage and acknowledged that this repair would be "a substantial investment."³²

53) FitzPatrick may need to repair or replace more than its main condenser, and other Entergy merchant reactors may require capital improvements.

54) NRC's assessment of the financial qualification of Entergy Nuclear Operations' and Entergy Nuclear FitzPatrick's financial qualifications must examine the cost of certain and probable future capital improvements at FitzPatrick and the other Entergy merchant reactors.

55) The potential costs of reactor specific improvements at FitzPatrick and the other Entergy merchant reactors are not matters of public record. Consequently, this information must be obtained from Entergy.

Climate Change

56) Climate change poses challenges for various power generation facilities, including some reactors. Superstorm Sandy caused high water levels at the cooling water intakes of both the Salem Nuclear Power Plant Unit 1 and the Oyster Creek Nuclear Power Plant, forcing the shutdown of those New Jersey power reactors. Superstorm Sandy also knocked out power lines whose loss idled other power reactors, including Indian Point 3.³³ Damage from high water levels caused by Superstorm Sandy also caused extensive damage and the subsequent permanent shutdown of six fossil generating units in New York.³⁴ In addition, summer heating of Long Island Sound put Millstone Power Station, Unit 2 offline in August 2012 and heating of Cape Cod Bay forced Pilgrim Nuclear Power Station to reduce output in July 2013.³⁵ Also, rising lake

³² T. Knauss, "Central New York nuclear plants struggle to avoid financial meltdown," Syracuse.Com (Sept. 29, 2013) (*available at* http://www.syracuse.com/news/index.ssf/2013/09/oswego_county_nuclear_plants_struggle_to_avoid_financial_meltdown.html) (copy attached).

³³ See, e.g., NRC Preliminary Notice of Event or Occurrence (PNO-I-12-007) issued October 31, 2012 (ADAMS Accession No: ML12305A460); B. Gallo, Jr., "Salem 1 nuclear reactor, shut down by Hurricane Sandy, returns to service," nj.com (Nov. 4, 2013) (*available at* http://blog.nj.com/salem_impact/print.html?entry=/2012/11/salem_1_nuclear_reactor_shut_d_2.html); T. Knauss, "Nine Mile Point nuke knocked out by remnants of Hurricane Sandy," Syracuse.com (Oct. 30, 2013) (*available at* http://blog.syracuse.com/news/print.html?entry=/2012/10/post_698.html).

³⁴ See, e.g., January 3, 2013 Letter from D. Ellis, Senior Director, Government Affairs, Dynegy Danskammer, LLC to the New York State Public Service Commission (PSC). *Available at*: <http://documents.dps.ny.gov/public/Common/ViewDoc.aspx?DocRefId=%7B27F01CCA-271A-464F-9718-7365D4E51B4F%7D>

³⁵ See, e.g., M. Wald, "Heat Shuts Down a Coastal Reactor," NYTime.com (Aug. 13, 2012) (*available at* <http://green.blogs.nytimes.com/2012/08/13/heat-shuts-down-a-coastal->

temperatures may stimulate the growth of algae in Lake Ontario waters that FitzPatrick uses for cooling purposes. Algae forced FitzPatrick to shut down in 2007.³⁶

57) NRC's assessment of the financial qualification of Entergy Nuclear Operations and Entergy Nuclear FitzPatrick should examine the known and probable future impact of climate change on Entergy's merchant reactors and their revenue.

58) Entergy's assessment of the current and potential impacts of climate change on its merchant reactors and their revenue are not matters of public record. Consequently, this information must be obtained from Entergy.

Independent Spent Fuel Storage Installations

59) Entergy Nuclear FitzPatrick and the other formal owners of Entergy's merchant reactors also own separate independent spent fuel storage installations ("ISFSIs") adjacent to their reactors. Entergy Nuclear Operations maintains and operates these ISFSIs. Entergy Nuclear Palisades also owns, and Entergy Nuclear Operations maintains and operates, the Big Rock Independent Spent Fuel Storage Installation ("Big Rock") at the site of a dismantled Michigan reactor.³⁷

60) ISFSIs do not produce income.

61) A retired power reactor does not produce income.

62) NRC's assessment of the financial qualification of Entergy Nuclear Operations and Entergy Nuclear FitzPatrick should address current Entergy ISFSI maintenance and operation expenses.

63) NRC's assessment of the financial qualification of Entergy Nuclear Operations and Entergy Nuclear FitzPatrick should address funding for the maintenance and operation of FitzPatrick's ISFSI between FitzPatrick's retirement and the remediation of FitzPatrick's ISFSI.

64) NRC's assessment of the financial qualification of Entergy Nuclear Operations and Entergy Nuclear FitzPatrick should address funding for the remediation of FitzPatrick's ISFSI.

reactor/?_r=0&pagewanted=print); "Heat wave forces nuclear plant to reduce output after Cape Cod Bay water deemed too warm to cool reactor," *masslive.com* (July 19, 2013) (*available at* http://www.masslive.com/news/boston/index.ssf/2013/07/heat_wave_forces_pilgrim_nucle.html).

³⁶ In 2007, algae stirred from the bed of Lake Ontario by a storm clogged FitzPatrick's cooling water intake to the point that the reactor had to shut down. *See, e.g.*, C. McChesney, "Algae shuts down nuke plant," *Syracuse.com* (Oct. 15, 2007) (*available at* http://www.syracuse.com/news/index.ssf/2007/10/algae_shuts_down_nuke_plant.html).

³⁷ *Id.* at 224.

65) The costs of maintaining and operating Entergy's ISFSIs are not matters of public record. Consequently, this information must be obtained from Entergy.

Conclusion

The substance of NRC's inquiry regarding the financial qualification of Entergy Nuclear Operations and Entergy Nuclear FitzPatrick is at its core an inquiry into Entergy Nuclear Operations' control of Entergy's merchant nuclear reactors, and Entergy Nuclear Power Marketing's control over the revenues from selling the electric power that these reactors produce. It is critical for public confidence and NRC's regulatory credibility that the agency investigate, understand, and report its findings regarding the financial structures as they pertain to the ability of Entergy's corporate subsidiaries to safely operate, maintain, and decommission FitzPatrick and the other subject merchant nuclear facilities.

If there are questions, or if OAG could assist in any other way, please contact this office.

Respectfully submitted,

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