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THE NUCLEAR REGULATORY COMMISSION
Summertown, Tennessee 38483

December 9, 1980

Mr. Samuel Chilk
Secretary
U.S. Nuclear Regulatory Commission
1717 H St. NW
Washington, D.C. 20555

Dear Mr. Chilk,

Enclosed are the comments of The Nuclear Regulatory Commission on NUREG-0660, NRC Action Plan Developed as a Result of the TMI-2 Accident.

Sincerely,

Albert Bates

Albert Bates
Director
Office of Nuclear Reactor Regulation

Acknowledged by card. 12/16/80

THE NUCLEAR REGULATORY COMMISSION
Summertown, Tennessee 38483

COMMENT ON NUREG-0660

NRC ACTION PLAN

December 9, 1980

The Nuclear Regulatory Commission (TNRC) is an independent public safety monitoring organization headquartered in Summertown, Tennessee.

The Action Plan has identified both short and long-term actions to address the problem of hydrogen formation and combustion in degraded core conditions. This comment will be confined to this part of the Action Plan (II-B).

The accident at Three Mile Island resulted in the formation of a large volume of hydrogen which detonated within the containment, causing pressure on the containment shell to exceed monitoring capability of 28 psi. 10 CFR 50.44 provides that reactor operators need not consider the effects of hydrogen explosions of this magnitude, and thus a number of reactor designs include containment shells much weaker than TMI Unit-2. The Westinghouse ice-condenser containments at Donald C. Cook Units 1 and 2 and Sequoyah Unit 1 might not withstand the effects of a metal-water reaction 30% less severe than actually occured at TMI. The licensees have initiated a hydrogen control program involving diesel glow plugs which are capable of burning significant concentrations of hydrogen before uncontrolled combustion, but are not without dangerous collateral effects, such as ignition of ice condensor foam insulation.

The Action Plan provides for the inerting of BWR Mark I and Mark II containment structures, and NRC has already notified these licensees of the new requirement. The Action Plan should go farther and require inerting of Mark III and PWR ice containments, as well as any future small or reduced-strength containment designs. This is the minimum precaution required for safe operation.

If inerting of Mark III and ice condensor containments is not feasible, the operating plants with these designs should be shut down until alternate solutions to the hydrogen problem are developed. Glow plugs are not an acceptable alternate solution. Underground cavity containment reserve capacity shows some promise. Additional work by USNRC may find other suitable retrofits.

Because public health and safety is endangered by continued operation of plants which would not be able to demonstrate containment integrity in the event of accidents less severe than Three Mile Island, the Nuclear Regulatory Commission (USNRC) has no justification under the Atomic Energy Act for permitting full-power operation of any of these units.

No new construction licenses or limited work authorizations should be allowed for plants having reduced-strength or small containments.

Respectfully submitted,

Albert Bates

Albert Bates
Director of Nuclear Reactor Regulation