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April 18, 2008

**SUBJECT: WESTINGHOUSE LICENSE SNM-1107 AMENDMENT REQUEST FOR
FUNDAMENTAL NUCLEAR MATERIAL PLAN REVISION (DOCKET 70-1151)**

Westinghouse Electric Company LLC (WEC) hereby requests a License Amendment to SNM-1107 for a revision of the Fundamental Nuclear Material Control Plan for the Columbia Fuel Fabrication Facility. This revision authorizes changes supporting receipt of Uranyl Nitrate (UN) liquid solution in the Liqui-Rad Transport Unit Package (NRC Certificate of Compliance No. 9291). The UN liquid is derived from high enriched uranium that is down blended to nominal 4.95% U-235 weight enrichment as part of the U.S. Department of Energy (U.S. DOE.), Reliable Fuel Supply (RFS) program. The UN liquid is supplied to Westinghouse CFFF under contract by Nuclear Fuel Services, Inc. (NFS). The changes are identified by marginal lines, and impact pages 2.4, 6.9 through 6.12, and 7.4 through 7.7 of the plan.

WEC requests that the enclosure to this letter be withheld from public disclosure in accordance with 10 CFR2.390(d). WEC further requests an expedited review and approval of this revision to support ongoing shipment activities, and is willing to meet with NRC staff in Washington D.C if necessary to facilitate approval of this request.

Enclosed with this correspondence is additional information as background and justification for the revision, and is provided in support of the expedited review and approval request. The WEC position is that the revision does not decrease the effectiveness of the plan because the justification provided describes process attributes that augment the plan effectiveness and compensate for proposed changes regarding witnessing requirements. If you have any questions or comments regarding the details of this plan revision, please contact me at (803) 647-2045 or Mr. Rod Likes at (803) 647-3553.

Sincerely,


Gerard F. Couture, Manager, Licensing and Regulatory Programs
Westinghouse Columbia Fuel Fabrication Facility

Docket 70-1151 License SNM-1107

Attachment: Columbia Fuel Fabrication Facility Fundamental Nuclear Material Control Plan, Revision 38.

WM5501

cc: U. S. Nuclear Regulatory Commission, Region II
Mr. Richard Gibson
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U. S. Nuclear Regulatory Commission
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Background Information for Justification of Requested Amendment:

Revision 37 of the FNMC contains requirements for administrative witnessing of loading containers for UN liquid receipts. The newly installed equipment at the shipper facility and the Columbia Plant are passive in nature, and are more reliable for ensuring volume of material received.

- Witnessing requirement does not add significant value since NFS is subject to same measurement, measurement control, and MC&A requirements as Westinghouse.
- Westinghouse has completed the audit, documented in LTR-EHS-08-48, based on requirements contained in Chapter 4, "MC&A Measurements and Measurement Control" of the use Westinghouse FNMC plan and concluded their program, and measurements are equal or better than any we would perform.
- There are other material forms containing significantly higher amounts of Special Nuclear Material that are authorized to be transferred between NRC licensees without independent verification measurements (Fuel assemblies received from fabricators at Utilities; Fuel Assemblies, UF6, and other materials received for subsequent shipment) provided item and tamper seals are verified.
- Provisions already in the Westinghouse FNMC plan provide effective controls to assure the integrity of the packages and package contents when filled through receipt.
- Simplicity and passive aspects of volume measurement technique and the material transfer process for loading and unloading.
- Proven effectiveness of material transfer for emptying Liqui-Rad Transport Package shown to leave only trivial quantities in emptied containers (tens of milli-liters of solution).

Activities of interest for this amendment request occur at the NFS Low Enriched Uranium (LEU) Dilution and Loading Facility. LEU is transferred from the Preparation Facility to one of two dilution tanks. Each dilution tank has a rated capacity of 11,800 gallons with a diameter of 12 feet and height of 16 feet, 4 inches, and is constructed of high density polyethylene with a sloped bottom. Each dilution tank is equipped with a mixer. After LEU is transferred into a dilution tank, DI water is added to dilute the uranium concentration from a concentration of 180 to 200 gU/l to approximately 95 gU/l. The diluted solution is then transferred to one of two measuring tanks. Each measuring tank has diameter of 3 feet and height of 5 feet, 6 inches, and is constructed of stainless steel with a conical bottom. The measuring tanks are each designed to overflow back to the dilution tanks so that the 230 gallon capacity of the Liqui-Rad Transport Unit Package is not exceeded. Transfer from the dilution tank is terminated and the measuring tanks are isolated from the dilution tanks when the correct volume is reached in the measuring tanks. The solution is then drained from the measuring tank by gravity into a Liqui-Rad Transport Unit Package. This loading process is repeated for the nine Liqui-Rad Transport Unit Packages mounted to the transport conveyance.

In order to unload the Liqui-Rad Transport Packages they are pressurized using the plant air system connected at the top of the vessel. This pressure provides the motive force to unload the package through the dip tube. The outlet line has a sight glass where the flow of the UN solution is monitored until the package is empty. The Liqui-Rad Transport Unit Packages were tested at the Columbia Plant. The purpose of the test was to verify that the container was manufactured in accordance with the Safety Analysis Report (SAR) with respect to placement of the dip tube. In addition, a test was conducted on representative packages to confirm residual material when emptied. Volume remaining in the packages following pressurization and removal of contents was in the range of 33-36 ml.

Conclusion:

The expenditure of Westinghouse resources to monitor activities at an NRC licensed facility that have been independently verified by Westinghouse to be fully compliant with Westinghouse FNMC requirements, imposes a regulatory burden that is inconsistent with a risk informed, performance based regulatory framework. The verified robustness of the process and barriers present to prevent failure taken in their totality augment the nuclear material and control and accountability of UN solution such that the overall effectiveness of the plan is not diminished.