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FCUP:GHB

DOCKET NO: 70-36

LICENSEE: Combustion Engineering, Inc. (CE)

FACILITY: Hematite, Missouri

SUBJECT: SAFETY EVALUATION REPORT, APPLICATION DATED JANUARY 20, 1986, RE INCREASED POSSESSION LIMIT FOR SOURCE MATERIAL

Background

CE is currently authorized to possess 20,000 kg of source material. In the subject application, CE requests that the possession limit be increased to 50,000 kg of source material so that 10-ton cylinders of natural UF_6 can be stored onsite.

Discussion

Storage of natural UF_6 in 10-ton cylinders presents no significant risk to the public health and safety provided that the integrity of the 10-ton cylinder is maintained during storage. To limit the authorized use of the 10-ton cylinders containing UF_6 to storage only, the following license condition is recommended:

Processing of UF_6 in 10-ton cylinders is not authorized.

To assure the integrity of cylinders during onsite movement and storage, the valve should be protected. To ensure this protection, the following license condition is recommended:

The 10-ton UF_6 cylinders shall be equipped with valve protectors.

If the cylinder were exposed to a fire, rupture of the cylinder could occur. Conservative calculations by NRC staff indicate that rupture could occur in 40 to 50 minutes if a cylinder were immersed in a pool of burning diesel fuel. To assure the integrity of cylinders during storage, the following license conditions requiring a fire protection program are recommended:

The concrete pad for storage of UF_6 cylinders and surrounding area shall be sloped or graded so that any spilled combustible fluids would not be confined to the storage area.

No combustibles shall be stored on the concrete pad.

A CO_2 fire extinguisher shall be readily available near the storage pad.

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CE can fulfill the last condition by maintaining the existing fire extinguisher at the UF_6 vaporization station.

To accommodate the licensee's request, existing Condition 8.C must be revised as follows:

8.C. 50,000 kilograms

Storage of natural UF_6 in the 10-ton cylinder will present no unusual radiation protection problems. The licensee's existing radiation safety program should assure protection of workers and the public.

Storage of the 10-ton cylinders will be on an existing storage pad. No significant adverse environmental effects should result from this proposed activity.

Conclusion/Recommendation

The staff concludes that authorizing an increased possession limit for source material and storage only of UF_6 in 10-ton cylinders will have no adverse effect on the public health and safety or the environment.

The Region III Fuel Facility Inspector has no objection to this action.

Approval of the amendment application is recommended.

Original Signed By:

G. H. Bidinger
Uranium Process Licensing Section
Uranium Fuel Licensing Branch
Division of Fuel Cycle and
Material Safety, NMSS

Original Signed By:

Approved by: W. T. Crow, Section Leader

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