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MINUTES OF THE
COMBINED MEETING OF THE ACRS SUBCOMMITTEES
ON METAL COMPONENTS AND THREE MILE ISLAND, UNIT 1
JANUARY 28, 1983, WASHINGTON, DC

The ACRS Subcommittees on Metal Components and Three Mile Island, Unit 1 met in Room 1046, 1717 H Street, N.W., Washington, D.C. on January 28, 1983. The meeting had several major purposes, including:

1. The Metal Components portion of the meeting was directed at reviewing potential steam generator related generic requirements. These potential requirements are the result of an integration of considerations and recommendations from recent significant experience and from studies conducted over the last few years.

2. The primary purpose of the TMI-1 portion of the meeting was to hear a briefing on the steam generator repair program currently underway at the plant. A brief status report on ACRS comments in the restart reports and overall current schedule towards plant restart was heard.

Notice of this meeting was published in the Federal Register on Tuesday, January 4, 1983 (Attachment A). A copy of the schedule of presentations is Attachment B. A list of attendees is contained in Attachment C. Attachment D is a list of meeting handouts kept with the office copy of these minutes. The meeting was entirely open to the public. Mr. Richard Major was the Designated Federal Employee for this meeting.

Steam Generator Generic Requirements Program - T. Ippolito, NRC Staff

Mr. T. Ippolito presented a status report on the steam generator generic requirements program. The program was initiated to resolve unresolved safety issues A-3, -4, and -5, as well as to address the Ginna steam generator tube rupture event. The Steam Generator generic requirements effort was begun and possible initial recommendations identified in May of 1982. The recommendations were consolidated and a value/impact contractor (Science Applications, Inc.) was chosen in July 1982. The SAI value/impact draft report was issued in September 1982. The Staff's own value/impact will be completed in January 1983. A review by the Committee to Review Generic Requirements and additional ACRS review is expected in several months. Presentation of the requirements to the Commissioners is expected to take place in late March or April.

A list of potential requirements for industry was discussed. These items include some ongoing programs and cover all aspects of plant design and organizational response. Potential requirements were divided into three subcategories: steam generator integrity, plant systems response, and radiological consequences. The following list gives the 12 potential requirements:

Steam Generator Tube Integrity

- Prevent/detect loose parts/foreign objects - (Secondary Side visual inspection and improved quality assurance (QA) procedures during maintenance; loose parts monitoring)
- Stabilize/monitor degraded tubes - Plugged tubes can degrade further, progressive degradation affecting entire tube circumference is of concern.)

- Tube In-Service Inspection (ISI) -(Shorter intervals between inspections, greater scope)
- Improved ECT Techniques - (use differential and absolute modes)
- Primary/Secondary Limits - (standard technical specifications limits for all plants)
- Secondary Water Chemistry - (a secondary water chemistry to minimize steam generator tube degradation specified as a license condition)
- Condenser ISI program - (required if secondary water chemistry levels are exceeded)
- Upper Inspection Ports - (Plants with U-tube steam generators licensed after January 1, 1983 shall install upper inspection ports to enable visual inspection of upper-tube support plate and inner-row U-bend tubes; upper inspection port for operating plants will be evaluated on a case-by-case basis.)

Plant Systems Response

- Reactor Coolant System Pressure Control During Steam Generator Tube Ruptures - (determine optimal means of reducing pressure)
- Safety Injection Signal Reset - (review logic for ESF equipment to minimize loss of function)
- Containment Isolation and Reset - (review response of letdown system to Containment Isolation (CI) and reset signals)

Radiological Consequences

- Use Standard Technical Specification Limit for Iodine Activity.

The Staff has hired SAI as the value/impact contractor. The principal conclusions in the SAI draft value/impact analysis judged the following recommendations as most effective:

- Visual inspection of QA procedures for the secondary side of the steam generator.
- Secondary water chemistry program condenser inservice inspection
- Improved steam generator tube inservice inspection
- Improved eddy current testing techniques

The SAI report also noted that cost is the most significant evaluation criterion. The SAI draft report concluded that there were no potential requirements which provide significant public risk benefit.

The Staff is performing its own value/impact assessment which is nearing completion. The value/impact assessment will identify requirements to be imposed on the industry. It is expected that CRGR and ACRS will be asked to perform further reviews in a month or two.

TMI-1 ONCE THROUGH STEAM GENERATOR REPAIR PROCESS, UPDATE AND RETURN TO SERVICE OVERVIEW - GPU Nuclear Corporation

The following general comments can be made about the steam generator tubes at Three Mile Island-1. All cracks are stress assisted intergranular corrosion with initiation on the primary side surface. Sulfur and chlorine are present as contaminants on the fracture surfaces. Intergranular cracking has been present in all defects metallurgically examined and eddy current examination has been a reliable indicator of crack locations. Destructive examination of 29 removed tubes has shown that incipient cracks are not present (a one-to-one correlation exists between eddy-current tests and destructive testing). Therefore a high degree of eddy current testing reliability has been demonstrated. The inconel microstructure appears typical for the steam generator tubing, and mechanical testing of uncracked tubes shows that the material exceeds minimum specification requirements.

The proposed failure scenario for the steam generator tube damage begins with thiosulfate (a containment spray additive) being introduced to the primary system through redundant but leaking valves. A reduced sulfur species formed during and/or was added after hot functional testing. Water level dropped; oxygen was introduced, and a high concentration of aggressive sulfur species formed in the dry-out region. Cracking occurred in proximity to the dry-out zone. The cracking was discovered when the once-through steam generators were pressurized in a second phase of hot functional testing.

The distribution of the majority of the defects is at the top of the tubes within the upper tube sheet. This has enabled GPU to repair most of the once-through steam generator tubes; those which cannot be repaired will be plugged. Of 31,000 total tubes in the steam generators, 1,178 have been plugged. The repair method for the lesser damaged tubes will be to expand the tubes against the upper tube sheet by explosive (kinetic) expansion. Kinetic expansion was picked over other methods (mechanical roll, hydraulic expansion) because it expands many tubes at once, allows the lowest projected occupational collective dose (person-rem), the technology is well developed, it produces lower residual stress, it is easy to vary the expansion depth, there is good inservice experience, there is confidence in achieving load/leakrate objective, and there has been previous qualification testing at B&W and Foster-Wheeler.

The kinetic expansion process involves two individual explosive bindings. The first expansion pushes the tube against the tube sheet. The second expansion pushes the tube against the sheet to form the joint. Prior to the kinetic expansion the crevice between the tube and the tube sheet is flushed to insure impurities have been removed. The process of kinetic expansion results in a mechanical bond.

Results of a failure-analysis corrosion test program indicated that cracking similar in morphology to that observed in the once-through steam generator was produced in the laboratory under oxidizing conditions but not under reducing (such as operating) conditions. A lithium-to-sulfur ratio >10 inhibited cracking. The material that was used in these tests was either as removed once-through steam generator tubing from TMI-1 or archive tubing that was still available in a sensitized condition. The amount of thiosulfate necessary to originate cracking was 5 ppm.

The reactor coolant system has been examined to see if any other components were affected by sulfur intrusion. Over 1,000 items have been inspected including reactor internals, control rod drive mechanisms and nozzles, safe-end nozzles, and steam generator cladding. No evidence of additional cracking was found.

The repair criteria for the once-through steam generator tubes include: 1) the maximum allowable primary-to-secondary leakage rate for normal operation shall be as low as reasonably achievable and shall allow plant operation within the radioactive effluent limits of the technical specifications; 2) repaired tubes shall sustain, with adequate margins, the design basis loads; and 3) the effects of both repaired and plugged tubes on the thermal and hydraulic performance of the plant and on the structural and vibration adequacy of the steam generator shall be within the acceptance criteria for both normal operating and design-basis accident conditions as specified in the licensing basis documents. The repair criteria stipulates a 6-inch qualified joint. Tubes are expanded using two different size explosive charges. If the lowest defect in a tube is in the first 11 inches the tube is expanded with a 17-inch candle, which holds the explosive charge. If the lowest defect in the tube was in the first 16 inches then the tube is expanded with a 22-inch-long candle. Any tubes with defects below the 22-inch candle range will be plugged.

In summary, the repair process is to flush the secondary side crevice, then heat the crevice to drive out moisture. The steam generator tubes are pre-coated with immunol to aid in cleaning out the debris and residue from the expansion process. A two-step kinetic expansion process is used. Between the kinetic expansion steps the steam generators and tubes are cleared of candle debris with felt plugs. Currently all kinetic expansions have been completed.

Prior to returning the once-through steam generators to service, the tube ends beyond the upper tube sheet weld will be milled. This is to prevent them from becoming loose parts during operation. Tubes that are discovered to leak after repair testing will either be plugged or mechanically expanded. (Mechanical expansion will be used instead of explosive expansion so as to minimize clean-up afterward.) Pre-service testing will include eddy-current testing, as well as cold (bubble test, drip test) and hot leak testing (check for reactor coolant system activity).

TMI, Unit 1 should be ready for functional testing in April of 1983.

NRC STAFF PRESENTATION ON TMI-1 RESTART SCHEDULE

The NRC Staff reviewed the progress of public hearings that are addressing the Commission order of August 9, 1979. The Atomic Safety and Licensing Board proceedings are complete with findings favorable to restart. The Atomic Safety and Licensing Appeals Board reopened the record on the issue of decay heat removal in December 1982. The evidentiary hearing is scheduled for March of 1983. However, the Staff believes an appeal board finding is not necessary for the Commission to decide whether to lift the order.

The Commission excluded psychological stress from the hearing process. This was challenged and won by an intervenor in court. The government has appealed this decision to the Supreme Court. Oral arguments will be made around March 1983. A Supreme Court decision is anticipated about June 1983. It is expected that the steam generator repair will be completed by mid-March 1983.

Once-Through Steam Generator/Plant Safety

When the once-through steam generators are returned to service, there will be 29,824 tubes in service with no known defects. There will be 1,178 tubes which are plugged and will be out of service. There will be 60 tubes in service with known defects. These defects are less than 40% through wall and less than a 90% arc around the circumference of the tubes. The tubes with defects are being left in so that a determination can be made as to whether there is additional crack propagation in the future. It is GPU's contention that the performance of the generators meets or exceeds all the original design objectives. The safety assessment of the steam generators is that they are in fundamentally the same condition as when the plant went into service.

Among the actions taken to prevent chemically assisted crack growth are removal of the source of sodium thiosulfate and other sulfur compounds through a cleanup of the primary coolant, and maintenance of sulfur at less than 0.1 ppm. To reduce the electrochemical potential for crack growth, deaerated conditions during heatup and cooldown will try to be maintained. Lithium will be used as a chemical inhibitor to sulfur attack and will be maintained at a level 10 times that of sulfur or greater. Consideration is being given to the removal of the sulfur from the reactor coolant system surfaces. A chemical process development is in progress and will be implemented if deemed necessary.

GPU is conducting long-term corrosion testing which has its objective duplication of typical plant tests and operational sequences to stimulate the OTSG tube environment and loads. The test, using actual TMI tubing will lead actual plant operations by a minimum of four to six months.

Plant operation was analyzed assuming some primary to secondary leakage would exist. Plant modifications include contamination control such as sump coatings, additional area and airborne radiation monitoring and surge capacity provided by the TMI-2 condensate storage tank during emergency shutdown with high primary to secondary system leak rates.

TMI-1 will operate under conservative guidelines for operation during power or temperature changes to reduce tube end loading to minimize the potential for leakage from existing cracks, and to prevent crack propagation. The following limits will reduce tube end loading: a cooldown limit of 1.67°F/min. and a tube to shell ΔT of 70°F. The plant will be shut down if leakage exceeds 1/3 gpm per steam generator to search for the leak. If leakage cannot be located, shutdown criteria may be increased in 0.1 gpm increments up to the technical specification limit of 1.0 gpm.

Three Mile Island will expand its program for primary water chemistry control. Lithium sulfate, silica, magnesium, and calcium will be added to the monitoring program. (Silica, magnesium, and calcium are contaminants that were never monitored before, and which may be found in the primary system.) Different, more stringent administrative limits will be invoked on the amount of impurities allowed during operating after the steam generator repairs.

There are new tube rupture guidelines being prepared for TMI-1. The new guidance will deal with multiple tube ruptures, ruptures in both steam generators, HPI cooling and secondary water management. Current requirements specify a 50° subcooling margin and a reactor coolant pump trip on high-pressure injection actuation. The proposed TMI-1 guidelines would specify a 20° subcooling margin and a reactor coolant pump trip on loss of subcooling. Benefits from these proposed changes include reactor coolant pumps operating during larger breaks, a lower tube ΔP and a reduced leak rate. The new guidance directs the operator towards a more preferred cooling method depending on system conditions focusing on the amount of leakage. The preferred method is forced circulation, natural circulation is the next preferred mode and HPI cooling last. The Staff has not reviewed the new guidelines. GPU has made no formal submittal of these guidelines to the Staff.

The Subcommittees heard a discussion of whether the reactor coolant primary system should undergo a cleaning process to remove any residual sulfur contamination. GPU is trying to determine whether the risks involved in reducing the sulfur are greater or less than the risks involved in not reducing the levels of sulfur which are on primary side surfaces. The systems and components that are potentially exposed to sulfur contamination on their surfaces, and are being considered for cleaning, are the reactor coolant system primary side surfaces, the letdown makeup system, and the decay heat removal system. With in-specification water chemistry, further steam generator corrosion is not expected with or without reactor primary side cleaning. However, the potential exists during expected transient conditions for change in the oxidation state of sulfur to a metastable sulfur species which may lead to corrosion. These unknowns which increase the uncertainty for predicting the potential for future corrosion include: 1) the total quantity of sulfur in the reactor coolant system, 2) threshold values of deposited sulfur for corrosion of sensitized Inconel 600, 3) conditions producing metastable sulfur states over the lifetime of the plant environments, 4) effect of chemistry transients (e.g., high oxygen, and/or low lithium) on sulfur forms and corrosion behavior. A reactor coolant system cleanup to reduce the levels of sulfur is being considered. The process would convert sulfur in deposits to a soluble form (sulfate) under protective (alkaline) conditions. The sulfate would then be removed from the system by ion exchange. Engineering for reactor coolant system cleaning is being performed. There are further plans to evaluate test data prior to the final decision on the need for reactor coolant system cleaning. The present expectation is that GPU will decide to clean.

The TMI-1 Restart Test Program was described. Among the purposes of the program is a provision for deliberate, methodical, well-planned verification of proper modification, installation and performance jof the steam generators in accordance with plant design. The restart test program will also provide valuable operator training and experience. It will also be possible to determine plant transient response characteristics and to be able to verify the acceptability of integrated plant operation with modified systems and components.

NRC Staff Comments on Steam Generator Repairs and ACRS Restart Reports

The Staff noted that they are reviewing the steam generator repair program in detail. The review encompasses significant involvement from a number of different divisions within the NRC Staff. The Staff expects to complete its evaluation in time to support restart schedule proposed by GPU.

The Staff reviewed comments made in the ACRS restart letter of July 14, 1981. One recommendation was that managerial capabilities at TMI-1 should be diligently maintained. The Staff has reviewed the GPU management system and capability twice, once as part of the hearing proceedings and, again, as part of a license amendment request. In addition, GPU is under the Systematic Assessment of Licensee Performance program. GPU's management and operations will be reviewed yearly. The second area of concern to the Committee was inadequate core cooling instrumentation. In the case of GPU, as with all B&W owners, the Staff issued an order in December 1982 which requires the installation of subcooling monitors, core exit thermocouples, and reactor coolant inventory measurement systems. The response from the licensee to this order is pending. Another ACRS concern dealt with a reliability assessment of TMI-1. In previous correspondence, GPU has committed to start a probabilistic risk assessment (PRA) by the end of 1981; however, such a study has not yet begun. When the PRA is completed the Staff will request GPU to submit the results of the study to the Staff for review. Currently GPU does plan to include external events as accident-initiators in their PRA study.

The ACRS also recommended a DC-power-supply study be performed. Currently the NRC is preparing direct guidance to licensees for conducting such a study. The NRC is looking at the value/impact analysis and cost-benefit that will result if such a study is required.

The Committee suggested that GPU evaluate ECCS system outage times at TMI-1. The licensee conducted and submitted analyses on such a study. The Staff has reviewed the study and concluded that TMI-1 has less than the average industry outage times. The Staff has concluded that no further corrective action is necessary. The ACRS recommended that plant security should be given special attention. Currently the Staff believes that there is no security issue which is active that would prevent startup of the plant. The Committee also recommended that any issues in the startup test program should be resolved. The Staff has reviewed and, on December 21, 1982, approved the startup test program for TMI-1. However, the steam generator tube testing program still remains an issue which will require separate action.

At the conclusion of the meeting, the Subcommittee members and consultants concluded that appropriate actions were being taken by GPU towards restart. Further ACRS actions included recommending that the Subcommittee Chairmen report to the Full Committee on the status of the TMI-1 restart program.

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NOTE: A complete transcript of the meeting is available in the NRC's Public Document Room at 1717 H St., N.W., Washington, DC, 20555, or can be obtained at cost from Alderson Reporting, 400 Virginia Ave., S.W., Washington, DC (202) 554-2345.

applicable to all operating license applications and that therefore this new guidance on emergency response capability is applicable to all operating license applications.

The supplement to NUREG-0737 is available upon request from the following sources: GPO Sales Program, Division of Technical Information and Document Control, U.S. Nuclear Regulatory Commission, Washington, D.C. 20555, or the National Technical Information Service, Springfield, Virginia 22161.

Dated at Washington, D.C., this 28th day of December 1982.

For the Nuclear Regulatory Commission.

Samuel J. Chilk,

Secretary of the Commission.

[FR Doc. 83-47 Filed 1-3-83; 8:45 am]

BILLING CODE 7590-01-M

Advisory Committee on Reactor Safeguards, Subcommittee on Decay Heat Removal System; Meeting

The ACRS Subcommittee on Decay Heat Removal Systems will hold a meeting on January 27, 1983, in Room 1046, 1717 H Street, NW, Washington, DC. The Subcommittee will review the status of Task Action Plan A-45, "Shutdown Decay Heat Removal Requirements" and the decay heat removal Capabilities of Combustion Engineering plants with the emphasis on the CESSAR System 80 type of design. Notice of this meeting was published December 22.

In accordance with the procedures outlined in the Federal Register on October 1, 1982 (47 FR 43474), oral or written statements may be presented by members of the public, recordings will be permitted only during those portions of the meeting when a transcript is being kept, and questions may be asked only by members of the Subcommittee, its consultants, and Staff. Persons desiring to make oral statements should notify the Designated Federal Employee as far in advance as practicable so that appropriate arrangements can be made to allow the necessary time during the meeting for such statements.

The entire meeting will be open to public attendance except for those sessions which will be closed to protect proprietary information (Sunshine Act Exemption 4). One or more closed sessions may be necessary to discuss such information. To the extent practicable, these closed sessions will be held so as to minimize inconvenience to members of the public in attendance.

The agenda for subject meeting shall be as follows:

Thursday, January 27, 1983—8:30 a.m. until the conclusion of business.

During the initial portion of the meeting, the Subcommittee, along with any of its consultants who may be present, will exchange preliminary views regarding matters to be considered during the balance of the meeting.

The Subcommittee will then hear presentations by and hold discussions with representatives of the NRC Staff, their consultants, and other interested persons regarding this review.

Further information regarding topics to be discussed, whether the meeting has been cancelled or rescheduled, the Chairman's ruling on requests for the opportunity to present oral statements and the time allotted therefor can be obtained by a prepaid telephone call to the cognizant Designated Federal Employee, Mr. Anthony Cappucci (telephone 202/634-3267) between 8:15 a.m. and 5:00 p.m., EST.

I have determined, in accordance with Subsection 10(d) of the Federal Advisory Committee Act, that it may be necessary to close portions of this meeting to public attendance to protect proprietary information. The authority for such closure is Exemption (4) to the Sunshine Act, 5 U.S.C. 552b(c)(4).

Dated: December 28, 1982.

John C. Hoyle,

Advisory Committee Management Officer.

[FR Doc. 83-101 Filed 1-3-83; 8:45 am]

BILLING CODE 7590-01-M

Advisory Committee on Reactor Safeguards, Subcommittees on Metal Components/Three Mile Island; Meeting

The Combined ACRS Subcommittees on Metal Components/Three Mile Island will hold a meeting on January 28, 1983, Room 1046, 1717 H Street, NW., Washington, DC. The Subcommittees will review the proposed NRC Steam Generator Generic Recommendation Report and the TMI-1 steam generator problems and fixes. Notice of this meeting was published December 22.

In accordance with the procedures outlined in the Federal Register on October 1, 1982 (47 FR 43474), oral or written statements may be presented by members of the public, recordings will be permitted only during those portions of the meeting when a transcript is being kept, and questions may be asked only by members of the Subcommittees, their consultants, and Staff. Persons desiring to make oral statements should notify the Designated Federal Employee as far in advance as practicable so that appropriate arrangements can be made to allow the necessary time during the meeting for such statements.

The entire meeting will be open to public attendance except for those sessions during which the Subcommittees finds it necessary to discuss proprietary and Unclassified Safeguards information. One or more closed sessions may be necessary to discuss such information. (SUNSHINE ACT EXEMPTIONS 3 and 4). To the extent practicable, these closed sessions will be held so as to minimize inconvenience to members of the public in attendance. The agenda for subject meeting shall be as follows:

Friday, January 28, 1983—8:30 a.m. until the conclusion of business.

During the initial portion of the meeting, the Subcommittees, along with any of their consultants who may be present, may exchange preliminary views regarding matters to be considered during the balance of the meeting.

The Subcommittees will then hear presentations by and hold discussions with representatives of the NRC Staff, their consultants, and other interested persons regarding this review.

Further information regarding topics to be discussed, whether the meeting has been cancelled or rescheduled, the Chairman's ruling on requests for the opportunity to present oral statements and the time allotted therefor can be obtained by a prepaid telephone call to the cognizant Designated Federal Employee, Mr. Elpidio Igne or Mr. Richard Major (telephone 202/634-1414) between 8:15 a.m. and 5:00 p.m., EST.

I have determined, in accordance with Subsection 10(d) of the Federal Advisory Committee Act, that it may be necessary to close some portions of this meeting to protect proprietary and Unclassified Safeguards information. The authority for such closure is Exemptions (3) and (4) to the Sunshine Act, 5 U.S.C. 552b(c) (3), (4).

Dated: December 28, 1982.

John C. Hoyle,

Advisory Committee Management Officer.

[FR Doc. 83-102 Filed 1-3-83; 8:45 am]

BILLING CODE 7590-01-M

PENSION BENEFIT GUARANTY CORPORATION

Public Information Collection Requirements Submitted to OMB for Review

On November 17, 1982, the Pension Benefit Guaranty Corporation (PBGC) submitted the following public information collection requirement to

ATTACHMENT A

TENTATIVE SCHEDULE FOR THE
JANUARY 28, 1983
COMBINED MEETING OF ACRS SUBCOMMITTEES ON
METAL COMPONENTS/THREE MILE ISLAND, UNIT 1
WASHINGTON, D.C.

8:30 a.m.	I. Chairmen's Introduction		Shewmon/Moeller
8:40 a.m.	II. Steam Generator Generic Requirements Program		(Staff)
	A. Background/History		
	B. Status - Where things stand today		
	C. Potential Requirements for Industry (the 12 Staff recommendations)		
	D. Related Staff Actions and Studies		
	E. Summary of Steam Generator Owners Group Comments and Comments from TVA and Wisconsin Public Service Corp.		
	F. Bases for Staff Value/Impact Evaluation (including discussion of multiple tube failures and failures in multiple steam generators		
	G. SAI Draft Value 1 Impact Analysis - Principal Conclusions		
	H. Conclusions		
10:45 a.m.	* * * * * * BREAK * * * * * *		
11:00 a.m.	III. TMI-1 Steam Generator Recovery Program	(20 min.)	GPU & Staff
	A. Current Schedule Towards Restart - including issues which could delay restart other than physical plant modifications		
	B. Steam Generator Recovery Program		GPU
	1. Introduction		
	2. Summary of Damage	(20 min.)	
	3. Summary of Failure Analysis (cause of failures)	(20 min.)	
12:00 Noon	* * * * * * LUNCH * * * * * *	(1 hr.)	

ATTACHMENT B

1:00 p.m.	4. Repair Process	(1 hr.)	
	a. Method		
	b. Qualification Program		
	c. Plans for plugging tubes		
	d. Current Status - schedule		
	e. Test program and inspection associated with repair		
2:00 p.m.	5. Plant Safety Review (Why Continued Operation is Acceptable)	(1 hr.)	
	a. Logic		
	b. Why tubes in service are acceptable		
	c. Long-term Corrosion Testing		
	d. Plant Performance (thermal/hydraulics)		
3:00 p.m.	* * * * * * BREAK * * * * * *		
3:05 p.m.	6. Plant Sulfur Contamination/Chemical Cleaning	(20 min.)	
3:25 p.m.	7. Startup Program (Extra steam generator related tests)	(15 min.)	
3:45 p.m.	8. Plant Operations	(1 hr.)	
	a. Special Limits (e.g., leakage, cool-down rate)		
	b. Operating Chemistry (monitoring)		
	c. Operation with leakage (what to expect)		
	d. Procedures and Training: (tube rupture events)		
4:45 p.m.	C. Comments on ACRS Restart Letters		GPU & Staff
5:00 p.m.	ADJOURN		

ATTACHMENT C
LIST OF ATTENDEES
COMBINED MEETING OF ACRS SUBCOMMITTEES ON
METAL COMPONENTS/THREE MILE ISLAND, UNIT 1
JANUARY 28, 1983

ACRS

P. Shewmon
D. Moeller
R. Axtmann
H. Etherington
D. Ward
P. Davis, Consultant
T. Kassner, Consultant
Z. Zudans, Consultant
R. Major, Staff

GPU Nuclear

D. Croneberger
M. Graham
R. Wilson
E. Wallace
T. Broughton
P. Clark
J. Fidler
T. Hawkins
G. Von Nieda
D. Slear
P. Walsh
R. Nrioig
J. Carroll
R. Barley
F. Giacobbe

NRC Staff

T. Ippolito
T. Marsh
P. Norian
C. McCracken
J. Strosnider
L. Frank
E. Murphy
R. Wessman
R. Jacobs
J. Stolz
J. Van Vliet

B&W

J. Pearson
C. Creacy
R. Baker
R. Borsum
J. Taylor

Others

C. Brown, McGraw-Hill
J. Lang, EPRI/NSAC
N. Chapman, Bechtel
C. Ader, SWEC
G. Whiteman, Westinghouse
H. Clark, Westinghouse
J. Morehover, SAI
R. Lines, SAI

ATTACHMENT D
LIST OF MEETING HANDOUTS
COMBINED MEETING OF ACRS SUBCOMMITTEES ON
METAL COMPONENTS/THREE MILE ISLAND, UNIT 1
JANUARY 28, 1983

1. Slides used by T. Ippolito, NRC Staff - ACRS Subcommittee Briefing Jan. 28, 1983, Steam Generator Generic Requirements Program, Slides 1 through 10.

2. Slides used by Dave Slear, GPU Nuclear - TMI-1 Once-Through Steam Generator Repair Process Update, Return to Service Overview, ACRS Subcommittees, Jan. 28, 1983, Slides 1 through 34.

3. Jim Van Vliet, NRC Staff - TMI Restart Schedule, Major Factors, Slides 1 through 5.

4. R. Wilson, GPU - OTSG/Plant Safety, Slides 1 through 22.

5. Slides used by T. Broughton, GPU - Operational Considerations, Slides 1 through 16.

6. Slides used by G. Von Nieda, GPU - Review of Information Concerning Need for Reactor Cooland System Cleaning at TMI-1, Slides 1 through 18.

7. Slides used by T. Hawkins, GPU - TMI-1 Restart Test Program, Slides 1 through 8.

8. Slides used by J. Van Vliet, NRC - ACRS Restart Letters: ACRS Letter dtd 7/14/81, Staff Response Ltr dtd 9/17/81, Slides 1 through 3.

9. Slide used by P. Clark, GPU - Third Party Review, one slide.