

105

DEC 12 1991

Docket No. 50-209

Mr. T. Gary Broughton
Director, TMI-1
GPU Nuclear Corporation
Three Mile Island Nuclear Station
P. O. Box 480
Middletown, Pennsylvania 17057-0191

Dear Mr. Broughton:

SUBJECT: ENFORCEMENT CONFERENCE ON FUEL MOVEMENT WITHOUT ESTABLISHING
CONTAINMENT ISOLATION (INSPECTION REPORT NO. 50-289/91-27)

An Enforcement Conference was held on November 20, 1991, at the Region I office conducted by myself with you and other members of our staffs. A summary of that meeting is enclosed.

We will be contacting you in the future concerning our disposition of these matters. No reply to this letter is required. Your cooperation with us in this matter is appreciated.

Sincerely

Original Signed By:
Marvin W. Hodges

Marvin W. Hodges, Director
Division of Reactor Safety

Enclosure: Enforcement Conference Meeting Report w/Attachment

Attachment: Licensee's November 20, 1991, Presentation

cc w/encl:

- R. E. Rogan, Licensing and Nuclear Safety Director
- M. R. Knight, TMI1 Licensing Engineering
- M. J. Ross, Operations and Maintenance Director, TMI-1
- G. A. Kuehn, TMI-2 Site Operations Director
- J. S. Shork, Manager, TMI-2 Licensing
- J. A. Knubel, Licensing and Regulatory Affairs Director
- E. L. Blake, Jr., Esquire
- I. H. Jolles, Esquire
- TMI-Alert (TMIA)
- Public Document Room (PDR)
- Local Public Document Room (LPDR)
- Nuclear Safety Information Center (NSIC)
- NRC Resident Inspector
- Commonwealth of Pennsylvania

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bcc w/.ncl:
 Region I Docket Room (with concurrences)
 Management Assistant, DRMA (w/o encl)
 M. Hodges, DRS
 W. Lanning, DRS
 L. Bettenhausen, DRS
 J. J-yner, DRSS
 P. f 'gnoth, DRS
 W. and, DRP
 E. Wenzinger, DRP
 Regional Coordinator, RI, EDO
 R. Hernan, NRR/PD 1-4
 P. Bissett, DRS
 L. Briggs, DRS

DRS Files (3)

RI:DRS <i>dmg</i>	RI:DRS <i>LB</i>	RI:DRS <i>LB</i>	RI:DRP <i>LB</i>	RI:DRS <i>LB</i>	DRS:DRS <i>LB</i>	RI:DRS <i>mins</i>
Bissett/dmg	Briggs	E. J-yner	RuTand	Bet. Hausen	Lanning	Hodges
12/3/91	12/5/91	12/6/91	12/6/91	12/6/91	12/9/91	12/11/91

THREE MILE ISLAND
NUCLEAR GENERATING STATION

TMI-1 ENFORCEMENT CONFERENCE
NOVEMBER 20, 1991

AGENDA

- I. INTRODUCTION T. G. BROUGHTON
DIRECTOR TMI-1
- APPARENT VIOLATION
 - GPUN RESPONSES
- II. EVENT DESCRIPTION M. J. ROSS
DIRECTOR O&M
- PLANNED REFUELING ACTIVITIES
 - FUEL MOVEMENT CONTROLS
 - ACTUAL CHRONOLOGY
 - CHRONOLOGY DESCRIPTION
- III. EVENT ASSESSMENT M. J. ROSS
- ROOT CAUSES
 - CORRECTIVE ACTIONS TO PREVENT RECURRENCE
- IV. SAFETY SIGNIFICANCE M. A. NELSON
MGR NUCLEAR SAFETY
- V. REPORTABILITY M. A. NELSON
- VI. MITIGATING FACTORS R. E. ROGAN
TMI LICENSING DIR
- VII. SUMMARY / CONCLUSION T. G. BROUGHTON
DIRECTOR TMI-1

INTRODUCTION

- o THREE APPARENT VIOLATIONS WERE IDENTIFIED:
 - MOVEMENT OF FUEL WITHOUT HAVING FIRST ESTABLISHED "CONTAINMENT INTEGRITY."
 - FAILURE TO NOTIFY THE NRC IN ACCORDANCE WITH 10 CFR 50.72, A FOUR HOUR REPORTING REQUIREMENT.
 - FAILURE TO ADEQUATELY REVIEW THE SURVEILLANCE PROCEDURE BEING USED BY THE OPERATORS.

- o GPUN AGREES THAT THERE WAS A VIOLATION OF TECHNICAL SPECIFICATION 3.8.6.

- o GPUN AGREES THE PROCEDURE WHILE TECHNICALLY SOUND WAS DEFICIENT IN ITS ADMINISTRATIVE CONTROL OF FUEL MOVEMENT.

- o GPUN AGREES THAT THE FACTS PRESENTED IN THE INSPECTION REPORT ARE ACCURATE, WITH SOME MINOR EXCEPTIONS.

- o GPUN RECOGNIZES THAT THE OPERATORS DID NOT ADEQUATELY PREPARE FOR THIS EVOLUTION.

- o GPUN DISAGREES THAT THE EVENT INVOLVED THE FOUR HOUR NOTIFICATION REQUIREMENTS OF 10 CFR 50.72.

PLANNED REFUELING ACTIVITIES

SHIFTS

10 PM - 8 AM

6 AM - 4 PM

2 PM - 12 AM

PROCEDURE
RP 1505-1

PREREQUISITES

REFUELING
BRIEFING

REFUELING OPERATIONS

PROCEDURE
SP 1303-11. .

6.3.1

6.3.2

6.3.3

6.3.4

6.3.5

6.3.6

6.3.3.1



FUEL MOVEMENT CONTROLS

- 0 REFUELING AT TMI-1 IS PERFORMED BY THE GPUN STAFF PERSONNEL, NOT CONTRACTORS.
- 0 FORMAL PRE-REFUELING TRAINING IS GIVEN TO ALL LICENSED OPERATORS BEFORE EACH REFUELING PERIOD.
- 0 REFUELING EQUIPMENT IS CHECKED OUT AND DETERMINED TO BE OPERABLE PRIOR TO THE START OF REFUELING OPERATIONS.
- 0 INITIAL AND DAILY BUILDING & EQUIPMENT CHECKLISTS ARE MAINTAINED AND SIGNED OFF DURING REFUELING OPERATIONS.
- 0 AN SRO IS STATIONED IN THE REACTOR BUILDING DURING REFUELING OPERATIONS
- 0 AN SRO IS STATIONED IN THE FUEL HANDLING BUILDING DURING REFUELING OPERATIONS TO PROVIDE ADDITIONAL SUPERVISION OF THE REFUELING CREW.
- 0 AN ADDITIONAL SRO IS ASSIGNED AS A TROUBLE-SHOOTER TO FOLLOW REFUELING PROBLEMS

ACTUAL CHRONOLOGY

SHIFTS

10 PM - 8 AM

6 AM - 4 PM

2 PM - 12 AM

PROCEDURE
RP 1505-1

PREREQUISITES

REFUELING
BRIFING

REFUELING OPERATIONS

PROCEDURE
SP 1303-11.4

6.3.1

6.3.2

6.3.3

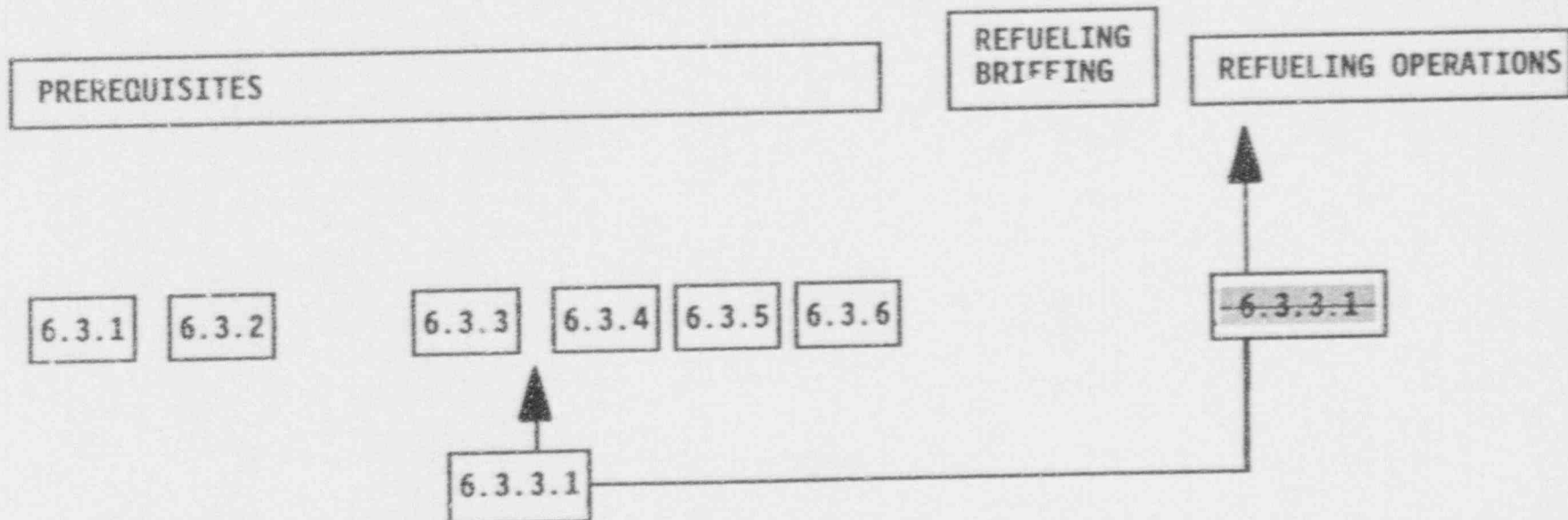
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~~6.3.3.1~~



EVENT DESCRIPTION

CHRONOLOGY

- o ON OCTOBER 8, 1991 TMI-1 WAS IN A REFUELING SHUTDOWN.
- o AN SRO AND CONTROL ROOM OPERATOR (CRO) WERE ASSIGNED AS THE BRIDGE CREW TO COMPLETE SURVEILLANCE PROCEDURE (SP) 1303-11.4 "REFUELING SYSTEM INTERLOCKS," ON DAY SHIFT.
- o THE BRIDGE CREW BEGAN WORK IN SECTION 6.3.3.1, PERFORMANCE OF INTERLOCK CHECKS. THIS SECTION TESTS THE MAIN FUEL BRIDGE HOIST FAST AND SLOW ZONE INTERLOCKS.
- o REFUELING PROCEDURE (RP) 1505-1 "FUEL AND CONTROL COMPONENT SHUFFLES," WHICH CONTAINS PREREQUISITES FOR THE COMMENCEMENT OF FUEL HANDLING, WAS COMPLETED EXCEPT FOR THREE ITEMS - ONE OF WHICH REQUIRES SECURING THE REACTOR BUILDING HATCHES.
- o THE BRIDGE CREW VERIFIED WITH THE CONTROL ROOM THE CORE LOCATION FOR THE FIRST ASSEMBLY TO BE MOVED, POSITIONED THE BRIDGE, AND GRAPPLED ONTO THE FUEL ASSEMBLY.
- o AT APPROXIMATELY 1040 HOURS, THE FUEL ASSEMBLY WAS WITHDRAWN FROM THE CORE COMPLETELY INTO THE FUEL MAST.

EVENT DESCRIPTION

CHRONOLOGY CONT'D.

- o THE LAST STEP OF SP 1303-11.4 SECTION 6.3.3.1 REQUIRES CONTINUATION OF THE FUEL SHUFFLE PURSUANT TO RP 1505-1. AT THIS POINT, THE BRIDGE SRO REALIZED THAT THE REACTOR BLDG. WAS NOT CONFIGURED FOR REFUELING OPERATIONS, AND REINSERTED THE ASSEMBLY INTO THE CORE.

- o WHILE REINSERTING THE ASSEMBLY INTO THE CORE IT WAS IMPEDED FROM FULL INSERTION AT ABOUT 16 INCHES ABOVE THE FULLY INSERTED POSITION. THIS BLOCKAGE OR INTERFERENCE LASTED ONLY A VERY SHORT PERIOD OF TIME BEFORE THE OPERATORS COMPLETED THE INSERTION.

- o AFTER THE DIRECTOR, OPERATIONS AND MAINTENANCE, WAS INFORMED BY THE SHIFT SUPERVISOR THAT A TECH. SPEC. VIOLATION HAD OCCURRED, ALL FUEL HANDLING PREPARATIONS WERE IMMEDIATELY HALTED AND A PRG MEETING WAS CONVENED.

EVENT ASSESSMENT

ROOT CAUSES

o PROCEDURAL WEAKNESSES:

THE PROCEDURE DID NOT REFERENCE THE TECHNICAL SPECIFICATION REQUIREMENTS FOR CONTAINMENT ISOLATION WHICH ARE IMPLEMENTED USING RP 1505-1, INCLUDING THE ESTABLISHMENT OF CONTAINMENT ISOLATION PRIOR TO REFUELING OPERATIONS.

SECTION 6.3.3.1 DID NOT CAUTION THE OPERATORS TO ASSURE THAT THE PREREQUISITES OF RP 1505-1 MUST BE COMPLETED PRIOR TO THE PERFORMANCE OF THE STEPS INVOLVING FUEL MOVEMENT.

SECTION 6.3.3.1 CONTAINED A HEADING "NOTE" WHICH DID NOT CLEARLY SPECIFY THAT THE PROCEDURAL STEPS WHICH FOLLOWED WOULD RESULT IN FUEL MOVEMENT.

THE SEQUENCING OF THE SECTIONS WITHIN THE PROCEDURE ALLOWED THE INDEPENDENT SECTIONS TO BE PERFORMED AS PLANT NEEDS AND CONDITIONS PERMIT; HOWEVER, SECTION 6.3.3.1 SHOULD HAVE BEEN THE LAST TO BE PERFORMED PRIOR TO THE COMMENCEMENT OF THE FUEL SHUFFLE.

EVENT ASSESSMENT

ROOT CAUSES

o PERSONNEL ERRORS:

THE LICENSED OPERATORS (BRIDGE CREW) DID NOT ADEQUATELY PREPARE FOR THE EVOLUTION, IN THAT THEY DID NOT READ THE PROCEDURE FOR UNDERSTANDING OF THE STEPS INVOLVED.

THE BRIDGE CREW AND SOME CONTROL ROOM PERSONNEL DID NOT EXPECT THAT PERFORMANCE OF THE INTERLOCK CHECKS INVOLVED MOVEMENT OF AN IRRADIATED FUEL ASSEMBLY.

THE BRIDGE CREW WAS FOCUSED ON THE PERFORMANCE OF THE HOIST/FUEL MAST TESTS AND DID NOT CONSIDER THE READINESS OF THE REACTOR BUILDING FOR REFUELING OPERATIONS, I.E., THE OPEN AIRLOCK DOORS.

CORRECTIVE ACTIONS TO PREVENT RECURRENCE

o IMMEDIATE ACTIONS TAKEN:

REFUELING OPERATIONS INVOLVING FUEL MOVEMENT WERE NOT PERMITTED UNTIL THE EVENT WAS REVIEWED AND DISCUSSED WITH ALL FUEL HANDLING PERSONNEL AS BRIEFED BY THE REFUELING SROs.

THE DIRECTOR, OPERATIONS AND MAINTENANCE PERSONALLY REVIEWED THE INCIDENT WITH THE PERSONNEL WHO WERE DIRECTLY INVOLVED IN THE EVENT.

A TEMPORARY CHANGE NOTICE WAS ISSUED AGAINST THE SP 1303-11.4 TO IMMEDIATELY CORRECT IT BY:

- o THE ADDITION OF NEW PREREQUISITES IN THE PROCEDURE UNDER SECTION 3.0, "LIMITS AND PRECAUTIONS."
- o REVISION OF THE "NOTE" WHICH HEADS SECTION 6.3.3.1 TO CLEARLY SPECIFY THAT THE SECTION INVOLVES MOVEMENT OF FUEL AND THAT IT SHOULD BE SCHEDULED TO OCCUR WITH MOVEMENT OF THE FIRST FUEL ASSEMBLY.

CORRECTIVE ACTIONS TO PREVENT RECURRENCE
(IMMEDIATE)

TEMPORARY PROCEDURE CHANGES (CONT'D.)

- o THE ADDITION OF A NEW "WARNING" STATEMENT FOLLOWING THE REVISED NOTE, WHICH CALLS ATTENTION TO THE TEST REQUIRING 'ACTUAL MOVEMENT OF A FUEL ASSEMBLY' AND DIRECTING THE SRO IN CHARGE TO ENSURE THAT ALL THE PREREQUISITES OF RP 1505-1 FOR FUEL MOVEMENT ARE MET PRIOR TO PROCEEDING WITH THE TEST.

- o THE ADDITION OF A "WARNING" STATEMENT AT STEP 6.3.3.1.G TO ADVISE OPERATORS THAT THE STEPS WHICH FOLLOW GRAPPLE AND WITHDRAW A FUEL ASSEMBLY FROM THE CORE; AND, AGAIN TO INSURE COMPLIANCE WITH THE REFUELING TECH. SPECS. AND RP 1505-1 PREREQUISITES.

- o ADDITIONAL CHANGES IDENTICAL TO THE ABOVE WERE MADE TO THE PROCEDURAL SECTIONS INVOLVING THE AUXILIARY FUEL BRIDGE.

A PLANT INCIDENT REPORT WAS ISSUED AND REVIEWED BY ALL OPERATIONS PERSONNEL, INCLUDING OFF-SHIFT LICENSEES, PER ADMIN. PROCEDURE 1029, "CONDUCT OF OPERATIONS."

CORRECTIVE ACTIONS TO PREVENT RECURRENCE
(CONTINUED)

o LONG TERM CORRECTIVE ACTIONS PLANNED:

- THE SURVEILLANCE PROCEDURE 1303-11.4 WILL BE REVIEWED AND REVISED WITH THE OBJECTIVES OF STRENGTHENING IT, AND TO INCORPORATE HUMAN FACTORS AND RECOMMENDATIONS.
- THE PROCEDURE WILL CONTAIN THE REVISED NOTES AND WARNINGS DISCUSSED IN THE TCN ABOVE, AS WELL AS, SIGNOFFS OF ALL APPLICABLE PREREQUISITES REQUIRED PRIOR TO MOVEMENT OF IRRADIATED FUEL.
- THE PROCEDURE WILL BE RE-SEQUENCED SUCH THAT THE LAST SECTION REQUIRED TO BE PERFORMED LAST IS LAST.

THE PRE-REFUELING TRAINING CURRICULUM FOR ALL LICENSED OPERATORS WILL INCLUDE A REVIEW OF THIS EVENT AS A PART OF THE "INDUSTRY EXPERIENCE REVIEW" SECTION IN THE TRAINING.

THE TRAINING WILL EMPHASIZE: THE IMPORTANCE OF READING AND UNDERSTANDING THE PROCEDURE PRIOR TO THE EVOLUTION; AND, BEING COGNIZANT OF ALL APPLICABLE PREREQUISITES AND TECHNICAL SPECIFICATIONS.

SAFETY SIGNIFICANCE

EVENT CONDITIONS:

- o ALL OF THE REQUIREMENTS TO ESTABLISH REACTOR BUILDING ISOLATION HAD BEEN ACCOMPLISHED EXCEPT FOR THE OPEN PERSONNEL AND EMERGENCY HATCH DOORS.

- o THE AIRLOCK DOORS WERE OPERABLE AND HAD NO OBSTRUCTIONS WHICH COULD PREVENT IMMEDIATE CLOSURE.

- o THE REACTOR BUILDING PURGE FILTERS WERE TESTED IN ACCORDANCE WITH TECH. SPEC. 14.12.2 IN AUGUST, 1991.

- o RADIATION MONITORS RM-A9, RM-G6, AND RM-G7 WERE OPERABLE.

- o THE PURGE VALVE INTERLOCK WITH RM-A9 WAS TESTED WITHIN ONE WEEK PRIOR TO REFUELING OPERATIONS.

- o COMMUNICATIONS EXISTED BETWEEN THE BRIDGE CREW AND THE CONTROL ROOM, WHICH WOULD HAVE SUPPORTED AN IMMEDIATE RESPONSE TO ANY FUEL HANDLING ACCIDENT SHOULD SUCH AN EVENT HAVE OCCURRED.

- o EVACUATION FROM THE REACTOR BUILDING IF REQUIRED WOULD HAVE BEEN UNIMPEDED.

SAFETY SIGNIFICANCE
(CONTINUED)

EVENT CONDITIONS (CONT'D.):

- o THE EVENT INVOLVED ONLY ONE FUEL ASSEMBLY FOR A SHORT PERIOD OF TIME.

RELEASE CONTROLS:

- o A REACTOR BUILDING PURGE WAS IN PROGRESS, AND AS A RESULT AIR FLOW WAS INTO THE CONTAINMENT THROUGH THE OPEN AIRLOCK DOORS.
- o IN THE EVENT OF A RADIATION RELEASE INSIDE THE REACTOR BUILDING, THE PURGE VALVES WOULD HAVE ISOLATED UPON A HIGH RADIATION SIGNAL.
- o AIR FLOW THEN WOULD HAVE CONTINUED TO ENTER THE REACTOR BUILDING THROUGH THE EMERGENCY HATCH, OUT THE PERSONNEL HATCH, INTO THE AUXILIARY BUILDING AND THEN OUT THROUGH QUALIFIED AND MONITORED EXHAUST FILTERS TO ATMOSPHERE.
- o PERSONNEL WOULD EXIT THE REACTOR BUILDING CLOSING THE AIRLOCK DOORS ON EGRESS. ACTIVITY WOULD THEN BE CONTAINED, UNTIL A DELIBERATE RELEASE WAS MADE.

SAFETY SIGNIFICANCE
(CONTINUED)

UFSAR ANALYSIS:

- o THE TMI-1 UFSAR TAKES NO CREDIT FOR THE ISOLATION OF CONTAINMENT IN ITS ANALYSIS OF THE FUEL HANDLING ACCIDENT IN CHAPTER 14.
- o THE UFSAR FUEL HANDLING ACCIDENT ASSUMES THAT ONLY 72 HOURS HAVE ELAPSED PRIOR TO THE EVENT. IN THIS EVENT, MORE THAN 256 HOURS HAD ELAPSED.
- o THE UFSAR ACCIDENT ANALYSIS ASSUMES NO DILUTION, MIXING OR HOLDUP PRIOR TO ITS FILTERED RELEASE TO ATMOSPHERE AS A GROUND LEVEL PUFF.
- o THE UFSAR CALCULATED 2 HR DOSE IS 62.3 REM THYROID.

CONCLUSION:

- o ANALYSIS USING THE ACTUAL DECAY TIME AFTER SHUTDOWN AND ACTUAL ATMOSPHERIC DISPERSION FACTOR RESULTS IN A CALCULATED 2 HR DOSE OF 0.227 REM THYROID.
- o WITH THE ABOVE CORRECTIONS, AND ASSUMING NO EFFLUENT FILTRATION, THE CALCULATED DOSE TO THYROID WOULD BE 0.748 REM.
- o IF A FUEL HANDLING ACCIDENT HAD OCCURRED, OFFSITE DOSE WOULD HAVE BEEN SIGNIFICANTLY LESS THAN THAT CALCULATED IN THE UFSAR ACCIDENT ANALYSIS.

REPORTABILITY

o REPORTABILITY REVIEW PROCESS:

THE PRG PROMPTLY REVIEWED THE EVENT AND THE REPORTING CRITERIA AND CONCLUDED THAT T.S. 3.8.C WAS VIOLATED. THE NDC SITE RESIDENT OFFICE WAS THEN PROMPTLY ADVISED.

NRC REGION I ASKED GPUN TO RECONSIDER THE 10 CFR 50.72 CRITERION: "ANY EVENT OR CONDITION THAT ALONE COULD HAVE PREVENTED THE FULFILLMENT OF THE SAFETY FUNCTION OF STRUCTURES OR SYSTEMS THAT ARE NEEDED TO: ... (c) CONTROL THE RELEASE OF RADIOACTIVE MATERIAL."

THE PRG MET AGAIN AND EVALUATED THE EVENT AGAINST THE CRITERION AND CONCLUDED THAT IT WAS NOT APPLICABLE.

A SUBSEQUENT INDEPENDENT REPORTABILITY REVIEW BY GPUN CORPORATE LICENSING RESULTED IN A CONCLUSION THAT THE 4 HR REPORTING CRITERION OF 10 CFR 50.72 DID NOT APPLY.

o RESULTS:

NO FOUR HOUR REPORT WAS MADE. LER 91-004-00 WAS SUBMITTED ON NOVEMBER 7, 1991.

REPORTABILITY
(CONTINUED)

o NUREG 1022 GUIDANCE:

THE UFSAR ANALYSIS OF A FUEL HANDLING ACCIDENT INSIDE CONTAINMENT STATES "NO CREDIT WAS TAKEN FOR REACTOR BUILDING ISOLATION." NUREG 1022 INDICATES THAT INOPERABILITY OF A SYSTEM IS NOT REPORTABLE UNDER THIS SECTION OF 10 CFR 50.72, IF THE PLANT'S SAFETY ANALYSIS TOOK NO CREDIT FOR OPERATION OF A SYSTEM. (SEE NUREG 1022, PAGE C-7; AND, SUPP I, ITEM 7.14.)

THE AIRLOCK DOORS WERE OPERABLE, ALBEIT OPEN. PERSONNEL LEAVING THE REACTOR BUILDING WOULD HAVE CLOSED THE DOORS IN THE EVENT OF A FUEL HANDLING ACCIDENT. NUREG 1022 INDICATES THAT REASONABLE OPERATOR ACTIONS TO CORRECT A MINOR PROBLEM MAY BE CONSIDERED IN DETERMINING REPORTABILITY. (SEE SUPP I, ITEM 7.6.)

THE GUIDANCE IN NUREG 1022 DEALS PRIMARILY WITH THE POTENTIAL TO DISABLE BOTH TRAINS OF A SAFETY SYSTEM. IF A SYSTEM IS NOT REQUIRED TO MEET THE SINGLE FAILURE CRITERION, THEN THE SYSTEM DOES NOT PERFORM A "SAFETY FUNCTION" IN THE CONTEXT OF THE RULE. (SEE SUPP I, ITEM 7.13.) REACTOR BUILDING ISOLATION IS NOT REQUIRED TO MEET THE SINGLE FAILURE CRITERION, AS ONLY ONE DOOR ON EACH AIRLOCK MUST BE CLOSED DURING REFUELING OPS.

MITIGATING FACTORS

o IDENTIFICATION AND REPORTING

SELF IDENTIFIED

PROMPTLY REPORTED TO THE NRC SITE RESIDENT OFFICE.

THE DETERMINATION OF REPORTABILITY WAS PROMPTLY MADE BY THE PLANT REVIEW GROUP.

o CORRECTIVE ACTIONS TAKEN TO PREVENT RECURRENCE

NO REFUELING OPERATIONS WERE PERFORMED UNTIL THE EVENT WAS DISCUSSED WITH ALL FUEL HANDLING PERSONNEL BY THE REFUELING SROs.

A TEMPORARY CHANGE NOTICE WAS ISSUED TO CORRECT THE PROCEDURE.

A PLANT INCIDENT REPORT WAS ISSUED AND REVIEWED BY ALL OPERATIONS PERSONNEL

A COMPREHENSIVE HPES REVIEW WAS CONDUCTED BY THE INDEPENDENT ONSITE SAFETY REVIEW GROUP.

THE LONG TERM ACTIONS PREVIOUSLY DISCUSSED HAVE BEEN PLANNED TO ADDRESS THE EVENT.

o PAST PERFORMANCE

AN EVENT OF SIMILAR NATURE HAS NOT OCCURRED AT TMI-1 IN THE PAST EIGHT (8) REFUELING OUTAGES PRIOR TO THE 9R OUTAGE.

MITIGATING FACTORS
(CONTINUED)

o PRIOR NOTICE OF SIMILAR EVENTS

THERE HAVE BEEN NO PRIOR NOTICES OF A SIMILAR EVENT AT OYSTER CREEK WHICH WOULD HAVE PROVIDED AN OPPORTUNITY TO TAKE EFFECTIVE PREVENTIVE STEPS.

GPUN IS NOT AWARE OF ANY PRIOR INDUSTRY NOTICES OF SIMILAR EVENTS. SUCH EVENTS COULD HAVE OCCURRED BUT MAY NOT HAVE BEEN REPORTED DUE TO THE LICENSEE'S INTERPRETATION OF THEIR TECHNICAL SPECIFICATIONS.

o DURATION OF VIOLATION

THIS EVENT WAS EXTREMELY SHORT LIVED.

SUMMARY & CONCLUSIONS

- o T.S. 3.8.6 WAS VIOLATED, AS A RESULT OF PROCEDURAL WEAKNESSES AND PERSONNEL ERRORS.
- o GPUN WAS QUICK TO IDENTIFY THE VIOLATION
- o GPUN PROMPTLY EVALUATED THE REPORTABILITY OF THE EVENT
- o GPUN PROMPTLY INFORMED THE NRC SITE RESIDENT OFFICE OF THE EVENT
- o GPUN INSTITUTED BOTH SHORT TERM AND LONG TERM CORRECTIVE ACTIONS TO ADDRESS THE EVENT
- o GPUN REPORTED THE EVENT BY LER 91-004-00, AS REQUIRED BY 10 CFR 50.73
- o GPUN CONCLUDED THAT THE EVENT WAS NOT REPORTABLE UNDER 10 CFR 50.72
- o THE LESSONS LEARNED FROM THIS EVENT WILL BE INCORPORATED INTO REQUISITE TRAINING FOR ALL OPERATORS
- o BASED ON GPUN'S EVALUATION OF THE EVENT, THE SAFETY SIGNIFICANCE WAS DETERMINED TO BE MINIMAL.

INSPECTION REPORT 91-27 COMMENTS

1. IT IS GPUN'S OPINION THAT THE USE OF THE TERM "CONTAINMENT INTEGRITY" WAS INAPPROPRIATE AS CITED IN THE VIOLATION, AND THE BODY OF THE REPORT (14 TIMES).

THE DIFFERENCE BETWEEN "CONTAINMENT INTEGRITY" AND "CONTAINMENT ISOLATION" DURING REFUELING SHOULD BE CLARIFIED. CONTAINMENT INTEGRITY REQUIREMENTS ARE DELINEATED IN TECHNICAL SPECIFICATIONS 1.7 AND 3.6, AS APPLICABLE TO REACTOR CONDITIONS OTHER THAN REFUELING. DURING THE HANDLING OF IRRADIATED FUEL IN THE REACTOR BUILDING THE ISOLATION REQUIREMENTS OF TECHNICAL SPECIFICATIONS 3.8.6 AND 3.8.7 APPLY.

2. IN DETAILS SECTION 1.0 AND SECTION 2.0 (PAGE 3, PARA 3) REFERENCE TO TIME THE RESIDENT INSPECTOR WAS INFORMED OF THE EVENT WAS CLOSER TO 11:45AM THAN "AT ABOUT 11:30"

3. IN SECTION 2.0 (PAGE 3, PARA 2), THE EVENT DESCRIPTION INCORRECTLY STATES THAT THE OPERATORS "WERE EXPERIENCING DIFFICULTY GETTING THE ASSEMBLY STARTED BACK INTO THE E-14 CORE LOCATION." (2 PLACES)

IN ACTUALITY, THERE WAS NO DIFFICULTY EXPERIENCED IN GETTING THE FUEL ASSEMBLY STARTED BACK INTO THE CORE; RATHER, THE ASSEMBLY HUNG-UP MOMENTARILY DURING INSERTION ABOUT 16 INCHES FROM THE BOTTOM OF THE CORE. SEE DETAILS CONTAINED IN THE LER 91-004-00.

4. SECTION 2.0 (PAGE 4, PARA 1) TYPO - PROCEDURE 1303-11.4 REVISION LEVEL IS 24 NOT "REV 14."
5. SECTION 2.0 (PAGE 4, PARA 5) DELETE THE WORD "NEW" DESCRIBING THE SURVEILLANCE PROCEDURE.
6. SECTION 4.0 (PAGE 6, PARA 1) STATES THAT THE LCO "REQUIRES EMERGENCY HATCHES TO BE CLOSED 'AT ALL TIMES, ...'" THE WORDS "AT ALL TIMES" DO NOT EXIST IN THE TECHNICAL SPECIFICATIONS.
7. SECTION 6.0 (PAGE 6, PARA 4) TYPO - REFERENCE IS MADE TO T.S. '3.6.8' SHOULD BE '3.8.6.'