Company Name:	Westinghouse Electric Company LLC	**Permit Writer:**	Austin Goode
Permit Number:	1900-0050-09x	**Date:**	September 15, 2022

DATE APPLICATION RECEIVED: July 21, 2022

FACILITY DESCRIPTION (SIC CODE: 2819 **/ NAICS CODE:** 325998**)**
Westinghouse Electric Company LLC fabricates nuclear fuel assemblies containing low-enriched (<5% U-235) uranium oxide fuel for use in commercial light-water nuclear powered reactors.

PROJECT DESCRIPTION
The facility submitted the results of an air emissions evaluation for a proposal to process up to 522 drums of wet combustible material (WCM) containing tetrachloroethylene. The processing of the drums is pursuant to a Consent Agreement and Final Order with EPA (Docket No. RCRA-04-2022-2103(b)). The evaluation was made to determine if this processing would be subject to or exempt from air construction permitting.

The Solvent Extraction I (SOLX1) produces clean uranyl nitrate (UN) which is transferred to UN bulk storage tanks. Formerly, the facility used a mixture of tributylphosphate (TBP) and tetrachlorethylene (PERC) in this process. This method has been replaced and PERC is no longer in use.

Historically, the facility combined this mixture of TBP and PERC from SOLX1 with a TBP and kerosene mixture from Solvent Extraction II (SOLX2). This combined mixture was periodically added in small amounts to WCM to maximize uranium recovery from any given drum. Based on sample analysis, the estimated maximum amount of PERC added to each drum was 0.156 gallons.

The facility has developed a process to remove PERC from the WCM drums, to below the 500 ppm regulatory ceiling, and maintain HHV less than 5k BTU/lb, before such drums are processed to recover Uranium.

Emissions Calculation Methodology:

The facility made the conservative assumption that all 522 legacy WCM drums would require vacuum drying and that the process would be in operation continuously (24 hr/day, 7 day/wk); and that all 522 drums would be processed in a month.

A typical drum was estimated to contain 8.92 lb Kerosene, 2.46 lb of TBP, and 2.11 lb of PERC.

(8.92 lb kerosene) + (2.46 lb TBP) + (2.11 lb PERC) = 13.49 lb total VOC / drum

The conservative assumption that all VOC and PERC would be removed from the drums.

The condenser is estimated to convert > 95% of water and organic vapors extracted from the WCM drums back to liquid state. Therefore, it is estimated that 5% of the extracted vapors will be lost to the atmosphere. Annual VOC losses to the atmosphere are calculated as shown below.

Annual losses to the atmosphere (PERC): (522 drums) * (2.11lb PERC / drum) * (0.05) = 55.07lb PERC = 0.03 Ton PERC
Annual losses to the atmosphere (VOC): (522 drums) * (13.49lb VOC / drum) * (0.05) = 352.09lb VOC = 0.18 Ton VOC

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Proposed emissions for this project are below the exemption criteria for both air construction permitting and modeling. Potential emissions and relevant emission thresholds are given in the table below.

Table 1 – Comparison of Potential Emissions and Relevant Exemption Thresholds

Pollutant	Potential Emissions (lb/day)	De Minimis Modeling Exemption (lb/day)	Potential Emissions (lb/month)	Air Construction Permitting Exemption Threshold (lb/month)
Tetrachloroethylene (PERC)	1.78	40.20	--	--
Total VOC	--	--	352.09	1,000.00

OPERATING PERMIT STATUS

The facility operates under State Operating Permit 1900-0050; issued on March 5, 2008, and which expired on February 28, 2018. The facility submitted an application for renewal on December 4, 2017. This renewal is currently in house.

AMBIENT AIR STANDARDS REVIEW	
Regulations	**Comments/Periodic Monitoring Requirements**
Standard No. 8 (state only)	**Not applicable.** Proposed tetrachloroethylene emissions are below the de minimis criteria for exemption from air dispersion modeling.

SUMMARY AND CONCLUSIONS

It has been determined that this source, if operated in accordance with the submitted application, will meet all applicable requirements and emission standards.