

November 10, 2008

Mr. Felix M. Killar, Jr.
Senior Director
Fuel Supply/Material Licenses
Nuclear Generation Division
Nuclear Energy Institute
1776 I Street, NW
Suite 400
Washington, DC 20006-3708

SUBJECT: CHEMICAL EXPOSURES AT FUEL CYCLE FACILITIES LICENSED BY THE U.S.
NUCLEAR REGULATORY COMMISSION

Dear Mr. Killar:

This letter is in response to the issues raised in your letter dated September 8, 2008 regarding chemical exposures at fuel cycle facilities licensed by the U.S. Nuclear Regulatory Commission (NRC).

The NRC staff appreciates industry's perspective on these issues and affirms the need for continued dialogue on the topics raised in your letter. We would welcome a White Paper outlining a technical basis and making recommendations regarding a uniform approach to accident scenarios, exposure pathways, health effects, and consequence thresholds as a starting point toward providing greater clarity in our guidance for hazardous chemicals regulated by the NRC at fuel cycle facilities. We would consider your recommendations in the development of future guidance on this topic which might include a revision to the Standard Review Plan (NUREG-1520), Interim Staff Guidance, or a Generic Communication, such as a Regulatory Issue Summary.

With respect to recent licensing actions and reported events at licensed facilities, NRC staff has considered the consequences of dermal exposures to chemicals, reviewed available literature on the subject, and consulted with medical experts. It is clear that hydrofluoric acid, nitric acid, and other chemicals have the potential, through various exposure pathways, to result in high or intermediate consequences, as described in 10 CFR 70.61, to a worker. For example, it is well established that dermal exposure to hydrofluoric acid in sufficient quantity and concentration can be fatal. In accordance with 10 CFR 70.61(b) and (c) and 70.65 (b) (7), licensees are required to propose quantitative standards used to assess the consequences to an individual from acute chemical exposures. These quantitative standards are not limited to inhalation exposures.

The staff acknowledges that existing guidance does not endorse a standard for assessing the consequences of dermal exposure to hydrofluoric acid. Further the staff acknowledges that several factors affect the threshold for high and intermediate consequences for dermal exposure. However the lack of guidance does not mitigate the hazard to workers nor eliminate the requirement for the licensee to propose standards in accordance with 10 CFR 70.65. As a result, the staff will continue to work with licensees on a case by case basis using the best available information to ensure that the requirements of 10 CFR Part 70 are met and that

workers are adequately protected from the risk of acute chemical exposures from the licensed materials or hazardous chemicals produced from licensed material, including dermal exposures to hydrofluoric acid.

In the meantime, the staff looks forward to a sustained dialogue with the objective of developing technically sound, NRC-endorsed guidance for addressing the performance requirements of 10 CFR 70.61 with respect to the risk of external exposure of workers to hazardous chemicals produced from licensed material.

In accordance with 10 CFR 2.390 of the NRC's "Rules of Practice," a copy of this letter will be available electronically for public inspection in the NRC Public Document Room or from the Publicly Available Records (PARS) component of NRC's document system (ADAMS). ADAMS is accessible from the NRC Web site at <http://www.nrc.gov/reading-rm/adams.html> (the Public Electronic Reading Room).

Sincerely,

/RA/

Daniel H. Dorman, Director
Division of Fuel Cycle Safety
and Safeguards
Office of Nuclear Materials Safety
and Safeguards

protected from the risk of acute chemical exposures from the licensed materials or hazardous chemicals produced from licensed material, including dermal exposures to hydrofluoric acid.

In the meantime, the staff looks forward to a sustained dialogue with the objective of developing technically sound, NRC-endorsed guidance for addressing the performance requirements of 10 CFR 70.61 with respect to the risk of external exposure of workers to hazardous chemicals produced from licensed material.

In accordance with 10 CFR 2.390 of the NRC's "Rules of Practice," a copy of this letter will be available electronically for public inspection in the NRC Public Document Room or from the Publicly Available Records (PARS) component of NRC's document system (ADAMS). ADAMS is accessible from the NRC Web site at <http://www.nrc.gov/reading-rm/adams.html> (the Public Electronic Reading Room).

Sincerely,

/RA/

Daniel H. Dorman, Director
Division of Fuel Cycle Safety
and Safeguards
Office of Nuclear Materials Safety
and Safeguards

DISTRIBUTION:
FCSS r/f

ADAMS Accession No.: ML082900889

OFFICE	FCSS/FMB	FCSS/FMB	FCSS/ECB	FCSS/FMB	FCSS/FFLD	FCSS
NAME	R. Thompson	M. Baker	V. Williams	P. Habighorst	M. Tschiltz	D. Dorman
DATE	10/20/08	10/21/08	10/21/08	10/22/08	10/22/08	11/ 10 /08

OFFICIAL RECORD COPY