Axelson

UNITED STATES
NUCLEAR REGULATORY COMMISSION
REGION III
799 ROOSEVELT ROAD
GLEN ELLYN, ILLINOIS 60137

January 10, 1984

Professor Wm. J. Grivna
Director of Performance
Southern Illinois University
Room 1031
Communications Building
Edwardsville, IL 62026

Dear Professor Grivna:

This is in response to your letter dated December 19, 1983, concerning the Edlow International uranium storage facility in East St. Louis, Illinois.

Edlow is authorized by the Nuclear Regulatory Commission to store uranium in several forms, none of which are waste materials: uranium hexafluoride, uranium hexafluoride with the percentage of uranium 235 enriched slightly, and refined uranium ore ("yellowcake"). These forms of uranium are intermediate steps in the processing of mined uranium into fuel for nuclear power stations.

At the Edlow facility, the uranium is stored in the containers used for safely transporting the material between processing locations. The containers are not opened by Edlow personnel, and there is no processing activity there. The two forms of uranium hexafluoride are transported and stored in heavy steel cylinders. The yellowcake is transported and stored in sealed steel drums.

The fire on December 7, 1983, did not damage the yellowcake drums to the point that there was any spillage or release of the uranium. The uranium hexafluoride containers were not affected by the fire.

The subsequent investigation, however, did point out deficiencies in the security and fire protection systems for the Edlow facility. We are requiring that these systems be improved. In addition, better preparations are to be made for dealing with emergencies at the facility, including written working agreements with local emergency response agencies (police and fire).

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While the uranium stored by Edlow is radioactive, it does not represent a major public health and safety hazard. Certainly it is much less hazardous than nonradioactive materials stored or used at a number of commercial and industrial facilities. The radiation levels of the uranium are low. The yellowcake is a solid, dense material that will not burn. The uranium hexafluoride is also a solid at normal temperatures. Only if the cylinders were to rupture and be heated would the material be released from the containers. It would take a very hot, long-lasting fire (1000 degress centigrade for four hours), however, to damage the cylinders and release the contents. The principal hazard then would not be from the uranium but from the fluorine which would combine with the hyrdogen in air or water to form hydrogen fluoride, which is a toxic gas.

We have no regulatory basis to require removal of the uranium from the site, although we have directed Edlow to halt shipping and receiving activities until it has made the improvements in its fire protection and security systems.

I hope this information is responsive to your concerns. If I can be of further assistance, please let me know.

Sincerely yours,

Jan Strasma
Public Affairs Officer