



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

June 3, 2021

Paul Bembia, Director
West Valley Site Management Program
New York State Energy Research
and Development Authority
9030-B Route 219
West Valley, NY 14171-9500

SUBJECT: NEW YORK STATE ENERGY RESEARCH AND DEVELOPMENT AUTHORITY,
WESTERN NEW YORK NUCLEAR SERVICE CENTER - REQUEST FOR
ADDITIONAL INFORMATION REGARDING THE LICENSE AMENDMENT TO
INCORPORATE UPDATED RETAINED PREMISES RADIATION PROTECTION
REQUIREMENTS (EPID L-2020-LLA-0023)

Dear Mr. Bembia:

By letter dated February 6, 2020, the New York State Energy Research and Development Authority (NYSERDA) submitted an application to the U.S. Nuclear Regulatory Commission (NRC) for an amendment to its provisional operating license, NRC License No. CSF-1, in accordance with the requirements contained in Title 10 of the *Code of Federal Regulations* (10 CFR) Section 50.90, "Application for amendment of license, construction permit, or early site permit." On March 11, 2020, NYSERDA resubmitted the amendment application to address the requirements of 10 CFR 50.30, "Filing of application for licenses; oath or affirmation." The NRC staff completed an initial review of the resubmitted license amendment application on March 30, 2020, and identified areas of the resubmittal in which more information was necessary to complete the acceptance review. NYSERDA responded with this additional information in a letter dated October 28, 2020.

In the application, as supplemented, NYSERDA requested to add a license condition requiring the implementation of a new Radiation Protection Plan (RPP) to address the "retained premises" in order to modernize the radiation protection portions of License No. CSF-1, as well as simplify NYSERDA's radiation protection requirements for the retained premises. The "retained premises" is defined as the area consisting of the Western New York Nuclear Service Center not including the U.S. Department of Energy West Valley Demonstration Project premises and the State Licensed Disposal Area. In addition, NYSERDA requested that the license be amended to clarify NYSERDA's health and safety responsibilities under License No. CSF-1 given that portions of the license are in abeyance in accordance with the provisions of the West Valley Demonstration Project Act.

In order to complete its review, the NRC staff requests additional information as specified in the Enclosure to this letter. The requested information was discussed with NYSERDA during a teleconference with the NRC staff on May 5, 2021. In order to continue the review of the NYSERDA RPP for the retained premises, please respond to this request for additional information within 45 days.

In accordance with 10 CFR 2.390 of the NRC's "Agency Rules of Practice and Procedure," a copy of this letter will be available electronically for public inspection in the NRC Public Document Room or from the Publicly Available Records component of the Agencywide Documents Access and Management System (ADAMS). ADAMS is accessible from the NRC Web site at <http://www.nrc.gov/reading-rm/adams.html>.

If you have any questions regarding this request of the ongoing license amendment review, please contact me at (301) 415-3178 or via e-mail at marlayna.doell@nrc.gov.

Sincerely,



Signed by Doell, Marlayna
on 06/03/21

Marlayna V. Doell, Project Manager
Reactor Decommissioning Branch
Division of Decommissioning, Uranium Recovery
and Waste Programs
Office of Nuclear Material Safety and Safeguards

Docket No. 50-201
License No. CSF-1

Enclosure:
Request for Additional Information

cc: West Valley Listserv
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REQUEST FOR ADDITIONAL INFORMATION
LICENSE AMENDMENT REQUEST TO INCORPORATE UPDATED
RETAINED PREMISES RADIATION PROTECTION REQUIREMENTS
NEW YORK STATE ENERGY RESEARCH AND DEVELOPMENT AUTHORITY
WESTERN NEW YORK NUCLEAR SERVICE CENTER
DOCKET NO. 50-201

By letter dated February 6, 2020 (Agencywide Documents Access and Management System [ADAMS] Accession No. ML20042D497), the New York State Energy Research and Development Authority (NYSERDA, the applicant) submitted an application to the U.S. Nuclear Regulatory Commission (NRC) for an amendment to its provisional operating license, NRC License No. CSF-1, in accordance with the requirements contained in Title 10 of the *Code of Federal Regulations* (10 CFR) Section 50.90, "Application for amendment of license, construction permit, or early site permit." On March 11, 2020 (ADAMS Accession No. ML20076C310), NYSERDA resubmitted the amendment application to address the requirements of 10 CFR 50.30, "Filing of application for licenses; oath or affirmation." The NRC staff completed an initial review of the resubmitted license amendment application on March 30, 2020 (ADAMS Accession No. ML20084G641) and identified areas in which more information was necessary to complete the acceptance review. NYSERDA responded with this additional information by letter dated October 28, 2020 (ADAMS Accession No. ML20311A200).

In the application, as supplemented, NYSERDA requested to add a license condition requiring the implementation of a new Radiation Protection Plan (RPP) to addresses the "retained premises" in order to modernize the radiation protection portions of License No. CSF-1, as well as simplify NYSERDA's radiation protection requirements for the retained premises. The "retained premises" is defined as the area consisting of the Western New York Nuclear Service Center (WNYNSC) not including the U.S. Department of Energy (DOE) West Valley Demonstration Project (WVDP) premises and the State Licensed Disposal Area (SDA). In addition, NYSERDA requested that the license be amended to clarify NYSERDA's health and safety responsibilities under License No. CSF-1 given that portions of the license are in abeyance in accordance with the provisions of the West Valley Demonstration Project Act.

Additional information is necessary to complete the NRC staff's technical review, which is based on the applicable portions of NUREG-1520, "Standard Review Plan for Fuel Cycle Facilities License Applications," Revision 2 (ADAMS Accession No. ML15176A258). Specifically, the staff is using the acceptance criteria in Chapter 4, "Radiation Protection," of NUREG-1520, to the extent that they apply to the retained premises, as a means for evaluating the acceptability of NYSERDA's license amendment request. The NUREG-1520 guidance specifies that the NRC staff will review an applicant's commitments regarding the following components of the

Enclosure

radiation protection program (edited for the WNYNSC as (1) the WVDP fuel cycle facility portion of the site is in a permanently shut-down and decommissioning condition and (2) the proposed RPP only applies to the retained premises and does not impact the WVDP or DOE's responsibilities for that portion of the site under the WVDP Act):

1. Establish, maintain, and implement a radiation protection program.
2. Keep occupational exposures to radiation as low as reasonably achievable (ALARA).
3. Appoint radiological protection staff who are suitably qualified and trained in radiation protection procedures.
4. Prepare written radiation protection procedures and radiation work permits (RWPs).
5. Train employees in radiation protection, including the health protection problems associated with exposure to radiation, precautions and procedures to minimize exposure, and the purposes and functions of protective devices employed.
6. Design and implement programs to control airborne concentrations of radioactive material by using ventilation systems, containment systems, and respirators.
7. Conduct radiation surveys and monitoring programs to document radiation levels, concentrations of radioactive materials in the facility, and occupational exposures to radiation by workers.
8. Maintain additional programs, including (1) a records maintenance program, (2) a corrective action program, and (3) a program for reporting to the NRC in accordance with the requirements in 10 CFR Part 20, "Standards for Protection Against Radiation."

The following information is needed to complete the NRC staff's technical review. The staff notes that some of this information may be contained in the implementing procedures for the proposed Retained Premises RPP. If this is the case, providing a summary of the contents or requirements of the applicable implementing procedure(s), or providing the procedure(s) to the staff for review, is an acceptable means of providing this additional information.

NYSERDA-RPP-RAI-1

Describe the NYSERDA Radiation Protection Organization and describe or confirm the minimum qualifications, position titles, and responsibilities of the individuals involved, as well as the individuals responsible for waste management and transportation of waste, should any radiological wastes be generated during activities in the retained premises.

Regulatory Basis: 10 CFR 20.1101, "Radiation protection programs"

Potential NYSERDA RPP Procedure Reference(s):

- RP-RPP-001, "Radiation Safety Committee for the Retained Premises"
- RP-RPP-002, "Radiation Safety Officer for the Retained Premises"
- RP-RPP-016, "Receipt, Opening and Transfer of Packages of Radioactive Material for the Retained Premises"

Path Forward: The applicant should provide existing information or revise the proposed RPP to incorporate a description of the Radiation Protection Organization (could be a line chart), as well as the responsibilities of the various positions and the minimum qualifications to fulfill those positions. Also describe or confirm the minimum qualifications, position title, and responsibilities for whomever will be responsible for waste management and transportation of any waste.

NYSERDA-RPP-RAI-2

Discuss NYSERDA's Radiation Protection Training, and who is required to take the training, and at what frequency.

Regulatory Basis: 10 CFR 19.12, "Instruction to workers"

Potential NYSERDA RPP Procedure Reference(s):

- RP-RPP-004, "Training and Instruction of Radioactive Material Users on the Retained Premises"

Path Forward: The applicant should provide existing information or revise the proposed RPP to include radiation training as a subject. At a minimum, the topics of training should include the subjects addressed in 10 CFR 19.12, as well as radiological exposure limits and administrative limits/ALARA goals. The applicant should state how training completion will be verified (e.g., testing with acceptable scoring) and commit to assessing and modifying the training at least every 3 years to incorporate changes in facilities or work practices, as appropriate. Radiation training should be required at some periodic frequency (annually is typical). In addition, the training program should include requirements for visitors or other categories of site personnel.

NYSERDA-RPP-RAI-3

Clarify the discussion of NYSERDA's Radiation Safety Evaluations (RSEs) and RWPs.

Regulatory Basis: 10 CFR 20.1501, "Surveys and monitoring; General"
10 CFR 20.1101, "Radiation protection programs"

Potential NYSERDA RPP Procedure Reference(s):

- RP-RPP-005, "Radiological Surveys on the Retained Premises"
- RP-RPP-007, "Retained Premises Radiological Safety Evaluations and RWPs"

Path Forward: The applicant should provide existing information or revise the proposed RPP to enhance the discussion of RSEs and RWPs in order to incorporate when additional work area characterization will occur to support the RSE. In addition, please provide additional discussion on how RWP instruction will be documented and explain how RWPs will be administered, how they can be modified, etc. (Note that RSEs and RWPs are administrative controls.)

NYSERDA-RPP-RAI-4

Clarify what engineering controls NYSERDA will utilize for contamination control, or to suppress resuspension of licensed (radiological) material, during work activities in the retained premises.

Regulatory Basis: 10 CFR 20.1701, "Use of process or other engineering controls"

Potential NYSERDA RPP Procedure Reference(s):

- RP-RPP-005, "Radiological Surveys on the Retained Premises"
- RP-RPP-007, "Retained Premises Radiological Safety Evaluations and RWPs"

Path Forward: The applicant should provide existing information or revise Section 7, "Respiratory Protection and Controls," of the proposed RPP to provide more detail on engineering controls that may be utilized for contamination control or to suppress resuspension of radiological material during work activities in the retained premises. This discussion should include when and in what scenarios these controls will be required (e.g., pump to knock out tank with filtering/sampling for release of liquids, use of ground coverings to avoid disturbing soil, regular wetting of disturbed soil to minimize resuspension, installing berms around work sites to minimize runoff transportation of contamination, any temporary containment that may be used, temporary HEPA filtered enclosures or other ventilation methods, etc.). The discussion should also include what measures may be taken to ensure the controls are working (e.g., differential pressure checks across HEPA and prefilters, visual inspection, etc.) and the frequency of such verification checks. (Note that these are engineering controls for the RPP.)

NYSERDA-RPP-RAI-5

Describe access controls for any work areas that will be established in the retained premises and clarify the controls present at access points into any restricted areas.

Regulatory Basis: 10 CFR 20.1902, "Posting requirements"
10 CFR 20.1702, "Use of other controls"

Potential NYSERDA RPP Procedure Reference(s):

- RP-RPP-008, "Personnel Decontamination Procedure for the Retained Premises"
- RP-RPP-009, "Use of Personnel Dosimetry on the Retained Premises"
- RP-RPP-010, "Monitoring of Personnel for Contamination on the Retained Premises"
- RP-RPP-015, "Posting and Labeling on the Retained Premises"

Path Forward: The applicant should provide existing information or revise the proposed RPP to discuss access controls for any work areas that will be established in the retained premises. This discussion should include any control points that may be established if working in contaminated areas and state that control points will have facilities for donning and doffing personal protective equipment, as appropriate, and personnel frisking.

NYSERDA-RPP-RAI-6

Describe the administrative limits for contamination control that NYSERDA will apply to the retained premises.

Regulatory Basis: 10 CFR 20.1702, "Use of other controls"

Potential NYSERDA RPP Procedure Reference(s):

- RP-RPP-008, "Personnel Decontamination Procedure for the Retained Premises"
- RP-RPP-009, "Use of Personnel Dosimetry on the Retained Premises"

- RP-RPP-010, "Monitoring of Personnel for Contamination on the Retained Premises"

Path Forward: The applicant should provide existing information or revise the proposed RPP (Section 5, "Surveys and Monitoring," and/or Section 11, "Dose Limits," and/or other sections as appropriate) to discuss the administrative contamination control limits that will be applied to the retained premises. This discussion may reference NRC Regulatory Guides (RGs) that address appropriate contamination control limits, such as RG 8.24, "Health Physics Surveys During Enriched Uranium-235 Processing and Fuel Fabrication," Revision 2 (ADAMS Accession No. ML110400305), or other NRC RGs that may be more applicable to NYSERDA. The discussion should also address leak testing of sealed sources, if applicable to the potential work activities in the retained premises.

NYSERDA should also be aware that, as a 10 CFR Part 50 licensee, the unrestricted release criteria for materials and equipment is no detectable radioactivity (see IE Circular 81-07, "Control of Radioactively Contaminated Material" (ADAMS Accession No. ML103420362), and NUREG-1757, "Consolidated Decommissioning Guidance," Volume 1, "Decommissioning Process for Materials Licensees," Revision 2 (ADAMS Accession No. ML063000243), Section 15.11.1.1, "Release of Solid Materials with Surface Residual Radioactivity"). The NRC staff notes that it may be simpler to add a table to the proposed RPP on this subject which includes the various administrative limits for contamination control.

NYSERDA-RPP-RAI-7

Further describe the use and development of the NYSERDA RPP implementing procedures flowing down from the proposed RPP for the retained premises.

Regulatory Basis: 10 CFR 20.1101, "Radiation protection programs"

Potential NYSERDA RPP Procedure Reference(s):

- RP-RPP-001, "Radiation Safety Committee for the Retained Premises"
- RP-RPP-002, "Radiation Safety Officer for the Retained Premises"
- RP-RPP-003, "Annual Retained Premises Radiation Protection Program Audit"
- RP-RPP-004, "Training and Instruction of Radioactive Material Users on the Retained Premises"

Path Forward: The applicant should provide existing information or revise the proposed RPP to further discuss the use of procedures in implementing the NYSERDA radiation protection program. The NRC staff notes that information related to this subject is present in the technical evaluation portion of the license amendment request (LAR) submitted on March 11, 2020, and believe it should also be included in the RPP. This includes subject areas that will be proceduralized, review frequency, and approval levels for any modifications. The discussion should also state what level of review is needed for original procedure documents and how training/verification on the implementing procedures occurs (this information may also already be included in the LAR). Finally, NYSERDA should address how procedure control will be implemented such that only current procedures are in use in the retained premises.

NYSERDA-RPP-RAI-8

Clarify the discussion of radiation detection instrument maintenance in the NYSERDA RPP.

Regulatory Basis: 10 CFR 20.1501, "Surveys and monitoring; General"

Potential NYSERDA RPP Procedure Reference(s):

- RP-RPP-011, "Instrument Calibration for the Retained Premises"
- RP-RPP-014, "Operation and Maintenance of Portable Radiation Detection Instruments"

Path Forward: The applicant should provide existing information or revise the proposed RPP to enhance the discussion of radiation detection instruments to include a minimum frequency of calibration, daily operating source checks/other operability checks, whether calibration of instruments will be performed consistent with the manufacturer's specifications, whether American National Standards Institute (ANSI) guides will be followed for instrumentation calibration/maintenance, whether NYSERDA personnel will use National Institute of Standards and Technology (NIST) traceable standards when servicing instrumentation, etc.

This discussion should address what corrective actions will occur when instrument response is found to be unacceptable. It is recognized that corrective actions may differ somewhat between field and laboratory instruments, so the applicant should specify appropriate quality control efforts for each. The discussion should also include a table listing the types of radiation detection instruments NYSERDA will maintain, the sensitivity expected, what types of radiation each instrument can detect, what use each instrument will have, etc. A similar table is necessary for any air sampling equipment NYSERDA may utilize. The NRC staff recommends that any instrumentation tables be titled or footnoted in some manner such that the actual instruments in use may vary and are not tied to a specific make/model.

NYSERDA-RPP-RAI-9

Clarify the dose monitoring requirements and methods in the Retained Premises RPP.

Regulatory Basis: 10 CFR 20.1201, "Occupational dose limits for adults"

Potential NYSERDA RPP Procedure Reference(s):

- RP-RPP-006, "ALARA Policy and Reviews for the Retained Premises"
- RP-RPP-009, "Use of Personnel Dosimetry on the Retained Premises"
- RP-RPP-010, "Monitoring of Personnel for Contamination on the Retained Premises"

Path Forward: The applicant should provide existing information or revise the proposed RPP (Section 12, "Personnel Radiation Exposure Monitoring") to enhance the discussion of dose monitoring to specifically call out: (1) when radiation exposure monitoring will be required (both internal and external); (2) how compliance with administrative daily limits (e.g., the use of self-reading dosimeters) will be demonstrated; (3) what the exchange frequency of thermo-luminescent dosimeters (TLDs) will be; and (4) that NYSERDA will use a National Voluntary Laboratory Accreditation Program (NVLAP) participating vendor to record and evaluate the dosimetry results.

This discussion should also address if more than a general whole body TLD may be used for any of the potential work activities in the retained premises. In addition, for internal exposure monitoring, the discussion should include the types of monitoring methods that will be used (e.g., derived air concentration per hour (DAC-hr) tracking based on air sampling) and how the

applicant will account for unexpected exposures (e.g., bioassay, dose assessment, etc.). This discussion may reference appropriate NRC RGs on this subject, such as Draft RG 8.34, "Monitoring Criteria and Methods to Calculate Occupational Radiation Doses," Revision 1 (ADAMS Accession No. ML14133A641), or other RGs that may be more applicable.

NYSERDA-RPP-RAI-10

Discuss the corrective action system that will be utilized in association with the NYSERDA RPP.

Regulatory Basis: 10 CFR 20.1101, "Radiation protection programs"

Potential NYSERDA RPP Procedure Reference(s):

- RP-RPP-001, "Radiation Safety Committee for the Retained Premises"
- RP-RPP-002, "Radiation Safety Officer for the Retained Premises"
- RP-RPP-003, "Annual Retained Premises Radiation Protection Program Audit"
- RP-RPP-004, "Training and Instruction of Radioactive Material Users ..."

Path Forward: The applicant should provide existing information or revise the proposed RPP to discuss the corrective action system that will be in place to address any deficiencies in the NYSERDA RPP for the retained premises. The applicant should include a statement that any reportable incident (e.g., those listed under Subpart M, "Reports," of 10 CFR Part 20) will be addressed through the NYSERDA corrective action system. This discussion should confirm that if personnel contamination exceeds the administrative limits of the RPP it will be appropriately addressed in the NYSERDA corrective action system. The corrective action system should also address any deficiencies noted by NYSERDA staff or regulators and include investigation of root cause(s), identification of corrective action(s), and follow through to verify the effectiveness of the corrective action(s).

NYSERDA-RPP-RAI-11

Clarify that the NYSERDA reporting commitments include those required by 10 CFR Part 19, "Notices, Instructions and Report to Workers: Inspection and Investigations."

Regulatory Basis: 10 CFR 19.13, "Notifications and reports to individuals"

Potential NYSERDA RPP Procedure Reference(s):

- RP-RPP-003, "Annual Retained Premises Radiation Protection Program Audit"
- RP-RPP-009, "Use of Personnel Dosimetry on the Retained Premises"
- RP-RPP-010, "Monitoring of Personnel for Contamination on the Retained Premises"
- RP-RPP-015, "Posting and Labeling on the Retained Premises"

Path Forward: The applicant should provide existing information or revise the proposed RPP to enhance the discussion on reporting to include the reporting requirements in 10 CFR Part 19.

NYSERDA-RPP-RAI-12

Clarify the minimum requirements for the NYSERDA radiological data and/or environmental monitoring program, which will be employed to ensure the requirements of the RPP are met.

Regulatory Basis: 10 CFR 20.1302, "Compliance with dose limits for individual members of the public"

Path Forward: The applicant should provide existing information or revise the proposed RPP to specify what the minimum required environmental monitoring data will be, such that if DOE-WVDP's environmental monitoring program does not adequately cover the minimum requirements, NYSERDA will assure appropriate environmental data is available at those locations important to ensuring work done under the proposed RPP is conducted in accordance with the applicable regulatory requirements. This discussion should clarify whether NYSERDA's backup environmental data collection process would include the same sample collection, frequency, and analysis as DOE-WVDP had previously used, and whether NYSERDA would continue reporting and documenting the results using the same frequency and methods.

NYSERDA-RPP-RAI-13

As a technical clarification, please explain fully the radiological limits being applied by NYSERDA to "soil contaminated areas" in the retained premises.

Regulatory Basis: 10 CFR 20.1501, "Surveys and monitoring; General"

Path Forward: The NRC staff notes that the limits defining "soil contaminated areas" appear to be based on gross alpha and/or beta measurements, and that significant variability can occur within these types of measurements. As such, the staff would like to better understand how NYSERDA will define background levels for these type measurements. In addition, the applicant may want to identify alternative criteria for defining soil contaminated areas.

NYSERDA-RPP-RAI-14

Confirm that the proposed "Retained Premises Radiation Protection" license condition will not apply to the WVDP or SDA portions of the site, and that DOE personnel and contractors will not be subject to the requirements of the NYSERDA RPP for the WNYNSC retained premises.

Path Forward: While most relevant information is already present in the proposed RPP or the associated LAR, the applicant should confirm that (1) in addition to the RPP, proposed License Condition E will not apply to the WVDP premises or DOE or its contractors conducting WVDP activities in the WNYNSC retained premises; and (2) NYSERDA will pursue an additional license amendment and approval of a full scale revised RPP for the WVDP portion of the site when the DOE activities are complete and the site is fully returned to NYSERDA.

The NRC staff's technical review is contingent on the proposed NYSERDA RPP only being applicable to the retained premises, and the applicant's proposed activities therein (e.g., tree removal, fence repair, foliage trimming or removal, etc.), such that use of the RPP in other areas of the site may be inappropriate and outside of compliance with the radiation protection requirements of 10 CFR Part 20. In addition, please confirm that the proposed RPP will be revised or otherwise updated using an established program, which will include periodic documentation of all changes. NYSERDA should provide a brief description of the RPP change management program and any other information relevant to ensuring the RPP will be updated and maintained in a consistent fashion.

NYSERDA - Request for Additional Information Regarding the License Amendment to Incorporate Updated Retained Premises Radiation Protection Requirements DATE June 3, 2021

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