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UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

Before Administrative Judges:

Peter B. Bloch, Chairman
Dr. Kenneth A. McCollom
Dr. Walter H. Jordan

LBP-85-37

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In the Matter of

TEXAS UTILITIES ELECTRIC COMPANY, et al.

(Comanche Peak Steam Electric Station,
Units 1 and 2)

Docket Nos. 50-445-OL
50-446-OL

ASLBP No. 79-430-06 OL

September 18, 1985

MEMORANDUM

(Water Recirculation Problems Caused by Paint)

The purpose of this memorandum is to state the concerns of the Atomic Safety and Licensing Board about the Staff's conclusion that the paint at Comanche Peak may be exempted from the quality assurance requirements of Appendix B. We consider this matter to be within the scope of the admitted contentions and to require determination in order for there to be an adequate record in this case.

NUREG-0797, Supplemental Safety Evaluation Report (SSER) No. 9 for Comanche Peak concludes that the paint coatings inside containment do not have to be safety grade and that it is appropriate to exempt paint from the quality assurance requirements of 10 CFR Appendix B. (SSER No. 9 at M-10.) This conclusion is based on Texas Utility Electric Company et al.'s (TUEC's or Applicants') representation that even if all of the coatings at Comanche Peak were to fail during a design basis event such

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as a Loss of Coolant Accident (LOCA), long term cooling of the core by recirculation of water from the sump could be achieved.

In order for us to find that Comanche Peak can achieve adequate long-term cooling following a LOCA, it must be demonstrated that the sump screen will not be blocked by paint particles and that the slurry of water and fine paint particles that get through the screen will adequately cool the core. TUEC contends that only a small fraction of the paint particles will be transported to the screens and hence a small band (2 inches) at the top of the screen will remain open. They also believe that the fine paint particles (less than 1/8 inch) that get through the screen will not interfere with the cooling of the core, that the Residual Heat Removal (RHR) pumps will not be affected and that the fine paint particles will not block the core.

The Applicants' demonstration that the screens will not be clogged is based on a number of assumptions regarding the transport of paint particles in flowing water and it is not apparent that all of the assumptions are conservative. However, our chief concern is the possibility of core blockage by fine particles.

The Staff of the Nuclear Regulatory Commission (Staff) has expressed its concerns to the Applicants regarding the possibility of core blockage by fine paint particles. (SSER No. 9 at L-8.) However, they now agree that the particles would settle out in the plenum and would reach the core only if one of the reactor coolant pumps (RCP) were to be restarted following a small break LOCA, thereby transporting the particles to the core.

The Applicants claim that operating procedures restrict restarting of the RCP except during an inadequate core cooling event (ICC) and that ICC is very unlikely. The Staff does not discuss the likelihood of RCP restart by operator error when there has not been an ICC. Without addressing that issue, they agree that ICC is a low probability event and conclude that RCP restart is unlikely. (SSER 9 at L-10 and L-11). Unlike the Applicants, the Staff has not attempted to quantify this probability of RCP restart during an ICC. No one has quantified the likelihood of restart when there is no ICC.

Whether flow blockage would be extensive if the RCP was restarted is discussed by the Staff (L-12) but no firm conclusion was reached. However, the Staff makes the following findings:

The Staff's qualitative conclusion based on the facts presented above is that the flow blockage must be extensive in order to cause fuel rod damage. Restart of a RCP following ECCS recirculation is unlikely. For the reasons discussed above, a complete blockage at the lower fuel assembly grid is unlikely if an RCP is restarted. A flow blockage sufficient to cause fuel failure is also unlikely. If localized flow blockage were to occur, the Staff would expect the extent of fuel failure, if any, to be low.¹

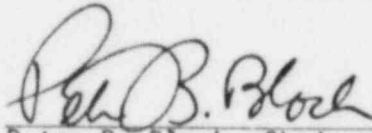
We are concerned that an important component of the CPSES safety system is being exempted from Appendix B requirements. Such a determination for Comanche Peak may have implications with respect to Unresolved Safety Issue A-43, "Containment Emergency Sump," and should be

¹ SSER 9 at L-12.

brought to the attention of the Staff. We also have advised the Advisory Committee on Reactor Safety of the status of this issue.

We will have to be satisfied with the resolution of this issue. In our consideration of this problem, we would appreciate a full explanation of whether there are specific reasons for placing Comanche Peak in a special category with respect to an exemption from ordinary paint quality assurance requirements.

FOR THE
ATOMIC SAFETY AND LICENSING BOARD


Peter B. Bloch, Chairman
ADMINISTRATIVE JUDGE

Bethesda, Maryland