

ENCLOSURE 2

OPE COMMENTARY ON NRC PROGRAM FOR
CONSIDERING HUMAN FACTORS, IN LIGHT OF THE TMI ACCIDENT

I. Policy Assumptions

- o Organizational arrangements will be implemented to provide a focal point and resources necessary for expeditious NRC-wide examination of human factors and their impact on safety in order to improve assurance that plant personnel will function decisively and effectively in transient and accident mitigation.
- o The number and qualification of station control and critical maintenance personnel will be augmented to assure that operators' attention to the NMSS and safety-related systems is unimpaired.
- o Training needs for station control and critical maintenance personnel will be clarified and, where necessary, upgraded.
- o Eligibility and requalification programs for the licensing of operators -- particularly PWR operators -- will be re-examined in terms of both short and long-term needs.
- o The quality of operating procedures -- together with assurances that they are carried out properly -- will be upgraded.
- o Requirements for control room equipment configurations will be upgraded to reduce potential operator error through efficient man-machine interfaces.
- o The capability for direct communication of appropriate control room information to the NRC incident response center in the event of an accident will be provided.

II. Ongoing Staff Actions

- o Staff is responding to Commission request of April 30 for information concerning the qualification of reactor operators. Of 7 tasks, 2 have been completed (superintendents and legal/labor/management aspects), three are now expected May 25 (simulators, nuclear Navy operators and statistical profile of operating experience education and salary), two are now due June 1 (requalification results), and one is scheduled for June 15 (licensee training and testing).
- o In the staff report on the generic assessment of feedwater transients in B&W PWR's (NUREG-0560) dated May 1979, a 9-page section on operator training and actions provides a synopsis of relevant follow-up staff actions and recommendations.

8002 100069

- o Draft GAO letter report to Senator Schweiker -- NRC staff comments were provided orally to GAO staff on May 14, 1979. The letter report includes an extensive series of questions on human/operator error and NRC requirements and practices.
- o Lee Gossick's memo of May 16, 1979 to Harold Denton on evaluating the operator licensing program in light of TMI and the above GAO letter report -- for both the near-term and a longer term.

We believe today's memorandum from Roger Mattson to OPE (Enclosure 3) best summarizes all ongoing staff action relevant to operator licensing and training in general, and to the above four documents, in particular.

II. Significant Outstanding Issues

- o In calling for a complete re-evaluation of NRC's program for licensing nuclear power plant operators, the GAO letter report has raised an extensive series of specific questions. The report states that NRC and the recently appointed Presidential Commission should give attention to those questions. However, GAO does caution that any emphasis on human error should not eclipse the potential for design and other generic weaknesses. (Note that GAO considered human/operator error at both TMI and other nuclear power plants.)
- o As reflected by Roger Mattson's memorandum of May 18, a large fraction of relevant NRC staff has been busy responding to Commission instructions, GAO inquiries, and EDO initiatives concerning human factors -- to the extent that NRR's Operator Licensing Branch had to suspend operator license examinations on April 9. Significant activities described by Mattson appear to cover -- to some level of specificity -- all issues that have so far surfaced in this area. NRC now appears to be at a point in a development process, where most decisions must await more comprehensive formation that is being gathered and disseminated by the staff -- internally and from other organizations.
- o Many potential upgrade areas, e.g., simulator training and operator qualification and requalification, should be closely supported by available help from other agencies with relevant expertise, e.g., NASA and the Navy.
- o Upgrades for training should include periodic simulator training under both normal and abnormal conditions -- after first determining both the function of such training and identifying appropriate types of simulators. Other mechanisms e.g., periodic drills with initiating transients during normal shutdowns, should also be explored. Along this line, alternative NRC requirements might be proposed for licensee preventive maintenance programs for safety-related equipment.
- o Upgrades for operating procedures should include a complete safety check list process to assure their actual achievement.
- o Upgrades for hardware should include on-line diagnostic capabilities, e.g., standardized control panel layouts and more reliable instrumentation for parameters critical to operator performance.