

FEB 9 1994

Docket 70-36  
License SNM-33

Mr. Robert W. Sharkey  
Manager, Regulatory Compliance  
Hematite Nuclear Fuel Manufacturing  
Combustion Engineering, Inc.  
P.O. Box 107  
Highway P  
Hematite, MO 63047

Dear Mr. Sharkey:

SUBJECT: FIRE SAFETY REVIEW FOR LICENSE RENEWAL (TAC NO. L21637)

On January 4-5, 1994, the Nuclear Regulatory Commission contractor, Science Applications International Corporation (SAIC), visited the Hematite facility to gather information about the fire protection program in support of the pending renewal of Materials License SNM-33. Based on the SAIC trip and our review of the application, we have identified additional information that is needed to complete the review. The additional information, specified in the enclosure, should be provided within 45 days of date of this letter. Please reference the above TAC No. in future correspondence related to this request.

If you have any questions regarding this matter, please contact me at (301) 504-2604.

Sincerely,

Original Signed By:

Sean Soong  
Licensing Section 2  
Licensing Branch  
Division of Fuel Cycle Safety  
and Safeguards, NMSS

Enclosure: As stated

cc w/encls:

Mr. J. F. Conant, Manager  
Nuclear Materials Licensing

Distribution w/encls. (Control No. 210S)

Docket No. 70-36

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## REQUEST FOR ADDITIONAL INFORMATION

### FIRE PROTECTION PROGRAM REVIEW

#### COMBUSTION ENGINEERING HEMATITE FACILITY

This Request for Additional Information (RAI) is based on a review of the license renewal application for Combustion Engineering's Hematite, Missouri facility. As part of this review, a site visit was made on January 4-5, 1994. The site visit was made by Mr. Tom Storey and Mr. Hal Cohen of Science Applications International Corporation (SAIC). Both individuals are fire protection engineers and are under contract by the U.S. Nuclear Regulatory Commission. Specific items where additional information is required to complete the review of the license renewal application are identified below. Additionally, issues of concern resulting from the application review and site visit are identified.

1. Section III.10 of the NRC Guidance on Fire Protection for Fuel Cycle Facilities dated August 10, 1992 states that a pre-fire plan should be on file and ready to use. During the site visit, a draft pre-fire plan was reviewed. However, this draft pre-fire plan is not considered "ready to use." The NRC guidance states that the pre-fire plan should include assignment of responsibilities, and direction for assembling the emergency response team and notifying the off-site fire department. The guidance also defines the necessary information for responding personnel which should be included in the pre-fire plan. Please provide an approved pre-fire plan which is in accordance with Section III.10 of the NRC guidance.
2. The guidance for pre-fire plans also states that information should be included on "areas where the use of water should be restricted because of nuclear criticality or other concerns." The pre-fire plan discussed in item 1 should include a clear definition and complete technical justification of where in the facility the use of water should be restricted. For those areas where water is restricted, alternative means of fire suppression should be identified.
3. Review of the fire alarm system indicates there are four independent locations where fire/emergency alarm and system trouble alarms can be acknowledged, and audible building alarms silenced. However, none of these locations are continuously manned. Please provide a description of the alarm system operation including the procedures

that describe how, and by whom, all alarm and trouble conditions are addressed. Also, address how alarm and trouble conditions will not be inadvertently silenced at one of the remote locations, potentially leading to an alarm or trouble condition going unnoticed by the appropriate personnel.

4. During the site visit, modifications were being performed on the fire/emergency alarm system. No formal compensatory measure such as fire watches, had been initiated during the period when the alarm system was not fully functional. It appears that no policy exists for implementing compensatory measures during outages of detection and suppression systems. Please provide a description of what steps are taken to ensure that adequate compensatory measures are implemented with respect to the fire protection program.
5. During the site visit, it was not clear if smoke detectors were spaced in accordance with NFPA 72. Please provide a drawing which indicates smoke detector location and spacing throughout the facility.
6. During the site visit, we determined that combustibles and flammable liquids and gases were not adequately controlled, and no procedures were identified for controlling combustibles or flammable liquids and gases. Section III.1 of the NRC guidance states that the fire protection program should include "rules for good housekeeping with a view to minimizing fire damage." Please provide assurance that combustibles and flammable liquids and gases will be adequately controlled in the future.
7. While a cutting and welding permit procedure does exist, an unused gas welder was noticed in the conversion area, apparently left after a welding project. Please provide a description of the measures taken to ensure the cutting and welding program is properly implemented and that welding equipment is safely stored upon completion of the work.
8. Section III.1.b of the NRC guidance states that among other things, the plant fire protection program should provide for "initiation of a fire hazards analysis of the facility and its periodic updating." Section III.9 provides specific details of what should be included in a fire hazards analysis. Neither the license renewal application nor any other identified documents provide for an analysis of fire scenarios along with an evaluation of existing fire protection features. Identification of rated fire boundaries is considered an essential part of the analysis. A specific concern noted during the site visit was that several storage areas containing significant amounts of combustible materials were located directly adjacent to areas containing radioactive material. While walls and heat activated roll-down fire doors were present, there did not appear to be an evaluation to determine if the walls and doors would adequately

prevent the release of radioactive material in the event of a fire. Please provide a fire hazards analysis that meets the guidance in Section III.9 of the NRC Guidance on Fire Protection for Fuel Cycle Facilities.

9. During a facility walkdown it was noted that interior hose stations exist in several locations throughout the plant. While the site fire response team does get basic hose training on an annual basis, the team is not provided with protective clothing suitable for interior fire fighting. The concern is that if the fire hoses are available and the response team is provided with basic training, then they may choose to use the hoses for interior fire fighting beyond their capabilities and therefore jeopardize their safety. It is also a concern that this type of attempted fire fighting may cause a delay in notifying the adequately trained and equipped off-site fire department. Please provide an explanation of the use of these hoses.
10. During the site visit, a 50lb wheeled carbon dioxide extinguisher was noticed. Based on questions asked at the time, it does not appear that the emergency response team receives proper training on the use of large carbon dioxide extinguishers, particularly concerning the personnel hazards associated with its use. Please provide a description on the use of large carbon dioxide extinguisher and a detailed description of training provided to those personnel who may use them.
11. During the site visit, the automatic shut-off valves associated with the ammonia crackers were reviewed. Based on information from site personnel, it appeared that the ammonia cracker for the conversion area did not have automatic shut-off valves installed. Please verify this concern and provide a description of corrective action if automatic shut-off valves do not exist. Also, the valves that were installed did not appear to be tested on a periodic basis. These valves are considered safety devices and their proper operation may be necessary to prevent a major incident. Please verify if these valves are tested, and if not, provide a procedure to ensure they are tested in the future.