UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555-0001

MAR 09 1994

MEMORANDUM FOR: John W. N. Hickey, Chief
Enrichment Branch
Division of Fuel Cycle Safety
and Safeguards

FROM: Yawar Faraz
Enrichment Branch
Division of Fuel Cycle Safety
and Safeguards

SUBJECT: UPCOMING TECHNICAL EXCHANGE MEETING ON UF_6 ATMOSPHERIC RELEASE MODELS

DATE AND TIME: Monday, April 4, 1994, 1:00 p.m.

LOCATION: U.S. Nuclear Regulatory Commission
One White Flint North Building, Room 4-B-11
11555 Rockville Pike
Rockville, MD 20852

PURPOSE: The NRC staff and its contractor SAIC will meet with representatives of the Department of Energy (DOE) and its contractor Martin Marietta Energy Systems, Oak Ridge Office (MMES-OR), to discuss technical issues related to the modeling of uncontrolled atmospheric releases of UF_6 and HF. This meeting will consist of an exchange of information and data required for adequate modeling of such releases. SAIC has extensive experience in this area and has developed, under contract to the NRC, a set of three computer codes, namely SACRUNCH, SADENZ and SAPLUME, which could be used to model such releases. There is a potential for their future use by the NRC in regulating fuel cycle facilities.

The PLUME computer code, which models large releases of UF_6 and HF to the atmosphere, was reviewed by SAIC for the NRC's Division of Fuel Cycle Safety and Safeguards, and a number of shortcomings were identified. MMES-OR is currently under contract with the DOE to address the technical basis and shortcomings contained in the PLUME computer code. To accomplish this, MMES-OR intends to adapt HGSYSTEM, which is an existing state-of-the-art computer code used in the petrochemical industry to model atmospheric releases of ideal gasses and HF. MMES-OR intends to incorporate the complex UF_6 thermodynamic properties into this computer code. The modified version of HGSYSTEM would be publicly available and could prove useful for safety demonstrations of fuel cycle facilities which handle large quantities of UF_6.

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Members of the public may attend the meeting as observers.

ATTENDEES: NRC staff
SAIC, NRC Contractor
DOE staff
MMES-OR, DOE Contractor

CONTACT: Yawar Faraz, (301)504-2669

Original Signed By
Yawar Faraz
Enrichment Branch
Division of Fuel Cycle Safety
and Safeguards

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