



UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555-0001

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION AND
OFFICE OF NUCLEAR MATERIAL SAFETY AND SAFEGUARDS

RELATED TO REQUEST FOR DIRECT AND INDIRECT TRANSFERS OF CONTROL OF
RENEWED FACILITY OPERATING LICENSE NO. DPR-28 AND THE
GENERAL LICENSE FOR THE INDEPENDENT SPENT FUEL STORAGE INSTALLATION

FROM ENTERGY NUCLEAR OPERATIONS, INC. AND
ENTERGY NUCLEAR VERMONT YANKEE, LLC

TO NORTHSTAR VERMONT YANKEE, LLC AND
NORTHSTAR NUCLEAR DECOMMISSIONING COMPANY, LLC

VERMONT YANKEE NUCLEAR POWER STATION

DOCKET NOS. 50-271 AND 72-59

1.0 INTRODUCTION

By letter dated February 9, 2017 (Agencywide Documents Access and Management System (ADAMS) Accession No. ML17045A140), including proprietary financial information provided as Enclosure 1P, "Membership Interest Purchase and Sales Agreement" (ADAMS Accession No. ML17045A139), and as supplemented by letters dated April 6, 2017 (ADAMS Accession No. ML17096A394), August 22, 2017 (ADAMS Accession No. ML17234A141), August 28, 2017 (ADAMS Accession No. ML17248A468), December 4, 2017 (ADAMS Accession No. ML17339A896), December 22, 2017 (ADAMS Accession No. ML18009A459), May 21, 2018 (ADAMS Accession No. ML18143B484), and June 28, 2018 (ADAMS Accession No. ML18183A220), Entergy Nuclear Operations, Inc. (ENOI), on behalf of itself and Entergy Nuclear Vermont Yankee, LLC (ENVY), and NorthStar Nuclear Decommissioning Company, LLC (NorthStar NDC) (together, "Applicants"), requested that the U.S. Nuclear Regulatory Commission (NRC) consent to the proposed direct and indirect transfer of the Vermont Yankee Nuclear Power Station (VY) Renewed Facility Operating License No. DPR-28 and the Vermont Yankee Independent Spent Fuel Storage Installation (ISFSI) general license (collectively referred to as the facility). Specifically, the Applicants requested that the NRC consent to the direct transfer of ENOI's currently licensed authority (licensed operator for decommissioning) to NorthStar NDC. In addition, the Applicants requested the indirect transfer of control of ENVY's ownership interests in the facility licenses to NorthStar Decommissioning Holdings, LLC, and its parents NorthStar Group Services, Inc. (NorthStar), LVI Parent Corp. (LVI) and NorthStar Group Holdings, LLC (Holdings). These direct and indirect transfer requests are submitted to NRC for approval pursuant to Section 184 of the Atomic Energy Act of 1954, as amended (AEA), "Inalienability of Licenses," and Title 10 of the Code of Federal Regulations (10 CFR) 50.80, "Transfer of licenses," 10 CFR 72.50, "Transfer of licenses," and 10 CFR 50.90, "Application for amendment of license, construction permit, or early site permit." Enclosure 1P contains

sensitive unclassified non-safeguards information (proprietary commercial and financial information) that is being withheld from public disclosure pursuant to 10 CFR 2.390.

The Applicants also requested that NRC approve a conforming administrative amendment to the facility license to reflect the proposed direct transfer of the license from ENOI to NorthStar NDC as well as a planned name change for ENVY, from ENVY to NorthStar Vermont Yankee, LLC (NorthStar VY).

Notice of NRC consideration of the application was published in the *Federal Register (FR)* on May 24, 2017 (82 *FR* 23845) and included an opportunity to comment, request a hearing, and petition for leave to intervene. The supplemental letters, listed above, contained clarifying information, did not expand the application beyond the scope of the original notice, and did not affect the applicability of the NRC no significant hazards consideration determination.

Upon approval of the proposed indirect transfer of control, ENVY would change its name to NorthStar VY, but the same legal entity would continue to exist before and after the proposed transfer. NorthStar VY would own the VY facility as well as its associated assets and real estate, including its nuclear decommissioning trust fund, title to spent nuclear fuel, and rights pursuant to the terms of its Standard Contract for Disposal of Spent Nuclear Fuel and/or High-Level Radioactive Waste with the U.S. Department of Energy (DOE). Certain off-site assets and real estate of ENVY are excluded, such as administrative offices and off-site training facilities. Following approval and implementation of the proposed direct transfer of control of the license, NorthStar NDC would become the licensed operator for decommissioning and assume licensed responsibility for VY through the direct transfer of ENOI's responsibility for licensed activities at VY to NorthStar NDC. NorthStar VY would also enter into an operating agreement with NorthStar NDC, which provides for NorthStar NDC to act as NorthStar VY's agent and for NorthStar VY to pay NorthStar NDC's costs of operation, including all decommissioning costs. Upon the proposed license transfer, NorthStar NDC would assume responsibility for compliance with the current licensing basis, including regulatory commitments that exist at the closing of the transaction between the Applicants, and would implement any changes under applicable regulatory requirements and practices.

2.0 BACKGROUND

The VY site is located in the town of Vernon, Vermont, in Windham County on the west shore of the Connecticut River immediately upstream of the Vernon Hydroelectric Station. VY employed a General Electric boiling water reactor nuclear steam supply system licensed to generate 1,912 megawatts (thermal energy). The operating license for VY was issued on March 21, 1972, and commercial operation commenced on November 30, 1972. The license was renewed on March 21, 2011.

By letter dated December 19, 2014 (ADAMS Accession No. ML14357A110), ENOI submitted the Post-Shutdown Decommissioning Activities Report (2014 PSDAR), including the Site-Specific Decommissioning Cost Estimate (DCE), for VY to the NRC. The 2014 PSDAR was submitted in accordance with the requirements of 50.82, "Termination of license," paragraph (a)(4)(i).

On January 12, 2015 (ADAMS Accession No. ML15013A426), pursuant to 10 CFR 50.82(a)(1)(i) and (a)(1)(ii), ENOI certified to the NRC that it had permanently ceased operations

at VY on December 29, 2014, and that all fuel had been permanently removed from the reactor vessel and placed in the spent fuel pool. In accordance with the PSDAR, ENOI placed the VY reactor in SAFSTOR and planned to have all VY spent fuel in dry storage in the onsite ISFSI by 2020, terminate the 10 CFR Part 50 license by 2073, and restore the site by 2075.

By letter dated August 16, 2018 (ADAMS Accession No. ML18234A143), ENOI submitted notification to NRC that all of the spent nuclear fuel assemblies had been transferred from the spent fuel pool and have been placed in dry storage within the onsite ISFSI.

Application for License Transfer

According to the license transfer application, the purpose of the proposed transfers of the licenses is to permit the accelerated radiological decommissioning of the non-ISFSI portions of the VY site. NorthStar NDC would assume possession of, and managerial responsibility for, all licensed activities, including decommissioning of the VY unit, and associated buildings and structures, and possession and licensing of the spent nuclear fuel, by the time the license transfer would be implemented. The principal remaining structures at VY include a reactor building, primary containment, control building, radioactive waste building, intake and discharge structures, turbine building, cooling towers, and main stack.

As the licensed operator, NorthStar NDC will be licensed to possess, maintain, and decommission the VY facilities and ISFSI and will be licensed to possess and maintain the spent nuclear fuel onsite. Under the terms of the proposed transaction, NorthStar NDC would begin decommissioning activities promptly after the transfer becomes effective and would plan to complete radiological decommissioning and restoration of the non-ISFSI portions of the VY site no later than the end of 2030 (and potentially as early as 2026).

NorthStar is a demolition, asbestos abatement, and environmental remediation company with experience in decommissioning large scale industrial and commercial complexes. NorthStar also has radiological decommissioning experience through involvement with the decommissioning of four research reactors at the Universities of Buffalo, Arizona, Illinois, and Washington, which were licensed by the NRC. In addition, according to the license transfer application, NorthStar has been involved with decommissioning at the US Department of Energy's Hanford and Savannah River sites and the deconstruction of nuclear reactor laboratory facilities at several universities, and has been awarded a contract to support the decommissioning of ten reactor sites in the United Kingdom.

According to the application, NorthStar NDC will draw on the experience of individuals from its parent company, NorthStar, and its strategic partners. NorthStar will contract with AREVA, Burns & McDonnell, and Waste Control Specialists as strategic partners to take advantage of their decommissioning experience, which includes NRC regulated power reactor vessel/internals segmentation and packaging, and spent fuel support (AREVA), NRC regulated quality assurance and compliance engineering experience and participation in NRC regulated decommissioning projects (Burns & McDonnell), and radioactive waste management, packaging, transportation, and disposal (Waste Control Specialists). The work of the strategic partners will be under the oversight of the NorthStar NDC's decontamination and decommissioning (D&D) Operations Manager.

Membership Interest Purchase and Sale Agreement

According to the license transfer application, NorthStar Decommissioning Holdings, LLC, proposes to acquire 100% of the membership interests in ENVY pursuant to the terms of the Membership Interest Purchase and Sale Agreement (MIPA) executed by ENVY and NorthStar; a copy of the MIPA is provided in a separately bound Addendum as Enclosure 1P to the February 9, 2017 application. Enclosure 1P contains confidential commercial and financial information that is being withheld from public disclosure pursuant to 10 CFR 2.390. A redacted, non-proprietary version of the MIPA, is provided as Enclosure 1 of the application (ADAMS Accession No. ML17045A140).

As such, indirect control of ENVY will be transferred from ENVY's current Entergy parent company, Entergy Nuclear Vermont Investment Co., LLC (ENVIC), to NorthStar Decommissioning Holdings, LLC, and its parents NorthStar, LVI, and Holdings. According to the Applicants, ENVY will immediately change its name to NorthStar VY, but the same legal entity will continue to exist before and after the proposed transfer. In addition, NorthStar NDC, a wholly owned subsidiary of NorthStar, will assume licensed responsibility for VY through a direct transfer of ENOI's licensed responsibility for decommissioning activities at VY to NorthStar NDC. NorthStar VY will enter into an operating agreement with NorthStar NDC, which provides for NorthStar NDC to act as NorthStar VY's agent and for NorthStar VY to pay NorthStar NDC's costs of operation, including all decommissioning costs. A simplified organization chart reflecting the current VY licensees and their owners is provided as Figure 1 of the application. The planned ownership following the proposed transfers is depicted in Figure 2 of the application.

Unlike corporations that have stockholders, a limited liability company (LLC) has membership interests. The membership interests in ENVY are currently held by ENVIC, an indirectly, wholly-owned subsidiary of Entergy Corporation. To facilitate the sale of ENVY, one day before the closing, ENVIC will transfer its membership interests in ENVY to a newly created ENVIC subsidiary, Vermont Yankee Asset Retirement Management, LLC (VYARM), which will then sell and transfer its membership interests to NorthStar Decommissioning Holdings, LLC. VYARM will hold the membership interests in ENVY for no more than 24 hours. As stated by the Applicants, this intermediate transfer step is a commercially integral part of the transfer of ownership in ENVY to NorthStar NDC. Therefore, considering the 24-hour limit for all intermediate transfer steps, the NRC staff finds it appropriate to consider the entire transaction, including the intermediate steps as a single license transfer application.

NorthStar Decommissioning Holdings, LLC, with NorthStar Group Holdings, LLC, and Entergy Nuclear Vermont Investment Company, LLC, with ENVY have entered into the MIPA that includes the direct and indirect transfers of control of ENOI's and ENVY's renewed facility operating license as well as the general license for the VY ISFSI. The transfers are for the licensed possession, maintenance, and decommissioning authorities so as to implement expedited decontamination, dismantlement, and decommissioning of the VY facilities (other than the ISFSI) as soon as reasonably practicable after the closing of the purchase and sale (Closing).

The MIPA requires NorthStar NDC and NorthStar VY to release all portions of the VY Site, other than the ISFSI, pursuant to 10 CFR 50.83, and to dispose of all radioactive waste, other than spent nuclear fuel, in accordance with all applicable laws as promptly as reasonably practicable

after closing the transaction. In addition, the MIPA also calls for NorthStar NDC and NorthStar VY to complete decommissioning with respect to the ISFSI and to terminate the NRC license as promptly as reasonably practicable after the U.S. Department of Energy accepts the spent nuclear fuel.

Under the terms of the MIPA, NorthStar NDC and NorthStar VY will become the NRC licensees responsible for all activities under the VY license. NorthStar NDC will perform the VY decommissioning, dismantlement, and decontamination work by relying on the experience of its parent, NorthStar Group Services Inc., as a general decommissioning contractor on commercial and industrial projects while performing decommissioning and decontamination work, including on asbestos projects, and through contracts with its strategic partners, AREVA, Burns & McDonnell, and WCS.

Revised PSDAR

In support of its license transfer application, NorthStar submitted to the NRC a revised Post-Shutdown Decommissioning Activities Report (revised PSDAR) for VY on April 6, 2017 (ADAMS Accession No. ML17096A394), to notify the NRC of changes in the actions and schedules previously described in the 2014 PSDAR. The revised PSDAR updates the information previously provided by ENOI, as required by 10 CFR 50.82(a)(7). The revised PSDAR is intended to apply based and contingent upon NRC approval of this license transfer, and ENVY being acquired by NorthStar, pursuant to the terms of the MIPA.

Vermont Public Utility Commission Certificate of Public Good and Settlement Agreement

Under Vermont state law, the Vermont Public Utility Commission (PUC) must also approve the transaction and issue an amended Certificate of Public Good (CPG). In addition to radiological decommissioning of the site to NRC decommissioning standards, NorthStar VY and NorthStar NDC will be required to restore the site in accordance with standards approved by the Vermont PUC in the amended CPG.

On March 2, 2018 (ADAMS Accession No. ML18066A735), the Applicants signed a settlement agreement and Memorandum of Understanding (MOU) with State of Vermont agencies and other interested parties on terms for approval of the proposed sale that, if the Applicants meet certain terms and conditions for the transfer of ownership of VY, will promote the general good of the State. In addition to NRC approval of the license transfer, the Vermont PUC approval of the MOU and a PUC order approving the proposed transaction are pre-conditions to closing of the proposed sale transaction between Entergy and NorthStar.

3.0 REGULATORY EVALUATION

As described in the application, the proposed transaction constitutes a direct and indirect transfer of ownership interest of VY, which requires prior NRC approval. For direct transfers of control of a license, the NRC must find that the direct transfer of the license is otherwise consistent with applicable provisions of law, NRC regulations, and orders issued by the Commission.

The request for approval of the direct and indirect transfer of the VY license as described above, and as discussed in this safety evaluation, is made pursuant to 10 CFR 50.80(a), which states that:

No license for a production or utilization facility (including, but not limited to, permits under this part and part 52 of this chapter, and licenses under parts 50 and 52 of this chapter), or any right thereunder, shall be transferred, assigned, or in any manner disposed of, either voluntarily or involuntarily, directly or indirectly, through transfer of control of the license to any person, unless the Commission gives its consent in writing.

In addition, the regulations in 10 CFR 50.80(b) and (c) apply. The regulation at 10 CFR 50.80(b) states, in part:

(1) An application for transfer of a license shall include:

(i) For a construction permit or operating license under this part, as much of the information described in 50.33 and 50.34 of this part with respect to the identity and technical and financial qualifications of the proposed transferee as would be required by those sections if the application were for an initial license.

Section 50.80(c) of 10 CFR states, in part, that:

...the Commission will approve an application for the transfer of a license, if the Commission determines: (1) That the proposed transferee is qualified to be the holder of the license; and (2) That transfer of the license is otherwise consistent with applicable provisions of law, regulations, and orders issued by the Commission pursuant thereto.

Section 50.33(f) of 10 CFR states, in part, that:

Except for an electric utility applicant for a license to operate a utilization facility of the type described in § 50.21(b) or § 50.22, [each application shall state] information sufficient to demonstrate to the Commission the financial qualification of the applicant to carry out, in accordance with regulations in this chapter, the activities for which the permit or license is sought.

The NRC staff applies guidance in NUREG-1577, Revision 1, "Standard Review Plan on Power Reactor Licensee Financial Qualifications and Decommissioning Funding Assurance" (ADAMS Accession No. ML013330264), issued February 1999, to evaluate the financial qualifications of applicants to carry out the activities for which the permit or license is sought.

Section 50.54(bb) of 10 CFR requires, in part, a licensee to submit, for NRC review and preliminary approval, the program by which the licensee intends to manage and provide funding for the management of all irradiated fuel at the reactor following permanent cessation of operation of the reactor until title to the irradiated fuel and possession of the fuel is transferred to the Secretary of Energy for its ultimate disposal in a repository.

In accordance with 10 CFR 50.2, "Decommission", means to remove a facility or site safely from service and reduce residual radioactivity to a level that permits (1) release of the property for unrestricted use and termination of the license, or (2) release of the property under restricted conditions and termination of the license.

Section 50.33(k)(1) of 10 CFR requires that applicants provide information, in the form of a report, as described in 10 CFR 50.75, "Reporting and recordkeeping for decommissioning planning," indicating how reasonable assurance will be provided that funds will be available to decommission the facility.

Section 50.75 of 10 CFR establishes requirements for indicating to NRC how a licensee will provide reasonable assurance that funds will be available for the decommissioning process. Section 50.75(b) requires that each power reactor applicant for an operating license submit a decommissioning report, as required by Section 50.33(k). Section 50.75(e) provides the methods acceptable to the NRC for providing decommissioning financial assurance. Finally, Section 50.75(h) provides additional requirements regarding the management of decommissioning trust funds.

Section 50.82(a)(8)(i) of 10 CFR states that decommissioning trust funds may be used by licensees if:

- (A) The withdrawals are for expenses for legitimate decommissioning activities consistent with the definition of decommissioning in § 50.2;
- (B) The expenditure would not reduce the value of the decommissioning trust below an amount necessary to place and maintain the reactor in a safe storage condition if unforeseen conditions or expenses arise and;
- (C) The withdrawals would not inhibit the ability of the licensee to complete funding of any shortfalls in the decommissioning trust needed to ensure the availability of funds to ultimately release the site and terminate the license.

Section 50.82(a)(8)(v) of 10 CFR requires power reactor licensees that have permanently ceased operations to provide to the NRC annually, by March 31, a decommissioning financial assurance status report.

Section 50.82(a)(8)(vii) of 10 CFR provides, in part, for the licensee's annual submittal to the NRC, a report on the status of its funding for managing irradiated fuel.

Section 50.34(a)(9) of 10 CFR requires applicants to provide:

The technical qualifications of the applicant to engage in the proposed activities in accordance with the regulations in this chapter.

The NRC staff applies guidance in NUREG-0800, "Standard Review Plan for the Review of Safety Analysis Reports for Nuclear Power Plants: LWR Edition," Chapter 13, "Conduct of Operations," Revision 6 of Section 13.1.1, "Management and Technical Support Organization" (ADAMS Accession No. ML15005A449), for the review of the corporate-level management and technical support organization of applicants. Guidance in Revision 7 of Section 13.1.2 and

13.1.3, "Operating Organization" (ADAMS Accession No. ML15007A296), is applied for the review of the operating organization of applicants, including the structure, functions, and responsibilities of the onsite organization established to safely operate and maintain the facility.

In addressing foreign ownership, control, or domination (FOCD) issues, Section 103d of the AEA provides, in relevant part that:

No license may be issued to...any corporation or other entity if the Commission knows or has reason to believe it is owned, controlled, or dominated by an alien, a foreign corporation, or a foreign government.

The NRC's regulation in 10 CFR 50.38 is the regulatory provision that implements the FOCD provision of the AEA. Section 50.38 of 10 CFR provides, in part, that:

[A]ny corporation, or other entity which the Commission knows or has reason to believe is owned, controlled, or dominated by an alien, a foreign corporation, or a foreign government, shall be ineligible to apply for and obtain a license.

The NRC staff evaluates license transfer applications in a manner consistent with the guidance provided in the "Final Standard Review Plan on Foreign Ownership, Control, or Domination," as published in the *Federal Register* on September 28, 1999 (64 FR 52357), to determine whether the applicant is owned, controlled, or dominated by an alien, a foreign corporation, or a foreign government.

The NRC staff also reviews information that relates to nuclear onsite property damage insurance requirements under 10 CFR 50.54(w) and the Price-Anderson insurance and indemnity requirements under Section 170 of the AEA and 10 CFR part 140, "Financial Protection Requirements and Indemnity Agreements."

With respect to the transfer of control of a license for an ISFSI, 10 CFR 72.50(a) states that:

No license or any part included in a license issued under this part for an ISFSI or MRS [Monitored Retrievable Storage Installation] shall be transferred, assigned, or in any manner disposed of, either voluntarily or involuntarily, directly or indirectly, through transfer of control of the license to any person, unless the Commission gives its consent in writing.

Finally, with respect to the requested conforming license amendment, 10 CFR 50.90 states, in part, whenever a holder of a license, including a construction permit and operating license under this part, desires to amend the license or permit, an application for an amendment must be filed with the Commission fully describing the changes desired and following as far as applicable the form prescribed for original applications. Pursuant to 10 CFR 2.1315, where administrative license amendments are necessary to reflect an approved license transfer, such amendments will be included in the order that approves the license transfer.

4.0 FINANCIAL EVALUATION

4.1 Financial Qualifications

As explained above, on January 12, 2015, pursuant to 10 CFR 50.82(a)(1)(i) and (a)(1)(ii), ENOI certified to the NRC that it had permanently ceased operations at VY on December 29, 2014, and that all fuel had been permanently removed from the reactor vessel and placed in the spent fuel pool. Since NorthStar NDC (proposed licensed operator for decommissioning) will not be authorized under the facility license to operate or load fuel in the reactor pursuant to the terms of 10 CFR 50.82(a)(2), NorthStar NDC will not conduct the reactor operations contemplated by the financial qualifications provisions of 10 CFR 50.33(f)(2), but rather all of its licensed activities will involve possession of radioactive material in connection with maintaining the safe condition of the plant, radiological decommissioning of the VY site (including the ISFSI), license termination, and operational responsibilities associated with spent fuel management. Thus, following the proposed direct and indirect transfers, NorthStar VY (the proposed licensed owner) will maintain the existing Nuclear Decommissioning Trust (NDT) and will be responsible for funding all the expenses associated with radiological decommissioning and operational costs for spent fuel management. Accordingly, as described in this safety evaluation, the staff's review of the Applicants' financial qualifications and decommissioning financial assurance pursuant to 10 CFR 50.33(f), 10 CFR 50.33(k)(1), 10 CFR 50.75, and 10 CFR 50.82(a), includes an analysis of the projected costs for decommissioning the facility and terminating the license, and managing irradiated fuel until the U.S. Department of Energy takes title and possession of the fuel.

For a facility in decommissioning, a licensee is required to execute financial plans for spent fuel management under 10 CFR 50.54(bb) and report annually on the status of funding dedicated towards radiological decommissioning and spent fuel management under 10 CFR 50.82(a)(8)(v) to (vii).

4.2 Radiological Decommissioning

Pursuant to NRC regulations in 10 CFR 50.2, "Decommission", means to remove a facility or site safely from service and reduce residual radioactivity to a level that permits: (1) release of the property for unrestricted use and termination of the license, or (2) release of the property under restricted conditions and termination of the license. The existing NDT for VY was created in compliance to 10 CFR 50.75, and the funds within the trust were collected while the facility was operating. As described below, the NRC staff's review of decommissioning financial assurance assesses whether the Applicants have provided reasonable assurance of obtaining the funds necessary to cover estimated costs for radiological decommissioning of VY and its ISFSI.

Separate from this application, by letter dated April 6, 2017, the Applicants provided a revised PSDAR¹ in support of the proposed direct and indirect license transfers. Specifically, the revised PSDAR contains:

¹ The staff notes that the NRC does not review the PSDAR for approval; however, for the purpose of this license transfer request, the staff relied on the revised PSDAR as a reference for the Applicant's decommissioning plans.

1. A description of the planned decommissioning activities along with a schedule for their accomplishment;
2. A discussion that provides the reasons for concluding that the environmental impacts associated with site-specific decommissioning activities will be bounded by previously issued environmental impact statements;
3. A site-specific decommissioning cost estimate, including the projected irradiated fuel management costs, license termination costs, and site restoration costs; and
4. A settlement agreement between ENOI, ENVY (NorthStar VY after its acquisition by NorthStar), and agencies of the State of Vermont.

The 2014 PSDAR, as originally submitted by ENOI and ENVY reflected the current decommissioning plan of VY to be completed by ENOI and ENVY within a 60-year period using the SAFSTOR method. The revised PSDAR reflects NorthStar's plan to complete the immediate and accelerated decommissioning of the non-ISFSI portions of the VY site within a 7-year period after the proposed transfer is approved. The revised PSDAR also contains the most recent decommissioning cost estimate and spent fuel management plans pursuant to 10 CFR 50.82, "Termination of License."

Under the revised PSDAR, as compared to ENOI and ENVY's 2014 PSDAR, the proposed change in decommissioning method from SAFSTOR to DECON results in an overall 23-year acceleration of the site closure from 2075 to approximately 2052, and a site-specific decommissioning cost estimate that reflects an approximate license termination cost reduction in an amount of \$200 million, and an increase in spent fuel management costs of approximately \$61 million.

In its original request, by letter dated February 9, 2017, the Applicants provided financial projections for the duration of the VY decommissioning project, including the amount of the decommissioning trust funds in the NDT (~\$562 million as of December 31, 2016), a financial Support Agreement in the amount of \$125 million, estimated costs for the radiological decommissioning of VY (~\$495 million), spent fuel management costs to be paid for using the NDT (up to \$20 million at any one time repaid by DOE reimbursements), and estimated costs for decommissioning the ISFSI (~\$3.5 million).

By letter dated November 3, 2017 (ADAMS Accession Number ML17313A431), the staff requested additional information regarding the Applicants' reliance on use of the NDT for spent fuel management. In response, by letter dated December 4, 2017 (ADAMS Accession Number ML17339A896), the Applicants explained that there were material changes in circumstances from the analysis upon which the original exemption was based, but believed that the previous exemption granted to Entergy for use of the NDT for spent fuel management expenses should be transferred to them.

Based on its review of the information supplied to date in the original application and supplemental information provided in response to these RAIs, the NRC staff was unable to find that the funding mechanisms (use of the NDT for spent fuel management) proposed by the Applicants were adequate to provide reasonable assurance that sufficient funds would be available for the decommissioning of the VY facility and for the management of spent fuel. Specifically, with respect to sufficiency of the NDT, the staff was concerned that the previous showing by Entergy of special circumstances in granting of the exemption to use the NDT for spent fuel management did not appear to apply to NorthStar, in that a 60-year period would not

be available for funds in the NDT to grow to a level sufficient to pay for both projected decommissioning costs and spent fuel management. Therefore, by letter dated April 5, 2018 (ADAMS Accession Number ML18045A817), the staff requested additional information on the applicability of the exemption granted to Entergy to use the NDT for spent fuel management.

In response, by letters dated May 21, 2018 (ADAMS Accession Number ML18143B484) and June 28, 2018 (ADAMS Accession Number ML18183A220), the Applicants provided an analysis of the applicability of the current Entergy exemption to use the NDT for spent fuel management concluding that the special circumstances of the exemption apply, because NorthStar VY has committed to limiting any access to funds for purposes of spent fuel management to \$20 million on a "revolving" basis and to return recoveries for ISFSI expenses from DOE reimbursements to the trust fund. In addition, NorthStar claimed that precluding access to \$20 million in excess funds would create an unnecessary financial burden without any corresponding safety benefit. Nevertheless, on May 25, 2018, NorthStar submitted an exemption request to use up to \$20 million from the NDT on a revolving basis for spent fuel management activities (ADAMS Accession Number ML18150A315). The staff's analysis of this regulatory exemption was performed separate from this safety evaluation and, on October 11, 2018, the NRC staff approved the exemption request (ADAMS Accession No. ML18274A246). This exemption is being issued simultaneously with this license transfer, and will only apply to NorthStar VY and NorthStar NDC following consummation of the license transfer transaction and NRC issuance of the conforming amendment reflecting this license transfer. In its review of the exemption, the staff concluded that reasonable assurance exists that adequate funds will be available in the NDT to complete radiological decommissioning, license termination, and the spent fuel management activities within the scope of this exemption request. The staff's findings from its evaluation of the exemption were considered in its analysis of this proposed license transfer and supports the staff's conclusion that the Applicants' use of the NDT in a limited capacity (\$20 million on a revolving basis), as projected to be reimbursed by funds recovered from DOE litigation, will not have a negative impact on the adequacy of funding for radiological decommissioning.

On March 2, 2018, the Applicants, certain State of Vermont agencies, and others entered into a settlement agreement concerning the proposed purchase and sale transaction of VY from Entergy to NorthStar (ADAMS Accession No. ML18066A044). The staff noted that the settlement agreement included language that appeared to conflict with NRC regulations on the appropriate use of the NDT in that the settlement agreement established an escrow account that may be used to fund completion of decommissioning and/or site restoration activities. Specifically, the source of funding for this account was unclear, and the settlement agreement language suggested, in part, that funds withdrawn from the NDT for decommissioning expenses could be deposited into the escrow account which would be prohibited by NRC regulations in 10 CFR 50.82(a)(8)(i)(A) which requires that funds in the NDT be used only for activities consistent with the definition of decommissioning in 10 CFR 50.2. Therefore, by letter dated April 5, 2018, the staff requested additional information on the impact of the applicant's settlement agreement with the State and others on its ability to meet NRC's financial qualification requirements.

As additional financial assurance in support of the settlement agreement, the Applicant's RAI response dated May 21, 2018, notes that the Applicants will deposit \$30 million into an escrow account that will be funded with \$20 million from Entergy and \$10 million from NorthStar. The Applicants stated that funds contributed to, and accumulated in, this escrow account will be available for radiological decommissioning and site restoration, as needed.

The staff further notes that after the initial funding of the escrow account at closing, NorthStar NDC and its subcontractors will immediately conduct decommissioning activities. According to the Applicants RAI response, NorthStar NDC will submit invoices for that decommissioning work to NorthStar VY, which will withdraw funds from the NDT to pay for these invoices. After NorthStar VY has withdrawn the first \$100 million from the NDT, however, it will not immediately pay NorthStar NDC 100% of the amounts invoiced and withdrawn from the NDT, but rather will withhold 10% of these amounts and deposit the withheld 10%, up to \$25 million, into the escrow account. NorthStar NDC has committed to defer receipt of payment (up to \$25 million) for the decommissioning work that it and its subcontractors perform. Based on its evaluation of the RAI response, the NRC staff finds that funds withdrawn from the NDT will only be used to pay for legitimate decommissioning expenses. Further, the staff finds that the terms and conditions of the settlement agreement do not have any adverse effect on the financial information submitted by the Applicants to the NRC regarding the license transfer application because the settlement agreement establishes additional and enhanced funding mechanisms that do not rely on funds from the NDT to assure that site restoration beyond what is required by the NRC will be completed as planned.

According to the Applicant's RAI response dated May 21, 2018, the latest estimated cost to decommission VY was approximately \$495 million (2016 dollars), plus an additional approximately \$3.5 million for ISFSI decommissioning. The latest estimated opening NDT balance in 2019 (the estimated start date of decommissioning) will be approximately \$513 million. However, according to one scenario in its June 28, 2018 supplemental RAI response where NorthStar trust fund income taxes are paid prior to closing of the proposed transfer, the estimated opening NDT balance could be approximately \$488 million without considering future trust contributions and growth. Therefore, the staff used this conservative estimate of the opening NDT balance to perform its independent cash flow analysis provided in Attachment 1 to this safety evaluation report.

With respect to the adequacy of funding for the radiological decommissioning of VY and the VY ISFSI, the NRC staff reviewed the application and RAI responses, including Applicant's proposed site-specific decommissioning cost estimate for the facility, planned decommissioning activities, use of the NDT for spent fuel management, the most conservative opening NDT balance in 2019 (\$488 million), and projected trust growth. In its analysis, the staff considered the NDT opening balance of \$488 million, plus the \$30 million dollar escrow account described above, the financial Support Agreement in the amount of \$140 million, the \$20 million revolving credit from DOE reimbursements and/or the performance bonds, and a 2% real-rate of return on annual balances. These considerations were included in the staff's independent cash flow analysis is contained in Attachment 1 to this safety evaluation. Based on its evaluation as shown in its cash flow analysis, the NRC staff finds that the funds in the NDT are expected to be available and sufficient to cover the estimated costs for the radiological decommissioning of the facility (including the ISFSI), and spent fuel management to the extent as allowed permitted by the approval of the regulatory exemption (\$20 million on a revolving basis).

Conclusion

Based on this review, in consideration of the above analysis and the staff's independent cash flow analysis in Attachment 1 of this safety evaluation, the NRC staff finds that the Applicants have provided reasonable assurance of obtaining the funds necessary to cover estimated costs

for decommissioning VY and its ISFSI in accordance with the requirements of 10 CFR 50.33(f), 10 CFR 50.33(k)(1), 10 CFR 50.75, and 10 CFR 50.82(a).

4.3 Spent Fuel Management

After the closing of the proposed transaction, NorthStar VY will retain ownership and title to all spent nuclear fuel and all rights and obligations under the Standard Spent Fuel Disposal Contract. The Nuclear Decommissioning Trust is to be retained by NorthStar Vermont Yankee, LLC. NorthStar VY will also be responsible for ISFSI decommissioning.

In its license transfer application, by letter dated February 9, 2017, the Applicants provided their funding plan for spent fuel management costs, which included using excess decommissioning trust funds for spent fuel management up to \$20 million on a revolving basis, reliance on DOE reimbursements for spent fuel management costs to be repaid to the NDT, and a financial Support Agreement in the amount of \$125 million. The NRC staff's review of the Applicants' funding plan for spent fuel management costs is discussed below.

Exemption to use NDT for Spent Fuel Management

The Applicants proposed to use excess decommissioning trust funds for spent fuel management relying on the regulatory exemption granted to Entergy in 2015. As discussed in Section 4.2 of this evaluation, the staff was concerned that the previous showing by Entergy of special circumstances in granting of the exemption to use the NDT for spent fuel management did not apply to NorthStar, because Entergy's 60-year SAFSTOR period would not be available to NorthStar for funds in the NDT to grow to a level sufficient to pay for both projected decommissioning costs and spent fuel management. As explained above, this issue was discussed in the RAIs dated November 3, 2017, and April 5, 2018, and the applicant's responses dated December 4, 2017, and May 21, 2018.

By letter dated May 25, 2018, in support of the license transfer request, NorthStar submitted a request for an exemption to 10 CFR 50.82(a)(8)(i)(A) to use up to \$20 million of the VY trust (on a revolving basis) to pay for spent fuel management expenses. As mentioned above, the staff's analysis of this regulatory exemption was performed separate from this safety evaluation and, on October 11, 2018, the NRC staff approved the exemption request (ADAMS Accession No. ML18274A246). This exemption is being issued simultaneously with this license transfer, and will only apply to NorthStar VY and NorthStar NDC following consummation of the license transfer transaction and NRC issuance of the conforming amendment reflecting this license transfer. The staff's findings from its evaluation of the exemption were considered in its analysis of the proposed license transfer and supports the conclusion that use of the NDT in a limited capacity (\$20 million on a revolving basis), as projected to be reimbursed by funds recovered from DOE litigation, will not have a negative impact on the adequacy of funding for radiological decommissioning. These findings are supported by the staff's independent cash flow analysis.

Based on its evaluation, the NRC staff finds that the use of \$20 million from the NDT for spent fuel management, on a revolving basis, and as projected to be reimbursed by funds recovered from DOE litigation, provides a reasonable source of funding to cover the costs associated with spent fuel management because such use will not have a negative impact on the adequacy of funding for radiological decommissioning, as confirmed by the regulatory exemption described above.

DOE Reimbursements

Based on its review of the license transfer application, the NRC staff also had questions regarding the ability of the Applicants' to rely on DOE reimbursements for spent fuel management costs. Therefore, by letter dated November 3, 2017, the staff requested additional information regarding the reliability of the recovery of claims from DOE to reimburse the NDT.

In response, by letter dated December 4, 2017 (ADAMS Accession Number ML17339A896), NorthStar provided further justification for why they believed that DOE reimbursements for spent fuel management expenses should be considered a reliable source of funding (to reimburse the NDT), including submittal of an Inspector General Financial Audit on DOE's Nuclear Waste Fund.

Based on its review of the information supplied to date in the original application and supplemental information provided in response to these RAIs, the NRC staff was unable to find that the DOE reimbursements provided a reasonable source of additional funding to supplement estimated costs for spent fuel management at the site. Specifically, Entergy did not yet appear to have filed a claim for DOE reimbursements that could be relied upon for spent fuel management costs after the requested license transfer, nor show that a favorable judgment has been obtained for recovery of those costs. In addition, NorthStar would not have a settlement agreement in place with DOE for the recovery of spent fuel management costs immediately following the proposed transfer. Therefore, by letter dated April 5, 2018, the staff requested additional information on NorthStar's plans for the recovery of claims from DOE.

According to the Applicant's RAI response dated May 21, 2018, ENVY has successfully filed two rounds of claims for DOE reimbursements receiving approximately \$41 million (April 11, 2013) and \$19 million (June 27, 2016). As stated in the application, NorthStar is expecting to receive its own DOE reimbursements to recover costs for spent fuel management.

In the RAI response dated May 21, 2018, the Applicants also indicated that the DOE reimbursements for spent fuel management expenses require a licensee to litigate for DOE reimbursements, and that no such litigation has been initiated since the last DOE reimbursement. However, ENVY has current contractual rights under the Standard Contract and believes they are entitled to compensation for damages that continue to incur until the time of the license transfers. The Applicants further stated that given the governing law with respect to government contracts, costs must first be incurred before ENVY can make a claim for damages. According to the Applicants, although ENVY could have filed claims more frequently, ENVY has elected to allow damages to accumulate over several years before filing a claim in order to avoid excessive litigation-related costs. The staff notes that under a Vermont Settlement Agreement, ENVY has committed to file a "Round 3" claim no later than 30 days after the completion of the dry fuel storage campaign. ENVY anticipates it will seek, among other costs, approximately \$145 million in damages for the dry fuel storage campaign and approximately \$30 million for ISFSI operating and maintenance (O&M) costs from 2014 through the date of filing the claim. Additionally, an expected "Round 4" claim would be filed between 2020 and 2023 to recover ISFSI O&M for the period from the end of the Round 3 claim through the time of Round 4 claim. According to the Applicants, filing lawsuits more frequently would require time and effort, as well as legal costs that can be avoided by consolidating claims for several years into one lawsuit. NorthStar NDC proposes to follow much the same strategy to obtain DOE reimbursements for the VY spent fuel management expenses incurred upon obtaining the licenses.

As further assurance regarding its reliance on a future DOE settlement agreement, NorthStar VY proposed, in the May 21, 2018, RAI response, and agrees to the following license condition:

NorthStar VY shall obtain a performance bond if a Settlement Agreement with the U.S. Department of Energy (DOE), on DOE reimbursements for spent fuel management expenses is not entered into by January 1, 2022. The performance bond will be effective January 1, 2022, initially in the amount of \$4.3 million, and it will be renewed annually. This amount covers the annual amount of ISFSI operation and maintenance (O&M) costs projected for 2022-2024. If a settlement is not reached by January 1, 2024, this amount will be increased to \$9.3 million, which covers the annual amount of ISFSI O&M costs projected for years after 2024.

The staff notes that, in the May 21, 2018, RAI response, Attachment 2, "Response to Request for Additional Information," the Applicants provided as Enclosure 5, "Prequalification Letter," a prequalification letter from Aspen American Insurance Company and Everest Reinsurance Company, to demonstrate NorthStar's ability to obtain the \$4.3 million and \$9.3 million performance bonds, as needed, for spent fuel management.²

With this safety evaluation, in this circumstance, the NRC staff finds that the assumption of DOE reimbursement is a reasonable source of additional funding. In recent years DOE reimbursements have become more consistent and predictable despite the longevity of the litigation process and complexity of DOE standard settlement agreements. Moreover, ENVY (to be renamed NorthStar VY), has successfully filed two rounds of claims for DOE reimbursements. Finally, as further assurance of its reliance on a future DOE settlement agreement, NorthStar VY agreed to a license condition committing to obtain a performance bond to cover spent fuel management costs if a settlement agreement has not been reached in timeframe anticipated. Therefore, the NRC staff concludes that DOE reimbursements, as proposed by the Applicants, provide a reasonable source of funds to cover costs associated with the management of spent fuel for this financial qualifications review.

Support Agreement

Based on its review of the license transfer application, the NRC staff questioned the adequacy of the Applicants' financial Support Agreement amount of \$125 million. Therefore, by letter dated November 3, 2017 (ADAMS Accession Number ML17313A431), the staff requested additional information regarding the adequacy of the proposed financial Support Agreement from NorthStar for decommissioning funding and spent fuel management costs.

In response, by letter dated December 4, 2017 (ADAMS Accession Number ML17339A896), NorthStar provided further justification for the adequacy of its financial Support Agreement. By letter dated December 22, 2017 (ADAMS Accession Number ML18009A459), the Applicants supplemented their response to NRC's requests for additional information (RAIs) dated

² According to the Applicants, NorthStar expects to use \$20 million from the VY NDT, which would cover the cumulative ISFSI O&M costs through the end of 2021 and beginning of 2022. Thus, the Applicants state that the performance bond would commence in the first year that funds would be required from another source, and the performance bond would continue annually and be increased to cover the estimated costs until a DOE settlement agreement is formally executed.

November 3, 2017. In its response, NorthStar informed NRC that it had determined that the Support Agreement amount needed to be increased from \$125 million to \$140 million.

Based on its review of the information supplied to date in the original application and supplemental information provided in response to these RAIs, the NRC staff was unable to find that the financial Support Agreement proposed by the Applicants adequate to ensure that sufficient funds would be available for the management of spent fuel. Specifically, it was unclear to staff how the NRC could rely on the financial Support Agreement as “an additional source of available funding,” to operate and maintain the ISFSI until DOE takes title and possession of the fuel, when the “No Guarantee” term of the Support Agreement specifically stated that the agreement was not a guarantee and the Support Agreement did not constitute a parent company guarantee as described in NRC regulations.

Therefore, by letter dated April 5, 2018 (ADAMS Accession Number ML18045A817), the staff requested additional information on the ability of the proposed financial Support Agreement to provide an available source of funding in the absence of a guarantee. In response, by letters dated May 21, 2018 (ADAMS Accession Number ML18143B484) and June 28, 2018 (ADAMS Accession Number ML18183A220), the Applicants provided clarifying language for the proposed financial Support Agreement (of \$140 million) and supporting financial qualification information that clarifies the intent of the Support Agreement. Specifically, the Applicants made several revisions to the proposed Support Agreement, including the addition of clarifying language that the Support Agreement, “may, however, be relied upon by the NRC as a parental guarantee in determining the financial qualifications of the Subsidiary to hold the NRC License, including funding the costs associated with the spent fuel management program”

As further assurance that NorthStar VY and NorthStar NDC will continue to have an adequate source of funds for spent fuel management costs, the Applicants proposed the following license condition:

NorthStar Vermont Yankee, LLC and NorthStar Nuclear Decommissioning Company, LLC shall take no action to cause NorthStar Group Services, Inc., to void, cancel, or modify the \$140 million Support agreement to provide funding for Vermont Yankee as represented in the application without prior written consent of the Director of the Office of Nuclear Reactor Regulation.

Based on the staff’s evaluation of the application, RAI responses, and proposed license condition, the staff’s concerns related to the support agreement have been resolved because the Applicants provided clarifying revised language for the proposed financial Support Agreement, supporting financial qualification information, and clarification that the intent of the Support Agreement is to provide a reasonable source of funding for spent fuel management. Therefore, based on the original application, as supplemented by the RAI responses, the NRC staff finds that the \$140 million financial Support Agreement provides a reasonable source of funding to cover the estimated costs associated with spent fuel management.

Conclusion

As the application and RAI responses pertained to the funding for spent fuel management, the NRC staff reviewed the Applicant's proposed site-specific decommissioning cost estimate for the facility, planned decommissioning activities, use of the NDT for spent fuel management (~\$288 million), the most conservative opening NDT balance in 2019 (\$488 million), and projected trust growth. In its analysis for spent fuel management, the staff considered the NDT opening balance of \$488 million, the financial Support Agreement in the amount of \$140 million, the \$20 million revolving credit from DOE reimbursements and/or the performance bonds, and a 2% real-rate of return on annual balances. Based on its evaluation, the NRC staff finds that these funds are expected to be available to pay for the radiological decommissioning of the facility (including the ISFSI), and spent fuel management as allowed by the approval of the regulatory exemption. The staff's independent cash flow analysis is contained in Attachment 1 to this safety evaluation report.

Based on its review, in consideration of the above analysis describing the Applicants' financial plans for managing spent fuel, the NRC staff finds that the Applicants have reasonable assurance of obtaining the funds necessary to cover estimated costs for irradiated fuel management in accordance with 10 CFR 50.33(f) and 10 CFR 50.54(bb).

4.4 Financial Qualifications Conclusion

As described above, the NRC staff reviewed the application and RAI responses in its evaluation of the Applicants' financial qualifications, funding for the decommissioning of VY and the VY ISFSI, and funding for irradiated fuel management at VY. Based on its evaluation as described above and shown in its cash flow analysis, the NRC staff concludes that the funds in the NDT are expected to be available and sufficient to cover the estimated costs for the radiological decommissioning of the facility (including the ISFSI), and spent fuel management to the extent allowed by the approval of the regulatory exemption (\$20 million on a revolving basis). Therefore, the NRC staff concludes that the Applicants have provided reasonable assurance of obtaining the funds necessary to cover estimated costs for decommissioning VY and its ISFSI in accordance with the requirements of 10 CFR 50.33(f), 10 CFR 50.33(k)(1), 10 CFR 50.75, and 10 CFR 50.82(a).

In addition, based on its evaluation above of the Applicants' funding plans for managing spent fuel, including exemption to use NDT for Spent Fuel Management, the NorthStar \$140 million financial Support Agreement, and the projected DOE reimbursements and/or performance bonds, as supported by the staff's independent cash flow analysis, the NRC staff concludes that the Applicants have reasonable assurance of obtaining the funds necessary to cover estimated costs for spent fuel management in accordance with the requirements of 10 CFR 50.33(f), and 10 CFR 50.54(bb).

Accordingly, in light of the foregoing evaluation, the NRC staff finds that NorthStar VY and NorthStar NDC are financially qualified to hold the VY License No. DPR-28 as proposed.

5.0 STANDARD CONTRACT FOR DISPOSAL OF SPENT NUCLEAR FUEL

Upon closing, NorthStar VY (who upon approval of the proposed indirect transfer of control, would be the same legal entity as ENVY but with a name change to NorthStar VY) will continue

to hold title to the spent nuclear fuel at VY and will continue to maintain the DOE Standard Contract, including all rights and obligations under that contract. This Standard Contract, No. DE-CR01-83NE44431 (DOE Standard Contract), was entered into by the previous owner, Vermont Yankee Nuclear Power Corporation, and the United States of America, represented by the DOE, to govern the disposal of spent nuclear fuel generated at VY. NorthStar NDC will have exclusive responsibility under the Licenses for the possession, maintenance, and decommissioning of VY, which includes responsibility for spent fuel management and the maintenance and security of the ISFSI.

6.0 ANTITRUST REVIEW

The AEA does not require or authorize antitrust reviews of post-operating license transfer applications (*Kansas Gas and Electric Co., et al* (Wolf Creek Generating Station, Unit 1), CLI-99-19, 49 NRC 441 (1999)). This application postdates the issuance of the operating license for the unit under consideration in this safety evaluation, and, therefore, no antitrust review is required or authorized.

7.0 FOREIGN OWNERSHIP, CONTROL, OR DOMINATION

Sections 103d and 104d of the AEA prohibit the NRC from issuing a license for a nuclear power plant to “any corporation or other entity if the Commission knows or has reason to believe it is owned, controlled, or dominated by an alien, a foreign corporation, or a foreign government.” The NRC’s regulation, 10 CFR 50.38, contains language to implement this prohibition.

According to the application, the direct license transfer application provides that NorthStar Group Holdings, LLC, and its subsidiaries, are not owned, controlled, or dominated by an alien, a foreign corporation, or a foreign government. NorthStar Group Holdings, LLC (Holdings) is privately held and controlled by its Board of Directors, all of whom are U.S. citizens. The Directors are appointed by the U.S. citizens who control the private equity funds that own Holdings. Each of the funds has multiple limited partnership investors, who are passive investors. The passive investors may include foreign investors, but Holdings is not aware of any foreign passive investor that holds more than 5 percent of the indirect ownership interests of Holdings. Moreover, the passive investors are not able to exercise control over either the private equity funds or Holdings. As such, there is no reason to believe that Holdings and the licensee entities will be owned, controlled or dominated by any foreign person. The current directors and executive officers of Holdings are U.S. citizens. Neither NorthStar NDC nor NorthStar VY are acting as an agent or representative of any other person in the proposed transfers of the licenses.

Based on this information, the NRC staff finds that the transfer of ownership and decommissioning authority of the facility to NorthStar NDC and NorthStar VY as proposed in the application does not raise any issues related to FOCD within the meaning of the AEA and NRC regulations. In light of the above and pursuant to Sections 103d and 104d of the AEA and 10 CFR 50.38, the NRC staff concludes that it does not know, or have reason to believe, that NorthStar VY will be owned, controlled, or dominated by an alien, a foreign corporation, or a foreign government, as a result of the direct or indirect license transfers.

8.0 NUCLEAR INSURANCE AND INDEMNITY

Pursuant to the requirements of the Price-Anderson Act (Section 170 of the AEA) and the NRC's implementing regulations in 10 CFR part 140, the current indemnity agreement must be modified to reflect that, after the proposed license transfers take effect, NorthStar VY (licensed owner) and NorthStar NDC (licensed operator for decommissioning) will be the sole licensees for VY for purposes of decommissioning the site. Consistent with NRC practice, the staff will require NorthStar VY and NorthStar NDC to provide and maintain onsite property insurance as specified in 10 CFR 50.54(w), "Conditions of licenses." NorthStar VY and NorthStar NDC are also required to provide evidence that they have obtained the appropriate amount of insurance in accordance with 10 CFR 140.11(a)(4), which will be effective concurrent with the date of the license transfers and amended indemnity agreement. Therefore, the order approving the transfer will be conditioned as follows:

"Prior to the closing of the license transfer, NorthStar NDC and NorthStar VY shall provide the Directors of NRC's Office of Nuclear Material Safety and Safeguards (NMSS) and Office of Nuclear Reactor Regulation (NRR) satisfactory documentary evidence that they have obtained the appropriate amount of insurance required of a licensee under 10 CFR 140.11(a)(4) and 10 CFR 50.54(w) of the Commission's regulations, consistent with the exemptions issued to VY on April 15, 2016."

Based on the above, the NRC staff concludes that the proposed license transfer, as conditioned, satisfies the nuclear insurance and indemnity requirements of 10 CFR part 140 and 10 CFR part 50.

9.0 TECHNICAL EVALUATION

9.1 Management and Technical Support Organization

NorthStar NDC and NorthStar VY

NorthStar NDC and NorthStar VY will be required to comply with all the requirements of the VY current NRC licenses and applicable NRC regulations upon transfer of the licenses. As stated in the license transfer application, NorthStar NDC and NorthStar VY will possess or have access to all records necessary for compliance with their obligations under the licenses and NRC requirements. NorthStar NDC will assume responsibility for compliance with the current licensing basis, including regulatory commitments that exist at closing. Any changes to the current licensing basis will be implemented under applicable regulatory requirements and practices.

NorthStar NDC will not be authorized under the facility license to operate or load fuel in the reactor, but rather will be licensed to possess radioactive material, decommission the VY facilities and site, operate the onsite ISFSI, and to terminate the license. Therefore, the application was evaluated against the requirements of 10 CFR 50.34(a)(9) and 10 CFR 50.80 that the applicant be technically qualified to engage in the proposed activities to possess radioactive material, decommission the VY facilities and site, operate the onsite ISFSI and to terminate the license. In support of that evaluation, the NRC staff reviewed the application in accordance with the acceptance criteria contained in NUREG-0800, Section 13.1.1, Revision 6

(ADAMS Accession No. ML15005A449) to determine the acceptability of the proposed corporate management and technical support organization, and ANSI/ANS-3.1-2014 (Section 4.3.3, "Radiation protection") that has been endorsed by NRC in Draft Regulatory Guide DG-1329, "Qualification and Training of Personnel for Nuclear Power Plants" (ADAMS Accession No. ML16091A267).

As stated in the application, NorthStar NDC employees and contractors will not be employed without being qualified for their positions in accordance with the applicable VY Technical Specifications and Quality Assurance Program Manual requirements. NorthStar NDC will also adopt the existing Quality Assurance (QA), emergency preparedness, and training procedures currently in place at VY and establish these functions at VY using NorthStar NDC project personnel that will include existing VY personnel, as well as contractors.

The Applicants state that the existing ISFSI operations employees of Entergy at VY and other key members of the existing ISFSI operations team are expected to become NorthStar NDC employees. Approximately 15 employees will be offered employment with NorthStar NDC. In addition, NorthStar NDC plans to retain the existing security subcontractor.

As stated in the application and/or supplemental information, NorthStar NDC will staff a Radiation Protection Manager who reports to the Director of Health Physics and Waste Operations. Specifically, the NorthStar Radiation Protection Manager at the Vermont Yankee Nuclear Station will be the current Entergy Radiation Protection Manager at VY, and he will become a NorthStar NDC employee upon the transaction closing. The Radiation Protection Manager will typically be responsible for the development and administration of programs and policies in the specific areas of radiation protection. The proposed Radiation Protection Manager has the education, training, and experience to fulfill the requirements of ANSI/ANS-3.1-2014 (Section 4.3.3, Radiation Protection) middle level manager and radiation protection manager.

An organization chart showing the planned project organization is provided in Enclosure 3 to the application (as modified by updated information in the May 21, 2018 RAI response). The organization provides for a single Vice President and Decommissioning Program Manager (PM) accountable for overall management, leadership, performance, nuclear safety, QA and employee safety. Managers reporting directly to the PM will have responsibilities for radiological safety, industrial health and safety, fuel storage, regulatory affairs, quality assurance, licensing, environmental, decontamination and decommissioning, engineering and operations, waste operations, project administration and financial services, and project controls. This organization will provide a nuclear management team with control over the decontamination and decommissioning operations.

Strategic Partner Experience and Expertise

According to the application, NorthStar NDC will draw on the experience of individuals from its parent company, NorthStar, and its strategic partners. NorthStar will contract with AREVA, Burns & McDonnell, and Waste Control Specialists as strategic partners to take advantage of their decommissioning experience. The experience and expertise of NorthStar and each of its strategic partners is briefly described below:

NorthStar Group Services, Inc. is a demolition and asbestos abatement company. As a demolition and abatement contractor, NorthStar has experience in demolition and decommissioning including participation in the decommissioning of four NRC regulated research reactors at the Universities of Buffalo, Arizona, Illinois and Washington. NorthStar has also been involved with decommissioning at the DOE's Hanford and Savannah River sites. The NorthStar organization will consist of existing staff from VY and current VY contractors, and staff from NorthStar and its strategic partners. An organization chart of the proposed management structure was provided in the application as Enclosure 3, along with the resumes of key management personnel.

AREVA, Inc. (now known as Orano USA LLC) is a nuclear fuel and services provider. AREVA provides experience in vessel and internals segmentation, with specific BWR experience. AREVA successfully disassembled the reactor pressure vessel at the Wuergrass nuclear power station in Germany. AREVA also has D&D experience at decommissioning of NRC regulated power reactors, including reactor pressure vessel and internals segmentation and packaging at Yankee Rowe, Maine Yankee, and the Connecticut Yankee nuclear power plants. In addition, AREVA has experience working on decommissioning projects in several countries in Europe as well as in Japan. Orano is expected to provide these types of services to the VY decommissioning project.

Burns & McDonnell is an engineering, architecture, construction, environmental and consulting firm that will provide engineering and license termination support to the project. Burns & McDonnell experience includes decommissioning of the NRC licensed Kerr McGee/TRONOX nuclear fuel plant in Oklahoma. In addition, through a joint venture, Burns & McDonnell has prepared the final status survey reports for various buildings at the NRC licensed Mallinckrodt, Inc.'s St. Louis, Missouri site.

Waste Control Specialists, LLC (WCS) is a State of Texas regulated low-level radioactive waste management, packaging, transportation and disposal company. WCS would provide on-site waste processing, management, packaging and loading, as well as disposal in accordance with the requirements of the Texas Low-Level Waste Compact. The WCS Senior Management team includes personnel experienced in waste packaging and disposal, such as the Vice President of Operations, who has over 20 years of experience in the radioactive waste management industry and has worked at numerous DOE sites including the Pantex Plant, Rocky Flats Environmental Technology Site, Idaho Cleanup Project, and the Nevada Security Site.

By letter dated November 3, 2017 (ADAMS Accession Number ML17313A431), the staff requested additional information regarding the Applicants' previous experience with NRC regulated decommissioning projects and the experience of the senior management and other key management personnel to better determine the qualifications of those persons and for a description of the responsibilities for the management positions not identified with a specific person. Staff also requested additional information on how the current VY decommissioning organization would transition to the organization proposed by the Applicants, how individuals from NorthStar's strategic partners would fit into the planned NorthStar NDC organization. In addition, the Applicants were asked to describe the lines of communication and authority of the proposed new organization and for further information regarding NorthStar's management and technical role in decommissioning projects at NRC licensed sites including NorthStar's role as either the principal lead contractor or subcontractor and the technical services it provided.

In response, by letter dated December 4, 2017 (ADAMS Accession Number ML17339A896), the Applicants provided the additional information requested which included further detail on the responsibilities and experience of the senior managers, the proposed changes to the current technical organization that would result from the transfer, and identification of where NorthStar NDC and its strategic partners fit into the planned organization chart. However, clear information was not provided as to the relationship and responsibilities of NorthStar to the other contractors on previous decommissioning projects and their relationship with the licensee. Therefore, by letter dated April 5, 2018 (ADAMS Accession Number ML18045A817), the staff requested additional information on NorthStar's management and technical role in various decommissioning projects licensed by the NRC in order to better understand the NorthStar role versus the roles of the other contactors involved with those projects.

The Applicant's RAI response dated May 21, 2018, (ADAMS Accession Number ML18142B193) better defined the regulatory and technical roles of NorthStar on previous projects involving NRC research reactor licensees and their relationship with the licensees. The response specifically described NorthStar's direct involvement and oversight of subcontractors that provided health physics support, radiation surveys, and supported waste packaging, transportation, and disposal. The response also described how NorthStar managed the projects and directly performed planning, dismantlement, decontamination, waste packaging, facility demolition, and site restoration. In addition, the response also provided the experience of the identified Director of Health Physics and Waste Operations against the requirements of ANSI/ANS-3.1-2014 "Selection, Qualification, and Training of Personnel for Nuclear Power Plants," (Section 4.3.3, Radiation Protection). While NorthStar NDC Director of Health Physics and Waste Operations is not required to fulfill the ANSI/ANS-3.1-2014 criteria, the Applicants stated that the proposed NorthStar NDC Director of Health Physics and Waste Operations has the education, training, and experience to fulfill the requirements of ANSI/ANS-3.1-2014. The application and the supplemental information provided through NorthStar's response to the RAIs provided the staff with an adequate understanding of NorthStar's previous decommissioning experience at NRC licensed sites, the organizational and reporting structure of the proposed NorthStar NDC organization, the responsibilities of NorthStar's strategic partners in the project and NorthStar's qualifications to undertake the VY decommissioning project.

Conclusion

Based on its review of the application for license transfer and supplemental information submitted in response to the RAIs, the NRC staff finds that the Applicants provided reasonable assurance that the requirements of 10 CFR 50.34(a)(9) and 10 CFR 50.80 regarding the technical qualifications of NorthStar NDC to engage in the proposed activities have been met. In addition the staff finds that NorthStar NDC is technically qualified to be the holder of the license, and that the transfer of the license is otherwise consistent with applicable provisions of law, regulations, and orders issued by the Commission. Accordingly, the staff concludes that the proposed NorthStar NDC management and technical support organization will adequately support the proposed maintenance and decommissioning activities at VY.

9.2 Onsite Organization

The NRC staff reviewed the application and supplemental information provided in response to the RAIs to determine the acceptability of the onsite organization at VY regarding the

organizational structure for accountability and reporting, and to evaluate any changes to the organization proposed as a result of the license transfer. VY's operating organization was determined to be acceptable by the initial licensing review and subsequent safety-related changes to the operating organization have been evaluated and approved by the NRC. The NRC staff determined that the proposed NorthStar NDC organization that would be responsible for the maintenance and decommissioning of the VY facilities, including the ISFSI, will reflect the current Entergy decommissioning organization, and would be adequate to perform decommissioning and spent fuel management at VY.

Conclusion

Based on its evaluation, the NRC staff concludes that the onsite organization will adequately support the proposed maintenance and decommissioning activities at VY in accordance with 10 CFR 50.34(a)(9) that requires applicants to provide the technical qualifications to engage in the proposed activities, and 10 CFR 50.80(c) that requires the proposed license transferee to be qualified to be the holder of the license and is otherwise consistent with applicable provisions of law, regulations, and orders issued by the Commission.

9.3 Technical Qualifications Conclusions

The Applicants have described the management and technical support organization, as well as the onsite operating organization, that would be responsible for the maintenance and decommissioning of VY after the proposed transfer of licensed authority to NorthStar NDC. Based on its evaluation as described above, the staff concludes that: (1) NorthStar NDC will have an acceptable management organization; (2) NorthStar NDC will retain an onsite organization capable of safely conducting decommissioning activities; and (3) NorthStar NDC will have the technically qualified resources and experience to support the safe maintenance and decommissioning of the VY site after the transfer of licensed authority from ENOI to NorthStar NDC. The NRC staff also determined that the Applicants provided reasonable assurance that the relevant requirements of 10 CFR 50.34(a)(9) and 10 CFR 50.80 to engage in the proposed activities have been met. Accordingly, in light of the foregoing evaluation, the NRC staff finds that NorthStar NDC is technically qualified to hold the VY License No. DPR-28 as proposed.

10.0 CONFORMING LICENSE AMENDMENT

10.1 Conforming Amendment

The applicants requested a conforming amendment to License No. DPR-28 for VY. No physical or operational changes to the facility were requested beyond those captured in the VY PSDAR. The proposed conforming amendment only reflects the proposed license transfer action. The amendment involves no safety question and is administrative in nature. Accordingly, the proposed amendment is acceptable.

10.2 State Consultation

In accordance with the Commission's regulations, the Vermont State official was notified of the proposed issuance of the amendment on October 4, 2018. The State official did not provide any comments.

10.3 Conforming Amendment Conclusion

The Commission has concluded, based on the considerations discussed above, that: (1) there is reasonable assurance that the health and safety of the public will not be endangered by the proposed action; (2) there is reasonable assurance that such activities will be conducted in compliance with the Commission's regulations; and (3) the issuance of the amendment will not be inimical to the common defense and security or to the health and safety of the public.

11.0 ENVIRONMENTAL CONSIDERATION

The subject application is for approval of a transfer of a license issued by the NRC and an associated conforming amendment required to reflect the approval of the transfer. Accordingly, the actions involved meet the eligibility criteria for categorical exclusion set forth in 10 CFR 51.22(c)(21). Pursuant to 10 CFR 51.22(b), no environmental impact statement or environmental assessment need be prepared in connection with the approval of the transfer application and conforming license amendment.

12.0 PUBLIC COMMENT

The NRC's notice of consideration of the approval of transfer of license and conforming amendment was published in the Federal Register on May 24, 2017 (82 FR 23845). The notice included an opportunity to provide written comment and notice that NRC was participating in a public meeting of the Vermont Nuclear Decommissioning Citizens Advisory Panel (NDCAP) on May 25, 2017. The announcement also identified that NRC personnel at the public meeting would take oral or written comments on the application for the proposed license transfer and the associated proposed revised updated PSDAR. A summary of the oral comments are captured in the public meeting summary (ADAMS Accession No. ML17192A375), a transcript of the public meeting is at ADAMS Accession No. ML17163A424.

In addition, five written comments were received in response to the Federal Register notice. These comments can be found at ADAMS Accession Numbers ML17163A087, ML17163A088, ML17179A245, ML17179A246, and ML17180A320.

There were several questions and comments from both the NDCAP and the general public at the meeting. The themes of the written questions and comments overlapped with the oral questions and comments. The themes of the questions and comments were as follows:

- 1) Concerns about the responsibility for any decommissioning fund shortfalls and the financial integrity or other qualifications of NorthStar and its partners
- 2) Use of the site after decommissioning
- 3) Concerns about continued storage of spent fuel after decommissioning, transportation of spent fuel and radioactive waste, and where spent fuel will go once removed from the site
- 4) Support for the timely review and approval of the license transfer and the immediate decommissioning of the facility

- 5) Concerns that support for the license transfer is partially based on proprietary information or incomplete cost information, and that the work will have proper oversight
- 6) Concerns about the proposal to rubble parts of the facility and burying it onsite and also support for that proposal
- 7) Concerns about the reduction of emergency planning and the proximity of school children to the plant site
- 8) Concern about Entergy's current use of the decommissioning trust fund
- 9) NRC communications and coordination on the review process
- 10) The potential impact on cultural resources and environmental justice issues from site decommissioning and waste disposal

The NRC staff reviewed the questions and comments made in the public meeting along with the written comments received during the open comment period and considered them in the review process. The themes of the questions and comments that were in the scope of the NRC's review, such as concerns about decommissioning fund shortfalls and the financial integrity and/or the financial and technical qualifications of NorthStar and its partners, are addressed in this safety evaluation of the license transfer request.

13.0 CONCLUSION

Based on the foregoing, and subject to the conditions described herein, the NRC staff concludes that NorthStar NDC and NorthStar VY are financially and technically qualified to hold the license for the Vermont Yankee Nuclear Power Station and the general license for the VY ISFSI, as described in the application, and engage in the proposed maintenance and decommissioning activities associated with the VY site. The NRC staff has concluded, based on the considerations discussed above, that: (1) the proposed transferees are qualified to be the direct and indirect holders of license DPR-28 and (2) the direct and indirect transfer of the license is otherwise consistent with applicable provisions of law, regulations, and orders issued by the Commission pursuant thereto.

Additionally, the NRC staff finds that the Applicants have satisfied the NRC's decommissioning funding assurance requirements and the applicable onsite and offsite insurance requirements as conditioned. Further the NRC staff finds that the Applicants are not owned, controlled, or dominated by a foreign entity.

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Attachment 1 – NRC’s Independent Cash Flow Analysis

| VERMONT YANKEE LICENSE TRANSFER | | | | All expenses with additional future funds collections. | | | | In Thousands of constant 2016 \$ | |
|---|--|------------------------------------|---------------------------------|--|-----------------------|----------------------|-----------------------|----------------------------------|-----------------------|
| NORTHSTAR TRANSFER APPLICATION & PSDAR (reflecting data from May 21, 2018 RAI response) | | | | | | | | | |
| [AS ASSUMED] | | | | | | | | | |
| YEAR | 10 CFR 50.75 TRUST OPENING BALANCE | SUPPLEMENTAL DECOMMISSIONING FUNDS | DOE REIMBURSEMENT SFM COLLECTED | NRC LICENSE TERMINATION | SPENT FUEL MANAGEMENT | SITE <E> RESTORATION | ISFSI DECOMMISSIONING | 2.00% REAL RATE OF RETURN | TRUST CLOSING BALANCE |
| 2016 | | | | | | | | | |
| 2017 | | | | | | | | | |
| 2018 | | | | | | | | | |
| 2019 | \$488,000 | [A> | \$30,000 | | \$66,672 | \$9,241 | \$0 | \$8,842 | \$450,929 |
| 2020 | \$450,929 | | | | \$65,612 | \$6,141 | \$0 | \$7,584 | \$386,759 |
| 2021 | \$386,759 | | | | \$69,745 | \$4,241 | \$0 | \$6,255 | \$319,029 |
| 2022 | \$319,029 | | | | \$78,438 | \$4,241 | \$0 | \$4,727 | \$241,077 |
| 2023 | \$241,077 | | | | \$87,519 | \$4,241 | \$0 | \$2,986 | \$152,303 |
| 2024 | \$152,303 | | | | \$76,253 | \$4,241 | \$0 | \$1,436 | \$73,245 |
| 2025 | \$73,245 | [C> | | \$20,000 | \$41,369 | \$8,657 | \$0 | \$864 | \$44,084 |
| 2026 | \$44,084 | | | | \$9,390 | \$5,104 | \$0 | \$592 | \$30,181 |
| 2027 | \$30,181 | [B> | \$140,000 | | \$0 | \$9,275 | \$0 | \$3,218 | \$164,125 |
| 2028 | \$164,125 | | | | \$0 | \$9,275 | \$0 | \$3,497 | \$178,347 |
| 2029 | \$178,347 | | | | \$0 | \$9,275 | \$0 | \$3,381 | \$172,453 |
| 2030 | \$172,453 | | | | \$0 | \$9,275 | \$0 | \$3,264 | \$166,442 |
| 2031 | \$166,442 | | | | \$0 | \$9,275 | \$0 | \$3,543 | \$180,710 |
| 2032 | \$180,710 | | | | \$0 | \$9,275 | \$0 | \$3,429 | \$174,864 |
| 2033 | \$174,864 | | | | \$0 | \$9,275 | \$0 | \$3,312 | \$168,900 |
| 2034 | \$168,900 | | | | \$0 | \$9,275 | \$0 | \$3,593 | \$183,218 |
| 2035 | \$183,218 | | | | \$0 | \$9,275 | \$0 | \$3,479 | \$177,422 |
| 2036 | \$177,422 | | | | \$0 | \$9,275 | \$0 | \$3,363 | \$171,510 |
| 2037 | \$171,510 | | | | \$0 | \$9,275 | \$0 | \$3,645 | \$185,879 |
| 2038 | \$185,879 | | | | \$0 | \$9,275 | \$0 | \$3,532 | \$180,136 |
| 2039 | \$180,136 | | | | \$0 | \$9,275 | \$0 | \$3,417 | \$174,279 |
| 2040 | \$174,279 | | | | \$0 | \$9,275 | \$0 | \$3,700 | \$188,704 |
| 2041 | \$188,704 | | | | \$0 | \$9,275 | \$0 | \$3,589 | \$183,017 |
| 2042 | \$183,017 | | | | \$0 | \$9,275 | \$0 | \$3,475 | \$177,217 |
| 2043 | \$177,217 | | | | \$0 | \$9,275 | \$0 | \$3,759 | \$191,701 |
| 2044 | \$191,701 | | | | \$0 | \$9,275 | \$0 | \$3,649 | \$186,074 |
| 2045 | \$186,074 | | | | \$0 | \$9,275 | \$0 | \$3,536 | \$180,335 |
| 2046 | \$180,335 | | | | \$0 | \$9,275 | \$0 | \$3,821 | \$194,882 |
| 2047 | \$194,882 | | | | \$0 | \$9,275 | \$0 | \$3,712 | \$189,319 |
| 2048 | \$189,319 | | | | \$0 | \$9,275 | \$0 | \$3,601 | \$183,645 |
| 2049 | \$183,645 | | | | \$0 | \$9,275 | \$0 | \$3,887 | \$198,257 |
| 2050 | \$198,257 | | | | \$0 | \$9,275 | \$0 | \$3,780 | \$192,762 |
| 2051 | \$192,762 | | | | \$0 | \$9,275 | \$0 | \$3,670 | \$187,156 |
| 2052 | \$187,156 | [D> | | \$20,000 | \$0 | \$9,807 | \$0 | \$3,454 | \$3,878 |
| TOTAL EXPS> | | | | \$494,998 | \$287,789 | \$0 | \$3,454 | | |
| | | | | | | | \$786,241 | | |
| NOTES: | [A> \$30 million potential use of escrow account & it is included for escrow growth | | | | | | | | |
| | [B> \$140 million is support agreement (originally \$125 million) | | | | | | | | |
| | [C> \$20 million revolving DOE reimbursement assuming six year process for first installment | | | | | | | | |
| | [D> Trust closing balance must be positive to provide reasonable assurance | | | | | | | | |
| | [E> Site restoration via separate \$25 million trust | | | | | | | | |