August 8, 2013

Mr. Dennis C. Richardson Deputy Director, Hematite Decommissioning Project Westinghouse Electric Company 3300 State Road P Festus, MO 63028

SUBJECT: ISSUANCE OF HEMATITE AMENDMENT NO. 62 APPROVING WESTINGHOUSE REQUEST FOR REVISION TO HEMATITE LICENSE CONDITION 15 REGARDING EXEMPTION FROM CRITICALITY MONITORING SYSTEMS (Docket No. 070-00036, SNM-00033)

Dear Mr. Richardson:

By letter dated August 16, 2012, (NRC's Agencywide Documents Access and Management System (ADAMS) Accession No. ML12233A362), Westinghouse Electric Corporation, LLC (WEC) submitted to the U.S. Nuclear Regulatory Commission (NRC) a request for to amend License Condition 15 of the Hematite License Amendment No. 59. Specifically, Amendment No. 59 exempted the Hematite Decommissioning Project (HDP) from the requirements of 10 CFR 70.24 for criticality monitoring systems for special nuclear material (SNM) meeting certain criteria. WEC identified additional criteria that are needed to reflect the intent of the criteria already approved. The intent was to exempt decommissioning activities where the risk of a criticality accident was not credible.

In support of their request, WEC submitted four attachments. Attachment 1 was a revised license application with additional criteria for the exemption from 10 CFR 70.24. Attachment 2 was a justification for additional 10 CFR 70.24 exemption criteria in the WEC license amendment request. Attachment 3 was a proposed revision to Condition 15 and Attachment 4 was the justification for the revision to Condition 15. WEC's transmittal letter stated that Attachments 2 and 4 justify the absence of a criticality monitoring system for the criteria added to Condition 15 and that such an absence will not endanger life or property nor the common defense and security of the public.

License Amendment No. 61 (ADAMS Accession No. ML13119A540) to the Hematite approved a revision to the physical security plan. License Amendment No. 60 (ADAMS Accession No. ML12158A396) corrected a numbering error associated with Amendment 59. In License Amendment No. 59, there was no License Condition No. 11. In Amendment No. 59, the License Conditions went from No. 10 to No. 12. Amendment 60 corrected that omission. Therefore, while WEC's request addressed License Condition No. 15, in terms of the existing license, the affected condition is License Condition No. 14.

By this letter, the NRC is approving license Amendment No. 62. License Amendment No. 62 will entail revisions to License Conditions 14 and 15 as follows. The revisions to License Conditions 14 and 15 are presented below with sidebars and strikeouts for ease of identification.

- 14. Notwithstanding the requirement of 10 CFR 70.24, the licensee shall be exempted from the "monitoring system" requirements in the areas, and under the conditions specified below:
  - A. Low concentration materials (1.4 g U-235/L for solids, and 11.6 g U-235/L for liquids) that are safely subcritical by virtue of their low concentration, irrespective of any other physical conditions, including mass, geometry, moderation, reflection, etc.
  - B. Materials that are contained in authorized packages as defined in NRC/DOT regulations, including 10 CFR 71 and 49 CFR 173.
  - C. Materials within neutronically separate areas containing less than the following isotopic mass amount per separate area:
    - 1. 700 g U-235 in uranium enriched to more than 5 wt.% U-235/U, and
    - 2. 1640 g U-235 in uranium enriched to no more than 5 wt% U-235/U.
      - Notes: (1) Structure surfaces within the separate area that contain residual U-235 surface contamination below an areal density of 10 g U-235/ft<sup>2</sup> are not included in the mass amount for the separate area.
        - (2) Any U-235 in undisturbed subsurface areas is not included in the isotopic mass amount for the separate area.
        - (3) Neutronically separated areas are to be considered effectively neutronically isolated from all other areas used to store fissile material when either of the following conditions are satisfied:
          - a. A minimum edge-to-edge separation distance of 12 feet is maintained between each area used to store fissile material; or
          - b. The configuration of each area used to store fissile material, in conjunction with any present fixed shielding that may be present (e.g., concrete block walls) between the areas, is demonstrated by neutron transport calculations to result in effective neutron isolation between each area.
  - D. Residual materials on surfaces of the site buildings or installed equipment in those buildings including removal and transit of those SNM-bearing materials from the buildings. (Any SNM-bearing materials brought into site buildings must satisfy another provision in this Section 1.6.2 to meet the exemption.)
  - E. A Contingency Hot Spot that is in secure storage, is neutronically isolated from other SNM, and is intrinsically safe due to two of its physical parameters (e.g., mass, volume, enrichment, geometry, moderation) being in a known state that is sufficient to render the item safely subcritical. The term 'Contingency Hot Spot' is defined in

the Nuclear Criticality Safety Contingency Plan for Remediating Contingency Hot Spots. The term 'secure storage' is defined as an area in which dual controlled entry is required as well as tandem operations with oversight.

- F. NCS Exempt Materials not otherwise exempted by paragraph 14.A above. NCS Exempt Materials are defined as: "Unless otherwise defined and justified within a nuclear criticality safety evaluation, NCS Exempt Material is conservatively defined as material containing <sup>235</sup>U with an average nuclide fissile concentration not exceeding 0.1 g <sup>235</sup>U/L, or material that comprises no greater than 15 g<sup>235</sup>U and is enclosed within a container with a volume of at least 5 liters."
- G. Non-NCS Exempt Materials in the process of exhumation from a burial area and characterization (e.g., in a Waste Evaluation Area and/or Material Assay Area), that have an unknown or indeterminate fissile material content (e.g., intact drums), provided the following criteria are met:
  - 1. In-situ radiological survey equipment does not identify the item as a Contingency Hot Spot, and
  - 2. The item is not consistent with the calibration basis of the radiological survey equipment used (e.g., dense shielded items, intact drums), and
  - A 12 foot separation distance (effective neutronic isolation) is maintained between the exhumed item and other exhumed items that are not exempt from Nuclear Criticality Safety (NCS) control (distance may be between 3 feet and 12 feet if effective neutronic isolation at the smaller distance is demonstrated by neutron transport calculations), and
  - 4. The item is moved from exhumation to a Waste Evaluation Area and/or Material Assay Area without being placed in a storage area in-between, and
  - 5. Only one container (or one item if it is too large for a collared drum) not exempt from NCS control is allowed at a time in a Waste Evaluation Area or Material Assay Area with minimum separation of 12 feet from other Non-NCS Exempt material (distance may be between 3 feet and 12 feet if effective neutronic isolation at the smaller distance is demonstrated by neutron transport calculations), and
  - 6. Controls for a Contingency Hot Spot per Condition 16 are applied if the additional characterization (e.g., shielding removed) determines that a Contingency Hot Spot is present.
- 15. Except as specifically provided otherwise in this license, the licensee shall conduct its program in accordance with the statements, representations, and procedures contained in the documents, including any enclosures, listed below. The U.S. Nuclear Regulatory Commission's regulations shall govern unless the statements, representations, and procedures in the licensee's application and correspondence are more restrictive than the regulations.

- A. Westinghouse HEM-11-96, *"Final Supplemental Response to NRC Request for Additional Information on the Hematite Decommissioning Plan and Related Revision to a Pending Licensing Action"*, July 5, 2011, except for Attachment 18. (ADAMS Accession Nos. ML111880290 and ML111880292)
- B. Documents identified in Chapter 1 of NRC Decommissioning Plan SER (ADAMS Accession No. ML112101630).
- C. Westinghouse HEM-11-56, "*Evaluation of Technetium-99 Under the Process Buildings*", May 5, 2011. (ADAMS Accession No. ML111260624).
- D. Documents identified in the NRC's 10CFR20.2002 SERs associated with Amendment Nos. 58 and 60. (ADAMS Accession No s. ML111441087 and ML12158A401).
- E. Westinghouse HEM-12-101, "Special Nuclear Material License Application for the Hematite Decommissioning Project", August 16, 2012. (ADAMS Accession No. ML12233A362)

Note that although WEC did not request it, a change is required to Amendment 59 License Condition No. 16 (Amendment 60 No. 15) to reflect the appropriate documents governing the Hematite License. As noted previously, the August 16, 2012 WEC transmittal included a revised license application. The attached SER approves that License Application revision. Consequently, when referencing the July 5, 2011 WEC Attachment 18, the July 1, 2011, License Application, is no longer applicable. It is superseded by the August 16, 2012, revision. This is reflected in the revision to Amendment 59 License Condition 16.A and the addition of License Condition 16.E. The basis for the changes to Amendment 60 License Conditions 14 and 15 are described in the enclosed SER.

An Environmental Assessment for this exemption request is not required because this exemption falls within the class of actions that are categorically excluded by 10 CFR 51.22(c)(25). Granting the exemption is appropriate since: (i) there is no significant hazards consideration; (ii) there is no significant change in the types or significant increase in the amounts of any effluents that may be released offsite; (iii) there is no significant increase in individual or cumulative public or occupational radiation exposure; (iv) there is no significant construction impact; (v) there is no significant increase in the potential for or consequences from radiological accidents; and (vi) the requirements from which an exemption is sought involves the criticality accident alarm system which is an inspection or surveillance requirements.

In accordance with 10 CFR 2.390 of the NRC's "Rules of Practice for Domestic Licensing Proceedings and Issuance of Orders," a copy of this letter will be available electronically for public inspection in the NRC Public Document Room or from the Publicly Available Records component of NRC's ADAMS. ADAMS is accessible from the NRC Web site at <a href="http://www.nrc.gov/reading-rm/adams.html">http://www.nrc.gov/reading-rm/adams.html</a>.

Please contact Mr. John Hayes if you have any questions concerning the above. He can be reached at (301) 415-5928 or via email at <u>John.Hayes@nrc.gov</u>.

Sincerely,

/RA/

Larry W. Camper, Director Division of Waste Management and Environmental Protection Office of Federal and State Materials and Environmental Management Programs

Docket No.: 70-36 License No.: SNM-33

Enclosures:

- 1. Hematite License Amendment No. 62 SER
- 2. Hematite License Amendment No. 62
- cc: Westinghouse Hematite Service List Joseph W. Smetanka, Westinghouse

Please contact Mr. John Hayes if you have any questions concerning the above. He can be reached at (301) 415-5928 or via email at <u>John.Hayes@nrc.gov</u>.

Sincerely,

/RA/

Larry W. Camper, Director Division of Waste Management and Environmental Protection Office of Federal and State Materials and Environmental Management Programs

Docket No.: 70-36 License No.: SNM-33

Enclosures:

- 1. Hematite License Amendment No. 62 SER
- 2. Hematite License Amendment No. 62

cc: Westinghouse – Hematite Service List

DISTRIBUTION: J. Tapp, RIII

## ML13121A151

OFC	DURLD	LA	DURLD	OGC	DURLD	DWMEP
NAME	JHayes	SAchten	MNorato	NStAmour	BWatson for APersinko	DPersinko for LCamper
DATE	05/01/13	05/06 /13	05/09/13	08/01/13	07/31/13	08/08/13

# OFFICIAL RECORD COPY

Westinghouse - Hematite Service List cc:

Alex S. Polonsky Morgan Lewis, Esq. Morgan, Lewis & Kocjus LLP 1111 Pennsylvania Avenue, NW Washington, DC 20004

R. Budd Haemer Shaw Pittman, LLP 2300 N Street, NW Washington, DC 20037-1128

Kent Bradford, Chairman Hematite Project Oversight Comm. Western Zirconium 10000 West 900 South Ogden, UT 84404-9760

Eric Gilstrap Environmental Engineer Department of Natural Resources Federal Facilities Section State of Missouri 917 N. Highway 67, Suite 104 Florissant, MO 63031

Wm. Lacy Clay, Jr. 6830 Gravois St. Louis, MO 63116

Ramona J. Huckstep Community Relations Coordinator Missouri Department of Natural Resources Hazardous Waste Program State of Missouri P.O. Box 176 Jefferson City, MO 65103-0176

Aaron Schmidt, Deputy Director Division of Environmental Quality Missouri Department of Natural Resources P.O. Box 176 Jefferson City, MO 65102-0176

Sara Parker Pauley, Director Missouri Department of Natural Resources P.O. Box 176 Jefferson City, MO 65103-0176 Glenda Miller, Director Division of Community and Public Health Missouri Department of Health & Senior Services 930 Wildwood P.O. Box 570 Jefferson City, MO 65102-0570

Dennis Diehl Jefferson County Department of Public Health 405 Main Street P.O. Box 437 Hillsboro, MO 63050

The Honorable Teresa Kreitler Jefferson County Council Board of Executives District 5 P.O. Box 100 Hillsboro, MO 63050

Branden Doster, Chief Federal Facilities Section Missouri Department of Natural Resources P.O. Box 176 Jefferson City, MO 65102-0176

Michele M. Gutman Westinghouse Electric Company, LLC 4350 Northern Pike Monroeville, PA 15146-2886

Happy Welch Festus City Administrator Festus City Hall 711 West Main Festus, MO 63028

The Honorable Mike Cage Mayor, Festus City Festus City Hall 711 West Main Festus, MO 63028

The Honorable Cliff Lane

Jefferson County Council Board of Executives District 6 P.O. Box 100 Hillsboro, MO 63050

The Honorable Ken Waller, Executive Jefferson County P.O. Box 100 Hillsboro, MO 63050

Tiffany Drake, Unit Chief Missouri Department of Natural Resources DEQ/HWP/FFS/RRA 1730 East Elm Street P.O. Box 176 Jefferson City, MO 65102-0176