

October 18, 1985
DAEC-85-846

[illegible]

Mr. James G. Keppler
Regional Administrator
U.S. Nuclear Regulatory Commission
799 Roosevelt Road
Glen Ellyn, Illinois 60137

Subject: Duane Arnold Energy Center
Op. License No: DPR-49
Docket No: 50-331
DAEC Restart Testing at Beginning of Cycle 8

Reference: Power Uprate for the DAEC, NG-84-2518,
McGaughy (IE) to Denton (NRC), August 17, 1984

Dear Mr. Keppler:

This letter transmits the results of the Startup Test Program which was conducted at the Duane Arnold Energy Center at the beginning of Cycle 8. This test program was performed in accordance with Section 3.3 of the DAEC Surveillance Manual, Surveillance Requirements for Startup and Shutdown, and the referenced letter, to which the application for power uprate was attached. As part of this application, Iowa Electric committed to conducting tests at the old rated power of 1593 MWth. Some of these tests would be repeated at the uprated power of 1658 MWth, with the results being compared to expected values.

Each test which was performed as part of this Power Uprate test program was satisfactorily completed, with the results comparing favorably to the values which were expected. The application for power uprate contained one test, RE-15, Control Rod Friction Testing and Insert/Withdraw Timing, which was not performed because plant conditions prohibited conducting this procedure until near the end of the outage. By this time, each rod had been exercised and was determined to be operable. Consequently, it was determined that this test was redundant to the exercises which had already taken place and was therefore not performed.

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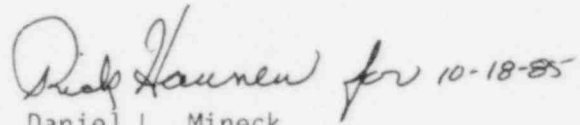
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This report is being submitted in accordance with Section 6.11.1 of the DAEC Technical Specifications. A listing of the tests performed and the status of the startup while the test was being performed is presented in the attachment to this letter. All data for these tests are available at the Duane Arnold Energy Center.

Sincerely yours,


Daniel L. Mineck
Plant Superintendent-Nuclear
Duane Arnold Energy Center

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DLM/MB/bj

Attachment: Listing of Surveillance Performed in Support of Cycle 8 Startup

cc: (All w/a), M. Brandt
L. Liu
S. Tuthill
R. McGaughy
M. Thadani
NRC Resident
Commitment Control 840306
File: A-118h, A-117, SPF-95

ATTACHMENT: Listing of Surveillances Performed in Support
of Cycle 8 Startup

| <u>STP</u> | <u>TITLE</u> |
|-------------------------|--|
| <u>PRIOR TO STARTUP</u> | |
| 1. 55A001 | FUEL STORAGE FACILITIES K ∞ LIMIT CHECK (PRIOR TO STARTUP) |
| 2. 412A001 | MAPLHGR CURVES CHECK (PRIOR TO STARTUP) |
| 3. 41A004 * | IRM TRIP FUNCTIONAL TEST & CALIBRATION (WITHIN ONE WEEK PRIOR TO STARTUP) |
| 4. 41A017 * | APRM HIGH FLUX (15% SCRAM) INSTRUMENT FUNCTIONAL TEST (WITHIN ONE WEEK PRIOR TO STARTUP) |
| 5. 42C004 * | SRM/IRM DETECTOR NOT IN STARTUP POSITION FUNCTIONAL TEST (WITHIN ONE WEEK PRIOR TO STARTUP) |
| 6. 42C005 * | SRM TRIP FUNCTIONAL TEST & CALIBRATION (WITHIN ONE WEEK PRIOR TO STARTUP) |
| 7. 42A004 | MAIN STEAM LINES HIGH FLOW INSTRUMENT FUNCTIONAL TEST/CALIBRATION (PRIOR TO STARTUP) |
| 8. 41A007 | TURBINE CONTROL VALVE FAST CLOSURE RESPONSE TIME TEST AND INITIATE LOGIC (PRIOR TO STARTUP) |
| 9. 41A019 | APRM FLOW BIAS INSTRUMENT FUNCTIONAL TEST (PRIOR TO INITIAL ROD WITHDRAWAL) |
| 10. 47A002 | PRIMARY CONTAINMENT LEAK RATE TEST (PRIOR TO STARTUP) |
| 11. 47A003 | CONTAINMENT LEAK TIGHTNESS TEST-TYPE B PENETRATIONS (PRIOR TO STARTUP) |
| 12. 47A005 | CONTAINMENT ISOLATION VALVE LEAK TIGHTNESS TEST-TYPE C PENETRATIONS (PRIOR TO STARTUP) |
| 13. 42F001 | REACTOR WATER LEVEL AND PRESSURE INSTRUMENTS CALIBRATION (PRIOR TO STARTUP) |
| 14. 41A025 | REACTOR HIGH PRESSURE INSTRUMENT RESPONSE TIME CHECK (PRIOR TO STARTUP) |
| 15. 42A001 | DAILY AND SHIFT INSTRUMENT CHECKS (PRIOR TO AND THROUGHOUT STARTUP) |
| 16. 46B001 | RX COOLANT GAMMA & IODINE ACTIVITY (PRIOR TO STARTUP) |

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| <u>STP</u> | <u>TITLE</u> |
|--|--|
| 17. 41A001 | REACTOR HIGH PRESSURE INSTRUMENT FUNCTIONAL TEST AND CALIBRATION (PRIOR TO STARTUP) |
| 18. 46B003 | RX COOLANT CHLORIDE ION & CONDUCTIVITY ANALYSIS (PRIOR TO STARTUP) |
| 19. 41A021 | FIRST STAGE TURBINE PRESSURE PERMISSIVE INSTRUMENT FUNCTIONAL TEST AND CALIBRATION (PRIOR TO STARTUP) |
| 20. 43B003 * | RWM/RSCS CAPABILITY TEST (IMMEDIATELY PRIOR TO INITIAL ROD WITHDRAWAL) |
| <u>STARTUP AND LOW-POWER OPERATION</u> | |
| 21. 46A003 * | HEATUP & COOLDOWN RATE LOG (DURING STARTUP) |
| 22. 43A001 * | SHUTDOWN MARGIN TEST (DURING ROD WITHDRAWAL TO CRITICAL) |
| 23. 47D004 * | MAIN STEAM ISOLATION VALVES (IMMEDIATELY AFTER PLACING MODE SWITCH IN RUN AND CONTINUING POWER INCREASE) |
| 24. 45E001-Q | RCIC SYSTEM OPERABILITY TESTS (150 psi REACTOR PRESSURE) |
| 25. 45D001-Q | HPCI SYSTEM QUARTERLY OPERABILITY TESTS (150 psi REACTOR PRESSURE) |
| 26. 42C001 | APRM INSTRUMENT FUNCTIONAL TEST AND CALIBRATION (AFTER PLACING MODE SWITCH IN RUN) |
| 27. 41A016 | APRM HIGH FLUX & INOPERATIVE INSTRUMENT FUNCTIONAL TEST/CALIBRATION (AFTER PLACING MODE SWITCH IN RUN) |
| 28. 42G001 * | REACTOR HIGH PRESSURE RECIRCULATION PUMP TRIP INSTRUMENT FUNCTIONAL TEST AND CALIBRATION (WITHIN 24 HOURS AFTER PLACING MODE SWITCH IN RUN) |
| 29. 41A013-Q | STEAM LINE HIGH RADIATION (DURING POWER OPERATION) |
| 30. 41A013-W | STEAM LINE HIGH RADIATION (DURING POWER OPERATION) |

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| STP | TITLE |
|--|---|
| 31. SpTP-123 | LOW-POWER RBM FUNCTIONAL CHECK (15% Power) |
| 32. 42F007 * | APRM GAIN ADJUSTMENT CALIBRATION (PRIOR TO 20% CORE THERMAL POWER) |
| 33. 42C002 | ROD BLOCK MONITOR FUNCTIONAL TEST AND CALIBRATION (27-30% POWER) |
| 34. N/A | VERIFICATION OF PERFORMANCE OF TURBINE BYPASS SCRAM INTERLOCKS AND RSCS INTERLOCK PRESSURE (30% POWER) |
| 35. 43C001 * | SCRAM INSERTION TIME TEST (38% POWER) |
| 36. 41A015 * | LPRM INSTRUMENT CALIBRATION (38% POWER) |
| <u>MEDIUM AND HIGH POWER OPERATION</u> | |
| 37. 43E001 | APRM/LPRM BASELINE NOISE DATA COLLECTION FOR TWO LOOP OPERATION (45% Core Flow) |
| 38. APPENDIX E * OF 42A001 | APRM GAIN ADJUSTMENT CALIBRATION (1500-1593 Mwth) |
| 39. 43D001 * | REACTIVITY ANOMALIES CHECK (1500-1593 Mwth) |
| 40. 46B001 * | RX COOLANT GAMMA & IODINE ACTIVITY (1500-1593 Mwth) |
| 41. 41A015 * | LPRM INSTRUMENT CALIBRATION (1500-1593 Mwth) |
| 42. 46B003 * | RX COOLANT CHLORIDE ION & CONDUCTIVITY ANALYSIS (1500-1593 Mwth) |
| 43. PREDICTOR * | AXIAL POWER SHAPE COMPARISON: CHECK REACTOR PARAMETERS (AXIAL AND RADIAL FLUX, LOAD LINE, THERMAL LIMITS, K-EFFECTIVE) AGAINST THE PREDICTED PARAMETERS WHICH WERE PREDICTED AT THE PREVIOUS POWER STATES LISTED BELOW. 65% POWER (PREDICTED FROM 38% POWER) 80% POWER 90% POWER 95% POWER 100% POWER |

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| <u>STP</u> | <u>TITLE</u> |
|-------------------------------|--|
| 44. APPENDIX E * OF 42A001 | APRM GAIN ADJUSTMENT CALIBRATION (1658 MWth) |
| 45. 43D001 * | REACTIVITY ANOMALIES CHECK (1658 MWth) |
| 46. 46B001 * | RX COOLANT GAMMA & IODINE ACTIVITY (1658 MWth) |
| 47. 46B003 * | RX COOLANT CHLORIDE ION & CONDUCTIVITY ANALYSIS (1658 MWth) |
| 48. 41A013-Q | STEAM LINE HIGH RADIATION (1658 MWth) |
| 49. 41A013-W | STEAM LINE HIGH RADIATION (1658 MWth) |

* This test was part of the Power Uprate Test Program.