



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

September 14, 1990

Docket Nos. 50-259, 50-260  
and 50-296

Mr. Oliver D. Kingsley, Jr.  
Senior Vice President, Nuclear Power  
Tennessee Valley Authority  
6N 38A Lookout Place  
1101 Market Street  
Chattanooga, Tennessee 37401-2802

Dear Mr. Kingsley:

SUBJECT: SAFETY EVALUATION OF THE EFFECT OF ACCIDENTAL RELEASES  
OF HAZARDOUS CHEMICALS TRANSPORTED BY BARGES ON CONTROL  
ROOM HABITABILITY (TAC NOS. R00155, R00156, AND R00157)

The NRC staff has reviewed an analysis by the Tennessee Valley Authority (TVA) regarding the probable effects of accidental releases of hazardous chemicals, transported down the Tennessee River by barges, upon control room habitability at the Browns Ferry Nuclear (BFN) plant. TVA provided their analysis and conclusions to the staff by submittals dated May 31, 1990 and August 16, 1990. Based on our own independent evaluation of this analysis, as detailed in the enclosure, we concur with TVA's conclusion that out of the twenty chemicals transported by barges past BFN, only six could adversely affect habitability of the control room. Furthermore, the staff also concurs with TVA that of these six chemicals, chlorine poses the greatest potential threat because the other five chemicals slowly build up to toxic concentrations. In fact, the rate of buildup is slow enough (i.e. longer than two minutes) to meet the criteria of Regulatory Guide (RG) 1.78, "Assumptions for Evaluating the Habitability of a Nuclear Power Plant Control Room During a Postulated Hazardous Chemical Release," for allowing control room operators sufficient time to don protective gear.

Only chlorine builds up toxic levels much faster than operators could be expected to recognize and respond to. However, TVA demonstrated by a probabilistic argument that the chances of an accident resulting in releases of enough chlorine to affect habitability of the control room is less than the level of probability specified by the NRC's Standard Review Plan (SRP) for requiring an accident to be included as part of a plant's safety analysis.

The staff finds TVA's analysis and arguments acceptable for concluding that hazardous chemicals being barged on the Tennessee River by BFN do not pose a significant safety concern to control room habitability, provided that TVA institutes the appropriate compensatory measures (i.e. emergency procedures and training) outlined by RG 1.78 for the five toxic chemicals which build up slowly. Although, as an alternative to these compensatory measures, TVA could submit additional analysis, for staff evaluation, to demonstrate that the combined contribution of all six potentially threatening chemicals would have an aggregate probabilistic risk of creating a toxic environment in the control room from an accidental chemical release of less than the SRP threshold.

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Mr. Oliver D. Kingsley, Jr.

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In order to satisfactorily resolve this issue prior to restart of Unit 2, we would expect to receive a response from you within the next thirty days that either (1) confirms that appropriate compensatory measures exist at BFN to accomodate accidental chemical releases, or (2) provides additional analysis concluding that these measures are unwarranted because the level of probabi-  
listic risk is sufficiently low. If you have any questions concerning this letter, please do not hesitate to contact me at (301) 492-1313.

Sincerely,

Original signed by

Thierry M. Ross, Project Manager  
Project Directorate II-4  
Division of Reactor Projects - I/II  
Office of Nuclear Reactor Regulation

Enclosure:  
As stated

cc w/enclosure:  
See next page

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1. The first part of the document discusses the importance of maintaining accurate records of all transactions. It emphasizes that this is crucial for ensuring the integrity of the financial statements and for providing a clear audit trail. The text also mentions that proper record-keeping is essential for identifying trends and anomalies in the data.

2. The second part of the document focuses on the role of internal controls in preventing fraud and errors. It highlights that a strong internal control system is necessary to ensure that all transactions are properly authorized and recorded. The text also notes that internal controls should be regularly reviewed and updated to reflect changes in the business environment.

3. The third part of the document discusses the importance of transparency and communication in financial reporting. It states that providing clear and concise information to stakeholders is essential for building trust and confidence in the organization. The text also mentions that transparency is a key component of good corporate governance.

4. The fourth part of the document addresses the challenges of financial reporting in a complex and rapidly changing business environment. It notes that organizations must stay up-to-date on the latest accounting standards and regulations to ensure compliance. The text also mentions that organizations should invest in training and resources to support their financial reporting efforts.

Mr. Oliver D. Kingsley, Jr.

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cc:

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