December 5, 1991

Docket Nos. 50-315 and 50-316

> Mr. E. E. Fitzpatrick, Vice President Indiana Michigan Power Company c/o American Electric Power Service Corporation 1 Riverside Plaza Columbus, Ohio 43216

Dear Mr. Fitzpatrick:

ADOCK

SUBJECT: AMENDMENT NOS. 160 AND 144TO FACILITY OPERATING LICENSE NOS. DPR-58 AND DPR-74 (TAC NOS./180258, AND/180259)

The Commission has issued the enclosed Amendment No. $_{160}$ to Facility Operating License No. DPR-58 and Amendment No. 144 to Facility Operating License No. DPR-74 for the Donald C. Cook Nuclear Plant, Unit Nos. 1 and 2. The amendments revise requirements relating to containment airlock doors. The changes are in response to your application dated April 16, 1991 (AEP:NRC:1145).

A copy of our related Safety Evaluation is also enclosed. A Notice of Issuance will be included in the Commission's biweekly Federal Register notice.

Sincerely,

Original signed by

William O. Long, Sr. Project Manager Project Directorate III-1 Division of Reactor Projects III/IV/V Office of Nuclear Reactor Regulation

Enclosures: 1. Amendment No. 160 to DPR-58 Amendment No. 144 to DPR-74 2. 3. Safety Evaluation cc w/enclosures: See next page PM/PD31 Ree BC7SPLB D/PD31 PM/PD31 WY LA/PD31 PShuttleworth LBMarsh CMcCracken TColburn WLong:jkd 11/25/91 // /8/91 1) / 1 /91 11 /27/91 1</4/91 ***DC COOOK AIRLOCK AMENDMENT** OGC EHOLIBR 11/9/91 12240239 911205 000315

Mr. E. E. Fitzpatrick Indiana Michigan Power Company

cc:

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Special Assistant to the Governor Room 1 - State Capitol Lansing, Michigan 48909

Nuclear Facilities and Environmental Monitoring Section Office Division of Radiological Health Department of Public Health 3500 N. Logan Street Post Office Box 30035 Lansing, Michigan 48909 Donald C. Cook Nuclear Plant

Mr. S. Brewer American Electric Power Service Corporation 1 Riverside Plaza Columbus, Ohio 43216



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

INDIANA MICHIGAN POWER COMPANY

DOCKET NO. 50-315

DONALD C. COOK NUCLEAR PLANT, UNIT NO. 1

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 160 License No. DPR-58

- 1. The Nuclear Regulatory Commission (the Commission) has found that:
 - A. The application for amendment by Indiana Michigan Power Company (the licensee) dated April 16, 1991, complies with the standards and requirements of the Atomic Energy Act of 1954, as amended (the Act), and the Commission's rules and regulations set forth in 10 CFR Chapter I;
 - B. The facility will operate in conformity with the application, the provisions of the Act, and the rules and regulations of the Commission;
 - C. There is reasonable assurance (i) that the activities authorized by this amendment can be conducted without endangering the health and safety of the public, and (ii) that such activities will be conducted in compliance with the Commission's regulations;
 - D. The issuance of this amendment will not be inimical to the common defense and security or to the health and safety of the public; and
 - E. The issuance of this amendment is in accordance with 10 CFR Part 51 of the Commission's regulations and all applicable requirements have been satisfied.

9112240243 911205 PDR ADBCK 05000315 P PDR Accordingly, the license is amended by changing paragraph 2.C.(2) of Facility Operating License No. DPR-58 is hereby amended to read as follows:

The Technical Specifications contained in Appendices A and B, as revised through Amendment No. 160 are hereby incorporated in the license. The licensee shall operate the facility in accordance with the Technical Specifications.

3. This license amendment is effective as of the date of its issuance.

FOR THE NUCLEAR REGULATORY COMMISSION

LB March

L. B. Marsh, Director Project Directorate III-1 Division of Reactor Projects III/IV/V Office of Nuclear Reactor Regulation

Date of Issuance: December 5, 1991

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ATTACHMENT TO LICENSE AMENDMENT NO. 160

FACILITY OPERATING LICENSE NO. DPR-58

DOCKET NO. 50-315

Revise Appendix A Technical specifications by removing the pages identified below and inserting the attached pages. The revised pages are identified by amendment number and contain marginal lines indicating the area of change.

REMOVE INSERT 1-2 1-2 3/4 6-1 3/4 6-1 3/4 6-3 3/4 6-3 3/4 6-4 3/4 6-4 3/4 6-5 3/4 6-5 *3/4 6-6 *3/4 6-6

*Overleaf page provided to maintain document completeness. No changes contained on this page.

DEFINITIONS

REPORTABLE EVENT

1.7 REPORTABLE EVENT shall be any of those conditions specified in 10 CFR 50.73.

CONTAINMENT INTEGRITY

- 1.8 CONTAINMENT INTEGRITY shall exist when:
 - 1.8.1 All penetrations required to be closed during accident conditions are either:
 - a. Capable of being closed by an OPERABLE containment automatic isolation valve system, or
 - b. Closed by manual valves, blind flanges, or deactivated automatic valves secured in their closed positions, except as provided in Table 3.6-1 of Specification 3.6.3.1.
 - 1.8.2 All equipment hatches are closed and sealed.
 - 1.8.3 Each air lock is in compliance with the requirements of Specification 3.6.1.3, and
 - 1.8.4 The containment leakage rates are within the limits of Specification 3.6.1.2.

CHANNEL CALIBRATION

1.9 A CHANNEL CALIBRATION shall be the adjustment, as necessary, of the channel output such that it responds with the necessary range and accuracy to known values of the parameter which the channel monitors. The CHANNEL CALIBRATION shall encompass the entire channel including the sensor and alarm and/or trip functions, and shall include the CHANNEL FUNCTIONAL TEST. The CHANNEL CALIBRATION may be performed by any series of sequential, overlapping or total channel steps such that the entire channel is calibrated.

CHANNEL CHECK

1.10 A CHANNEL CHECK shall be the qualitative assessment of channel behavior during operation by observation. This determination shall include, where possible, comparison of the channel indication and/or status with other indications and/or status derived from independent instrument channels measuring the same parameter.

COOK NUCLEAR PLANT - UNIT 1

3/4.6 CONTAINMENT SYSTEMS

3/4.6.1 PRIMARY CONTAINMENT

CONTAINMENT INTEGRITY

LIMITING CONDITION FOR OPERATION

3.6.1.1 Primary CONTAINMENT INTEGRITY shall be maintained.

APPLICABILITY: MODES 1, 2, 3 and 4.

ACTION:

Without primary CONTAINMENT INTEGRITY, restore CONTAINMENT INTEGRITY within one hour or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

SURVEILLANCE REQUIREMENTS

4.6.1.1 Primary CONTAINMENT INTEGRITY shall be demonstrated:

- a. At least once per 31 days by verifying that:
 - 1. All penetrations* not capable of being closed by OPERABLE containment automatic isolation valves and required to be closed during accident conditions are closed by valves, blind flanges, or deactivated automatic valves secured in their positions, except as provided in Table 3.6-1 of Specification 3.6.3.1, and
 - 2. All equipment hatches are closed and sealed,
- b. By verifying that each containment air lock is in compliance with the requirements of Specification 3.6.1.3.

^{*}Except valves, blind flanges, and deactivated automatic valves which are located inside the containment and are locked, sealed or otherwise secured in the closed position. These penetro ions shall be verified closed during each COLD SHUTDOWN except that such verification need not be performed more often than once per 92 days.

SURVEILLANCE REQUIREMENTS

- b. If any periodic Type A test fails to meet .75 L, the test schedule for subsequent Type A tests shall be reviewed and approved by the Commission. If two consecutive Type A tests fail to meet .75 L, a Type A test shall be performed at least every 18 months until two consecutive Type A tests meet .75 L, at which time the above test schedule may be resumed.
- c. The accuracy of each Type A test shall be verified by a supplemental test which:
 - Confirms the accuracy of the Type A test by verifying that the difference between supplemental and Type A test data is within 0.25 L₂,
 - Has a duration sufficient to establish accurately the change in leakage between the Type A test and the supplemental test.
 - 3. Requires the quantity of gas injected into the containment or bled from the containment during the supplemental test to be equivalent to at least 25 percent of the total measured leakage rate at P_a , 12.0 psig.
- d. Type B and C tests shall be conducted at P, 12.0 psig, at intervals no greater than 24 months except for tests involving air locks.
- e. Each containment air lock shall be verified to be in compliance with the requirements of Specification 3.6.1.3.
- f. All test leakage rates shall be calculated using observed data converted to absolute values. Error analyses shall be performed to select a balanced integrated leakage measurement system.

CONTAINMENT AIR LOCKS

LIMITING CONDITION FOR OPERATION

3.6.1.3 Each containment air lock shall be OPERABLE with:

- a. Both doors closed except when the air lock is being used for normal transit entry and exit through the containment, then at least one air lock door shall be closed, and
- b. An overall air lock leakage rate of less than or equal to 0.05 $\rm L_a$ at P_, 12 psig.

APPLICABILITY: MODES 1, 2, 3 and 4.

ACTION:

With an air lock inoperable, restore the air lock to OPERABLE status within 24 hours or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

SURVEILLANCE REQUIREMENTS

4.6.1.3 Each containment air lock shall be demonstrated OPERABLE:

 *After each opening, except when the air lock is being used for multiple entries, when it shall be done at least once per 3 days, by performing an air leakage test without a simulated pressure force on the door by pressurizing the gap between the seals to 12 psig and verifying a seal leakage of no greater than 0.5 L_a.

*Exemption to Appendix "J" of 10 CFR 50.

COOK NUCLEAR PLANT - UNIT 1

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AMENDMENT NO. 160

SURVEILLANCE REQUIREMENTS (Continued)

- b. At least once per 6 months, perform an air leakage test without a simulated pressure force on the door per 4.6.1.3.a., then perform an air leakage test with a simulated pressure force on the door, by pressurizing the gap between the seals to 12 psig and verifying a seal leakage of no greater than 0.0005 L_a.
- c. At least once per 6 months by conducting an overall air lock leakage test at P (12 psig) and by verifying that the overall air lock leakage rate is within its limit.
- d. At least once per 6 months by verifying that only one door in each air lock can be opened at a time.

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INTERNAL PRESSURE

LIMITING CONDITION FOR OPERATION

3.6.1.4 Primary containment internal pressure shall be maintained between -1.5 and +0.3 psig.

APPLICABILITY: MODES 1, 2, 3 and 4.

ACTION:

With the containment internal pressure outside of the limits above, restore the internal pressure to within the limits within 1 hour or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

SURVEILLANCE REQUIREMENTS

4.6.1.4 The primary containment internal pressure shall be determined to within the limits at least once per 12 hours.



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

INDIANA MICHIGAN POWER COMPANY

DOCKET NO. 50-316

DONALD C. COOK NUCLEAR PLANT, UNIT NO. 2

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 144 License No. DPR-74

- 1. The Nuclear Regulatory Commission (the Commission) has found that:
 - A. The application for amendment by Indiana Michigan Power Company (the licensee) dated April 16, 1991, complies with the standards and requirements of the Atomic Energy Act of 1954, as amended (the Act), and the Commission's rules and regulations set forth in 10 CFR Chapter I;
 - B. The facility will operate in conformity with the application, the provisions of the Act, and the rules and regulations of the Commission;
 - C. There is reasonable assurance (i) that the activities authorized by this amendment can be conducted without endangering the health and safety of the public, and (ii) that such activities will be conducted in compliance with the Commission's regulations;
 - D. The issuance of this amendment will not be inimical to the common defense and security or to the health and safety of the public; and
 - E. The issuance of this amendment is in accordance with 10 CFR Part 51 of the Commission's regulations and all applicable requirements have been satisfied.

2. Accordingly, the license is amended by changing paragraph 2.C.(2) of Facility Operating License No. DPR-74 is hereby amended to read as follows:

The Technical Specifications contained in Appendices A and B, as revised through Amendment No. 144 are hereby incorporated in the license. The licensee shall operate the facility in accordance with the Technical Specifications.

3. This license amendment is effective as of the date of its issuance.

FOR THE NUCLEAR REGULATORY COMMISSION

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L. B. Marsh, Director Project Directorate III-1 Division of Reactor Projects III/IV/V Office of Nuclear Reactor Regulation

Date of Issuance: December 5, 1991

ATTACHMENT TO LICENSE AMENDMENT NO. 144

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FACILITY OPERATING LICENSE NO. DPR-74

DOCKET NO. 50-316

Revise Appendix A Technical specifications by removing the pages identified below and inserting the attached pages. The revised pages are identified by amendment number and contain marginal lines indicating the area of change.

REMOVE INSERT 1-2 1-2 3/4 6-1 3/4 6-1 *3/4 6-2 *3/4 6-2 3/4 6-3 3/4 6-3

*Overleaf page provided to maintain document completeness. No changes contained on this page.

DEFINITIONS

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REPORTABLE EVENT

1.7 A REPORTABLE EVENT shall be any of those conditions specified in 10 CFR 50.73.

CONTAINMENT INTEGRITY

- 1.8 CONTAINMENT INTEGRITY shall exist when:
 - 1.8.1 All penetrations required to be closed during accident conditions are either:
 - a. Capable of being closed by an OPERABLE containment automatic isolation valve system, or
 - b. Closed by manual valves, blind flanges, or deactivated automatic valves secured in their closed positions, except as provided in Table 3.6-1 of Specification 3.6.3.1.
 - 1.8.2 All equipment hatches are closed and sealed,
 - 1.8.3 Each air lock is in compliance with the requirements of Specification 3.6.1.3,
 - 1.8.4 The containment leakage rates are within the limits of Specification 3.6.1.2, and
 - 1.8.5 The sealing mechanism associated with each penetration (e.g., welds, bellows or O-rings) is OPERABLE.

CHANNEL CALIBRATION

1.9 A CHANNEL CALIBRATION shall be the adjustment, as necessary, of the channel output such that it responds with the necessary range and accuracy to known values of the parameter which the channel monitors. The CHANNEL CALIBRATION shall encompass the entire channel including the sensor and alarm and/or trip functions, and shall include the CHANNEL FUNCTIONAL TEST. The CHANNEL CALIBRATION may be performed by any series of sequential, overlapping or total channel steps such that the entire channel is calibrated.

CHANNEL CHECK

1.10 A CHANNEL CHECK shall be the qualitative assessment of channel behavior during operation by observation. This determination shall include, where possible, comparison of the channel indication and/or status with other indications and/or status derived from independent instrument channels measuring the same parameter.

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3/4.6 CONTAINMENT SYSTEMS

3/4.6.1 PRIMARY CONTAINMENT

CONTAINMENT INTEGRITY

LIMITING CONDITION FOR OPERATION

3.6.1.1 Primary CONTAINMENT INTEGRITY shall be maintained.

APPLICABILITY: MODES 1, 2, 3 and 4.

ACTION:

Without primary CONTAINMENT INTEGRITY, restore CONTAINMENT INTEGRITY within one hour or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

SURVEILLANCE REQUIREMENTS

4.6.1.1 Primary CONTAINMENT INTEGRITY shall be demonstrated:

- a. At least once per 31 days by verifying that:
 - 1. All penetrations* not capable of being closed by OPERABLE containment automatic isolation valves and required to be closed during accident conditions are closed by valves, blind flanges, or deactivated automatic valves secured in their positions, except as provided in Table 3.6-1 of Specification 3.6.3.1, and
 - 2. All equipment hatches are closed and sealed,
- b. By verifying that each containment air lock is in compliance with the requirements of Specification 3.6.1.3.

*Except valves, blind flanges, and deactivated automatic valves which are located inside the containment and are locked, sealed or otherwise secured in the closed position. These penetrations shall be verified closed during eac. COLD SHUTDOWN except that such verification need not be performed more often than once per 92 days.

COOK NUCLEAR PLANT - UNIT 2

CONTAINMENT LEAKAGE

LIMITING CONDITION FOR OPERATION

3.6.1.2 Containment leakage rates shall be limited to:

- a. An overall integrated leakage rate of $\leq L$, 0.25 percent by weight of the containment air per 24 hours at P_a, 12 psig.
- b. A combined leakage rate of < 0.60 L for all penetrations and valves subject to Type B and C tests, when pressurized to P_a.

APPLICABILITY: MODES 1, 2, 3 and 4.

ACTION:

With either (a) the measured overall integrated containment leakage rate exceeding 0.75 L, or (b) with the measured combined leakage rate for all penetrations and valves subject to Types B and C tests exceeding 0.60 L, restore the overall integrated leakage rate to \leq 0.75 L and the combined leakage rate for all penetrations and valves subject to Type B and C tests to \leq 0.60 L prior to increasing the Reactor Coolant System temperature above 200°F.

SURVEILLANCE REQUIREMENTS

4.6.1.2 The containment leakage rates shall be demonstrated at the following test schedule and shall be determined in conformance with the criteria specified in Appendix J of 10 CFR 50 using the methods and provisions of ANSI N45.4-1972:

 a. Three Type A tests (Overall Integrated Containment Leakage Rate) shall be conducted at 40 ± 10 month intervals during shutdown : P, 12 psig, during each 10-year service period. The third test of each set shall be conducted during the shutdown for the 10-year plant inservice inspection.

SURVEILLANCE REQUIREMENTS (Continued)

- b. If any periodic Type A test fails to meet .75 L, the test schedule for subsequent Type A tests shall be reviewed and approved by the Commission. If two consecutive Type A tests fail to meet .75 L^a, a Type A test shall be performed at least every 18 months until two consecutive Type A tests meet .75 L, at which time the above test schedule may be resumed.
- c. The accuracy of each Type A test shall be verified by a supplemental test which:
 - Confirms the accuracy of the Type A test by verifying that the difference between supplemental and Type A test data is within 0.25 L,
 - 2. Has a duration sufficient to establish accurately the change in leakage between the Type A test and the supplemental test.
 - 3. Requires the quantity of gas injected into the containment or bled from the containment during the supplemental test to be equivalent to at least 25 percent of the total measured leakage rate at P₂, 12.0 psig.
 - d. Type B and C tests shall be conducted at P, 12.0 psig, at intervals no greater than 24 months except for tests involving air locks.
 - e. Each containment air lock shall be verified to be in compliance with the requirements of Specification 3.6.1.3.
 - f. All test leakage rates shall be calculated using observed data converted to absolute values. Error analyses shall be performed to select a balanced integrated leakage measurement system.
 - g. The provisions of Specification 4.0.2 are not applicable.

COOK NUCLEAR PLANT - UNIT 2



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

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

RELATED TO AMENDMENT NO. 160 TO FACILITY OPERATING LICENSE NO. DPR-58

AND AMENDMENT NO. 144 TO FACILITY OPERATING LICENSE NO. DPR-74

INDIANA MICHIGAN POWER COMPANY

DONALD C. COOK NUCLEAR PLANT, UNIT NOS. 1 AND 2

DOCKET NOS. 50-315 AND 50-316

1.0 INTRODUCTION

By letter dated April 16, 1991, the Indiana Michigan Power Company (the licensee) requested amendments to Facility Operating License Nos. DPR-58 and DPR-74 for the Donald C. Cook Nuclear Plant, Unit Nos. 1 and 2 (the facilities). The Technical Specifications (TS) definitions and requirements relating to Units 1 and 2 containment integrity and containment air lock operability and surveillance would be revised as follows; the definition of CONTAINMENT INTEGRITY (TS 1.8) along with its related surveillance requirement (TS 4.6.1.1.b), and containment leakage limitations (TS 4.6.1.2.e) would be revised to indicate that for containment integrity to exist, air locks must be in compliance with the applicable operability requirements. In addition, the proposed amendment would delete a Unit 1 surveillance requirement (TS 4.6.1.3.a) that air locks be visually inspected after each opening to verify that the seal has not been damaged and renumber the remaining surveillance requirements.

2.0 DISCUSSION AND EVALUATION

Containment air locks are double-door chambers provided in the containment boundary to enable personnel to enter and leave the containment. By keeping at least one of the two doors closed at all times, personnel can enter and leave the containment without momentary loss of containment integrity. In the event that a Design Basis Accident pressurizes the containment to its Peak Accident Pressure, one operable air lock door, in each air lock, is capable of limiting air lock leakage to a small fraction of the total containment leakage. An air lock is thus capable of performing its design function (i.e., is "operable") when one of its two doors is closed. The closed door must, of course, itself be "operable" (i.e., capable of meeting its leakage test acceptance criteria).

The present Technical Specifications (TS) which establish requirements regarding containment integrity, fail to make a distinction between air lock door inoperability and air lock inoperability. As discussed above, an air lock may be operable even though one of its two doors is inoperable. It is, therefore, unnecessary to initiate those remedial actions normally taken in event of loss of complete air lock integrity. The amendments requested propose to clarify the TS to reflect the above. The proposed changes are consistent with the terminology provided in the staff guidance contained in NUREG-0452 ("Standard Technical Specifications") and are acceptable.

In addition to the above, the licensee proposed to delete a requirement in the Unit 1 TS that requires a visual inspection of each air lock seal after each opening. Because of the frequency at which air lock doors are opened under certain plant conditions and because of the administrative and recordkeeping requirements applicable to TS-required surveillances, this TS imposes an undue burden on the licensee. It is the staff position that such testing and/or inspection is only necessary for certain types of seals (i.e., such as those associated with certain large resiliently-seated vent and purge valves) that have demonstrated poor resistance to mechanical damage. This is not the case with the air lock seals. The proposed change is consistent with NUREG-0452 ("Standard Technical Specifications") and is acceptable.

3.0 STATE CONSULTATION

In accordance with the Commission's regulations, the Michigan State official was notified of the proposed issuance of the amendments. The State official had no comments.

4.0 ENVIRONMENTAL CONSIDERATION

The amendments change the requirements with respect to the installation or use of a facility component located within the restricted area as defined in 10 CFR Part 20 or changes in surveillance requirements. The staff has determined that the amendments involve no significant increase in the amounts, and no significant change in the types, of any effluents that may be released offsite, and that there is no significant increase in individual or cumulative occupational radiation exposure. The Commission has previously issued a proposed finding that these amendments involve no significant hazards consideration and there has been no public comment on such finding. Accordingly, these amendments meet the eligibility criteria for categorical exclusion set forth in 10 CFR 51.22(c)(9). Pursuant to 10 CFR 51.22(b), no environmental impact statement or environmental assessment need be prepared in connection with the issuance of these amendments.

5.0 CONCLUSION

The staff has concluded, based on the considerations discussed above that (1) there is reasonable assurance that the health and safety of the public will not be endangered by operation in the proposed manner, (2) such activities will be conducted in compliance with the Commission's regulations, and (3) the issuance of the amendments will not be inimical to the common defense and security or to the health and safety of the public.

Principal Contributor: W. Long

Date: December 5, 1991

DATED: December 5, 1991

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AMENDMENT NO. 160 TO FACILITY OPERATING LICENSE NO. DPR-58-D. C. COOK AMENDMENT NO. 144 TO FACILITY OPERATING LICENSE NO. DRP-74-D. C. COOK Docket File NRC & Local PDRs **PDIII-1** Reading D.C. Cook Plant File B. Boger J. Zwolinski L. Marsh P. Shuttleworth T. Colburn OGC-WF D. Hagan, 3302 MNBB G. Hill (8), P-137 Wanda Jones, MNBB-7103 • C. Grimes, 11/F/23 ACRS (10) GPA/PA OC/LFMB W. Shafter, R-III cc: Plant Service list