APR 14 1981

MEMORANDUM FOR: Thomas E. Murley, Director
Division of Safety Technology

FROM: Stephen H. Hanauer, Director
Division of Human Factors Safety

SUBJECT: CONFLICTING DIRECTIONS REGARDING SAFETY INJECTION RESET AND PLANT COOLDOWN

REFERENCES:

1. Memo from D. F. Ross, Jr. to D. G. Eisenhut dated November 20, 1980, Followup Action on Natural Circulation Cooldown

2. Memo from Bruce Boger to S. H. Hanauer dated January 6, 1981, Conflicting Testimony at TMI-1 Restart Hearing Concerning Subcooling Margin and NDT Limits

3. Meeting Summary by L. L. Kintner dated January 14, 1981, on October 22 Meeting with Alabama Power Company on Auxiliary Feedwater System

4. Memo from T. E. Murley to S. H. Hanauer dated February 25, 1981, on Diesel Generator Loading Problems Related to SIS Reset on Loss of Offsite Power

5. Note to S. H. Hanauer from Richard H. Vollmer dated March 10, 1981, on Overcooling Transients

Recently we have received memorandums from several sources that, while addressing different subjects, are all concerned with the procedural guidance related to resetting Safety Injection and controlled or uncontrolled plant cooldown.

Reference 1 was concerned with temperature differences between the pressure vessel upper head and loop temperature detectors during natural circulation cooldown and proposed re-evaluation of the direction given to operators on allowable cooldown rates.

Reference 2 was concerned with the conflict between Nil Ductility Temperature Brittle Fracture limits and the requirement to maintain a minimum 50°F subcooling margin.

OFFICE ▶							
SURNAME ▶							
DATE ▶							

Reference 3 was concerned with the design of the Auxiliary Feedwater control system at Farley Unit 2 and the potential for failures that overfilled the Steam Generators and resulted in overcooling events that resulted in Safety Injection Initiation.

Reference 4 was concerned with loading the Emergency Diesel Generators after a loss-of-coolant accident following manual Safety Injection Signal Reset and subsequent Loss of Offsite Power. It recommended procedural prohibition to resetting Safety Injection for a minimum of 10 minutes after a LOCA signal.

Reference 5 was concerned with operator action necessary to preclude pressure vessel damage on a depressurization event followed by system repressurization by High Pressure Injection.

Each of the references was forwarded to the Procedures and Test Review Branch (PTRB) for appropriate consideration of operator action in the development of Emergency Operating Procedures. The PTRB review has found not only conflicting directions being given to the operators but some misconceptions about plant indications and procedures as well. Plant instrumentation does not include event specific indications or signals, such as a LOCA signal. The operator must diagnose the event from indications such as primary and secondary temperature and pressure. Therefore, to require a 10 minute delay for resetting SIS following a LOCA and "immediate" reset following an overcooling transient requires the operator to diagnose the exact event in a short period of time.

The thrust of development of Emergency Operating Procedures following Three Mile Island has been to remove the need for immediate operator diagnosis and provide him with a "safe" set of actions to be taken for a broad range of initiating events regardless of his ability to diagnose them. The reanalysis of transients and accidents required by Task Action Plan Item I.C.1(3) requires realistic (best estimate) analysis, including multiple failures and operator errors. The long-term programs being developed from this reanalysis in accordance with TAP Item I.C.9 will consider all of the issues addressed in references 1 through 5 and many others in a coordinated fashion. In the mean time, the staff should not require modification of emergency procedures to address a single issue without consideration of the impact of other events.

Each of the specific issues mentioned above should be resolved in a coordinated review involving DL, DE, DSI, and DHFS. DST should have the lead role in coordinating the review and ensuring that the resolutions are consistent.

It is clear that some mechanism needs to be established to screen specific issues, such as these, to ensure that the impact of proposed solutions on other areas is considered in a coordinated fashion. I recommend that you establish a method of ensuring that specific technical issues are addressed in the context of other review efforts. DHFS will participate as necessary to ensure that technical reviews are comprehensive and best use available staff resources. However, one central point in DST should be established to ensure conflicting requirements are not being forwarded to the licensees.

Original signed by
Joel J. Kramer for
Stephen H. Hanauer, Director
Division of Human Factors Safety

cc: H. Denton
E. Case
D. Eisenhut
R. Mattson
R. Vollmer
P. Check
T. Speis
B. Sheron
B. Boger
L. Kintner
T. Ippolito

DISTRIBUTION
Central Files
PTRB Reading
SHHanauer
JJKramer
PCollins
DVassallo
DZiemann
PTRB Personnel
JAZwolinski

DHB JJK JJK for

OFFICE	DHFS:PTRB	DHFS:PTRB	DHFS:D/DIR	DHFS:DIR			
SURNAME	DHBeckham:ah	DLZiemann	JJKramer	SHHanauer			
DATE	4/14/81	4/14/81	4/14/81	4/14/81			

NRC FORM 318 (10-80) NRCM 0240 OFFICIAL RECORD COPY USGPO 1980-3