

# License Application

## for the American Centrifuge Plant

in Piketon, Ohio



Revision 17

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Information contained within  
does not contain  
Export Controlled Information

Reviewer: G. Peed  
Date: 08/30/06

**Table 1.2-2 Authorized uses of NRC-regulated materials**

<b>Material Class</b>	<b>Authorized Use</b>
A. Source Material, Element 92 <sup>a,b</sup>	<ol style="list-style-type: none"> <li>1. Enrichment of uranium up to 10 percent enrichment by weight <sup>235</sup>U</li> <li>2. Receipt, storage, inspection, acceptance, and sampling of cylinders containing uranium</li> <li>3. Filling and storage of cylinders of normal uranium and uranium depleted in <sup>235</sup>U</li> <li>4. Cleaning and inspection of cylinders used for the storage and transport of process product and tails containing source or Special Nuclear Material</li> <li>5. Storage of process wastes containing uranium, transuranic elements, and other contaminants and decay products</li> <li>6. Process, characterize, package, ship, or store low-level radioactive and mixed wastes</li> <li>7. Radiation protection, process control and environmental sample collection, analysis, instrument calibration, and operation checks</li> <li>8. Maintenance, repair, and replacement of process equipment</li> <li>9. Laboratory analysis and testing</li> <li>10. Heating cylinders and feeding contents into the enrichment process</li> <li>11. Transfer between cylinders</li> </ol>
B. Source Material, Element 90	<ol style="list-style-type: none"> <li>1. Calibration and use of portable radiation protection and fixed laboratory equipment</li> <li>2. Laboratory analysis and testing</li> <li>3. Process, characterize, package, ship, or store low-level radioactive and mixed wastes</li> </ol>
C. Special Nuclear Material <sup>a,b</sup>	<ol style="list-style-type: none"> <li>1. Filling, assay, storage, and shipment of cylinders and other Nuclear Criticality Safety approved containers containing uranium enriched up to 10 percent by weight <sup>235</sup>U</li> <li>2. Nondestructive testing and analyses of product and process streams</li> </ol>

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Material Class	Authorized Use
D. By-product Material, Elements 3-89, 91	3. Receipt, storage, inspection, and acceptance sampling of cylinders containing uranium enriched up to 10 percent by weight <sup>235</sup> U 4. Cleaning and inspection of cylinders used for the storage and transport of process feed, product, and tails containing source or Special Nuclear Material 5. Storage of process wastes containing uranium, transuranic elements, and other contaminants and decay products 6. Process, characterize, package, ship, or store low-level radioactive and mixed wastes 7. Radiation protection, process control and environmental sample collection, analysis, instrument calibration, and operation checks 8. Maintenance, repair, and replacement of process equipment 9. Laboratory analysis and testing 10. Heating cylinders and feeding contents into the enrichment process 11. Transfer between cylinders 12. Material remaining in cylinders and facilities as a result of previous operations
	1. Radiation protection, process control, and environmental sample collection, analysis, instrument calibration, and operation checks 2. Laboratory analysis and testing 3. Nondestructive testing of product and product streams 4. Storage of process wastes containing uranium, transuranics, process contaminants, and decay products 5. Material remaining in equipment and facilities as a result of feeding reprocessed uranium 6. Process, characterize, package, ship, or store low-level radioactive and mixed wastes <sup>C</sup>

**Table 1.2-2 Authorized uses of NRC-regulated materials**

<b>Material Class</b>	<b>Authorized Use</b>
Elements 93, 95 to 100	<ol style="list-style-type: none"> <li>1. Calibration and use of portable radiation protection and fixed laboratory equipment</li> <li>2. Laboratory analysis and testing</li> <li>3. Nondestructive testing of product and product streams</li> <li>4. Storage of process wastes containing uranium, transuranics, process contaminants, and decay products</li> <li>5. Material remaining in cylinders and facilities as a result of feeding reprocessed uranium</li> <li>6. Process, characterize, package, ship, or store low-level radioactive and mixed wastes<sup>c</sup></li> </ol>
<sup>43</sup> <sub>99</sub> Tc	<ol style="list-style-type: none"> <li>1. Material remaining in cylinders and facilities as a result of feeding reprocessed uranium</li> <li>2. Storage of process wastes as a result of feeding reprocessed uranium</li> </ol>

<sup>a</sup> Uranium to be fed to the enrichment plant will meet the requirements of ASTM Standard C996, "Standard Specification for Uranium Hexafluoride Enriched to Less Than 5% <sup>235</sup>U or ASTM standard C787, "Standard Specification for Uranium Hexafluoride for Enrichment" for reprocessed UF<sub>6</sub>. Other uranium that does not meet the requirements of ASTM C996 or C787 for reprocessed UF<sub>6</sub> may be accepted for storage and subsequent disposition but will not be introduced to the enrichment process, with the exception of small amounts (e.g., 50 pounds UF<sub>6</sub>) associated with sampling, subsampling, and analyses required to establish receiver's values.

<sup>b</sup> Includes the feed and processing of Paducah Product and any "stockpile" UF<sub>6</sub> transferred from DOE to USEC for enrichment.

<sup>c</sup> Includes the potential return of material (waste) generated at the ACP, sent off-site, and subsequently returned.