



**NYSERDA**

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March 11, 2020

10 C.F.R. 50.90

U.S. Nuclear Regulatory Commission  
Document Control Desk  
Washington, DC 20555-0001

New York State Energy Research and Development Authority  
Western New York Nuclear Service Center  
Docket No.: 50-201  
Request for License Amendment: Retained Premises  
Radiation Protection Requirements  
(LAR-20-001)

References: [1] NRC letter to NYSEDA, *Subject: Authority Under License For Health And Safety*, dated November 7, 2018 (ADAMS Accession No., ML18282A523)

Pursuant to 10 CFR 50.90, the New York State Energy Research and Development Authority (NYSEDA), the U.S. Nuclear Regulatory Commission (NRC) licensee for the Western New York Service Center (WNYNSC) less the State-Licensed Low-Level Radioactive Waste Disposal Area (SDA), is hereby resubmitting the request for an amendment to Provisional Operating License (POL) Number CSF-1 including a clarified affirmation statement.

This requested amendment proposes changes to the POL and requests approval of a new radiation protection plan for the area known as the NRC "Retained Premises" – the licensed area consisting of the WNYNSC not including the DOE West Valley Demonstration Project premises and the SDA -- hereinafter simply referred to as the "Retained Premises." The proposed changes have been evaluated in accordance with 10 CFR 50.91(a)(1) using the criteria in 10 CFR 50.92(c), and NYSEDA has determined that these changes involve no significant hazards consideration.

Reference [1] describes the need for a license amendment regarding two issues related to the Retained Premises. First, the need to provide clarity regarding NYSEDA's health and safety responsibility under the NRC License No. CSF-1. Second, the need to modernize the radiation protection portions of the license and greatly simplify NYSEDA's radiation protection requirements.

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To address these two issues, this license amendment request (LAR) proposes to:

- 1) Add a license condition that provides clarity regarding NYSERDA's authorities and responsibilities for the radiological health and safety of individuals on the Retained Premises.
- 2) Add license conditions requiring implementation of a new Retained Premises Radiation Protection Plan (RP-RPP500) that will meet 10 CFR Part 20 radiation protection requirements and will supersede and replace radiation protection program requirements described in the FSAR as they relate to activities performed within the Retained Premises.

Furthermore, NYSERDA requests NRC approval of RP-RPP500 submitted with this LAR [Enclosure 2]. RP-RPP500 will be maintained as a separate, standalone licensing basis document.

Enclosure 1 provides the description, technical evaluation, regulatory evaluation (including the Significant Hazards Consideration determination), and environmental considerations for the changes proposed in the LAR. Enclosure 2 is RP-RPP500, and Enclosure 3 identifies the requested changes by depicting the requested additions to the POL. Enclosure 4 is a copy of the no-objection letter from the U.S. Department of Energy regarding the proposed change to the license for NYSERDA's activities in the Retained Premises.

NYSERDA requests staff approval of this license amendment by June 1, 2020 to support the initiation of routine maintenance activities described in the amendment. NYSERDA expects to implement this proposed amendment within 30 days of approval of the requested changes.

In accordance with 10 CFR 50.91, NYSERDA is notifying the State of New York of this LAR by transmitting a copy of this letter and enclosures to the designated State Official.

Should you have any questions, please contact me at (716) 942-9960 ext. 4900.

I certify under penalty of perjury that the foregoing is true and correct.

Executed on March 11, 2020.



Paul J. Bembia  
Director, West Valley Site Management Program  
New York State Energy Research and Development Authority

PJB/JAD/amd

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Enclosures:

- 1) License Amendment Request; Retained Premises Radiation Protection Requirements (LAR-20-001)
- 2) Radiation Protection Plan for the Retained Premises, RP-RPP500
- 3) Proposed Changes to the License (LAR-20-001)
- 4) Copy of No-Objection Letter from the Department of Energy

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New York State Energy Research and Development Authority

Western New York Nuclear Service Center

Enclosure 1

License Amendment Request:

Retained Premises Radiation Protection Requirements  
(LAR-20-001)

(This Enclosure contains 12 pages, including this cover)

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## Enclosure 1: License Amendment Request; Retained Premises Radiation Protection Requirements (LAR-20-001)

Pursuant to 10 CFR 50.90, the New York State Energy Research and Development Authority (NYSERDA) hereby requests an amendment to Provisional Operating License (POL) No. CSF-1, related to the “Retained Premises”<sup>1</sup> portion of the Western New York Nuclear Service Center.

### 1. Summary Description

In a letter to NYSERDA, *Authority Under License For Health And Safety*, dated November 7, 2018, (ADAMS Accession No., ML18282A523) [Reference (1)] the U.S. Nuclear Regulatory Commission (NRC) discusses the need for a license amendment regarding two issues related to the Retained Premises. First, the need to provide clarity regarding NYSERDA’s health and safety responsibility under the NRC License No. CSF-1. Second, the need to modernize the radiation protection portions of the license and greatly simplify NYSERDA’s radiation protection requirements.

To address these two issues, this license amendment request (LAR) proposes to:

- 1) Add a license condition that provides clarity regarding NYSERDA’s authorities and responsibilities for the radiological health and safety of individuals on the Retained Premises.
- 2) Add license conditions requiring implementation of a new Retained Premises Radiation Protection Plan (RP-RPP500) that will meet 10 CFR Part 20 radiation protection requirements and will supersede and replace radiation protection program requirements described in the FSAR as they relate to activities performed within the Retained Premises.

Furthermore, as part of this LAR NYSERDA requests NRC approval of RP-RPP500. RP-RPP500 will be maintained as a separate, standalone licensing basis document. A proposed new license condition will require that this plan and the associated procedures will be maintained in accordance with the requirements in 10 CFR Part 20, Subpart B, Radiation Protection Programs. Changes to RPP-RPP500 or associated procedures will be documented, reviewed and approved by the licensee's Radiation Safety Committee prior to implementation.

### 2. Detailed Description

#### Background

The New York State Energy Research and Development Authority (NYSERDA) holds title to the Western New York Nuclear Service Center (WNYNSC) on behalf of the people of the State of New York. The WNYNSC, located near West Valley, New York (NY), approximately 30 miles south of Buffalo in the towns of Ashford and Concord, was operated as a licensed nuclear fuel reprocessing facility from 1966 to 1972.

The WNYNSC site is about 3,300 acres. The WNYNSC is divided into three separate operational areas - the 167-acre West Valley Demonstration Project (WVDP), a 15-acre parcel which is the State-Licensed Radioactive Waste Disposal Area (SDA), and the relatively undeveloped areas of the Retained Premises.

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<sup>1</sup> The “NRC Retained Premises”, as described by the NRC, is the “licensed area consisting of the WNYNSC not including the DOE-WVDP premises and the State-Licensed Disposal Area.” See NRC November 1, 2018 letter: *Evaluation And Subsequent Operation, Maintenance And Removal Of A Solar Photovoltaic Facility On A Non-Impacted Area Of The Licensed Area* (ML18290A566) [Reference (2)] at p. 2, n. 3 where the NRC description is as follows: “NRC RETAINED PREMISES – licensed area consisting of the WNYNSC not including the DOE WVDP Retained Premises and the State-Licensed Disposal Area.” Hereinafter “Retained Premises”, as the term is used in this Enclosure, means the “NRC Retained Premises.”

Enclosure 1: License Amendment Request; Retained Premises Radiation Protection Requirements (LAR-20-001)

The WNYNSC site is licensed by the U.S. Nuclear Regulatory Commission (NRC) except for the SDA, which is licensed and regulated by the State of New York. The 167-acre WVDP premises, containing the former reprocessing facility, the NRC-licensed disposal area (NDA), high level waste (HLW) tanks, waste lagoons, and above-ground storage areas, is part of the WNYNSC license and under historic NRC regulation. However, this 167-acre WVDP premises is currently under DOE possession, control and oversight as DOE conducts its work under the West Valley Demonstration Project Act. Separate radiation protection programs are in effect for each area under its own set of applicable radiation protection regulations, licenses and permits as described below.

**WVDP** - After the passage of the West Valley Demonstration Project (WVDP) Act in 1980, the United States Department of Energy (DOE) assumed exclusive use and possession of 167 acres of the WNYNSC to manage and perform the WVDP. Radiation protection for the WVDP is provided by DOE's contractors under the scope of DOE's rules and regulations. The technical specifications of NYSERDA's NRC license are currently in abeyance pending the completion of the WVDP.

**SDA** - Adjacent to the WVDP, the SDA was constructed and operated as a commercial radioactive waste disposal facility from 1963 to 1975. NYSERDA holds Radioactive Materials License (RML) C0382 for the SDA, which is administered by the New York State Department of Health under the scope of the ionizing radiation protection regulations in Title 12, Part 38. Work performed in those areas for which the most likely source of contamination is the SDA (i.e., the SDA and areas immediately surrounding the SDA) are also protected by the SDA Radiation Protection Plan, which was developed in accordance with the RML. NYSERDA also holds a Radiation Control Permit for the SDA, issued under Title 6, Part 380, and administered by the New York State Department of Environmental Conservation.

**Retained Premises** - NYSERDA is the sole licensee under an NRC provisional operating license License CSF-1, issued under 10 CFR 50 *Domestic Licensing of Production and Utilization Facilities* for the non-SDA portions of the WNYNSC. As noted above, DOE currently has exclusive possession and use of the 167-acre WVDP premises. Consequently, the WVDP premises is not currently included in the "Retained Premises" portion of the WNYNSC. To implement its responsibility for the Retained Premises, NYSERDA has developed a new Radiation Protection Plan for the Retained Premises (RP-RPP500) that provides radiation protection for individuals on the Retained Premises in accordance with NRC regulation 10 CFR Part 20: *Standards for Protection Against Radiation* and in keeping with the ALARA (As Low As Reasonably Achievable) philosophy. RP-RPP500 does not apply to DOE or its contractors conducting WVDP actions on the Retained Premises per the Cooperative Agreement.

The radiation protection provisions contained within the Final Safety Analysis Report (FSAR) referenced in the license have not been updated since 1964, were intended to apply to the irradiated nuclear fuel processing plant (which is not considered part of the Retained Premises)<sup>2</sup>, and are not appropriate for the planned maintenance activities in the relatively undeveloped areas of the Retained Premises.

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<sup>2</sup> An amendment (no. 31) to License No. CSF-1 transferred responsibility for the irradiated nuclear fuel processing plant to the Department of Energy in accordance with the West Valley Demonstration Project Act.



Proposed Changes to the POL

To address the need for clarity in the POL regarding NYSERDA's authorities and responsibilities for health and safety for the facility under the license, NYSERDA proposes to add a license condition confirming that NYSERDA is the sole licensee under provisional operating license CSF-1 for the Retained Premises and it provides for radiation protection of individuals on the Retained Premises portion of the WNYNSC.

To implement this responsibility, NYSERDA has developed a new Retained Premises Radiation Protection Plan (RP-RPP500). This LAR proposes to add license conditions that will require the implementation of RP-RPP500 to meet 10 CFR Part 20 radiation protection requirements and will supersede radiation protection requirements contained in the FSAR as they pertain to the Retained Premises portions of the WNYNSC. RP-RPP500 will be maintained as a separate, standalone licensing basis document. A proposed new license condition will require that this plan and the associated procedures will be maintained in accordance with the requirements in 10 CFR Part 20, Subpart B, Radiation Protection Programs. Changes to the radiation protection plan or associated procedures will be documented, reviewed, and approved by the licensee's Radiation Safety Committee prior to implementation. Given this approach to modernize the radiation protection requirements in the Retained Premises, specific changes to the FSAR were determined to be unnecessary.

To clarify NYSERDA's responsibilities under the POL and to require implementation of the new radiation protection plan, NYSERDA proposes to revise Section 5 of the POL by adding the following text:

“E. Retained Premises Radiation Protection

- (1) As the sole licensee under provisional operating license CSF-1 for the Retained Premises [i.e., the non-West Valley Demonstration Project (WVDP), non-State-Licensed Disposal Area (SDA) portions of the Western New York Nuclear Service Center (WNYNSC)], NYSERDA provides for radiation protection in accordance with NRC regulation 10 CFR Part 20: *Standards for Protection Against Radiation* and in keeping with the ALARA (As Low As Reasonably Achievable) philosophy.
- (2) NYSERDA will implement a Retained Premises Radiation Protection Plan (RP-RPP500) to keep doses to workers and the public both ALARA, and in compliance with the 10 CFR Part 20 requirements for radiation protection.
- (3) For activities performed within the Retained Premises, the requirements and procedures described in RP-RPP500 supersede and replace radiation protection program requirements described in the Final Safety Analysis Report (FSAR) referenced herein.
- (4) RP-RPP500 and the associated procedures will be maintained in accordance with the requirements in 10 CFR Part 20, Subpart B, Radiation Protection Programs. Changes to RP-RPP500 or associated procedures will be documented, reviewed and approved by the licensee's Radiation Safety Committee prior to implementation.”

**3. Technical Evaluation**

Clarification of NYSERDA Responsibility Within the Retained Premises

Enclosure 1: License Amendment Request; Retained Premises Radiation Protection Requirements (LAR-20-001)

NYSERDA has authority to conduct work within the Retained Premises portion of WNYNSC as stated in NRC's letter to NYSERDA, *Subject: Authority Under License For Health And Safety*, dated November 7, 2018 (ADAMS Accession No., ML18282A523) [Reference (1)]:

The NRC staff has reviewed the terms of NYSERDA's current license and concludes that, as the sole remaining licensee, NYSERDA holds the authorities and responsibilities granted by the license. Therefore, the license authorizes NYSERDA to conduct work, such as maintenance or sampling, which does not interfere with the Department of Energy's work under the West Valley Demonstration Project Act. In addition, NYSERDA is also responsible for maintaining health and safety in those parts of the site not currently controlled by DOE.

A proposed new license condition [new item E.(1)] will add clarity to the POL regarding NYSERDA's responsibility and authority within the Retained Premises portion of the WNYNSC and is consistent with the previously referenced NRC determination regarding this subject.

Radiation Protection Plan for the Retained Premises

The current POL refers to the Technical Specifications and Final Safety Analysis Report (FSAR) regarding requirements for the irradiated nuclear fuel processing plant. The technical specifications referenced in the POL are currently in abeyance pending the completion of the WVDP. Given that the radiation protection requirements contained within the FSAR referenced in the license have not been updated since 1964 and were intended to apply to more complex and hazardous conditions within the irradiated nuclear fuel processing plant (which is not part of the Retained Premises), NYSERDA determined that it was appropriate to develop and implement more specific radiation protection requirements for the Retained Premises. These new requirements meet 10 CFR Part 20 regulations and are more appropriate for the routine maintenance activities expected to be performed within the Retained Premises such as tree removal, fence repair, foliage trimming or removal, environmental monitoring, utility work, etc.

The new Retained Premises Radiation Protection Program consists of the Retained Premises Radiation Protection Plan (RP-RPP500) itself (Enclosure 2 to this LAR package) as well as implementing procedures developed to keep doses to workers and the public both ALARA and in compliance with the NRC standards for radiation protection.<sup>3</sup> RP-RPP500 was developed to meet the requirements of 10 CFR Part 20, *Standards for Protection Against Radiation*.

As an example of this issue, FSAR Sections 9.33 through 9.41 describe air sampling requirements and Sections 9.42 through 9.47 describe contamination survey requirements that were in place before the transfer of the irradiated nuclear fuel processing plant to DOE that are not necessary for the Retained Premises work activities. RP-RPP500 instead requires more applicable radiation protection protocols for area radiation and contamination surveys that meet current 10 CFR Part 20 requirements, as described in NYSERDA's procedure RP-RPP005, *Radiological Surveys on the Retained Premises*. [Reference (4)].

The new radiation protection plan was prepared to provide a structured process for the review and approval of work activities that will be conducted on the non-SDA, non-WVDP portions of the Center (i.e., the Retained Premises) where Part 50-Licensed radioactive materials are or may be present. The

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<sup>3</sup> An RP radiation protection plan and associated procedures were initially submitted to the NRC on July 30, 2012 (letter ML12261A265 and package ML122610374) [Reference (3)], but for various reasons, they were not submitted as part of a license amendment request, and NRC took no action on that submittal. The new RP-RPP500 and the associated implementing procedures supersede the radiation protection plan and procedures submitted in 2012.

Enclosure 1: License Amendment Request; Retained Premises Radiation Protection Requirements (LAR-20-001)

U.S. Department of Energy does not provide radiation protection for NYSERDA's workers and contractors in these areas, and these areas fall outside the jurisdiction of the NY State Department of Health Radioactive Materials License for the State-Licensed Disposal Area.

The new radiation protection plan (RP-RPP500) was developed under the guidance and approval of a Radiation Safety Committee and is implemented under the oversight of a qualified Radiation Safety Officer. This radiation protection plan provides the structured process for the evaluation of radiological hazards and identification of radiological work controls for activities in areas of the Retained Premises that may contain radioactive materials in excess of background or fallout levels.

Table 1 below lists the new Retained Premises radiation protection plan and associated procedure documents related to this license amendment request.

**Table 1: List of RP-RPP Documents**

Title	Document Number
<b>Radiation Protection Plan</b>	
Radiation Protection Plan for the Retained Premises	RP-RPP500
<b>Radiation Protection Procedures</b>	
Radiation Safety Committee for the Retained Premises	RP-RPP001
Radiation Safety Officer for the Retained Premises	RP-RPP002
Annual Retained Premises Radiation Protection Program Audit	RP-RPP003
Training and Instruction of Radioactive Material Users on the Retained Premises	RP-RPP004
Radiological Surveys on the Retained Premises	RP-RPP005
ALARA Policy and Reviews for the Retained Premises	RP-RPP006
Retained Premises Radiological Safety Evaluations and RWPs	RP-RPP007
Personnel Decontamination Procedure for the Retained Premises	RP-RPP008
Use of Personnel Dosimetry on the Retained Premises	RP-RPP009
Monitoring of Personnel for Contamination on the Retained Premises	RP-RPP010
Instrument Calibration for the Retained Premises	RP-RPP011
Bicron MicroRem Survey Meter, Operation Procedure for the Retained Premises <b>(Cancelled and replaced by RP-RPP014)</b>	RP-RPP012
Ludlum 2241-2 Ratemeter/Scaler, Operation Procedure for the Retained Premises <b>(Cancelled and replaced by RP-RPP014)</b>	RP-RPP013
Operation and Maintenance of Portable Radiation Detection Instruments	RP-RPP014
Posting and Labeling on the Retained Premises	RP-RPP015
Receipt, Opening and Transfer of Packages of Radioactive Material for the Retained Premises	RP-RPP016

## Enclosure 1: License Amendment Request; Retained Premises Radiation Protection Requirements (LAR-20-001)

As part of this LAR, NYSERDA requests NRC approval of the new Radiation Protection Plan (RP-RPP500). RP-RPP500 will be maintained as a separate, standalone licensing basis document. The current version of the associated procedures will be available for inspection at NYSERDA's West Valley Office.

In determining what regulatory change process should apply to the Retained Premises radiation protection plan, NYSERDA considered 10 CFR 50.59 as well as other regulations. It is noted that 10 CFR 50.59(c)(4) specifically excludes from the scope of 10 CFR 50.59, changes to the facility or procedures that are controlled by more specific requirements and criteria that are established by other regulations. Control over radiation protection programs is specifically addressed in 10 CFR Part 20, Subpart B. NYSERDA concluded that 10 CFR Part 20, Subpart B provided the more specific criteria for the Retained Premises radiation protection plan and that the provisions of 10 CFR 50.59 would not apply.

Therefore, a proposed new license condition will require that RP-RPP500 and associated procedures will be maintained in accordance with the requirements in 10 CFR Part 20, Subpart B, Radiation Protection Programs. Changes to the radiation protection plan or associated procedures will be documented, reviewed and approved by the licensee's Radiation Safety Committee prior to implementation.

### Retained Premises Planned Work Activities

To support the NRC review and approval of the new radiation protection plan, this section of the LAR describes the work activities that are expected to be conducted in the Retained Premises. NYSERDA has identified the need to undertake routine site maintenance work (e.g., tree removal, fence repair, foliage trimming or removal) on the Retained Premises. As examples, NYSERDA described in a letter to NRC, dated October 13, 2016, (ML16305A184) [Reference (5)] three proposed activities:

- (1) Preparation Work for Cattaraugus County Culvert Replacement along Rock Springs Road
- (2) Grass cutting and Brush Clearing to Improve Sight-Lines along Rock Springs Road
- (3) Barbed-Wire Fence Repair at the North End of the Center

Other work activities presently planned on the Retained Premises that will involve soil disturbance were described in the NYSERDA letter to NRC, *Response to NRC Request For Additional Information Regarding Activities On The Western New York Nuclear Service Center Retained Premises*, dated August 3, 2016 (ML18283A057) [Reference (6)]. Additional work activities that may be conducted include environmental sampling, utility work (including construction, inspection, maintenance and repair) and other inspection and maintenance activities. NYSERDA uses a work planning and control process to evaluate and authorize all NYSERDA-managed work activities at the Retained Premises, and this process is described in the August 3, 2016 letter to NRC. These processes are used to determine the radiological status of these areas before NYSERDA allows activities to be performed in these areas. The information referenced in the response to Question 3 in the August 3, 2016 letter has allowed NYSERDA<sup>4</sup> to identify areas on the Retained Premises that have radioactive contamination at levels above background or fallout levels, areas on the Retained Premises that may contain radioactive contamination at levels above background or fallout levels, and areas on the Retained Premises where there is no reasonable expectation for residual radioactivity in excess of background or fallout levels. This information was used to prepare the Restricted Areas Map shown in the August 3, 2016 letter, and is used in the work planning and control processes. Implementation of the new radiation protection plan and these work controls will ensure that the radiation protection requirements in 10 CFR Part 20 will be met.

## **4. Regulatory Evaluation**

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<sup>4</sup> Question 3 asked the following: What types of information are used in the [work planning and control] process to determine the radiological status of the NYSERDA Retained Premises?

#### 4.1. Applicable Regulatory Requirements/Criteria

10 CFR 50.90, *Application for amendment of license, construction permit, or early site permit*, requires NRC approval for any modification to, addition to, or deletion from the terms and conditions of an operating license (OL). This activity involves a change to the conditions specified in the provisional OL (POL). Therefore, this activity requires a proposed amendment to the POL. Accordingly, NRC approval is required prior to making the proposed changes in this license amendment request. This license amendment request also requests NRC approval of the new Retained Premises Radiation Protection Plan (RP-RPP500). This plan will be maintained as a separate, standalone license basis document.

10 CFR Part 20, *Standards For Protection Against Radiation*, establishes standards for protection against ionizing radiation resulting from activities conducted under licenses issued by the Nuclear Regulatory Commission. These regulations control the receipt, possession, use, transfer, and disposal of licensed material by any licensee in such a manner that the total dose to an individual (including doses resulting from licensed and unlicensed radioactive material and from radiation sources other than background radiation) does not exceed the standards for protection against radiation prescribed in the regulations in this part. The new radiation protection plan developed by NYSERDA and transmitted with this proposed license amendment request meets the requirements in 10 CFR Part 20. Prior to performing work in the Retained Premises where radioactive materials may be encountered in unknown concentrations, the radiation protection plan requires the performance of surveys to determine the magnitude and extent of radiation levels, concentrations or quantities of radioactive material present in the work area, and the potential radiological hazards involved in the work. Resulting hazard identification information will be included in safety documentation prepared for the task. In keeping with the ALARA principle, the new radiation protection plan requires that all items released from a radiation work area will be monitored for contamination and decontaminated as necessary prior to release.

#### 4.2. Precedent

None.

#### 4.3. Significant Hazards Consideration Determination<sup>5</sup>

- i. **Does the proposed amendment involve a significant increase in the probability or consequences of an accident previously evaluated?**

Response: No

The changes proposed in this license amendment involve the addition of license conditions to provide additional clarity on NYSERDA's authorities and responsibilities for health and safety of the facility under the license and replace existing radiation protection requirements in the license pertaining to the non-SDA, non-WVDP portions of the WNYNSC (the Retained Premises) where Part 50-Licensed radioactive materials are or may be present. There are no proposed changes to structures, systems, and components (SSCs) of the plant. There are no changes to any of the previously evaluated accidents in the final safety analysis report (FSAR). There are no changes to operating procedures or administrative controls that are credited as having the function of preventing or mitigating any accidents. Furthermore,

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<sup>5</sup> The significant hazards considerations determination standards are provided in 10 CFR 50.92(c).

there are no accidents previously evaluated involving the Retained Premises. In view of the foregoing and because the proposed license amendment would simply impose an upgraded and up-to-date radiation protection plan that is in compliance with the current 10 CFR Part 20 and replace and supersede the outdated radiation protection requirements developed at the time of licensing the irradiated fuel processing facility, the proposed amendment will not involve a significant increase in the probability or consequences of an accident previously evaluated.

**ii. Does the proposed amendment create the possibility of a new or different kind of accident from any accident previously evaluated?**

Response: No

The changes proposed in this license amendment involve the addition of license conditions to provide additional clarity on NYSERDA's authorities and responsibilities for health and safety of the facility under the license and replace existing radiation protection requirements in the license pertaining to the Retained Premises where Part 50-Licensed radioactive materials are or may be present. The proposed changes do not change the design function, or operation of any SSC described in the FSAR. The proposed changes do not create the possibility of a new or different kind of accident due to credible new failure mechanisms, malfunctions, or accident initiators not considered in the design and licensing bases. Furthermore, there are no accidents previously evaluated involving the Retained Premises portion of the WNYNSC. Thus, the proposed changes do not create the possibility of a new or different kind of accident from any accident previously evaluated.

**iii. Does the proposed amendment involve a significant reduction in a margin of safety?**

Response: No

The changes proposed in this license amendment involve the addition of license conditions to provide additional clarity on NYSERDA's authorities and responsibilities for health and safety of the facility under the license and replace existing radiation protection requirements in the license pertaining to the Retained Premises where Part 50-Licensed radioactive materials are or may be present. There are no safety margins that are used to demonstrate compliance with regulatory and licensing requirements described in the FSAR that apply to activities planned to be performed in the Retained Premises and the proposed license amendment would simply impose an upgraded and up-to-date RPP for the Retained Premises that is in compliance with the current 10 CFR Part 20 and replace and supersede the outdated radiation protection requirements developed at the time of licensing the irradiated fuel processing facility. Thus, no safety margins are affected by the proposed changes and there is no significant reduction in any margin of safety previously identified in the license.

**4.4. Conclusions**

In conclusion, based on the considerations discussed above, (1) there is reasonable assurance that the health and safety of the public will not be endangered by operation in the proposed manner, (2) 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.

## 5. Environmental Considerations

This review supports a request to amend the Provisional Operating License (POL) for the Licensee and to allow changes to the POL. Sections 2 and 3 of this license amendment request provide the details of the proposed changes.

NYSERDA has determined that the anticipated construction and operational effects of the proposed amendment meet the eligibility criteria for categorical exclusion set forth in 10 CFR 51.22(c)(9), in that:

- (i) *There is no significant hazards consideration.*

As documented in Section 4.3, *Significant Hazards Consideration Determination*, of this license amendment request, an evaluation was completed to determine whether or not a significant hazards consideration is involved by focusing on the three standards set forth in 10 CFR 50.92, "Issuance of amendment." The Significant Hazards Consideration assessment determined that (1) the proposed amendment does not involve a significant increase in the probability or consequences of an accident previously evaluated; (2) the proposed amendment does not create the possibility of a new or different kind of accident from any accident previously evaluated; and (3) the proposed amendment does not involve a significant reduction in a margin of safety. Therefore, it is concluded that the proposed amendment does not involve a significant hazards consideration under the standards set forth in 10 CFR 50.92(c), and accordingly, a finding of "no significant hazards consideration" is justified.

- (ii) *There is no significant change in the types or significant increase in the amounts of any effluents that may be released offsite.*

The proposed changes include the addition of license conditions to provide additional clarity on NYSERDA's authorities and responsibilities for health and safety of the facility under the license and replace existing radiation protection requirements in the license pertaining to the Retained Premises with a new Radiation Protection Plan (RP-RPP500). These changes are unrelated to any aspects of plant construction or operation that would introduce any changes to effluent types (e.g., effluents containing chemicals or biocides, sanitary system effluents, and other effluents) or affect any plant radiological or non-radiological effluent release quantities. Furthermore, these changes do not diminish the functionality of any design or operational features that are credited with controlling the release of effluents during plant operation. Therefore, it is concluded that the proposed amendment does not involve a significant change in the types or a significant increase in the amounts of any effluents that may be released offsite.

- (iii) *There is no significant increase in individual or cumulative occupational radiation exposure.*

The proposed changes include the addition of license conditions to provide additional clarity on NYSERDA's authorities and responsibilities for health and safety of the facility under the license and replace existing radiation protection requirements in the license pertaining to the Retained Premises with a new Radiation Protection Plan (RP-RPP500). These changes are unrelated to any aspects of plant construction or operation that would introduce any increases to individual or cumulative occupational radiation exposure because the activities being undertaken in the Retained Premises will not create

Enclosure 1: License Amendment Request; Retained Premises Radiation Protection Requirements (LAR-20-001)

radiological hazards outside of the scope of those considered in the original license. Therefore, the requested amendment does not involve a significant increase in individual or cumulative occupational radiation exposure.

Based on the above review of the proposed amendment, it has been determined that anticipated construction and operational effects of the proposed amendment do not involve (i) a significant hazards consideration, (ii) a significant change in the types or significant increase in the amounts of any effluents that may be released offsite, or (iii) a significant increase in the individual or cumulative occupational radiation exposure. Accordingly, the proposed amendment meets the eligibility criteria for categorical exclusion set forth in 10 CFR 51.22(c)(9). Therefore, pursuant to 10 CFR 51.22(b), an environmental impact statement or environmental assessment of the proposed exemption and proposed amendment is not required.

## 6. References

- (1) NRC letter to NYSERDA, *Subject: Authority Under License For Health And Safety*, dated November 7, 2018 (ADAMS Accession No., ML18282A523)
- (2) NRC letter to NYSERDA, *Evaluation and Subsequent Operation, Maintenance and Removal of a Solar Photovoltaic Facility on a Non-Impacted Area of the Licensed Area*, November 1, 2018, (ML18290A566)
- (3) NYSERDA letter to the NRC, *Transmittal of the Radiation Protection Program for the Non-SDA, Non-WVDP Portions of the Western New York Nuclear Service Center*, dated July 30, 2012 (letter ML12261A265 and package ML122610374)
- (4) RP-RPP005.00, *Radiation and Contamination Surveys on the Retained Premises*
- (5) NYSERDA letter to NRC dated October 13, 2016 (ML16305A184)
- (6) NYSERDA letter to NRC, *Response to NRC Request For Additional Information Regarding Activities On The Western New York Nuclear Service Center Retained Premises*, dated August 3, 2016 (ML18283A057)



New York State Energy Research and Development Authority

Western New York Nuclear Service Center

Enclosure 2

Retained Premises Radiation Protection Plan (RP-RPP500)

(LAR-20-001)

**West Valley Site Management Program  
RECORD OF REVISION AND DISTRIBUTION**

**TITLE: Radiation Protection Plan for the Retained Premises**

**RP-RPP500.01**

**Record of Revision:**

Description of Change(s) (and pages affected)	Date Issued
RP-RPP500.00 Original issue	04/19/2012
RP-RPP501.01 General Revision to update the controlled and restricted areas of the Retained Premises, and to submit for the License Amendment Request	02/03/2020

**Record of Distribution:**

Record of Distribution (Distribution List)	Date Distributed
RP-RPP500.00 WVSMP Plans and Procedures Manuals (AOC Office, SDA and Annex) Central Files (Original with green sheets)	04/19/2012
RP-RPP500.00 Transmittal to Chad Glenn, NRC (under separate cover PJB/12amd019.ejt) Edward Traverso, RSO, RP-RSC, Controlled Binder 1 Tom Attridge, RP-RSC Controlled Binder 2 Paul Bembia, RP-RSC Controlled Binder 3 RP-RSC Controlled Binder 4 ( <i>never issued</i> ) Jean Williams, RP-RSC Controlled Binder 5 Duane Quayle, EnergySolutions, (Radiation and Safety Contractor Manager) RP-RSC Controlled Binder 6 Central Files 10512-12 – RP-RSC Controlled Binder 7 Elizabeth Lowes, RP-RSC Controlled Binder 8 Alita Dueringer, RP-RSC Controlled Binder 9	07/30/2012

Record of Distribution (continued) (Distribution List)	Date Distributed
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RP-RPP500.01	<p>WVSMP Plans and Procedures Manual (AOC Office)</p> <p>Central Files (Original with green sheets)</p> <p>Doug Coble, RSO, RP-RSC, Controlled Binder 1</p> <p>Andrea Mellon, RP-RSC Controlled Binder 2</p> <p>Paul Bembia, RP-RSC Controlled Binder 3</p> <p>RP-RSC Controlled Binder 4 (<i>never issued</i>)</p> <p>RP-RSC Controlled Binder 5</p> <p>Lou Henry, MJW, (Radiation and Safety Contractor Manager) RP-RSC Controlled Binder 6</p> <p>Central Files 10512-12 – RP-RSC Controlled Binder 7</p> <p>Brad Frank, RP-RSC Controlled Binder 8</p> <p>Alita Dueringer, RP-RSC Controlled Binder 9</p>	02/03/2020
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**Retained Premises Radiation Protection Plan**

**RP-RPP500.01**

**New York State Energy Research and Development Authority**

**West Valley Site Management Program**

**West Valley, NY**

**02/03/2020**

# 1 Purpose

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The New York State Energy Research and Development Authority (NYSERDA), as a U.S. Nuclear Regulatory Commission (NRC) licensee, developed the Retained Premises Radiation Protection Program (RP-RPP) for the Western New York Nuclear Service Center (WNYNSC) to control the receipt, possession, use, transfer, and disposal of licensed materials to ensure that the total individual dose does not exceed the NRC's 10 CFR 20 standards for radiation protection, and is as low as reasonably achievable (ALARA). The RP-RPP consists of this Radiation Protection Plan (RP-RPP500) and a series of implementing procedures that provide the details of the management and technical framework and administrative and engineering controls needed to demonstrate NYSERDA's compliance with the 10 CFR 20 standards.

## 1.1 Definitions:

- a) **ALARA** – as low as is reasonably achievable; includes making every reasonable effort to maintain exposures to radiation as far below the dose limits as is practical. These measures include taking into the account the cost related to the reduction in dose to public health and safety, the state and cost of technology, and other societal and socioeconomic considerations, as they relate to the residual concentrations of licensed materials present on the RP.
- b) **Controlled Area** – is an area outside of a restricted area, but inside the site boundary to which public access is limited. The entire boundary of the WNYNSC property (approximately 3,300 acres) is controlled and marked by a three-stand barbed wire fence with posted signs displaying information at regular intervals. Figure 2-1, WNYNSC Aerial Orthoimagery Acquired November 1, 2010, identifies the controlled area boundary of the WNYNSC in yellow.
- c) **High Radiation Area** – is defined as an area, accessible to individuals, in which radiation levels from radiation sources external to the body could result in an individual receiving a dose equivalent in excess of 0.1 rem (100 millirem or one mSv) in one hour at 30 centimeters (approximately one foot) from the radiation source or 30 centimeters from any surface that the radiation penetrates. Based on the aerial radiation surveys and environmental monitoring sampling data, there are no areas on the RP that meet this definition.
- d) **Radiation Area** – is defined as an area, accessible to individuals, in which radiation levels could result in an individual receiving a dose equivalent in excess of 0.005 rem (five millirem or 0.05 mSv) in one hour at 30 centimeters (approximately one foot) from the radiation source or 30 centimeters from any surface that the radiation penetrates. Based on the aerial radiation surveys and environmental monitoring sampling data, there are no areas on the RP that meet this definition. If NYSERDA identifies an area meeting this definition, NYSERDA will implement

radiation safety controls in accordance with this document and its implementing procedures, including, but not limited to posting of the area.

- e) **Restricted Area** – is an area where access has been limited by NYSERDA for the purpose of protecting individuals against the risk from potential exposure to radiation and radioactive materials. Based on aerial radiation surveys and environmental monitoring sampling data, NYSERDA has two areas on the RP that are potentially impacted as restricted areas and as such, have been identified as restricted public access areas. Work activities in these areas may require additional work controls or monitoring, and this will be determined in the work review and approval process for each work activity. These areas are identified in Figure 2-2. All other areas of the WNYNSC are controlled areas where public access is controlled and radiation levels are expected to be at or consistent with background levels.
- f) **Site boundary** – is the line beyond which the land or property is not owned or controlled by NYSERDA.
- g) **Very high radiation area** – is defined as an area, accessible to individuals, in which radiation levels from radiation sources external to the body could result in an individual receiving an absorbed dose in excess of 500 rads (five gray) in one hour at one meter (approximately three feet) from a radiation source or one meter from any surface that the radiation penetrates. Based on aerial radiation surveys, work area surveys, and environmental monitoring sampling data, there are no areas on the RP that are identified as very high radiation areas.

## 1.2 Radiation Protection Program Requirements

10 CFR Part 20.1101, *Purpose*, provides the following specific requirements for Radiation Protection Programs:

- (a) Each licensee shall develop, document, and implement a radiation protection program commensurate with the scope and extent of licensed activities and sufficient to ensure compliance with the provisions of this part.
- (b) The licensee shall use, to the extent practical, procedures and engineering controls based upon sound radiation protection principles to achieve occupational doses and doses to members of the public that are as low as is reasonably achievable (ALARA).
- (c) The licensee shall periodically (at least annually) review the radiation protection program content and implementation.
- (d) To implement the ALARA requirements of 1020.1101 (b), and notwithstanding the requirements in 10 CFR 20 Subpart D *Radiation Dose Limits for Individual Members of the Public*, a constraint on air emissions of radioactive material to the environment, excluding Radon-222 and its daughters, shall be established by licensees other than those subject to 10 CFR 50.34a, such that the individual member of the public likely to receive the highest dose will not be expected to receive a total effective dose equivalent in excess of 10 mrem (0.1 mSv) per year from these

emissions. If a licensee subject to this requirement exceeds this dose constraint, the licensee shall report the exceedance as provided in 10 CFR 20.2203, *Reports of exposures, radiation levels, and concentrations of radioactive material exceeding the constraints or limits*, and promptly take appropriate corrective action to ensure against recurrence.

This RP-RPP provides the framework to demonstrate that NYSERDA is in compliance with the requirements of 10 CFR 20 Subpart B - *Radiation Protection Programs*. This plan is supported by a series of detailed implementing procedures that are available for NRC's inspection at NYSERDA's West Valley Office.

Revisions to this plan and associated procedures will be documented, reviewed, and approved by NYSERDA's Radiation Safety Committee (RSC) prior to implementation.

## 2 Background

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NYSERDA holds title to the WNYNSC on behalf of the people of the State of New York. The WNYNSC, located near West Valley, New York, approximately 30 miles south of Buffalo, in the towns of Ashford and Concord, was operated as a licensed nuclear fuel reprocessing facility from 1966 to 1972.

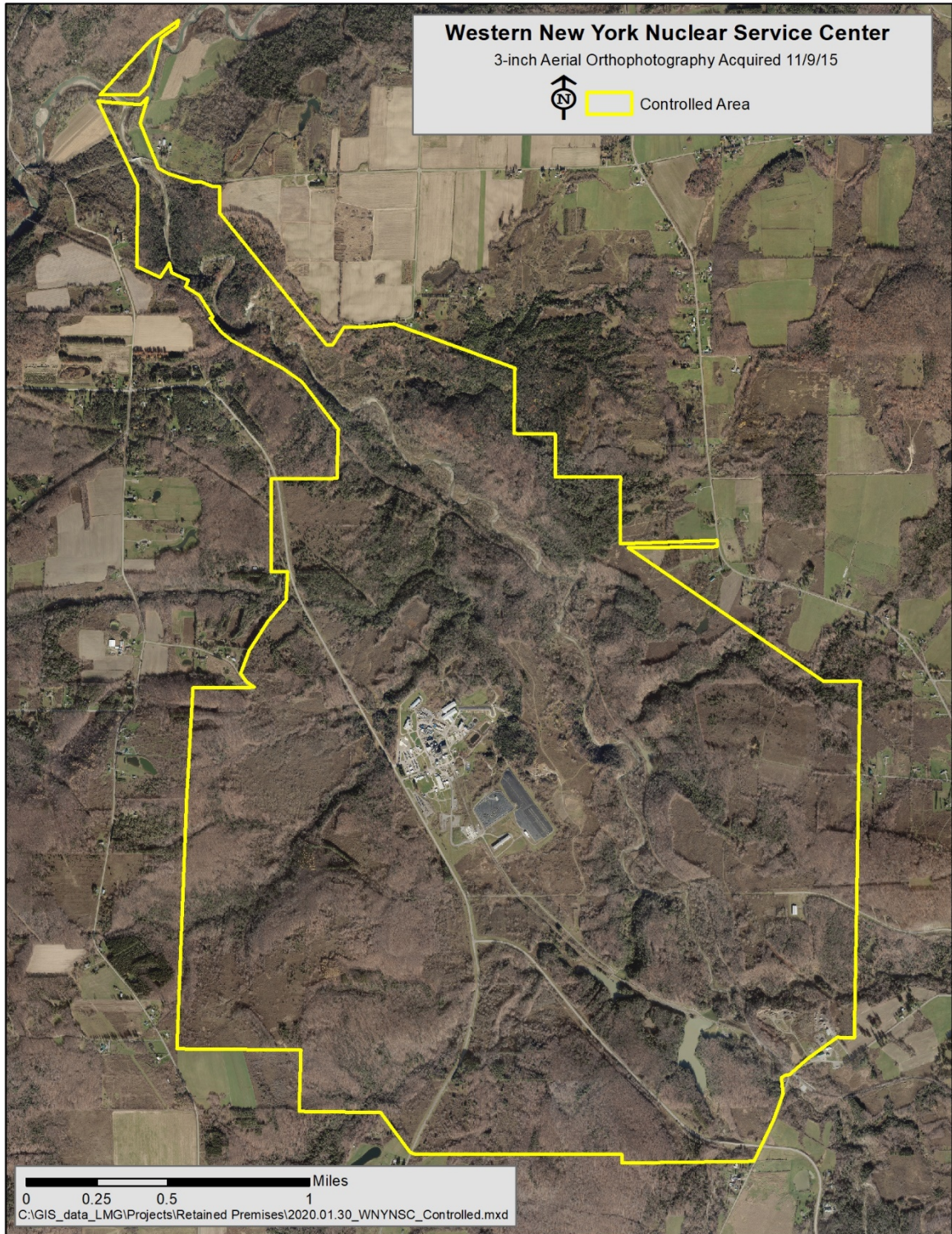
The WNYNSC is approximately 3,300 acres and is divided into three separate operational areas: the 167-acre West Valley Demonstration Project (WVDP), the 15-acre State-Licensed Disposal Area (SDA), and the relatively undeveloped 3,100-acre RP). The WNYNSC is licensed by the NRC under 10 CFR Part 50, except for the SDA, which is licensed and regulated by the State of New York. The 167-acre WVDP premises, containing the former reprocessing facility, the NRC-Licensed Disposal Area, High-Level Waste tanks, waste lagoons, aboveground storage areas, and other facilities, is currently under the U.S. Department of Energy's (DOE) possession, control, and oversight in accordance with the WVDP Act and the *Cooperative Agreement between the United States Department of Energy and the New York State Energy Research and Development Authority on the Western New York Nuclear Service Center at West Valley New York* (Cooperative Agreement<sup>1</sup>). Separate radiation protection programs are in effect for the WVDP and SDA.

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<sup>1</sup> Effective October 1, 1980, as amended September 18, 1981, U.S. DOE and NYSERDA (Cooperative Agreement).

**Figure 2-1. WNYNSC Aerial Orthoimagery Acquired November 2, 2010**

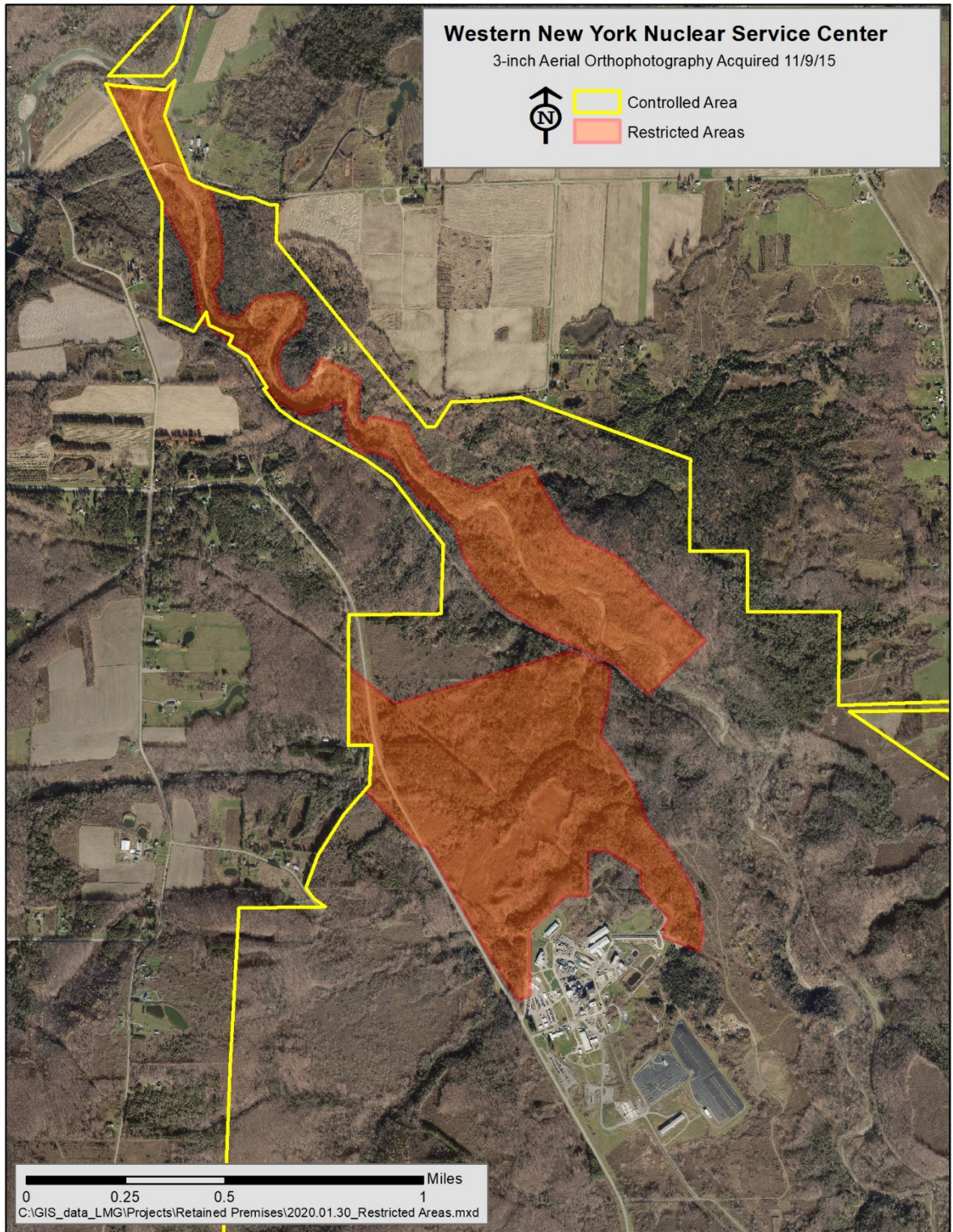
Source: NYSERDA





**Figure 2-2. Restricted Areas of the Retained Premises**

Source: NYSERDA



## 2.1 Retained Premises

NYSERDA is the sole licensee under a provisional operating license (NRC License CSF-1<sup>2</sup>) for the non-SDA portions of the WNYNSC. The Part 50 License is not presently applicable to the WVDP Premises and activities since DOE has exclusive possession and use of the 167-acre WVDP Premises. NYSERDA provides for radiation safety and the protection of individuals on the balance of the RP, excluding the SDA, in accordance with NRC regulation 10 CFR Part 20: *Standards for Protection Against Radiation* including the ALARA philosophy, and in accordance with this plan. Per the Cooperative Agreement, DOE has the authority to conduct work on the Retained Premises necessary to carry out the WVDP; and, as such, RP-RPP500 does not apply to DOE or its contractors conducting WVDP actions on the Retained Premises.

## 2.2 West Valley Demonstration Project

As described above, DOE has exclusive use and possession of 167 acres of the WNYNSC to perform the WVDP. Radiation protection for the WVDP is provided by DOE's contractors under the scope of DOE's regulations and orders. This Radiation Protection Plan does not apply to the WVDP Premises, or to DOE or its contractors conducting WVDP actions on the Retained Premises.

## 2.3 State-Licensed Disposal Area

Adjacent to the WVDP, the SDA was operated as a commercial low-level radioactive waste disposal facility from 1963 to 1975. NYSERDA holds a Radioactive Materials License for the SDA, which is administered by the New York State Department of Health under the scope of New York State's ionizing radiation protection regulations. Work performed at the SDA is subject to the SDA Radiation Protection Program, which was developed in accordance with the SDA Radioactive Materials License and applicable New York State regulations.

NYSERDA's management of the SDA is also subject to the requirements of a Radiation Control Permit issued by the New York State Department of Environmental Conservation under applicable NYS regulations.

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<sup>2</sup> April 19, 1966. Issued under 10 CFR 50. "Domestic Licensing of Production and Utilization Facilities."

## **3 Responsibilities**

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### **3.1 NYSERDA Management**

NYSERDA management is responsible for providing the resources, and creating or supporting the policies, direction, etc. needed to establish a radiation protection program that is in compliance with 10 CFR Part 20. Resources include equipment (e.g., instruments, materials, and equipment), and qualified personnel needed to develop and implement the RP-RPP. These resources may be provided by contract organizations or directly by NYSERDA.

### **3.2 Retained Premises Radiation Safety Committee**

As described in NYSERDA's implementing procedures for RP-RPP500, NYSERDA has established a Radiation Safety Committee for the Retained Premises (RP-RSC). The RP-RSC is responsible for developing radiation safety policies and exercising effective oversight of the RP-RPP in accordance with 10 CFR Part 20. The RP-RSC will also conduct, or cause to be conducted, an annual audit of the content and implementation of the RP-RPP, as required under 10 CFR 20.1101, *Radiation protection programs*, and as specified in NYSERDA's implementing procedures.

### **3.3 Radiation Safety Officer**

In order to ensure consistent and effective implementation of this RP-RPP, a qualified Radiation Safety Officer (RSO) will oversee the day-to-day implementation of the RP-RPP. The RSO ensures that the details of the program are implemented in compliance with applicable regulations, the Radiation Protection Plan, and the implementing procedures. The RSO has direct access to the NYSERDA West Valley Site Management Program Director and the RSC in order to address issues that affect radiation protection on the RP. The RSO (and any worker) also has the authority to stop work if unsafe conditions exist. The duties and responsibilities of the RSO are described in NYSERDA's detailed implementing procedures.

## **4 ALARA Policy**

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NYSERDA is committed to maintaining radiation exposures and releases of radioactive material as far below the regulatory limits in 10 CFR Part 20 as is practical, as defined in Section 1.1 of this RP-RPP. The RP-RSC will review work activities planned for the RP to assure that every reasonable effort to maintain exposures to radiation are as low as reasonably achievable, and in compliance with 10 CFR 20. Work

activities conducted in restricted areas of the RP are evaluated as described in NYSERDA's detailed implementing procedures.

Per 10 CFR 20.1101 (d), in order to implement the ALARA requirements of 10 CFR 20.1101 (b), and notwithstanding the requirements in 10 CFR 20.1301, *Dose limits for individual members of the public*, a constraint on air emissions of radioactive material to the environment, excluding Radon-222 and its daughters, shall be established by licensees other than those subject to 10 CFR 50.34a, such that the individual member of the public likely to receive the highest dose will not be expected to receive a total effective dose equivalent in excess of 10 mrem (0.1 mSv) per year from these emissions. Also, 10 CFR 20.1101 (d) states that if a licensee subject to this requirement exceeds this dose constraint, the licensee shall report the exceedance as provided in 10 CFR 20.2203, *Reports of exposures, radiation levels, and concentrations of radioactive material exceeding the constraints or limits*, and promptly take appropriate corrective action to ensure against recurrence. NYSERDA notes that there are presently no operating systems on the RP and no active sources of emissions to the air. If any operating systems are constructed or mitigation work is initiated on the RP that could result in emission of radioactive material to the air, NYSERDA will ensure that those work activities will meet the requirements of 10 CFR 20.1101 (d) via detailed procedures prepared to implement this RP-RPP.

## **5 Radiological Surveys and Monitoring**

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To comply with the requirements of 10 CFR 20 Subpart F - *Surveys and Monitoring*, NYSERDA's RP-RPP includes a framework of surveying and monitoring on the RP necessary to comply with 10 CFR Part 20. The details of the survey and monitoring requirements are presented in the implementing procedures for the RP-RPP.

Surveys and monitoring are conducted to provide information on:

- the magnitude and extent of radiation levels on the RP
- concentrations or quantities of residual radioactivity on the RP
- the potential radiological hazards of the radiation levels and residual radioactivity detected on the RP.

## 5.1 Radiological Surveys

### 5.1.1 Surveys

Surveys of the Retained Premises are conducted using two distinct methods:

- a) **Aerial Radiation Surveys** – In order to evaluate the status of radiological conditions on the RP, NYSERDA conducts aerial radiation surveys of the entire WNYNSC property. These surveys will be conducted at a frequency sufficient to comply with the 10 CFR 20 Subpart F requirements, considering existing contamination on the RP and the potential for releases of radioactive material to the RP.

If, in the future, site decommissioning activities that could result in the release of radioactive material to the RP are no longer being conducted, the RP-RSC may consider whether it is necessary to continue aerial radiation surveys in order to comply with the requirements of 10 CFR 20 Subpart F - *Surveys and Monitoring*. If the RSC determines that the likelihood of releases are low and aerial radiation surveys are no longer needed to comply with the requirements of Subpart F, the detailed implementing procedure will be modified accordingly and approved by the RSC.

- b) **Work Area Radiation Surveys** - Prior to performing work in a restricted area, NYSERDA will consider the need for work area surveys, based on existing aerial radiation surveys, historical site knowledge, and other relevant data and information. NYSERDA will perform surveys of the work area, if needed, as described in NYSERDA's detailed implementing procedures. Relevant radiological hazard identification information will be included in the safety documentation prepared for the task. If the evaluation requires soil samples, NYSERDA will consider the need for collecting both surface and subsurface samples, per 10 CFR 20, Subpart F - *Surveys and Monitoring*.
- c) **WVDP Annual Site Environmental Report** – Annually, NYSERDA will evaluate the WVDP Annual Site Environmental Report data provided by DOE and determine if there are any changes in WVDP monitoring results that could indicate changes in radioactive material or in radiation levels on the RP. This review will be documented in a memo to the RP-RSC. Follow-up items will be documented in accordance with 10 CFR 20, Subpart F - *Surveys and Monitoring*, and NYSERDA's procedures prepared to implement this RP-RPP.

### **5.1.2 Radiation Detection Instruments**

All radiation detection instruments and equipment used for quantitative radiation measurements will be calibrated periodically for the radiation measured in accordance with 10 CFR 20.1501, *General*, (c), and as described in NYSERDA's detailed implementing procedures.

### **5.1.3 Recordkeeping**

NYSERDA will report measurements of radioactivity consistent with 10 CFR 20.1005, *Units of radioactivity*, and will maintain all records showing the results of surveys and calibrations in accordance with 10 CFR 20.1501 (b) and 10 CFR 20.2103, *Records of surveys*.

## **5.2 Monitoring**

Personnel monitoring for external and internal occupational dose will be performed in accordance with 10 CFR 20.1502, *Conditions requiring individual monitoring of external and internal occupational dose*. Dosimetry used for external occupational exposure will conform to the requirements in 10 CFR 20.1501 (d).

### **5.2.1 Reporting**

NYSERDA will report radiation doses consistent with 10 CFR 20.1004, *Units of radiation dose*, and will maintain records of external and internal occupational exposure in accordance with 10 CFR 20.1502, *Conditions requiring individual monitoring of external and internal occupational dose*, and 10 CFR 20 Subpart L - *Records*.

### **5.2.2 Records**

NYSERDA will maintain records from surveys in accordance with 10 CFR 20.2103, *Records of surveys*, and 10 CFR 20.1501 (b).

## **6 Control of Exposure From External Sources in Restricted Areas**

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Based on the aerial radiation surveys, work area surveys, and environmental monitoring data provided in the WVDP Annual Site Environmental Report, there are no areas on the RP where access controls are required due to the risk of exposure to radiation and radioactive materials as provided in 10 CFR 20.1601,

*Control of access to high radiation areas*, and 10 CFR 20.1602, *Control of access to very high radiation areas*. If future surveys identify an area exceeding these thresholds, NYSERDA will revise this plan and all pertinent implementing procedures as required.

## **7 Respiratory Protection and Controls**

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Subpart H of 10 CFR 20 provides the requirements for respiratory protection and controls to restrict internal exposure in restricted areas. Based on the surveys and monitoring described above, along with extensive records of historical site operations, there are no conditions present on the RP that would require respiratory protection to restrict internal exposure in a restricted area. Regardless, all work activities on the RP will be reviewed in accordance with NYSERDA's detailed implementing procedures and NYSERDA will identify internal exposure hazards if present. If such conditions on the RP are identified, detailed implementing procedures will be prepared, or existing procedures modified, as required; and, necessary training and other requirements will be met prior to the RSC approving the work activity. NYSERDA will consider the use of engineering controls (e.g., containment, decontamination, or ventilation), if needed, to control the concentration of radioactive material in the air, per 10 CFR 20, Subpart H – *Respiratory Protection and Controls to Restrict Internal Exposure in Restricted Areas*.

## **8 Storage and Control of Licensed Materials**

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Based on the aerial radiation surveys, work area surveys, and environmental monitoring data provided in the WVDP Annual Site Environmental Report, the only licensed materials that may be present on the RP are found in slightly contaminated soils and stream sediments. The concentrations of these residual materials are expected to be below NRC's unrestricted release concentration levels,<sup>3</sup> and would not require storage and control requirements identified in 10 CFR 20 Subpart K - *Waste Disposal*. If waste is generated in restricted areas, it will be surveyed, characterized, and contained in a secure facility on the RP consistent with 10 CFR 20 Subpart K – *Waste Disposal* requirements, until it is determined whether the Appendix H, Table H.2 concentration levels are exceeded. If these levels are exceeded, the waste will be dispositioned per NYSERDA's implementing waste management procedures.

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<sup>3</sup> NUREG-1757, Vol. 12, Rev. 1, "Consolidated Decommissioning Guidance, Appendix H, Table H.2."

## 9 Posting and Labeling

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### 9.1 Notices to Workers

Notices to workers are provided in accordance with 10 CFR 19.11, *Posting of Notices to Workers*.

### 9.2 Posting

Notwithstanding the exceptions in 10 CFR 20.1903, *Exceptions to posting requirements*, postings and labeling is conducted in accordance with the requirements of 10 CFR 20.1901 and 10 CFR 20.1902, *Caution signs* and *Posting requirements*, respectively.

NYSERDA's detailed implementing procedures provide posting requirements for:

- restricted areas
- radiation areas (not expected on the RP)
- high radiation areas (not expected on the RP)
- very high radiation areas (not expected on the RP)
- airborne radioactivity area (not expected on the RP)
- radioactive material storage areas<sup>4</sup>

### 9.3 Labeling

Notwithstanding exemptions in 10 CFR 20.1905, *Exemptions to labeling requirements*, containers requiring labeling as specified by 10 CFR 20.1904, *Labeling containers*, will be affixed with a durable, clearly visible label bearing the standard radiation symbol and the words "CAUTION, RADIOACTIVE MATERIAL" as detailed in NYSERDA's posting and labeling procedures.

Prior to removal or disposal of empty uncontaminated containers, Radioactive Material labels will be removed or defaced, or will otherwise clearly indicate that the container no longer contains radioactive materials.

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<sup>4</sup> NYSERDA does not expect to routinely store radioactive materials on the RP that would contain 10 times the quantity specified in Appendix C to Part 20. However, the posting of an area as a Radioactive Material Storage Area could be required if waste generated through a work activity was to be temporarily staged on the RP for transport and disposal.



## 10 Receipt, Opening, and Transfer of Packages

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NYSERDA does not anticipate receiving packages of radioactive material on the RP. If the receipt of such packages is necessary, the requirements for the receipt, opening, and transfer of packages on the RP will be completed in accordance with NYSERDA's implementing procedures and 10 CFR 20.1906, *Procedures for receiving and opening packages*.

## 11 Dose Limits

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NYSERDA has established administrative dose limits that are lower than the dose limits codified in 10 CFR Part 20. These administrative limits were established to help ensure that personnel radiation exposures are kept below the regulatory limits in 10 CFR 20 Subpart C – *Occupational Dose Limits*.

Table 11-1 provides NYSERDA's administrative dose limits and a comparison with the 10 CFR Part 20 limits. NYSERDA expects radiological direct exposures on the RP to be at or consistent with background radiation levels. Based on current aerial radiation surveys, the WVDP Annual Site Environmental Reports, and other surveys of the RP, NYSERDA does not anticipate any areas that will meet the definition of a Radiation Area. In addition, per the requirements identified in 40 CFR 190, *Environmental Radiation Standards for Nuclear Power Operations*, NYSERDA does not anticipate that a dose to any member of the public will exceed 25 mRem to the whole body, 75 mRem to the thyroid, and 25 mRem to any other organ. If NYSERDA identifies an area meeting this definition, NYSERDA will implement radiation safety controls in accordance with this document.

If any recorded dose is determined to exceed NYSERDA's administrative dose limits, an investigation will be conducted to determine the circumstances that resulted in that exposure. Additionally, any exceedances of statutory dose limits shall be reported to NRC in accordance with 10 CFR 20 Subpart M – *Reports*.

NYSERDA does not expect to authorize "planned special exposures" as identified in 10 CFR 20.1206, *Planned special exposures*. If planned special exposures are ever required at the RP, NYSERDA will modify the applicable procedures.

**Table 11-1. Dose Limits**

Source: NYSERDA

	10 CFR Part 20 Limit (rem/year)	NYSERDA Annual Limit (rem/year)	NYSERDA Daily Administrative Limit (rem/day)
<b>Adult Radiological Worker</b>			
The more limiting of: Total effective dose equivalent to whole body, or	5	0.5	0.1
Sum of deep-dose equivalent and committed dose equivalent to any organ or tissue other than lens of eye	50	5	1
Dose equivalent to lens of eye	15	1.5	0.3
Shallow-dose equivalent to skin or any extremity	50	5	1
<b>Minor Radiological Worker<sup>a</sup></b>			
The more limiting of: Total effective dose equivalent to whole body, or	0.5	N/A	N/A
Sum of deep-dose equivalent and committed dose equivalent to any organ or tissue other than lens of eye	5.0		
Dose equivalent to lens of eye	1.5	N/A	N/A
Shallow-dose equivalent to skin or any extremity	5.0	N/A	N/A
<b>Dose Equivalent to the Embryo /Fetus</b>			
Dose to embryo/fetus during the entire pregnancy taken as the sum of the deep-dose equivalent to the woman and the dose to the embryo/fetus from radionuclides in the embryo/fetus and the woman	0.5 rem per gestation period	0.1 rem per gestation period	N/A
<b>Air Emissions to Individual Members of the Public<sup>b</sup></b>			
Total effective dose equivalent	0.01	0.01	N/A <sup>c</sup>
<b>Individual Members of the Public<sup>b</sup></b>			
Total effective dose equivalent	0.1	0.1	N/A <sup>c</sup>

<sup>a</sup> Minors will not be Radiation Worker trained by NYSERDA and will not be authorized access to work in restricted areas where there is the potential for the minor to be exposed to radioactive materials or above-background dose fields.

<sup>b</sup> In addition, the dose in any unrestricted area from external sources cannot exceed 0.002 rem (0.02 millisievert) in any one hour.

<sup>c</sup> The NYSERDA Daily Administrative Limits are not applicable to individual members of the public.

## 12 Personnel Radiation Exposure Monitoring

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To comply with 10 CFR 20.1502, *Conditions requiring individual monitoring of external and internal occupational dose*, individual monitoring devices are required for:

- (1) Adults likely to receive in 1 year from sources external to the body, a dose in excess of 10 percent of the limits in 10 CFR 20.1201 (a);
- (2) External and internal occupational dose requirements for minors detailed in 10 CFR 20.1502 (2) are not applicable as minors will not be Radiation Worker-trained by NYSERDA, and will not be authorized access to work in restricted areas where there is the potential for the minor to be exposed to radioactive materials or above-background dose fields;
- (3) Declared pregnant women likely to receive during the entire pregnancy, from radiation sources external to the body, a deep dose equivalent in excess of 0.1 rem (1 mSv); and
- (4) Individuals entering a high or very high radiation area (NYSERDA does not expect that radiological conditions on the Retained Premises will ever reach the threshold dose rates of high or very high radiation areas).

In addition, NYSERDA will monitor the radioactive material intake in the following instances:

- the intake in a calendar year is likely to exceed 10 percent of the applicable annual limit on intake for an adult worker
- the committed effective dose equivalent is likely to exceed 0.1 rem (one mSv) for the declared pregnant woman

Individual monitoring requirements for external and internal occupational dose will be described in task-specific safety documentation prepared for each job as described in NYSERDA's detailed implementation procedures.

As required by 10 CFR 20.1202, *Compliance with requirements for summation of external and internal doses*, when monitoring for both external and internal radiation dose, NYSERDA will demonstrate compliance with the dose limits by summing external and internal doses calculated using *Intake by inhalation* [10 CFR 20.1202(b)], *Intake by oral ingestion* [10 CFR 20.1202(c)], and *Intake through wounds or absorption through skin* [10 CFR 20.1202(d)].

## 13 Waste Management and Disposal

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NYSERDA's activities on the RP are not expected to result in the routine generation of waste. On occasion, however, activities on the RP, including erosion monitoring and control, fence and vegetation maintenance, utility work, environmental measurements, and investigative efforts, may result in the generation of waste. NYSERDA will manage and dispose of the waste based on the location where the waste was generated as follows:

- (1) **Waste Generated in a Controlled Area** - Based on aerial radiation surveys, work area surveys, and environmental monitoring sampling data, waste generated in the Controlled Areas of the WNYNSC are expected to be at or consistent with background radionuclide concentrations, and will be managed for disposal per NYSERDA's waste management procedures.
- (2) **Waste Generated in a Restricted Area** – Based on aerial radiation surveys, work area surveys, and environmental monitoring sampling data, waste generated in the Restricted Areas of the WNYNSC will be surveyed, characterized, and contained in a secure facility on the RP consistent with 10 CFR 20 Subpart K – *Waste Disposal* requirements, until it is determined whether the Appendix H, Table H.2 concentration levels<sup>5</sup> are exceeded. If these levels are exceeded, the waste will be dispositioned per NYSERDA's implementing waste management procedures.

Waste minimization practices will be incorporated into work planning documents for any work that may result in the generation of radioactive waste.

All radioactive waste generated will be posted, labeled, and stored in a secure location in accordance with 10 CFR 20.1904, *Labeling containers*, until such time it is transferred to an appropriate disposal facility. NYSERDA will dispose of radioactive waste in accordance with 10 CFR 20.2006, *Transfer for disposal and manifests*, or as otherwise required by 10 CFR 20 Subpart K – *Waste Disposal*.

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<sup>5</sup> NUREG-1757, pg. 11.

## **14 Records**

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All records generated in accordance with this plan and implementing procedures will be maintained pursuant to 10 CFR 20 Subpart L - *Records*.

## **15 Reports**

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All reports generated in support of this plan and implementing procedures, including required notifications will be provided to NRC in accordance with 10 CFR 20 Subpart M - *Reports*. In addition, NYSERDA will provide all required reports and make all required notifications to individuals working on the RP under the RP-RPP in accordance with 10 CFR 20 Subpart M - *Reports*.

## **16 Exemptions and Additional Requirements**

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NYSERDA is not seeking an exemption from the requirements identified in 10 CFR 20 Subpart N – *Exemptions and Additional Requirements*.

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New York State Energy Research and Development Authority

Western New York Nuclear Service Center

Enclosure 3

Proposed Changes to the License

(LAR-20-001)

(This Enclosure contains 2 pages, including this cover)

Note:

Added text is shown as Blue Underline

\* \* \* Indicates omitted text (i.e., not shown)

**Revise Section 5 of the Provisional Operating License (POL) to add the following new text (5.E) after existing section 5.D.:**

5. Except as specifically otherwise provided by the Commission, this license shall be deemed to contain and be subject to the conditions specified in Section 50.54 of Part 50, Section 70.32 of Part 70, Section 40.41 of Part 40 and Section 30.34 of Part 30 of the Commission's regulations; is subject to all applicable provisions of the Act and rules, regulations and orders of the Commission now or hereafter in effect, including Part 20; and is subject to the additional conditions specified below:

\* \* \*

D. Safeguards Amendments

\* \* \*

E. Retained Premises Radiation Protection

- (1) As the sole licensee under provisional operating license CSF-1 for the Retained Premises [i.e., the non-West Valley Demonstration Project (WVDP), non-State-Licensed Disposal Area (SDA) portions of the Western New York Nuclear Service Center (WNYNSC)], NYSERDA provides for radiation protection in accordance with NRC regulation 10 CFR Part 20: *Standards for Protection Against Radiation* and in keeping with the ALARA (As Low As Reasonably Achievable) philosophy.
- (2) NYSERDA will implement a Retained Premises Radiation Protection Plan (RP-RPP500) to keep doses to workers and the public both ALARA, and in compliance with 10 CFR Part 20 for radiation protection.
- (3) For activities performed within the Retained Premises, the requirements and procedures described in RP-RPP500 supersede and replace radiation protection program requirements described in the Final Safety Analysis Report (FSAR) referenced herein.
- (4) RP-RPP500 and the associated procedures will be maintained in accordance with the requirements in 10 CFR Part 20, Subpart B, Radiation Protection Programs. Changes to RP-RPP500 or associated procedures will be documented, reviewed and approved by the licensee's Radiation Safety Committee prior to implementation.



New York State Energy Research and Development Authority

Western New York Nuclear Service Center

Enclosure 4

Copy of No-objection Notification from the Department of Energy

(LAR-20-001)

(This Enclosure contains 2 pages, including this cover)



**Department of Energy**  
West Valley Demonstration Project  
10282 Rock Springs Road  
West Valley, NY 14171-9799

September 10, 2019

Mr. Paul J. Bembia  
New York State Energy  
and Development Authority  
10282 Rock Springs Road  
West Valley, NY 14171

**SUBJECT:** U.S. Department of Energy (DOE) Response to New York State Energy Research and Development Authority (NYSERDA) Inquiry of Proposed Provisional Operating License (POL No. CSF-1) No. CSF-1 Amendment for Western New York Nuclear Service Center (WNYNSC) in Compliance with POL No. CSF -1, Amendment 31 and Section 4.02 of Cooperative Agreement Between DOE and NYSERDA

**REFERENCE:** Letter (380603), P. J. Bembia to B. C. Bower, "Amendment of License CSF-1 for the Western New York Nuclear Service Center (Center)," dated April 17, 2019

Dear Mr. Bembia:

Please allow this correspondence to serve as the DOE West Valley Demonstration Project (WVDP) response and input to the referenced letter, correspondence advising DOE-WVDP of NYSERDA's intent to submit to the U.S. Nuclear Regulatory Commission (NRC) a license amendment to its POL No. CSF-1. NYSERDA advised in that correspondence that it intends to seek a license amendment to address two (2) issues related to the WNYNSC "Retained Premises."<sup>1</sup> It is DOE-WVDP's understanding that this license amendment will provide NYSERDA clarity on its health and safety responsibility under POL No. CSF-1 and implement a new Radiation Protection Plan (RPP) for the "Retained Premises." NYSERDA proposes to achieve this by adding two conditions to POL No. CSF-1. NYSERDA seeks DOE-WVDP's input as to whether its proposed POL No. CSF-1 amendment is in keeping with the Cooperative Agreement at Section 4.02 and compliance with Amendment 31 to POL No. CSF-1. NYSERDA also provided DOE-WVDP the proposed POL No. CSF-1 amendment and the proposed RPP.

The DOE-WVDP's input to this request is that the proposed license amendment, based upon existing agreements between DOE and NYSERDA, does not inhibit DOE-WVDP from taking any action under the Atomic Energy Act or the WVDP Act enumerated under POL No. CSF-1, Amendment 31. Also, the proposed license amendment, based upon existing agreements between DOE and NYSERDA, does not inhibit or prevent DOE-WVDP from taking action under the Atomic Energy Act or WVDP Act with respect to the four activities enumerated in Amendment 31

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<sup>1</sup> The definition of Retained Premises is identified in NYSERDA's License Amendment Request, enclosure, and incorporated by reference herein as if set forth in full.

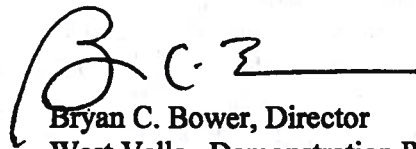
September 10, 2019

to POL No. CSF-1. This response and DOE-WVDP's input on this request is not an action, opinion, or decision by DOE on NYSERDA's proposed NRC license amendment.

While, DOE-WVDP sees no violation to the Cooperative Agreement §4.02, DOE reserves its rights and preserves its position that NYSERDA's proposed RPP does not apply to DOE-WVDP or its contractors for actions taken at the WNYNSC as radiation protection is provided by DOE-WVDP's contractors under the scope of the DOE's regulations and orders.

Thank you for reaching out to us on this matter and do not hesitate to contact me with any questions.

Sincerely,

A handwritten signature in black ink, appearing to read 'B.C.B.', with a horizontal line extending to the right.

Bryan C. Bower, Director  
West Valley Demonstration Project

Enclosure: Reference Letter

cc: K. P. Armstrong, DOE-EMCBC, Office of the Director, w/enc.  
M. J. Roy, DOE-EMCBC, Office of Chief Counsel, w/enc.  
A. A. Seeley, DOE-EMCBC, Office of Chief Counsel, w/enc.

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