



UNITED STATES
NUCLEAR REGULATORY COMMISSION
REGION I
621 PARK AVENUE
KING OF PRUSSIA, PENNSYLVANIA 19406

JUN 03 1983

MEMORANDUM FOR: Herzel H. E. Plaine, General Counsel, Office of The General Counsel

FROM: Thomas T. Martin, Director, Division of Engineering and Technical Programs, RI

SUBJECT: PROVISION OF HARTMAN ALLEGATION INVESTIGATION RECORDS TO THE COMMISSION *W/INDEX*

Enclosed are two boxes which contain a complete set of the Hartman Allegation Investigation Records for your review. Please determine if rules of ex parte communications would be violated if these records were provided to the Commissioners. If rules would be violated, please recommend actions which will allow me to satisfy the directions of Chairman Palladino to provide these documents. If no rules would be violated, please provide one copy of these records to each Commissioner.

Thomas T. Martin, Director
Division of Engineering and
Technical Programs

Enclosure: As stated

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INDEX TO REFERENCES

INTERVIEWS

- A-1. Transcript of IE TMI Investigation Interview of Harold Hartman, 5/22/79
- A-2. Report of NRC TMI Special Inquiry Group Interview of Harold Hartman, 9/12/79
- A-3. Transcript of NRC TMI Special Inquiry Group Interview of Harold Hartman, 10/29/79
- A-4. Partial Transcript of What's Happening America Interview of Harold Hartman, 3/24/80
- A-5. Transcript of Hartman Allegations Investigation Team Interview of Harold Hartman, 3/26/80
- A-6. Signed Statement of Harold Hartman before Hartman Allegations Investigation Team, 3/26/80
- A-7. Transcript of Hartman Allegations Investigation Team Interview of Brian Mehler, 3/27/80
- A-8. Transcript of Hartman Allegations Investigation Team Interview of Jim Floyd, 3/27/80
- A-9. Transcript of Hartman Allegations Investigation Team Interview of Kenneth Hoyt, 3/27/80
- A-10. Transcript of Hartman Allegations Investigation Team Interview of Bernie Smith, 3/27/80
- A-11. Results of CRO Screening by Hartman Allegations Investigation Team, 3/27-31/80
- A-12. Report of Hartman Allegations Investigation Team Interview of Hugh McGovern, including 4/10/80 sworn statement and 12/24/78 Reactor Coolant Leakage Test Record
- A-13. Report of Hartman Allegations Investigation Team Interview of Earl Hemmila, including 4/10/80 sworn statement and 3/21/79 Reactor Coolant Leakage Test Record
- A-14. Report of Hartman Allegations Investigation Team Interview of Mark Coleman, including 4/10/80 unsigned statement
- A-15. Report of Hartman Allegations Investigation Team Interview of Joseph Congdon, 4/10/80
- A-16. Report of Hartman Allegations Investigation Team Interview of John Blessing, 4/10/80
- A-17. Report of Hartman Allegations Investigation Team Interview of Marty Cooper, 4/10/80
- A-18. Report of Hartman Allegations Investigation Team Interview of Raymond Bocher, 4/10/80
- A-19. Notes of Hartman Allegations Investigation Team initial contact with Harold Hartman 3/22/80.

BACKGROUND INFORMATION

- B-1. Unit #2 Surveillance Procedure 2301-3D1, Rev. 3, RCS Inventory.
- B-2. Procedure Change Request 2-79-003 to Surveillance Procedure 2301-3D1, Rev. 2.
- B-3. Procedure Change Request 2-78-948 to Surveillance Procedure 2301-3D1, Rev. 2.
- B-4. Unit #2 Surveillance Procedure 2301-3D1, Rev. 2, RCS Inventory.
- B-5. Reactor Coolant Leakage (Computer) Program, Three Mile Island. Unit 2.
- B-6. Unit 2 Surveillance Procedure 2301-M5, Rev. 2, RCP Seal Return Measurement.
- B-7. Unit 2 Surveillance Procedure 2301-S1, Rev. 16, Shift and Daily Checks.
- B-8. Unit 2 Computer Hourly Logs, 12/24/78, 1/13/79, 2/1/79, 2/11/79, 2/23/79, 3/18-19/79.
- B-9. Reactor Coolant Leakage Test (Records), SP 2301-3D1, 8/30/78 - 3/28/79.
- B-10. Unit 2 Chemistry Log, 12/21/78 - 4/22/79.
- B-11. TMI 2 Control Room Operator's Log, 1600 Hours 12/20/78 to 2235 Hours 3/28/79.
- B-12. TMI 2 Shift Foreman's Log, 0600 Hours 12/19/78 to 2217 Hours on 3/28/79.
- B-13. TMI 2 Makeup Tank and Level Transmitter Design, Calibration and Modification Data
- B-14. TMI Maintenance Procedure 1430-Y-17, Rev. 4, Differential Pressure Transmitter/ Loop Repair and Calibration.
- B-15. TMI 2 F.S.A.R. Sections pertinent to RCS Leakage Limits and Detection Methods.
- B-16. TMI 2 T.S. Sections pertinent to RCS Leakage Measurement Limits, Remedial Actions, Procedure Compliance and Reporting.
- B-17. TMI 2 Questionable RCS Leakrate Test Reports, Log Entries and MUT Charts, 9/28/78 → 3/28/79, sorted by Water or Gas Additions and Chronologically.
- B-18. TMI 2 Questionable RCS Leakrate Test Reports, Log Entries and MUT Charts, 9/28/78 → 3/28/79, sorted by Shift Personnel.
- B-19. TMI 2 RCS Leakrate Test Reports and Log Entries, 3/22/78 - 12/31/78, Potentially Involving Unrecorded Water Additions or Hydrogen Additions.
- B-20. TMI 2 Reactor Coolant Leakage Test Report, Log Entry and MUT Chart, 3/15/79 Potentially Involving a Jogged Water Addition.
- B-21. TMI 2 Reactor Coolant Leakage Test Report, 3/24/79; An Example of Hand Calculator Correction for Located (Identified) Leakage.

BACKGROUND INFORMATION (CONTINUED)

- B-22. TMI 2 T.S. Sections pertinent to Estimated Critical Position.
- B-23. Procedure Change Request 2-78-757 to Reactivity Balance Procedure 2103-1.9, Rev. 2.
- B-24. Procedure Change Request 2-79-088 to Reactivity Balance Procedure 2103-1.9, Rev. 3.
- B-25. Unit 2 Operating Procedure 2103-1.9, Rev. 4, Reactivity Balance.
- B-26. Unit 2 Operating Procedure 2102-1.2, Rev. 6, Approach to Criticality.
- B-27. Records of TMI Unit 2 Reactor Startup on 4/23/78 during 11-7 shift.
- B-28. Records of TMI Unit 2 Reactivity Calculation Performed 4/22/78 during 3-11 shift.
- B-29. Unit 2 Chemistry Log, 4/18-23/78.
- B-30. Unit 2 Surveillance Procedure 2303-M27A/B, Rev. 5, Motor Driven Emergency Feedpump Functional Test and Valve Operability Test.
- B-31. Unit 2 Surveillance Procedure 2303-M14/A/B/C/D/E, Rev. 9, Emergency Feedwater System Valve Line-up Verification and Operability Test; and Turbine Driven Emergency Feedpump Operability Test.
- B-32. Unit 2 Surveillance Procedure 2303-M27 Records, 9/16/77 - 3/26/79.
- B-33. TMI-2 T.S. Sections pertinent to Emergency Feedwater System Testing.

ANALYSIS & CONCLUSION

- C-1. Investigation Report Feeder by Don Kirkpatrick titled "Reactor Coolant System Leak Rate Review."
- C-2. Analysis of Reactor Building Sump Records to Establish an Upper-bound on Actual Unidentified Leakage by Tim Martin.
- C-3. Investigation Report Feeder by Don Haverkamp titled "RCS Inventory, PORC and Facility Management Actions."
- C-4. Analysis of Water Additions Outside of Leakrate Test Periods by Keith Christopher.
- C-5. Analysis of Pressurizer Relief and Safety Valve Thermocouple Data by Tony Fasano.
- C-6. Investigation Report Feeder by Tony Fasano titled "Comparison of Pressurizer Relief Valve Tail Pipe Temperature to Identified Reactor Coolant Leak Rates."
- C-7. Investigation Report Feeder by Tony Fasano titled "Reactor Coolant System, rcs 1, Records and Systems Review."
- C-8. Investigation Report Feeder by Dr. J. W. Chung titled "Evaluation of Hartman's Allegation Concerning Reactor Coolant System Leak Rate Tests at TMI Unit 2."
- C-9. Analysis of 4/23/78, 11-7 Shift, Reactor Startup Records Associated with Hartman Allegations by Tim Martin.
- C-10. Records of 4/23/78, 11-7 Shift, Reactor Startup, Which Were Reviewed With Participants in Startup.
- C-11. Investigation Report Feeder by Tony Fasano, titled "The April 23, 1978 Estimated Critical Position Issue."
- C-12. Investigation Report Feeder by Tony Fasano, titled "Estimated Critical Position ECP Computer Printout Sheets."
- C-13. Investigation Report Feeder by Dr. J. W. Chung, titled "Evaluation of Hartman's Allegation Concerning Estimated Critical Position During a Reactor Startup at TMI Unit 2 on April 23, 1978."
- C-14. Analysis of Hartman Allegations Concerning Emergency Feedwater Surveillance Testing by Tim Martin.
- C-15. Investigation Report Feeder by Walt Rekito, titled "Inservice Testing of Pumps and Valves."
- C-16. Investigation Report Feeder by Dr. J. W. Chung, titled "Emergency Feedwater Pump Surveillance."
- C-17. Analysis of Hartman Allegations Concerning Requirement for Load Dispatcher Approval of Plant Shutdowns by Keith Christopher.

ANALYSIS & CONCLUSION
(CONTINUED)

- C-18. Analysis of Hartman Allegations Concerning Termination of His Employment at TMI-2 by Keith Christopher.
- C-19. Results of Examination of TMI-1 Reactor Coolant Inventory Surveillance Test Records by Keith Christopher.

DRAFTS OF REPORTS AND INTERVIEWS

- D-1 Draft of discussion on interview with Hugh McGovern.
- D-2 Draft of interview with John Blessing by Christopher.
- D-3 Draft of interview with John Blessing by Christopher and Martin.
- D-4 Draft of interview with Raymond Booher by Cummings, Martin and Christopher.
- D-5 Draft of interview with Raymond Booher by Christopher.
- D-6 Draft of interview with Raymond Booher by Christopher and Martin.
- D-7 Draft of interview with Joseph Congton by Sinclair.
- D-8 Earlier Draft of interview with Joseph Congdon by Sinclair.
- D-9 Prospective list of interviewees.
- D-10 Early draft of Table 9 from investigation feeder report by Kirkpatrick.
- D-11 1980 draft of investigation feeder report on Leak Rate Review by Kirkpatrick.
- D-12 Draft feeder report on allegation concerning estimated critical position written by J. W. Chung.

BACKGROUND INFORMATION - DOCUMENTS INCLUDED FOR REVIEW

F-1 Reactor Trip Reports:

- #6, 9/19/78
- #7, 9/20/78
- #8, 9/21/78
- #9, 9/25/78
- #10, 10/5/78
- #11, 10/14/78
- #12, 11/3/78
- #13, 11/7/78
- #14, 12/2/78
- #15, 12/2/78
- #16, 1/15/79 (with additional copies of strip charts for Pressurizer Level and RCS pressure.

Reactor Trip/Overspeed Turbine Trip, 3/6/79

F-2 Shift Foreman/Control Room Log Extractions:

September 1978 extractions:

- Control Room Operator (CRO) Log, pages 196-203
- Shift Foreman (SF) Log, pages 181-194
- CRO Log, pages 198-204, 207-208
- SF Log, pages 199-203, 205-207
- CRO Log, pages 220-226
- SF Log, pages 213-214, 217, 219, 227-237, 239

October 1978 extractions:

- CRO Log, pages 294-305
- SF Log, pages 315, 317, 319, 320-339, 341-343
- CRO Log, pages 265-280
- SF Log, pages 347-349, 351-355
- CRO Log, pages 283-290
- SF Log, pages 367-388

November 1978 extractions:

- CRO Log, pages 311-325
- SF Log, pages 399-419, 421-422
- CR Log, pages 330-333
- SF Log, pages 335-341

December 1978 extractions:

- CRO Log, pages 422-425
- SF Log, pages 100-107
- CRO Log, pages 367-373
- SF Log, pages 4-17
- CRO Log, pages 393-396
- SF Log, pages 51-59

January 1979 extractions:

- CRO Log, pages 455-458
- SF Log, pages 153-161, 163
- CRO Log, pages 445-447
- SF Log, pages 137-142
- SF Log, pages 199-204, 206-207

February 1979 extractions:

- CRO Log, pages 473-477
- SF Log, pages 213-219
- CRO Log, pages 481-484
- SF Log, pages 223-229
- CRO Log, pages 485-489
- SF Log, pages 235-241
- CRO Log, pages 492-494
- SF Log, pages 244-249
- CRO Log, pages 257-263
- CRO Log, pages 477-500
- CRO Log, pages 3-6

March 1979 extractions:

- CRO Log, pages 36-42
- SF Log, pages 313-325

- F-3 Radwaste Disposal - RC Leakage Recovery Temp. extraction for each month from September 1978 through March 1979. Notes on pages indicate date, time and points.

September 1978 extractions consist of 13 pages

October 1978 extractions consist of 9 pages

November 1978 extractions consist of 5 pages

December 1978 extractions consist of 2 pages

January 1979 extractions cover most of January 15, 1979 and are part of the special January special trip package

February 1979 extractions consist of 8 pages

March 1979 extractions consist of 5 pages

- F-4 Unit #2 Operating Procedure 2105-1.10, "Computer" 02/14/77

- F-5 System Description (Index No. 17), Reactor Coolant Make-Up and Purification System, June 1974

- F-6 Licensee Event Report 78-65/99X, November 7, 1978, Reactor Trip with Safety Injection

- F-7 Emergency Procedure 2202-1.5 Pressurizer System Failure

- F-8 Engineering Change Memo, Serial No. 4943, 5/10/77

F-9 DRAWINGS:

- * -- The M. W. Kellogg Co. Power Piping, ISO 2-23-2, Rev. 9, Job #N8641 and ISO 2-23-1, Rev. 5, Job # N8641
- Burns and Roe, Inc., Dwg. 2632, Rev. 9, Flow Diagram Radwaste Disposal Reactor Coolant Leakage Recovery
- Burns and Roe, Dwg. 2024, Rev. 25, Flow Diagram Reactor Coolant Make-Up and Purification
- Burns and Roe, Dwg. 2026, Rev. 30, Flow Diagram Spent Fuel Cooling and Decay Heat Removal
- Burns and Roe, Dwg. 2403, Rev. 20, Radwaste Disposal Reactor Building Plan El. 305' - 0"
- Burns and Roe, Dwg. 2632, Rev. 9, Flow Diagram Radwaste Disposal Reactor Coolant Leakage Recovery.

F-10 STRIP CHART EXTRACTIONS for each month from September 1978 through March 1979 - Notes on Charts.

September 1978:

- Reactor Coolant System, RCS, Pressure 2 pages
- Pressurizer Level, 9/11/78 with SF Log extraction attached
- Pressurizer Level 9/11-12/78 extended
- RCS Pressure Chart - 9/11/78 extended
- RCS Wide Range Pressure 9/11/78
- Temperature Average Plot 9/12/78

October 1978:

- RCS Pressure, 7 pages

December 1978:

- RCS pressure, 5 pages, with attached SF Log pages 1, 3-7

January 1979:

- Pressurizer level, January 15, 2 pages
- RCS pressure, wide range, January 15

There are additional strip charts in the January 15, 1979 package.

March 1979:

- Reactor Coolant Drain Pump Out, 16 pages
(Leakage Coolers Flow to RC Drain Header 0-150 gpm)
- RCS pressure extraction from March 6 to March 28, 1979
- RCS pressurizer level extractions from March 6 to March 28, 1979

F-11 COMPUTER PRINTOUT SHEETS

A separate set of computer printout sheets for April 1978 were obtained for review of the ECP allegation of Mr. Hartman.

Computer printout sheets were extracted for the period September 1978 through March 1979. The printout sheets were scanned for tail pipe temperatures, RCS pressures, alarms, and pressurizer levels.

F-12 January 15, 1979, special package for further review contains strip charts, multipoint data, trip report for January 15, 1979 and computer data.

BACKGROUND INFORMATION FROM KIRKPATRICK'S FILES

- K-1 Notes from TMI Computer Surveillance Leak Rate Test Sheets.
- K-2 Notes of Water Additions from CRC Log.
- K-3 Change to Leak Rate Test Procedure dated 3/16/79.
- K-4 TMI 1 Leak Rate Test Procedure 1303-1.1 Rev. 7 dated 05/25/76.
- K-5 Calculator printer strip with program and data from leak rate calculations done in 1980.
- K-6 Copy of RCS Leak Rate Hand Calculation dated 08/19/77.
- K-7 Reactimiter data for Rx Trip of 03/28/79.
- K-8 History of Rx power August 30 to November 30, 1979.
- K-9 RCS Pressure from Narrow Range Strip Chart.
- K-10 Proposed IE Bulletin on Leak Rate Testing (Was not issued).
- K-11 NRC Program Used to Calculate 24 hour Leak Rates.
- K-12 Notes on Discussion with J. Floyd.
- K-13 Hand Calculations and Calculator Notes.
- K-14 Notes on Discussion with B. Smith.

NOTES AND EXCERPTS

- N-1 Notes on discussion with J. Floyd on 3/27/80.
- N-2 Notes on RCS Inventory procedure ST 2301-3D1.
- N-3 Notes on discussion with K. Hoyt on 3/27/80.
- N-4 Notes on discussion with B. Smith on 3/27/80.
- N-5 Notes on errors in Leak Rate Test procedure.
- N-6 Excerpts from transcripts of Hartman interviews.
- N-7 Excerpts from transcripts of Hartman interviews.
- N-8 Excerpts from transcript of Hartman TV interview.
- N-9 Excerpts from Hartman interviews dealing with allegations and concerns.
- N-10 Miscellaneous notes and calculation of effect of the weight of the hydrogen in the MUT on Leak Rate Calculation.
- N-11 Notes relative to leak rate allegations.
- N-12 Notes relative to leak rate allegations.
- N-13 Early list of plant records needed by investigation.
- N-14 Notes on Safety Concern Handling.
- N-15 Notes on Tech Spec requirements.
- N-16 Notes on allegation relative to estimated critical position.
- N-17 Notes on Reactor Coolant Drain Tank Operations.
- N-18 Notes of Preparation for 3/22/80 Interview of Harold Hartman.
- N-19 Memorandum Summarizing Understanding of the Concerns and Allegations of Harold Hartman, 3/24/80.
- N-20 Notes for Conduct of 4/10/80 Interviews.
- N-21 Draft IE Bulletin - Reactor Coolant System Leak Rate Testing in PWRs.
- N-22 Excerpts from NUREG-0680, Supp. No. 1 related to Investigation.
- N-23 Memorandum Summarizing Investigation Effort as of 1/20/81.
- N-24 Excerpts from NUREG-0680, Supp. No. 2 related to Investigation.