

## NUCLEAR REGULATORY COMMISSION

[70-1257]

### Consideration of License Amendment Request for the Siemens Power Corporation, and Opportunity for Hearing

**AGENCY:** U.S. Nuclear Regulatory Commission.

**ACTION:** Notice of availability of environmental assessment and finding of no significant impact and opportunity to request a hearing on amendment of materials license SNM-1227, Siemens Power Corporation.

The U.S. Nuclear Regulatory Commission is considering the amendment of Special Nuclear Material License SNM-1227 to authorize constructing, installing, and operating an addition to the Ammonia Recovery Facility at the Siemens Power Corporation facility located in Richland, WA.

#### Environmental Assessment

##### 1.0 Introduction

##### 1.1 Background

The Nuclear Regulatory Commission (NRC) staff has evaluated the environmental impacts of Siemens Power Corporation (SPC) constructing, installing and operating an addition to their Ammonia Recovery Facility (ARF). This Environmental Assessment (EA) has been prepared pursuant to the Council on Environmental Quality (CEQ) regulations (40 CFR parts 1500-1508) and NRC regulations (10 CFR part 51) which implement the requirements of the National Environmental Policy Act (NEPA) of 1969. The purpose of this document is to assess the environmental consequences of the proposed license amendment.

The SPC facility at Richland, Washington, is authorized under SNM-1227 and Washington State Materials License No. WN-1062-1 to possess nuclear materials for the conversion of uranium hexafluoride (UF<sub>6</sub>) to uranium dioxide (UO<sub>2</sub>), and to fabricate and assemble nuclear fuel assemblies for light-water reactors. The SPC operation uses a dry conversion process to convert UF<sub>6</sub> to UO<sub>2</sub> powder. The UO<sub>2</sub> powder is pressed into pellets, which are sintered and then loaded into fuel rods. The fuel rods are placed into storage and are withdrawn as needed and fabricated into fuel assemblies.

Siemens has six lagoons that contain process waste solutions and sediment from past and current manufacturing operations. Under the terms of a consent

decree with the State of Washington Department of Ecology (WDOE), the lagoons will be emptied, decommissioned and removed by the year 2006. To meet this requirement and phase out the lagoons, SPC will install new wastewater treatment equipment into a new containment building attached to the existing ARF Building. The new equipment includes four tanks and an ion exchange column.

The addition will be of the same construction as the ARF Building; *i.e.*, a pre-engineered metal structure on a concrete pad. The floor of the addition will be three feet below grade to provide sealed spill containment (1 1/2 times the capacity of the largest tank). Three of the four tanks and the ion exchange column will be located inside the building and the fourth tank will be located outside the addition on a concrete pad under an awning.

Tank 1 will be a 5000 gallon tank which will hold the ion exchange regeneration solution, which will eliminate this material from entering Lagoon 3. Tank 2 will be a 7000 gallon tank which will replace Lagoon 2. Tank 2 will receive the low U, high ammonia effluent from the ammonium diuranate line and will be the feed to the ARF process. Tank 5A will be a 12,000 gallon tank to replace Lagoon 5A. It will receive treated effluent from the ARF as well as low-U, low ammonia effluents from other processes. Tank 5A will feed the ion exchange columns whose output feeds the sewer. The carbonate makeup tank will be located under an awning outside the ARF. This tank will replace Lagoon 4 by holding the carbonate solution used to regenerate the ion exchange columns. The second ion exchange column will be added so that while one column is being regenerated, the ion exchange operation can continue.

##### 1.2 Review Scope

In accordance with 10 CFR part 51, this EA serves to (1) present information and analysis for determining whether to issue a Finding of No Significant Impact (FONSI) or to prepare an Environmental Impact Statement (EIS); (2) fulfill the NRC's compliance with the National Environmental Policy Act (NEPA) when no EIS is necessary; and (3) facilitate preparation of an EIS if one is necessary. Should the NRC issue a FONSI, no EIS would be prepared and the license amendment would be granted.

##### 1.3 Proposed Action

The proposed action is to amend NRC Materials License SNM-1227 to authorize installation and operation of

the new equipment in the Ammonia Recovery Facility.

##### 1.4 Need for Proposed Action

Under the terms of the consent decree with the State of Washington, SPC will empty, decommission, and remove their six lagoons by the year 2006. To meet this requirement, SPC will install new wastewater treatment equipment into a new containment building attached to the existing ARF Building. The new equipment will include two new waste tanks, two tanks for the regeneration of existing final ion exchange columns, and a new ion exchange column. The new waste tanks will replace the lagoons, thereby eliminating the concern of any possible leaks or emissions to the environment from the lagoons.

##### 1.5 Alternatives

The alternatives available to the NRC are:

1. Approve the license amendment request as submitted; or
2. Deny the amendment request.

##### 2.0 Affected Environment

The following sections contain a summary of the affected environment at and near the SPC site. A full description of the site and its characteristics is given in the 1995 Environmental Assessment for the Renewal of the NRC license for SPC.

##### 2.1 Location and Land Use

The Siemens Power Corporation (SPC) facility is located on a 131-hectare site just inside the northern boundary of the City of Richland in Benton County, Washington. The site consists of 36 buildings plus various outside facilities. The uranium handling and processing facilities are located within a restricted 21.5-hectare area. The facility is located within a 2,470-hectare land parcel known as the Horn Rapids Triangle, which was part of the U.S. Department of Energy's (DOE) Hanford Site until 1967 when it was annexed to the City of Richland. The Horn Rapids Triangle is bounded to the north by Horn Rapids Road, to the south by the Horn Rapids Irrigation Ditch, to the east by the DOE1100 Area, and on the southeast by the Port of Benton Skypark and Richland Airport. Most developed land within a 16 kilometer radius of the site is used for agriculture, light industry, or residences.

##### 2.2 Geology, Soils, and Seismicity

The site region is characterized as a semi-arid desert of generally flat terrain except for wind formed ridges from 1.5 to 9 meters high. The site is located

between the Columbia and Yakima Rivers at an elevation of 114 meters above mean sea level (MSL). At their closest points, the nominal elevations of the Columbia and Yakima Rivers are approximately 107 and 113 meters above mean sea level, respectively. Basalt flows more than 3,000 meters thick underlie the Pasco basin. Unconsolidated silts, sands, and gravels of the Ringold and Hanford Formations, totaling tens to hundreds of feet in thickness, overlie the basalts. The depth to basalt below the SPC site has not been determined.

The distribution and intensity of historical earthquakes indicate that the Columbia Plateau is an area of moderate seismicity. Seismic activity above magnitude 3.0 on the Richter scale has occurred in this region, but activity above magnitude 3.5 is most commonly found around the northern and western portions of the Columbia Plateau, with a few events occurring along the border between Washington and Oregon.

### 2.3 Water Resources

*Surface Water:* Primary surface water features associated with the SPC site are the Columbia and Yakima rivers. The confluence of the Yakima and Columbia rivers is located about 5 kilometers south of Richland and about 8 kilometers south of the SPC site. The Columbia River in the vicinity of the site is classified as Class A (excellent) which requires that industrial uses of this water be compatible with other uses including drinking water, wildlife, and recreation. The water is used for irrigation, power generation, municipal water supplies, transportation, fishing, and water sports. The primary source for water in Richland and at the SPC site is from the Columbia River. There is no storm water runoff from the facility to water bodies, rivers, streams or the municipal sewer system. Surface water runoff from the plant is very limited because of the desert environment and percolation into the soil.

*Ground Water:* There are three distinct aquifer systems that underlie the SPC site. The deepest aquifer consists of highly productive water-bearing zones within thick basalt flows. A confined aquifer occurs in silt, gravel and sand layers in the lower portion of the Ringold Formation which overlies the basalt. An unconfined aquifer system, consisting of the sands and gravels in the Hanford Formation and in the upper portion of the Ringold Formation, is the shallowest aquifer and the one that is monitored by the SPC site.

### 2.4 Meteorology and Air Quality

The SPC site region has a dry, continental climate with large temperature variations between winter and summer caused by mountain ranges to the west and the orientation of the Rocky Mountains. The prevailing wind on the site is from the southwest. Severe weather in the area consists of wind, thunderstorms, and occasionally a tornado.

Air quality at the site is good—within the air quality standards set by EPA and the State of Washington.

### 3.0 Effluent Releases and Monitoring

#### 3.1 Monitoring Program

Monitoring programs at the SPC facility comprise effluent monitoring of air and water and environmental monitoring of various media (air, soil, vegetation, and groundwater). This program provides a basis for evaluation of public health and safety impacts, for establishing compliance with environmental regulations, and for development of mitigation measures if necessary. The proposed activities will be monitored using current monitoring equipment located in the ARF. The tanks will be equipped with alarmed, electronic level detectors and alarmed leak detectors. No near-term changes are planned in the effluent and/or environmental monitoring programs currently committed to in License SNM-1227. Effluents from the new tanks will enter the sewer and will continue to be subject to the same NRC and State of Washington radiological and chemical release limits regardless of whether the effluents are managed via the lagoons or in tanks. In the long-term, close-out of the lagoon system will relieve SPC of its need to conduct inter-liner lagoon sampling and may also decrease lagoon-related groundwater monitoring requirements.

#### 3.2 Effluents

Gaseous, liquid, and solid wastes are produced at the SPC site. These wastes are categorized as low-level radioactive, nonradioactive, hazardous, or mixed wastes. A description of each of these waste categories, control strategies, and an estimate of release quantities is provided in the 1995 Environmental Assessment for the Renewal of the NRC license for SPC.

Each of the effluent streams is monitored at or just prior to the point of release. SPC has a set of action levels for both gaseous and liquid effluent streams. Results from the radiological effluent monitoring program are reviewed quarterly by the plant's As Low As Reasonably Achievable

(ALARA) Committee and reported annually to the Siemens Health and Safety Council to determine trends in effluent releases; to determine if effluent controls are being properly used, maintained and inspected; and to determine if effluents could be reduced using the ALARA concept. Results from the monitoring program are also reported in the semiannual effluent reports submitted to the NRC. Impacts on effluent releases resulting from the proposed activities are described below.

#### 3.2.1 Solid Wastes

The amendment request is expected to eventually decrease the solid wastes released from the site. The operation of a closed tank system will generate fewer solids wastes than operation of a large open lagoon system due to the generation of contaminated sediments and soils in a lagoon system.

#### 3.2.2 Air Effluents

The release of air effluents is expected to increase minimally and remain within applicable regulatory limits. These additional effluents will be the same composition as what is currently emitted from the ARF. The ARF Feed Collection tank is vented to the existing ARF process feed tank to contain ammonia fumes. The ion exchange feed tank and the ion exchange regeneration tank will be vented to the existing ARF exhaust and stack for the control of low level ammonia releases.

#### 3.2.3 Liquid Effluents

The proposed activity is not expected to impact the quantity or radioactivity of liquid effluents released to the sewer. Essentially the same waste streams will be processed through low residence time tanks as opposed to the longer residence time lagoon system.

### 4.0 Environmental Impacts of Proposed Action and Alternatives

#### 4.1 Public and Occupational Health

The risk to human health was evaluated as a result of construction, installation, and operation of the new equipment in the new containment building. Personnel are expected to enter the new containment building on an as needed basis rather than working there full time. The licensee's existing radiation protection and environmental programs, as described in their license application, will be used to control the radiation exposures of the licensee's workers and the public. The licensee's existing radiation protection and environmental programs include training, protective clothing, air sampling, surface contamination surveys, bioassays, waste management,

monitoring of effluents, environmental monitoring, etc. In addition, the programs include action levels and actions to be taken to minimize the radiation exposures of workers and the public. Since the radioactive material will be contained in tanks and will be in low concentrations, the exposures to workers and the public are expected to result in no significant increase in worker or public exposure. Thus, the NRC staff has determined that the licensee's existing radiation protection and environmental programs are adequate for the new operations in the new containment building.

#### 4.2 Water Resources

The NRC staff has determined that the proposed amendment will not impact the quality of nearby surface waters.

The tanks will eliminate the concern of any possible leaks or emissions to the environment from the lagoons. Contamination of groundwater is expected to decrease as a result of the phase-out of the lagoons. The tanks will be double-contained and will be monitored for leaks. The design of the building provides for spill containment.

#### 4.3 Air Quality

The construction, installation and operation of the new equipment is expected to have a minimal impact on the air quality on and near the site. Construction activities will be minimal with no major soil disruption. No new stack monitoring will be required because the current monitoring system will be used. The slight increase in air effluents will remain within applicable regulatory limits.

#### 4.4 Demography, Biota, Cultural and Historic Resources

The NRC staff has determined that the proposed amendment will not impact demography, biota, or cultural or historic resources. The proposed construction will occur on an area of the site which has been previously evaluated for these concerns and has been previously impacted by actions at the site (1996 EA).

#### 4.5 Alternatives

The action that the NRC is considering is approval of an amendment request to a Materials License issued pursuant to 10 CFR part 70. The amendment would approve the construction, installation and operation of new equipment in the ARF building. The alternatives available to the NRC are:

1. Approve the license amendment request as submitted; or
2. Deny the amendment request.

Based on its review, the NRC staff has concluded that the environmental impacts associated with the proposed action do not warrant denial of the license amendment. There are no significant environmental impacts associated with the proposed action, and therefore alternatives with equal or greater impacts need not be evaluated. In addition, the approval of the amendment request will decrease the impacts to the groundwater as operation of the tanks pose less of a threat of leaks into the groundwater than operation of lagoons. The staff considers that Alternative 1 is the appropriate alternative for selection.

#### 5.0 Agencies and Persons Contacted

The NRC staff contacted representatives from the State of Washington Department of Health and the State of Washington Department of Ecology. The City of Richland, Development and Permit Services Division completed a State Environmental Policy Act (SEPA) Checklist and issued a Determination of Nonsignificance dated June 11, 1999. The conclusion of the review was that the proposed activities would not have a probable significant adverse impact on the environment.

#### 6.0 References

Siemens Power Corporation (SPC), 1999, Letter from J.B. Edgar to NRC dated July 21, 1999.

SPC, 1999, Letter from J.B. Edgar to NRC dated November 18, 1999.

U.S. Nuclear Regulatory Commission (NRC), June 1995, "Environmental Assessment for Renewal of Special Nuclear Material License SNM-1227."

#### 7.0 Conclusions

Based on an evaluation of the environmental impacts of the amendment request, the NRC has determined that the proper action is to issue a FONSI in the **Federal Register**. The NRC staff considered the environmental consequences of constructing, installing and operating new equipment in the ARF building and determined that these activities will have no significant effect on public health and safety or the environment.

#### Finding of No Significant Impact

The Commission has prepared an Environmental Assessment related to the amendment of Special Nuclear Material License SNM-1227. On the basis of the assessment, the Commission has concluded that environmental impacts associated with the proposed action would not be significant and do not warrant the preparation of an

Environmental Impact Statement. Accordingly, the Commission is making a Finding of No Significant Impact.

The Environmental Assessment and the documents related to this proposed action are available for public inspection and copying at the Commission's Public Document Room at the Gelman Building, 2120 L Street NW., Washington, DC.

#### Opportunity for a Hearing

Based on the Environmental Assessment and Finding of No Significant Impact, and a staff safety evaluation to be completed, NRC is preparing to amend License SNM-1227. The NRC hereby provides that this is a proceeding on an application for amendment of a license falling within the scope of subpart L, "Informal Hearing Procedures for Adjudication in Materials Licensing Proceedings," of NRC's rules and practice for domestic licensing proceedings in 10 CFR part 2. Pursuant to section 2.1205(a), any person whose interest may be affected by this proceeding may file a request for a hearing in accordance with section 2.1205(d). A request for a hearing must be filed within thirty (30) days of the date of publication of this **Federal Register** notice.

A request for hearing or petition for leave to intervene must be filed with the Secretary of the Commission, U.S. Nuclear Regulatory Commission either:

1. By delivery to the Rulemakings and Adjudications Staff of the Secretary at One White Flint North, 11555 Rockville Pike, Rockville, MD 20852-2738; or
2. By mail or telegram addressed to the Secretary, U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001. Attention: Rulemakings and Adjudications Staff.

In addition to meeting other applicable requirements of 10 CFR part 2 of the NRC's regulations, a request for a hearing filed by a person other than an applicant must describe in detail:

1. The interest of the requester in the proceeding;
2. How that interest may be affected by the results of the proceeding, including the reasons why the requester should be permitted a hearing, with particular reference to the factors set out in section 2.1205(h).
3. The requester's areas of concern about the licensing activity that is the subject matter of the proceeding; and
4. The circumstances establishing that the request for a hearing is timely in accordance with section 2.1205(d).

In accordance with 10 CFR Section 2.1205(f), each request for a hearing must also be served, by delivering it personally or by mail to:

1. The applicant, Siemens Power Corporation, 2101 Horn Rapids Road, Richland, WA 99352-0130; and

2. The NRC staff, by delivering it to the Executive Director for Operations, One White Flint North, 11555 Rockville Pike, Rockville, MD 20852, or by mail, addressed to the Executive Director for Operations, U.S. Nuclear Regulatory Commission, Washington, DC 20555.

The NRC contact for this licensing action is Dan E. Martin. Dan E. Martin may be contacted at (301) 415-7254 or by e-mail at dem1@nrc.gov for more information about this licensing action.

Dated at Rockville, Maryland, this 22nd day of June 2000.

For the Nuclear Regulatory Commission.

**Philip Ting,**

*Chief, Fuel Cycle Licensing Branch, Division of Fuel Cycle Safety and Safeguards, Office of Nuclear Material Safety and Safeguards.*

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**NUCLEAR REGULATORY COMMISSION**

[Docket 72-2]

**Virginia Electric and Power Company; Issuance of Environmental Assessment and Finding of No Significant Impact Regarding the Proposed Amendment To Revise Technical Specifications of License No. SNM-2501**

The U.S. Nuclear Regulatory Commission (NRC or Commission) is considering issuance of an amendment, pursuant to 10 CFR 72.56, to the Special Nuclear Materials License No. 2501 (SNM-2501) held by Virginia Electric and Power Company (Virginia Power) for the Surry independent spent fuel storage installation (ISFSI). The requested amendment would revise the Technical Specifications of SNM-2501 to specifically permit the continued storage of burnable poison rod assemblies (BPRA) and thimble plug devices (TPD) within the CASTOR V/21, NAC I28, and Westinghouse MC-10 casks used at the Surry ISFSI.

**Environmental Assessment (EA)**

*Identification of Proposed Action:* By letter dated April 5, 1999, as supplemented on February 29, 2000, Virginia Power requested an amendment to revise the Technical Specifications of SNM-2501 for the Surry ISFSI. The changes would specifically permit the continued storage of BPRAs and/or TPDs within the CASTOR V/21, NAC I28, and Westinghouse MC-10 dry storage casks used at the Surry ISFSI.

*Need for the Proposed Action:* The proposed action will eliminate the need to physically remove BPRAs and TPDs from irradiated fuel assemblies in order for dry cask storage to continue under the present technical specifications of the license.

*Environmental Impacts of the Proposed Action:* The NRC has completed its evaluation of the proposed action and concludes that granting the request for an amendment to specifically allow the continued storage of BPRAs and TPDs within the CASTOR V/21, NAC I28, and Westinghouse MC-10 casks used at the Surry ISFSI will not increase the probability or consequences of accidents. No changes are being made in the types of any effluents that may be released off site. With regard to radiological impacts, the addition of irradiated BPRAs and TPDs only affects the gamma source term of the cask. For this amendment, Virginia Power's calculated increase in surface dose rate resulting from the added BPRAs and TPDs remains within the bounds of the currently approved dose rate limit and, consequently, results in no significant increase in occupational or public radiation exposure. Additionally, the applicant made physical dose rate measurements of casks currently loaded with BPRAs and TPDs, and they are less than the calculated dose rates. The measured increase in the surface dose rate remains within the bounds of the currently approved dose rate limit. Therefore, there are no significant radiological environmental impacts associated with the proposed action.

The amendment only affects the requirements associated with the content of the casks and does not affect non-radiological plant effluents or any other aspects of the environment. Therefore, there are no significant non-radiological environmental impacts associated with the proposed action.

Accordingly, the Commission concludes that there are no significant environmental impacts associated with the proposed action.

*Alternative to the Proposed Action:* The alternative to the proposed action would be to deny the request for an amendment (i.e., the "no-action" alternative). Denial of the proposed action would result in the need to physically remove BPRAs and TPDs from each fuel assembly possessing them prior to continuing dry cask storage. Physical removal of irradiated BPRAs and TPDs would increase the exposure time and dose to the plant workers. In addition, it would require disposal or storage of additional radioactive material (i.e., BPRAs and

TPDs) that would otherwise be safely stored if the BPRAs and TPDs are left intact with their irradiated fuel assembly. The environmental impacts of the alternative action are greater than the proposed action.

Given that there are greater environmental impacts associated with the alternative action of denying the approval for an amendment, the Commission concludes that the preferred alternative is to grant this amendment.

*Agencies and Persons Consulted:* On September 27, 1999, Mr. Les Foldese of the Virginia Department of Health, Bureau of Radiological Health, was contacted in regard to the proposed action and had no concerns.

**Finding of No Significant Impact**

The environmental impacts of the proposed action have been reviewed in accordance with the requirements set forth in 10 CFR part 51. Based upon the foregoing Environmental Assessment, the Commission finds that the proposed action of granting an amendment to permit the continued storage of BPRAs and TPDs within the CASTOR V/21, NAC I28, and Westinghouse MC-10 casks used at the Surry ISFSI will not significantly impact the quality of the human environment. Accordingly, the Commission has determined not to prepare an environmental impact statement for the proposed exemption.

For further details with respect to this action, see the amendment application dated April 5, 1999, as supplemented on February 29, 2000. In accordance with 10 CFR 2.790 of the NRC's "Rules of Practice," a copy of this letter and its enclosure will be available electronically for public inspection in the NRC Public Document Room or from the Publicly Available Records (PARS) component of NRC's document system (ADAMS). ADAMS is accessible from the NRC Web site at <http://www.nrc.gov/NRC/ADAMS/index.html> (the Public Electronic Reading Room).

Dated at Rockville, Maryland, this 26th day of June 2000.

For the Nuclear Regulatory Commission.

**E. William Brach,**

*Director, Spent Fuel Project Office, Office of Nuclear Material Safety and Safeguards.*

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