

70-1201

**Babcock & Wilcox**

a McDermott company

Nuclear Power Division  
Commercial Nuclear Fuel PlantP.O. Box 11646  
Lynchburg, VA 24506-1646  
(804) 522-6000

May 28, 1985

United States Nuclear Regulatory Commission  
Attn: Mr. R. G. Page, Chief  
Uranium Fuel Licensing Branch  
Division of Fuel Cycle & Material Safety  
Washington, D.C. 20555

- References:
- (1) SNM-1168, Docket 70-1201
  - (2) Letter to R. G. Page from J. P. Watters, dated 5-07-85 (ECHO-330 Amendment)
  - (3) Letter to R. G. Page from J. P. Watters, dated 2-04-85 (Pelletizing Removal Amendment)

Gentlemen:

The Babcock & Wilcox Company, Commercial Nuclear Fuel Plant requests amendment of SNM-1168. These changes are necessary to accommodate storage of unirradiated, naturally enriched uranium in the form of U308.

The amendment request consists of 2 page changes which will accommodate both the increase in uranium quantity limits and the controls that are to be placed on the stored U308.

Attachment I gives a more detailed description of the proposed U308 storage method, shipping containers used, and the controls to be used.

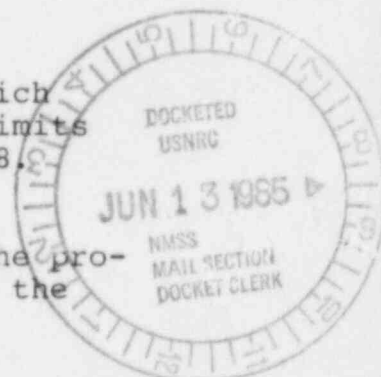
Attachment II contains the following revised pages for the U308 storage amendment all dated May 28, 1985: Section V, Pages 3 and 40. The page numbers, dates, and revision numbers indicated on Pages 3 and 40 in this request were taken from References 2 and 3 in anticipation of their approval. This amendment request is entirely separate from References 2 and 3 and should not impact their subsequent approval.

It has been determined that this present amendment request is a licensing action eligible for categorical exclusion from the requirement for an environmental assessment or an environmental impact statement in accordance with the provisions of 10 CFR 51.22(c)(12). A detailed evaluation in support of this categorical exclusion is provided as Attachment III to this letter.



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Enclosed is a check for \$150 to cover the licensing fee.

If questions arise during your review, please feel free to call me at (804) 522-6202.

Sincerely,

BABCOCK & WILCOX COMPANY  
COMMERCIAL NUCLEAR FUEL PLANT

*J. P. Watters*

J. P. Watters  
License & Control Administrator

JPW:cmr

cc: R. A. Alto  
E. W. Allen

Attachment

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## ATTACHMENT I

### U308 STORAGE

In recent years, B&W-CNFP has been able to utilize the outside area on site (within the perimeter fence) for storage of UF6 cylinders which are not owned by B&W. This is an expanding business for us and we now have the opportunity to store quantities of naturally enriched, unirradiated U308 for another licensee.

This U308 material to be stored is not B&W owned and will not be processed in any fashion except to receive, store, and monitor the material while in storage.

The U308 material is packaged in 55 gallon type drums which are in turn loaded inside 20' freight containers. The U308 is unirradiated and naturally enriched which is considered "Low Specific Activity" (LSA) material as indicated in 49 CFR 173.403(n)(2). Since this is considered LSA material and will be consigned as exclusive use, the packaging requirements for the U308 are simply a "strong-tight package" as indicated in 49 CFR 173.425(b)(1). A "strong-tight package" does not require formal licensing by NRC Transportation and therefore a specific NRC shipping container Certificate of Compliance is not required.

The controls placed on the U308 storage area will be as indicated on revised Page 40 of Section V. The U308 is naturally enriched, therefore there are no nuclear safety implications and the storage area is exempt from the criticality monitoring requirements of 10 CFR 70.24. The U308 drums are enclosed in 20' freight containers which serves the purpose of a secondary barrier for both potential spills and personnel access. We believe the addition of a fence around the U308 storage area (other than the existing perimeter fence) would not add any additional significant controls to the U308 storage area and therefore is not included in revised Page 40. The U308 freight containers will be monitored quarterly to detect leakage and on a monthly basis to assure adequate storage conditions.

The quantity limit of 2,000,000 lbs. as indicated in Paragraph 3.5 on revised Page 3 of Section V is based on projected U308 quantities the CNFP is expected to receive over a 3 year period. Additionally, it is written in a general form to indicate either powder or pellets and as uranium oxides (i.e., UO2 or U308). This will give the CNFP a degree of flexibility in the event we obtain an opportunity to store other naturally enriched UO2 in pellet form.

ATTACHMENT II

# BABCOCK & WILCOX COMPANY, COMMERCIAL NUCLEAR FUEL PLANT

USNRC LICENSE SNM-1168	DOCKET 70-1201
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SECTION ☒ CONDITIONS

3.0 Nuclear and By-product Materials are authorized as follows:

- 3.1 25,000 kilograms of  $^{235}\text{U}$  contained in Special Nuclear Material of a pellet or powder form and with a maximum  $^{235}\text{U}$  enrichment of 4.05%  $^{235}\text{U}$ . Chemical form to be uranium oxide.
- 3.2 5,000 kilograms of  $^{235}\text{U}$  enriched as  $\text{UF}_6$  (max. 5.00% enrichment) for storage only.
- 3.3 20,000 kilograms of uranium as depleted our source material in powder or pellet form and composed of uranium oxides.
- 3.4 3,000,000 lbs. uranium as natural  $\text{UF}_6$  for storage only.
- 3.5 2,000,000 lbs. of naturally enriched uranium in powder or pellet form and composed of uranium oxides for storage only. \*\*\*
- 3.6 Up to 51 curies of encapsulated by-product material contained in one or more sealed sources. Atomic numbers 3 to 83 inclusive.
- 3.7 By-product material in contamination quantities on returned, unirradiated fuel components.
- 3.8 Up to 6.0 grams of encapsulated plutonium contained in one or more sealed sources.
- 3.9 Up to 3.0 milligrams of californium-252 contained in one or more sealed sources.
- 3.10 Up to 100 grams  $^{235}\text{U}$  without limit on chemical, physical, or isotopic composition, for analytical purposes.
- 3.11 Up to 0.1 curies of By-product material as contamination on/within equipment, and/or as waste.

DATE 5-28-85	REVISION NO. 2	PAGE 3
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CURRENT REVISION: \*\*\*

SUPERSEDES: PAGE 3	USNRC APPROVAL REFERENCE
DATE 5-07-85	REVISION 1

# BABCOCK & WILCOX COMPANY, COMMERCIAL NUCLEAR FUEL PLANT

USNRC LICENSE SNM-1168

DOCKET 70-1201

## SECTION V CONDITIONS

### 7.0 Nuclear Safety - Technical Specifications (continued)

7.15 Transport of fuel rods from storage to the assembly area shall be in maximum of 4.00" slabs.

### 7.16 Uranium Storage (UF<sub>6</sub> and Uranium Oxide)

The uranium storage area may consist of both UF<sub>6</sub> in cylinders and uranium oxides packaged in drums inside 20' trailers (freight containers). The uranium storage area is exempt from the criticality monitoring requirements of 10 CFR 70.24. The following specific conditions apply:

a. The UF<sub>6</sub> area will be kept segregated from the area containing the 20' freight containers for ease of handling.

b. The UF<sub>6</sub> storage area is enclosed by a fence when cylinders are not being loaded or unloaded.

c. No combustibles shall be stored in the uranium storage area (other than timbers used to cradle the UF<sub>6</sub> cylinders or to support the freight containers).

d. UF<sub>6</sub> cylinders shall be equipped with valve protectors during movement and storage.

e. UF<sub>6</sub> cylinders and freight containers shall be stored in a single planar array.

f. The entire uranium storage area shall be prepared and maintained under weed control with near edge at least 100 feet from the paved driveway which circles the main CNFP building.

g. The UF<sub>6</sub> cylinder and freight containers shall be monitored quarterly to detect leakage and monthly to assure adequacy of storage conditions.

DATE 5-28-85

REVISION NO. 2

PAGE 40

CURRENT REVISION: \*\*\*

SUPERSEDES: PAGE 40

DATE 2-04-85

REVISION: 1

USNRC APPROVAL REFERENCE



### ATTACHMENT III

#### EVALUATION OF LICENSING ACTION FOR CATEGORICAL EXCLUSION

This evaluation documents the determination that the present licensing action is eligible as a "Categorical Exclusion", in accordance with the procedures set out in Section 51.22 of Title 10 CFR Part 51.

Section 51.22 provides the criterion for identification of specific "Categorical Exclusions" for various licensing actions. The present licensing action involves the amendment of the material possession limits and the inclusion of the U308 storage in the section currently dedicated to UF6 storage. Regarding this present licensing action, the applicable "Categorical Exclusion" and its respective criterion are stated in paragraph (c)(11) of Section 51.22 as follows:

"Issuance of amendments to licenses for fuel cycle plants and radioactive waste disposal sites and radioactive waste disposal sites and amendments to materials licenses identified in 51.60(b)(1) which are administrative, organizational, or procedural in nature, or which result in a change in process operations or equipment, provided that (i) there is no significant change in the types or significant increase in the amounts of any effluents that may be released offsite, (ii) there is no significant increase in individual or cumulative occupational radiation exposure, (iii) there is no significant construction impact, and (iv) there is no significant increase in the potential for or consequences from radiological accidents".

Relative to Criterion (i), the U308 storage will not significantly change or increase the types or amounts of effluent releases offsite because this operation will not generate any gaseous or liquid effluents for offsite release. The U308 will be packaged in strong tight containers which are in turn placed in 20' freight containers. The CNFP will not manually handle the material except as 20' freight containers. The U308 is in the powder form and the potential for effluent releases is negligible. The U308 will remain undisturbed while in storage, therefore the potential for spills is virtually nonexistent.

Relative to Criterion (ii), no significant increase in individual or cumulative radiation occupational exposure is expected to

result from the addition of the U308 storage to existing CNFP activities. The U308 storage will be at least 100 feet from the paved driveway which circles the main CNFP building. The closest point from the driveway to the main CNFP building is 135 feet. Therefore over 200' will be between the U308 storage area and the CNFP main building which is more than adequate to preclude any significant impact on occupational exposures at the CNFP. Also, there would not be any additional significant impact on environmental radiation exposures due to the nature of the material (i.e., naturally enriched, unirradiated U308) and the double packaging of the material (drums inside 20' freight containers).

Relative to Criterion (iii), the U308 storage will present no significant construction impact because the activity will be conducted in the existing plant areas with only minor facility modifications, such as using wooden timbers to support the 20' freight containers.

Relative to Criterion (iv), this U308 storage presents no increase in the potential for or consequences from radiological accidents over that already presented by existing CNFP activities. Existing CNFP activities involve the manufacture of low enriched (<4.00% U-235) fuel assemblies. The addition of U308 storage does not present a criticality hazard since it is naturally enriched. A spill potential is very remote due to the material packaging and also to the fact that the material is for storage only and will not be disturbed while in the storage mode. The existing CNFP emergency organization and procedures are prepared to respond to possible accident situations (spills) related to the U308 storage.

In conclusion, the above evaluation demonstrates that the present licensing action meets the criterion of 10 CFR 51.22(c)(11), and this amendment request is thereby eligible for a categorical exclusion from the requirement for an environmental assessment or an environmental impact statement.



DOCKET NO. 70-1201  
CONTROL NO. 25366  
DATE OF DOC. 05/28/85  
DATE RCVD. 06/03/85  
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FCAT ☐ LPDR ☐  
WM ☐ I&E REF. ☒  
WMUR ☐ SAFEGUARDS ☒  
FCTC ☐ OTHER ☐

DESCRIPTION:

request amendment  
to their license

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