



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

OCT 24 1980

MEMORANDUM FOR: Chairman Ahearne
Commissioner Gilinsky
Commissioner Hendrie
Commissioner Bradford

FROM: Harold R. Denton, Director
Office of Nuclear Reactor Regulation

THRU: Executive Director for Operations *TAR for W.J.D.*

SUBJECT: CLARIFICATION OF TMI ACTION PLAN REQUIREMENTS/
STAFF RESPONSE TO INDUSTRY COMMENTS

On October 22, 1980, we forwarded to the Commission a memorandum which contained final clarifications of the TMI Action Plan requirements and a copy of all written industry comments on this subject. As discussed in the October 22, 1980 memorandum, the staff has developed a summary listing addressing written comments received on the September 5, 1980 Preliminary Clarification of TMI Action Plan Requirements, letter. This is attached as a matrix containing (1) summary of the comments received, (2) summary of staff response, and (3) impact on clarification package compiled by NUREG-0660 Task Action Plan section number I.A.1.1, I.A.12, etc. This is forwarded for your information.

Harold R. Denton
Harold R. Denton, Director 10/24/80
Office of Nuclear Reactor Regulation

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8011050028

STAFF RESPONSE TO WRITTEN COMMENTS

Status of recommendation in the clarification:

- a. Recommendation is incorporated or adequately covered in clarification.
- b. Recommendation is partially incorporated.
- c. Recommendation will be handled on a case-by-case basis.
- d. The clarification was not changed.

Clarification Item	Shortened Title	Summary of Comments Received	Summary of Staff Response	Status
I.A.1.1	Shift technical advisor	Under long-term training, general education standards should not fall into the STA educational program.	The staff has, in the development of the minimum qualifications for an STA, strongly considered the pros and cons of general educational requirements. Further, as SRO and shift supervisors' qualifications are upgraded, the need for this requirement may be eliminated.	d
I.A.1.3	Shift manning	<ol style="list-style-type: none"> 1. The position, as presently written, implies provisions for manning from a remote shutdown panel outside the control room. This manning requirement would be associated with abnormal occurrences such as fires. 2. Overtime restrictions should be provided as guidance rather than requirements. Further, the current Standard Technical Specifications seem to be inconsistent with this item, and flexibility should be given to plant management in order to resolve conflicts which may arise with existing labor agreements. 	<ol style="list-style-type: none"> 1. The position defines shift manning requirements for <u>normal</u> operation; examples presented in the comment go beyond the purview of this item. Manning requirements for abnormal conditions are covered in item III.A.1.2. 2. The staff is aware of the licensee's comments and is attempting to bring a measure of flexibility to the question of overtime. However, the staff is concerned as to the amount of time on shift and, therefore, has so stated. These requirements will eventually be reflected in the Standard Technical Specifications. Also, under unusual circumstances, some deviations may be permitted; however, this will be considered on a case-by-case basis only. 	d

STAFF RESPONSE TO WRITTEN COMMENTS (Continued)

Clarification Item	Shortened Title	Summary of Comments Received	Summary of Staff Response	Status
I.A.2.1	Immediate upgrading of RO and SRO training and qualifications	1. NRC should consider alternative means of fulfilling the requirement that applicants for SRO licenses must have 3 months' training on shift.	1. The staff believes that the hands-on experience gained during the 3-month training period is vital to the combination of training, education, and actual operating experience necessary before an operator assumes a supervisory role.	d
		2. The time interval between receiving an RO license and applying for an SRO license is not clearly defined.	2. The individual applying for an SRO license must have been an RO for at least 1 year.	d
I.A.2.3	Administration of training programs	The staff should move quickly to allow certification in a specific field of expertise.	The staff is in the process of evaluating training certification program requirements to assess the need for certification of those individuals identified as experts in a specific field. The staff presently believes that no requirements should exist in this particular area; however, the use of a large number of "experts" tends to lead to fewer instructors qualified as SROs, and this is not a desirable end for the industry in general.	d
I.A.3.1	Revise scope and criteria for licensing exams	1. Operators at plants not having simulators should not be required to be examined on simulators. This concern arises from the fact that training an RO on a simulator which is significantly different from his power plant would appear to be of little value.	1. The staff recognizes that this is a potential problem. In order to provide a measure of relief for the licensees, the schedule has been slipped a full year, thus providing additional time to identify a simulator which closely mimics the present control room display or purchase a plant-specific simulator, etc.	b
		2. When simulator exams are administered, subjective oral exams should be eliminated.	2. The staff is relying heavily on the use of simulators in the examination process. Because the examination procedures followed do lend themselves to a degree of change, the staff will consider this for the long term; but at this time the staff is not prepared to accept this recommendation.	d

STAFF RESPONSE TO WRITTEN COMMENTS (Continued)

Clarification Item	Shortened Title	Summary of Comments Received	Summary of Staff Response	Status
I.C.1	Short-term accident and procedures review	1. The requirement for continuous upgrade of procedures could impact adversely on the operator's ability to assimilate the multitude of procedure changes that have occurred since TMI.	1. The staff concurs with the comment and has allowed more time for implementation of new procedures.	a
		2. Submittal of guidelines by 1/1/81 is unrealistic as they are tied to owners group submittal in spring 1981.	2. The dates reflected in the item remain unchanged. However, for those licensees and owner groups that are not in a position to conform with NRC requirements of 1/1/81, the staff has requested a program plan, a submittal of a proposed schedule, and detailed justification substantiating delays.	b
		3. The BWR owners group believes that its submittal satisfies all requirements of item I.C.1 and, therefore, requests that the item reflect this fact.	3. The staff is aware of the position taken by the owners groups and has modified the "Clarification" section of item I.C.1 to better portray present-day thinking.	b
		4. An owners group depicts its presentday status regarding this action plan item and concludes that it believes that all points have been or will be addressed in the near future.	4. The staff is familiar with the owners group submittal and anticipates, in the very near term, meetings to clarify outstanding issues. This clarification package represents the direction the staff believes should be taken to resolve all questions relating to this item.	a
I.C.6	Verify correct performance of operating activities	1. The need for a second "qualified" operator verifying proper system alignment for return to service, etc., is questioned.	1. The staff has clarified the position regarding "qualified" individuals and has also stated that an investigation is underway to identify the level of qualifications required to perform the functions as described. Eventually, R.G.1.47 will be utilized in the formation of a technical basis such that this function may be performed automatically.	b

STAFF RESPONSE TO WRITTEN COMMENTS (Continued)

Clarification Item	Shortened Title	Summary of Comments Received	Summary of Staff Response	Status
I.C.6 (continued)	Verify correct performance of operating activities	2. The staff should not regulate in the area of second-check verification.	2. The staff has performed an extensive review of the need to assure verification. The determination has been made that a "qualified" individual should be responsible for the verification process. Note, however, that the staff still has this area under consideration for possible future modification and/or clarification.	d
		3. Authority to release systems should be given to the assistant shift supervisor. The shift supervisor should not be burdened more.	3. Clarification has been revised to permit this.	a
		4. The new criteria are too expansive in nature. Double verification should not be required for all plant systems, just safety-related systems.	4. the staff agrees and believes clarification says this.	a
I.D.1	Control-room design review	The control-room display board is undergoing numerous changes based upon a wide variety of requirements imposed on the industry by the staff. To provide a control room which has incorporated all aspects of human factors, the staff must allow additional time to perform the task correctly.	The staff agrees that the upgrading of control rooms is a difficult task. The schedule to complete this item will be issued in conjunction with NUREG-0700 in 1981.	a
I.D.2	Plant-safety-parameter display console	1. Sufficient guidance and/or direction has not been provided for the SPDS, and concern exists regarding the direction to proceed.	1. The clarification has been modified to defer specification of implementation dates until NUREG-0696 is issued.	a
		2. The SPDS should not be located in the EOF or TSC.	2. The specific guidance for the SPDS will be issued with NUREG-0696. In general, it is expected that NUREG-0696 will require SPDS information to be available in the TSC and EOF to allow personnel in three locations to have indications of plant parameters.	b
		3. Plant computers are not reliable enough for them to be a TSC and EOF data source.	3. Clarification was deferred to NUREG-0696, which will consider computer reliability.	a

STAFF RESPONSE TO WRITTEN COMMENTS (Continued)

Clarification Item	Shortened Title	Summary of Comments Received	Summary of Staff Response	Status
II.8.1	Reactor coolant-system vents	1. BWR vents are already identified in a previous letter. Any requirement to evaluate H ₂ concentration in excess of 10 CFR 50.46 limits should be addressed in rule-making. Evaluation of venting outside containment is beyond the scope of the stated position.	1. Not all BWRs have the same vent system, so they need to be addressed individually. BWRs have small containments; consequently their containments are likely to be problem containments.	d
		2. Completion date of 1/1/82 may not allow for required upgrade due to availability of equipment and redesign of piping systems.	2. The schedule has been revised to provide an additional 6 months to install this system.	a
		3. Completion date of 7/1/81 is premature for operating procedures. Recommends that date be changed to 10/1/81 or 11/1/81.	3. Procedures are now to be submitted 6 months prior to implementation, but not later than 1/1/82.	a
		4. A licensee design is already installed and should be reviewed for adequacy independent of new clarification.	4. Description of vents submitted by the licensee is under review. Previously submitted documents can be referenced in required submittal.	d
II.8.2	Plant shielding	1. "Vital areas" is incorrect terminology since 10 CFR 72 already uses this term.	1. Explanation of term use has been added to the text.	b
		2. Adds new requirements for determining vital areas. New calculations may be required.	2. Areas listed must be considered by licensees when determining vital areas. These areas are not necessarily vital areas unless the licensees' reviews determine that the areas would be occupied during the accident. A sentence is added to clarify that if an area is not determined to be vital, dose rate calculations are not necessary.	b
		3. Implementation date for equipment qualification should be 1/1/82 to be consistent with vital area modifications.	3. Typographical error. Date moved to 6/30/82 as specified in Commission Memorandum and Order on equipment qualification.	a

STAFF RESPONSE TO WRITTEN COMMENTS (Continued)

Clarification Item	Shortened Title	Summary of Comments Received	Summary of Staff Response	Status
II.B.2 (continued)	Plant shielding	4. Reanalyses of dose rates are necessary since licensee can now assume there are no noble gases in recirculated water from sump.	4. This more realistic assumption of the source term relaxes shielding requirements. No reanalysis necessary if more conservative assumptions were previously used.	d
		5. Submittal of material by June 30, 1981 not consistent with a postimplementation item.	5. Requirement for submittal of material has been deleted, provided it does not deviate from the position. If deviations exist, detailed explanations and justification must be provided by 1/1/81.	a
		6. Clarification should specify that only direct radiation need be included in this analysis.	6. Clarification has been revised accordingly.	a
II.B.3	Postaccident sampling	1. Passive flow restrictors do not appear feasible due to low differential pressure.	1. Deleted reference to passive flow restrictor. Passive flow restrictor was meant to apply to high-pressure primary coolant sampling.	a
		2. Schedule problems exist in meeting 1/1/81 date.	2. Change of date to 1/1/82 should alleviate problem.	a
		3. Passive flow restriction is in conflict with provisions to reduce plateout.	3. Deleted reference to passive flow restrictor. It was meant to apply to high-pressure primary coolant sampling.	a
		4. Charcoal and HEPA filters should not be required but considered on a site-specific basis.	4. Revised to state that filters are not a requirement but should be considered.	a
		5. Specific guidance is needed for chloride range and sensitivity.	5. The staff has not provided prescriptive range and sensitivity requirements. This approach was taken to permit licensees flexibility to achieve the intent of the recommendation made by the Lessons Learned Task Force, i.e., provide the operator information alerting that significant chemical degradation of cooling water may have occurred due to system inleakage.	a

STAFF RESPONSE TO WRITTEN COMMENTS (Continued)

Clarification Item	Shortened Title	Summary of Comments Received	Summary of Staff Response	Status
II.B.3 (continued)	Postaccident sampling	6. Assumes passive flow restriction to be new requirement.	6. Passive flow restriction was a clarification in the 10/30/79 letter. However, see II.B.3.1, above.	a
		7. No basis for chloride sample. Alternative is to sample secondary system.	7. The basis for the chloride analysis is to alert the operator of gross intrusion of corrosive contaminants that may be in the cooling water. An example is leakage from containment air coolers at TMI-2. Sampling of the secondary system does not indicate primary system conditions, because there may not be any primary to secondary leakage.	d
		8. BWR Mark I, II, and III containments will always be positive pressure, except for a very short period during an event. BWRs should be exempt from requirement of capability to sample under both positive and negative pressure.	8. Clarification has been revised to provide for capability to sample under plant-specific design basis pressures in containment.	a
II.B.4	Training for mitigating core damage	1. There is concern about implementation dates regarding item II.B.4 vs 3/28/80 letter criteria. Further, there is concern about impact of item I.C.1 on training and the fact that item I.C.1 has an implementation date different from item II.B.4.	1. The implementation dates in NUREG-0737 supersede those in the March 28 letter. The training requirement in II.B.4 is needed promptly and should not be deferred to the broader changes in I.C.1.	a
		2. The program for mitigating core damage should be in place (established) rather than the actual training. The licensee further states that additional equipment is required and the need for possible retraining exists.	2. The staff has modified the implementation dates for this item, and it is the staff's position that these dates be met with the systems in place. Should additional equipment or systems be incorporated in the program, a retraining effort must follow.	b
II.D.1	Relief and safety-valve test requirement	1. Valve test data and plant-specific piping analyses were to be submitted to NRC by 7/1/81. Submittal date is too short for piping analyses.	1. There was a typographical error in 9/5/80 clarification letter for piping analyses submittal date. Correct date should have been 1/1/82.	a

STAFF RESPONSE TO WRITTEN COMMENTS (Continued)

Clarification Item	Shortened Title	Summary of Comments Received	Summary of Staff Response	Status
II.D.1 (continued)	Relief and safety-valve test requirement	2. Plant-specific valve-qualification data report to NRC by 7/1/81 cannot be met.	2. Staff concurs that 7/1/81 date is optimistic for full plant-specific report submittal. Report submittal date is deferred to 10/1/81 and a requirement added for confirmation of valve adequacy by 7/1/81 based on preliminary review of test data.	a
		3. Relief- and safety-valve testing will be conducted by EPRI and completed by NRC-required date of 7/1/81. Also, block-valve testing can be completed by 7/1/82.	3. Comments agree with 9/5/80 draft clarification with block-valve qualification completion date as corrected at regional meetings.	a
		4. Scheduled completion date for block-valve testing of 7/1/81 is too restrictive.	4. Completion date is 7/1/82 which should provide adequate time.	a
		5. ATWS testing cannot be accomplished at EPRI valve-test facility due to schedule restrictions. Imposition of ATWS testing at this time would require major design changes to test facility.	5. Based on review of EPRI test program, the staff has concluded that the basic structural capability of EPRI test facility can accommodate ATWS testing at pressures consistent with the ATWS rule proposed in SECY-80-409. However, because some facility modifications will be required and because of the large number of non-ATWS tests, the staff concurs that ATWS testing cannot be accomplished by 7/1/81. The clarification is being issued to specifically acknowledge this. After completion of non-ATWS tests, and after Commission action relative to SECY-80-409, schedule for ATWS testing will be determined.	b
II.D.3	Direct indication of relief- and safety-valve position	The upgrading of the existing position indication system to safety grade should be deferred until 3/15/81 when one unit will be shut down for refueling.	Since a reliable position-indication system presently exists in the plant, an upgrading in the next outage is satisfactory.	a

STAFF RESPONSE TO WRITTEN COMMENTS (Continued)

Clarification Item	Shortened Title	Summary of Comments Received	Summary of Staff Response	Status
II.E.1.2	Auxiliary feedwater system automatic initiation and flow indication	Extension of the implementation date of 1/1/81 is requested to allow the procurement of qualified components to implement the needed design change.	Implementation date is changed to 7/1/81 to permit sufficient installation time.	a
II.E.4.1	Dedicated hydrogen penetrations	<ol style="list-style-type: none"> 1. Submittal of additional information by 10/1/81 imposes unnecessary and duplicative burden on licensees. 2. Requested schedule change to complete modifications during scheduled outage in 9/81. 	<ol style="list-style-type: none"> 1. The staff has deleted the requirement for a technical submittal. 2. Schedule for implementation has been modified to minimize number of plant shutdowns required for TMI requirements. Required date is now 7/1/81. Exceptions will be considered on a case-by-case, good-cause-shown basis. 	<p>b</p> <p>b</p>
II.E.4.2	Containment isolation dependability	<ol style="list-style-type: none"> 1. Item is already addressed in response to NUREG-0578. Further modifications by 7/1/81 are not appropriate nor achievable. 2. The requirement that gang resetting of containment isolation valves is not acceptable and is too restrictive. 3. Reducing containment setpoint pressure to minimum may not be compatible with attempts to reduce scram/SRV system challenges. 4. Requirement for purge valves to be both sealed closed and checked every 24 hours is too much. Only one is needed. 	<ol style="list-style-type: none"> 1. Additional modifications were not identified in NUREG-0578, but were included in NUREG-0660. Date remains 7/1/81. Exceptions will be considered on a case-by-case, good-cause-shown basis. 2. Choice of words created a misunderstanding. "Reset" has been changed to "reopen." 3. Pressure setpoint chosen should not cause inadvertent containment isolation. The text specifically states that setpoints should be far enough above the expected containment pressure to prevent inadvertent isolation signals. 4. The sealed closed purge valves need to be checked periodically to assure that they have not been inadvertently opened. The surveillance requirements have been changed from once every 24 hours to once every 31 days (consistent with surveillance requirements on certain ECCS valves). 	<p>b</p> <p>a</p> <p>d</p> <p>b</p>

STAFF RESPONSE TO WRITTEN COMMENTS (Continued)

Clarification Item	Shortened Title	Summary of Comments Received	Summary of Staff Response	Status
II.E.4.2 (continued)	Containment isolation dependability	<p>5. Proposed deferring implementation of isolation logic of nonessential systems until 1981 refueling outage.</p> <p>6. Proposed deferring any modifications of pressure setpoint until NRC has reviewed licensee material to allow for equipment procurement and delay until 1981 refueling outage.</p>	<p>5. Implementation schedule has been modified to allow this.</p> <p>6. Changing the pressure setpoint should not require additional equipment or a plant shutdown. Special circumstances, such as unique plant designs, will be handled on a case-by-case basis. Delays in implementation will be considered based on good cause shown.</p>	a b
II.F.1	Accident - monitoring instrumentation (Attach. 1)	1. NUREG-0660 implementation may require upgrading of monitors already installed per NUREG-0578. If upgrading is required, suggests 7/1/82 implementation date.	1. NUREG-0578, "Short-Term Lessons Learned," required interim effluent monitoring implemented by 1/1/80 with installation of final monitors by 1/1/81. The monitors specified in this package are the same as those specified for 1/1/81 in NUREG-0578. There have been no significant changes in requirements since NUREG-0578, consequently no upgrading of monitors should be necessary. The implementation schedule has been revised from 1/1/81 to 1/1/82.	b
II.F.1	(Attach. 2)	2. Design criteria specified in 9/5/80 letter represent new requirements, necessitating new equipment, and 10/1/81 date does not allow sufficient time for engineering review and procurement. Implementation date 7/1/82 requested.	2. The staff does not consider the design criteria provided in the 9/5/80 letter to be new requirements. The criteria were developed in response to industry requests for guidance for shielding designs and reflect good design practice in meeting prior requirements. Implementation date changed to 1/1/82. Requests for exemptions will be considered on a case-by-case, good cause basis.	b
II.F.1	(Attach. 3)	3. Equipment for containment high-radiation monitor will not be available by 1/1/81.	3. Implementation date changed to 1/1/82.	a

STAFF RESPONSE TO WRITTEN COMMENTS (Continued)

Clarification Item	Shortened Title	Summary of Comments Received	Summary of Staff Response	Status
II.F.1 (continued)	Accident-monitoring instrumentation (Attach. 3)	4. Specifics of R.G. 1.97 should be incorporated into clarification letter.	4. This has been added as Appendix A.	a
II.F.1	(Attach. 3)	5. NRC should consider human-factors aspects of new readouts in control room.	5. Licensees are cautioned to this effect in the cover letter.	a
II.F.1	(Attach. 3)	6. An outage of 10 days is required for installation of containment high-radiation monitor. The installation should be coordinated with other outages.	6. Staff has revised schedule to permit implementation during scheduled outages.	a
II.F.1	(Attach. 3)	7. Imposition of accuracy and response time and R.G. 1.97 requirements now makes useless efforts to procure and install available equipment.	7. Accuracy and response-time requirements have been revised. Future requirements imposed by the implementation of R.G. 1.97 will be considered on a case-by-case basis.	d
II.F.1	(Attach. 3)	8. High range incontainment radiation monitor calibration should not require one point on each scale if linearity can be shown with less.	8. Linearity of an ion chamber can be assured without one point on each scale if electronically calibrated and tested at sufficient number of points to show linearity through all scales up to 10^6 R/hr. Table II.F.1-3 has been revised to require source calibration of representative specimens at sufficient points to demonstrate linearity through all scales to 10^6 R/hr.	a
II.F.1	(Attach. 3)	9. Each high-range incontainment radiation monitor need not be source calibrated at 10^3 R/hr prior to installation. To do so would result in equipment delivery delays.	9. Such calibration is necessary to assure proper instrument response. Calibration may be done by the vendor or at a licensee's calibration facility. Table II.F.1-3 has been revised to show such calibration. If vendors do not have sources of sufficient range to perform the required calibration, then delays of only a few days should occur to perform the calibration at the licensee's or third-party facility.	b

STAFF RESPONSE TO WRITTEN COMMENTS (Continued)

Clarification Item	Shortened Title	Summary of Comments Received	Summary of Staff Response	Status
II.F.1 (continued)	Accident-monitoring instrumentation (Attach. 3)	10. What is the objective of requiring monitoring systems in both the drywell and secondary containment for BWR Mark IIIs?	10. Such systems were required because of interconnections between the drywell and secondary containment through the suppression pool. This clarification has been added to II.F.1.	a
II.F.1	(Attach. 4)	11. Accuracy requirements cannot be met by current instruments.	11. Accuracy requirements have been modified.	a
		12. A licensee has problems meeting 1/1/81 date and asks that date be changed to next scheduled outage.	12. Date has been changed to 1/1/82.	a
		13. Action taken previously in accordance with NUREG-0578 and NUREG-0660 may be changed by 9/5/80 clarificator.	13. No changes are inherent in the 9/5/80 guidance that would affect a reasonable interpretation of prior guidance. Details of comment are not specific enough to judge.	d
		14. Late imposition of R.G. 1.97 qualification requirements renders prior procurement efforts useless and creates potential for jeopardizing \$400,000 worth of instruments.	14. Specification of R.G. 1.97 as a requirement has been deleted.	a
II.F.1	(Attached. 4)	15. Additional requirements on accuracy, response times, and draft status of R.G. 1.97 coupled with original implementation date (1/1/81) makes completion very difficult.	15. The reference to R.G. 1.97 has been deleted, and specific instrument accuracy and response time requirements have been revised. The implementation schedule was modified to permit equipment procurement and installation.	a
II.F.1	(Attach. 4,5,6)	16. Licensees wish to complete modification during scheduled outage in 1981.	16. Schedule has been changed to 1/1/82.	a
II.F.1	(Attach. 5)	17. Qualified equipment is not available.	17. Three vendors are currently qualifying equipment to meet the requirements, although none of the three has completed its programs. Implementation date has been changed to 1/1/82. With this extension of time, the staff considers this date to be adequate to allow time for qualification testing.	a

STAFF RESPONSE TO WRITTEN COMMENTS (Continued)

Clarification Item	Shortened Title	Summary of Comments Received	Summary of Staff Response	Status
II.F.1 (continued)	Accident-monitoring instrumentation (Attach. 6)	18. Suggested modifications to R.G. 1.97, Rev. 2.	18. The staff has placed the actual criteria from R.G. 1.97, Rev. 2, appropriate for these instruments, in the clarification letter and removed all statements referring to R.G. 1.97, Rev. 2, for design purposes.	a
II.F.1	(Attach. 6)	19. New requirements for accuracy and placement of hydrogen monitors cannot be met by current instruments due to be installed shortly.	19. New requirements have been modified and implementation schedule has been modified.	a
II.F.2	(Attach. 6)	20. Two containment hydrogen monitors, judiciously located, should be enough. More elaborate installations are not justified.	20. The clarification has been modified to permit this.	a
II.F.2	Instrumentation for detection of inadequate core cooling	1. The incorporation of thermocouples in BWRs should be considered as part of the R.G. 1.97 review. It is also recommended that the specific applicable requirements from R. G. 1.97 be detailed in the clarification letter.	1. Thermocouples are not now required as part of the ICC system for BWRs; the final requirement will depend on the development of R.G. 1.97 Licensees may, however, include thermocouples in their ICC system design if they wish. Appendix A, which has been added to the clarification letter, addresses applicable requirements from R.G. 1.97	a
		2. The NRC research program on ICC instrumentation will not be completed until 1/1/82. Therefore, installation of level instruments should be accepted. Existing subcooling monitors should not be required to conform to R. G. 1.97 if they are now of adequate quality.	2. The staff is offering the use of DOE facilities to test industry-supplied instruments under simulated accident conditions. Such tests will be conducted in early 1981. Systems will not be acceptable if they do not function properly. Deviations from the criteria of Appendix A may be acceptable provided they are adequately justified.	b,c
		3. BWR TIP thermocouples are not adequate ICC instruments because of reliability and ambiguity of readings. Incore thermocouples should be installed.	3. Item II.F.2 has been interpreted to apply only to PWRs, since BWRs nominally operate at coolant saturation and are already equipped with coolant-level detection	b

STAFF RESPONSE TO WIRTEN COMMENTS (Continued)

Clarification Item	Shortened Title	Summary of Comments Received	Summary of Staff Response	Status
II.K.3.14 (continued)	Isolation of isolation condensers on high radiation	2. Substantial design evaluation and modifications are needed to complete this item.	2. The schedule for this item has been changed to allow sufficient time to complete modifications to system.	a
		3. Proposed implementation schedule should be based on realistic vendor delivery dates. Design is not yet finalized; design will be submitted by 1/1/81.	3. Schedules have been revised to be consistent with realistic procurement schedules.	a
II.K.3.24	Confirm adequacy of space cooling for HPCI and RCIC	For plants where space cooling is on emergency power, the item constitutes a new design basis.	The position statement has been revised to address only loss of only loss of offsite power.	a
II.K.3.27	Common reference level for vessel level instrumentation	An extension until the shutdown (spring of 1981) to implement this item is requested.	The requested implementation date is consistent with the 7/1/81 implementing date.	a
II.K.3.30	Revised small-break LOCA methods	A more reasonable completion date of 60 days after issuance of clarification letter (BWR owners group) is recommended.	Schedule revised to allow an additional 45 days.	b
III.A.1.2	Upgrade emergency support facilities	1. Seismic, communications, and availability requirements for the EOF are needed to allow conceptual design. Conceptual design cannot be provided by 1/1/80 because NUREG-0696 has not been issued.	1. NUREG-0696 should be issued by 12/1/80. The schedule has been revised and conceptual designs are to be submitted by 2/1/80.	b
		2. Because the requirements for the emergency response facilities have, not been issued, equipment cannot be procured and installed by the end of 1982.	2. The implementation schedule has been revised to 7/1/82. Comments on NUREG-0696 do not provide substantiation for changing the date beyond this date.	b
		3. Committed early design of emergency response facilities based on old criteria and TSC partially completed that does not meet criteria in NUREG-0696.	3. Staff will consider facilities already completed on a special case-by-case basis to determine if any modification are necessary.	c
		4. Recommends an earlier schedule for the TSC and EOF.	4. Earlier schedule for TSC and EOF appears to be unattainable.	d

STAFF RESPONSE TO WRITTEN COMMENTS (Continued)

Clarification Item	Shortened Title	Summary of Comments Received	Summary of Staff Response	Status
II.F.2 (continued)	Instrumentation for detection of inadequate core cooling	<p>4. Prototype testing of this level device is scheduled to be completed by 3/3/81. Since the Commission's 9/5/80 letter is above and beyond the scope of the current work, a report cannot be provided until 7/1/81 when the present work is completed.</p> <p>5. The qualified Barton transmitters cannot be delivered until May 1981. Temporary unqualified transmitters are physically installed but are not operational, and delivery dates for several electrical instruments are anticipated to be after 1/1/81.</p> <p>6. Since this item is a postimplementation item, submittal date for design information should be changed.</p>	<p>systems. The issue of diversity of ICC detection by adding incore thermocouples is being considered in R.G. 1.97.</p> <p>4. There are provisions in the documentation requirements to identify and commit to later submittals where necessary. However, selected conceptual designs; development, and installation schedules; and contingency plans should be identified in the 1/1/81 submittal.</p> <p>5. The implementation date was revised to 1/1/82 to allow for equipment design, procurement, and delivery. Conceptual design, development, procurement, and installation schedules are to be submitted by 1/1/81.</p> <p>5. Submittal required by 1/1/81 is to provide added assurance that final implementation date of 1/1/82 can be met.</p>	<p>b</p> <p>a</p> <p>d</p>
II.K.3	Final recommendations, B&O task force	Staff should consider comments to be submitted owners group.	The staff encourages owners group participation; however regulatory requirements are imposed on licensees, not vendors.	d
II.K.3.13	Separation of HPCI/RCIC initiation levels	1. BWR owners group has completed its study regarding separation of initiation levels of HPCI and RCIC systems and has forwarded its analyses, conclusions, and recommendations. A meeting is requested to discuss results.	1. Staff has revised the schedule 1/1/81 to allow time for discussion and documentation.	a
II.K.3.14	Isolation of isolation condensers on high radiation	1. A delay of submittal to 10/24/80 is requested to allow review of BWR owners group study.	1. Staff agrees, and has revised the schedule to 1/1/81.	a

STAFF RESPONSE TO WRITTEN COMMENTS (Continued)

Clarification Item	Shortened Title	Summary of Comments Received	Summary of Staff Response	Status
III.A.1.2 (continued)	Upgrade emergency support facilities	5. Recommends that TSCs and EOFs in high seismic areas be seismically qualified.	5. Will be considered in the development of NUREG-0696.	b
		6. A definition of "system unavailability" should be provided for emergency response facilities.	6. Will be considered in development of NUREG-0696.	b
		7. The requirement for OBE seismic qualification of the SPDS is unnecessary and infeasible.	7. Will be considered in development of NUREG-0696.	b
III.D.3.3	Improved inplant iodine instrumentation under accident Conditions	No instrumentation is available; therefore, implementation cannot be met.	Equipment exists which is capable of determining the amount of radiodine collected on sample media.	d
All	General	1. Clarifications should be expanded to include degraded core cooling rulemaking and implementing such rulemaking before fuel loading.	1. Commission Policy Statement of June 16, 1980 confirmed that resolution of degraded core-cooling rulemaking was not required prior to fuel load to assure adequate reactor safety.	d
		2. OLS should be issued only if safety improvements are completed.	2. Commission Policy Statement of June 16, 1980 confirmed that not all post-TMI improvements had to be completed prior to license issuance to assure adequate reactor safety.	N/A
		3. The public meetings could be more useful if more widely publicized, and if more time were allotted for preparation and written comments.	3. It is agreed that the short schedule was difficult for licensees and the public. If future public meetings are held, it is the staff's intention to allow more time and to give wider publicity.	N/A
		4. Frequently, licensee action is required on draft documents. This leads to confusion, duplication, wasted manpower, and it eliminates the balance provided by industry review and comment.	4. It is not the staff's position to require implementation based on draft documents. The staff agrees that industry review and comment is important input in the development of regulatory requirements; this, in fact, was the purpose of the staff's letter of 9/5/80.	a
		5. Submittal schedules should be spread out to unburden licensees and staff resources.	5. Schedules have been revised.	b

STAFF RESPONSE TO WRITTEN COMMENTS (Continued)

Clarification Item	Shortened Title	Summary of Comments Received	Summary of Staff Response	Status
A11 (continued)	General	9. Licensee feels that schedule requirements will lead to less-than-desired results and urges schedule flexibility. Cites problems with Class I electrical cables and need for a new building.	9. The staff agrees and proposes schedule flexibility for good cause shown, provided that the safety improvements are completed on a best-effort expedited schedule.	a

STAFF RESPONSE TO WRITTEN COMMENTS (Continued)

Clarification Item	Shortened Title	Summary of Comments Received	Summary of Staff Response	Status
All (continued)	General	<p>6. The licensee urges the staff to carefully consider new requirements to ensure enhancement of safety, and not to prescribe changes, as well as permit sufficient time for design and review.</p> <p>7. Based on a letter to Chairman Aherne from W. Stratton et al., a licensee suggests that an overestimation of fission products released during accidents needs to be resolved, because it would affect habitability analyses (control room, etc.), iodine monitoring requirements, and potassium iodide availability.</p> <p>8. Imposition of revised requirements places an undue burden because implementation was already well under way. Licensee urges that implementation delays caused by the proposed revisions should be weighed against having the changes implemented promptly.</p>	<p>6. The staff agrees with the comment. The staff does not intend to be prescriptive; however, responding to specific requests from licensees for guidance results in technical detail, which then is often misinterpreted as being overly prescriptive. It is the staff's intention to provide adequate review and design time. Licensee feedback is an important aspect in developing implementation schedules.</p> <p>7. The referenced letter refers to the chemical form of iodine released from the fuel during an accident where a reducing environment is maintained (such as TMI-2). However, if oxidizing conditions prevail (e.g., following a large LOCA), the comments made in the referenced letter do not apply. Because a reducing environment cannot be assured under all conditions, the staff's present (more conservative) assumption of an oxidizing environment is appropriate, while further research concerning the fission product forms under various conditions is underway.</p> <p>8. The intent of the revised requirements is to achieve high levels of safety and adequately protect the public health. Although revisions of requirements may occasionally delay implementation of changes, the added benefits are carefully weighed. Consideration will be given to cases where licensees propose an alternate approach that meets the intent of the requirement.</p>	<p>b</p> <p>b</p> <p>c</p>

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

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OCT 22 1980

MEMORANDUM FOR: Chairman Ahearne
Commissioner Gilinsky
Commissioner Hendrie
Commissioner Bradford

FROM: Harold R. Denton, Director
Office of Nuclear Reactor Regulation *HRD*

THRU: William Dircks, Executive Director for Operations

SUBJECT: CLARIFICATION OF TMI ACTION PLAN REQUIREMENTS

On September 5, 1980, we forwarded to the Commission a copy of a letter with an enclosure containing preliminary clarifications of TMI Action Plan requirements that was being sent to licensees and applicants for their information and review. As a result of regional meetings during the week of September 22 and based on a number of written comments received, the staff has revised the September 5 draft. A copy of the revised letter and enclosure is attached as Enclosure A. Enclosure B contains a copy of written comments received on the September 5 draft. The staff is presently preparing a summary listing analyzing the disposition of each comment. The analysis will be provided to the Commission within a few days.

The revised letter and enclosure is meant to set forth for licensees and OL applicants a complete listing of all TMI-related requirements that have been approved for implementation on ORs and OLs at this time. It imposes requirements on utilities by specifying schedules for providing information to the NRC and schedules for implementation of items, defines any Technical Specification requirements necessary, and identifies items as pre- or post-implementation review items. This document is needed:

- (a) to issue certain approved requirements not previously issued,
- (b) to convert the general intent of each Action Plan topic into a more specific requirement that utilities can readily implement,
- (c) to clarify, and in some cases, to revise the scope of previously issued requirements from Action Plan items and from Category B Short Term Lessons Learned,
- (d) to revise implementation schedules that appear impractical to accomplish, and

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- (e) to develop an overall approach for scheduling the implementation of a large number of items in such a way as to not require unnecessary shutdowns at each operating reactor several times a year.

Several major aspects, from the staff's standpoint, that should be noted are discussed in the following paragraphs. These are provided as a means of summarizing certain principal aspects of this document.

SIGNIFICANT ISSUES

To facilitate review of this document and to highlight selected issues, we have prepared Table 1. It identifies issues which the staff believes warrant special attention.

IMPLEMENTATION APPROACH

Although these requirements were all approved, in principal, in connection with the Action Plan, because of the very large number of items involved and the significance of these items, the staff elected to issue a draft clarification document for a limited comment period on September 5, 1980. In addition, although implementation deadlines were approaching, four regional meetings to promote dialogue were held during the week of September 22, 1980. Although the comment period was brief, and many parties to the regional meetings had limited time to prepare, we believe that these meetings were productive. These meetings produced a large number of wide-ranging comments that the staff considered very valuable in connection with finalizing our requirements. Transcripts of the regional meetings were kept to provide a ready reference to comments received. In addition, written comments received to date are included in Enclosure B.

Regarding scheduling, the staff has examined the impact of the implementation schedules on operating reactors for the items discussed in the enclosed document. Table 2 contains a listing of all items approved for implementation. It shows the implementation schedules: (a) from the Action Plan; (b) from the September 5 draft letter; and (c) from Enclosure A. Included is also an identification of whether or not a requirement has been changed, and a description of the reasons for any schedular changes. After re-evaluation of each individual topic, the staff determined which items were likely to require plant shutdowns to implement. The implementation dates of these items generally fell on two separate dates, i.e., July 1981 and January 1982.

There have been changes in schedules on some items to make most shutdown items coincide with these two dates. Table 3 illustrates implementation schedules for all items, identifying those that may require all plant shutdowns over the next couple of years.

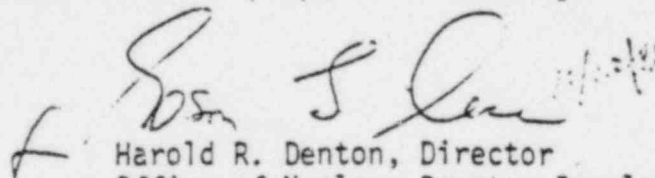
For operating reactors, it is our intention to first send a revised letter to them asking for their commitment to meet all specified dates. Following our evaluation of the responses, the staff will assure that such commitments are appropriately enforceable. This may include, as needed, issuance of Confirmatory or Show Cause Orders. For operating license applicants, it is our intention to continue to follow the guidelines set forth in NUREG-0694 and to have as many items as practicable completed prior to startup with other implementation schedules specified as license conditions.

APPROVED REQUIREMENTS

The items included in this letter were approved for implementation by the Commission in connection with the TMI Action Plan. Several of the items, however, go somewhat beyond the scope defined in the Action Plan; for other items the subset of reactors to which they apply has been changed. Table 4 contains a listing of items in this document that go beyond the requirements in the Action Plan.

The staff requests Commission approval of the proposed clarifications and changes. Upon approval, the clarification letter and its enclosures will be published as NUREG-0737. Since Commission approval of the proposed clarifications and changes would represent a change to the NRC Action Plan, the staff recommends that the Commission issue a notice indicating such changes and extending the comment period provided by the notice dated July 30, 1980 (45 FR 50613). Similarly, since there are changes to the scope of individual items in NUREG-0694, the staff recommends that the Commission change its policy statement on TMI operating license requirements issued June 16, 1980 to include a reference to NUREG-0737.

The staff will also shortly assess whether any similar changes or clarifications should be made with respect to TMI Construction Permit requirements set forth in NUREG-0718 and the related notice of proposed rulemaking.


Harold R. Denton, Director
Office of Nuclear Reactor Regulation

Enclosures:
As Stated

cc: OPE
OGC
SECY