TECHNICAL EVALUATION REPORT

CONTAINMENT LEAKAGE RATE TESTING

NORTHERN STATES POWER COMPANY
PRAIRIE ISLAND UNITS 1 AND 2

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FOREWORD

This Technical Evaluation Report was prepared by Franklin Research Center under a contract with the U.S. Nuclear Regulatory Commission (Office of Nuclear Reactor Regulation, Division of Operating Reactors) for technical assistance in support of NRC operating reactor licensing actions. The technical evaluation was conducted in accordance with criteria established by the NRC.

Mr. T. J. DelGaizo contributed to the technical preparation of this report through a subcontract with WESTEC Services, Inc.

1. BACKGROUND

On June 25, 1976 [1], the NRC requested Northern States Power Company (NSP) to review the containment leakage testing program at Prairie Island Units 1 and 2 and to provide a plan for achieving full compliance with 10CFR50, Appendix J, Containment Leakage Testing. This plan was to include appropriate design modifications, changes to technical specifications, or requests for exemption from the requirements pursuant to 10CFR50.12, where necessary.

On August 9, 1976 [2], NSP responded to the NRC's request, identifying the following departures from the requirements of 10CFR50, Appendix J:

- Containment fan coil unit isolation valves not Type C tested.
- Airlock door seals tested at 10 psig rather than at 46 psig.
- Some isolation valves tested in a direction opposite to that existing under accident conditions.
- Some Type C tests of containment isolation valves performed hydraulically rather than pneumatically, and an air/water leakage correlation factor applied.
- Airlocks tested every 3 days when in use, rather than after each use, by pressurizing the door seals.

On November 2, 1977 [3], NSP requested authorization to substitute a statistical containment leak rate test completion criterion for the 24-hour test duration requirement of Section 7.6 of ANSI N45.4-1972. The statistical procedure was designed to verify that the measured leakage rate, at the 95% confidence level, is less than the leakage rate acceptance criterion. The issue of Type A testing in less than 24 hours, however, is being reviewed by the NRC staff on a generic basis and therefore is not a part of this report.

On May 30, 1980 [4], NSP responded to a request for additional information from the NRC dated April 11, 1980 [5]. In this submittal, NSP provided additional justification for previously submitted exemption requests.

The purpose of this report is to provide technical evaluations of outstanding issues regarding the implementation of 10CFR50, Appendix J, at

Prairie Island. Consequently, technical evaluations of requests for exemption from the requirements of Appendix J, as submitted in Reference 2 and amplified in Reference 4, are included. In addition, Reference 2 indicated that a previously submitted License Amendment Request dated August 7, 1975 [6] is significant to the implementation of Appendix J at Prairie Island. NSP stated that the technical specification changes of this License Amendment Request along with the exemptions from certain requirements regarding the above-mentioned departures are necessary to provide conformance with Appendix J. Therefore, technical evaluations of the proposed technical specification changes of Reference 6 are also included in this report.

2. EVALUATION CRITERIA

Code of Federal Regulations, Title 10, Part 50 (10CFR50), Appendix J, Containment Leakage Testing, contains the criteria used for the evaluation of exemption requests. Where applied to the evaluations, the criteria are either referenced or briefly stated, where necessary, to support the results. Furthermore, in recognition of plant-specific conditions which could lead to requests for exemption not explicitly covered by the regulations, the NRC directed that the technical review constantly emphasize the basic intent of Appendix J, i.e., that potential containment atmospheric leakage paths be identified, monitored, and maintained below established limits.

3. TECHNICAL EVALUATION

3.1 REQUEST FOR EXEMPTION FROM THE REQUIREMENTS OF APPENDIX J

In Reference 2, NSP stated:

> It has been our understanding that exemption from certain requirements of Appendix J has been granted as a result of the Commission's review of the Prairie Island testing program and issuance of appropriate Technical Specifications prior to licensing.

For the purpose of a generic review of the status of implementation of 10CFR50, Appendix J, at all operating reactors, licensee responses to the NRC's generic letter (Reference 1 in the case of Prairie Island) are evaluated on their own merits or on subsequently provided information. Consequently, all reported deviations from the requirements of Appendix J which require exemptions are considered to be requests for exemption regardless of possible prior reviews or agreements. The items evaluated in the following subparagraphs are treated as requests for exemption from the requirements of Appendix J even if the correspondence from NSP never formally requested that exemptions be granted.

3.1.1 Fan Coil Unit Isolation Valves

In Reference 2, NSP stated:

> Containment Fan Coil Unit isolation valves are not subjected to Type C tests as required by Section III.A.1.(d) of Appendix J. The Technical Specifications specifically exclude these valves from local leakage tests since they are considered to be installed in systems which are "sealed" to containment leakage.

In Reference 5, NSP stated:

> Fan coil units inside containment are provided with water from the plant cooling water system when they are operating in their safeguards mode. Portions of the cooling water system serving the fan coil units are free from single failures, designed as Class I seismic, and are missile protected. Cooling water system pressure exceeds maximum postulated containment accident pressure. There is no potential for leakage of radioactive material out of the containment via the cooling water system.

In the event of accident, the cooling water supply and return isolation valves remain open to satisfy their safeguards function. In the event of a fan coil unit or associated piping rupture the containment manual isolation valves would be closed to prevent the entry of non-borated water into containment. Pressure against the closed isolation valves is maintained by 1/2-inch equalizing lines. The water supply for this "seal" is provided by the cooling water system pumps (3 motor driven and 2 diesel driven) which take suction from the Mississippi River.

Evaluation

Section III.A.1.(d) of Appendix J requires Type C testing of containment isolation valves in systems that are normally filled with water and operating under post-accident conditions. Section II.B., however, defines containment isolation valves as those valves relied upon to perform a containment isolation function. Section II.D defines leakage as the escape of containment air to outside atmosphere. Therefore, although the fan coil units are normally filled with water and operating under post-accident conditions, Type C testing of the containment isolation valves is not required if the valves are not relied upon to prevent the escape of containment air to the outside atmosphere.

NSP has stated that there is no potential for leakage of radioactive material out of the containment via the cooling water system. NSP's justification for this statement is that the system is a closed system inside containment designed to perform a post-accident safeguard function, designed Seismic I, missile protected, free from single active failure which would prevent operation, and operates at pressures in excess of postulated maximum containment atmosphere. Furthermore, in the event of a piping rupture of this system, leakage past the isolation valves would be into the containment and not out. Consequently, FRC concurs with NSP that the isolation valves of this system are not relied upon to prevent the escape of containment air to the outside atmosphere. The fan coil unit isolation valves may be excluded from Type C testing and no exemption from the requirements of Appendix J is necessary because Appendix J does not require the testing of these valves.

3.1.2 Testing of Containment Airlocks

In Reference 2, NSP stated:

Airlocks door seals are not tested at Pa as required by Section II.B.2. The Technical Specifications permit this test to be performed at 10 psig. We believe this is an appropriate pressure to use since a higher pressure will produce erroneous results.

Airlocks are not tested after each use as required by Section III.D.2. The Technical Specification permits testing to be conducted every three days if an airlock is in use by pressurizing the door seals. We believe that the requirement to test an airlock after each opening is not practical.

In Reference 5, NSP stated:

The Prairie Island Technical Specifications require airlock door leakage to be less than the design leakage of the door seals reported by NPS in Supplement No. 1 to the Initial Unit No. 1 Reactor Containment Building Leak Rate Test Report. The value reported was an arbitrary 1 cc/min/lineal inch of resilent seal at test pressure (Pt = 10 psig). There is no need to correct leakage from test pressure to peak accident pressure (Pa) since the leakage acceptance criterion is not stated in terms of full pressure.

An attempt to clarify this issue was made in NSP's Prairie Island License Amendment Request dated August 7, 1975. Refer to Exhibit A, Item 1(c). No action has been taken on this request by the NRC Staff.

If extrapolation were necessary, the following method could be used. If Pt is the gauge test pressure used and Pa is the gauge pressure that the results are to be corrected to, a conservative factor to apply to the leakage measured at Pt would be Pa/Pt.

Evaluation

Sections III.B.2 and III.D.2 of Appendix J require that containment airlocks be tested at peak calculated accident pressure (Pa) at 6-month intervals and after each opening when opened in the interim between 6-month tests. These requirements were imposed because airlocks represent potentially large leakage paths which are more prone to human error than other containment

penetrations. Type B penetrations (other than airlocks) require testing in accordance with Appendix J at intervals not to exceed 2 years.

Appendix J was published in 1973. A compilation of airlock events from Licensee Event Reports submitted since 1969 shows that airlock testing in accordance with Appendix J has been effective in prompt identification of airlock leakage but that rigid adherence to the after-each-opening requirement may not be necessary.

Since 1969, there have been approximately 70 reported instances in which airlock testing results have exceeded allowable leakage limits. Of these events, 25% were the result of leakage other than that resulting from improper seating of airlock door seals. These failures were generally caused by leakage past door-operating mechanism handwheel packing, door-operating cylinder shaft seals, equalizer valves, or test lines. These penetrations are not unlike other Type B or Type C containment penetrations except that they may be operated more frequently. Since airlocks are tested at a pressure of Pa every 6 months, these penetrations are tested, at a minimum, four times more frequently than typical Type B or C penetrations. The 6-month test is therefore considered to be both justified and adequate for the prompt identification of this leakage.

Improper seating of the airlock door seals, however, is not only the most frequent cause of airlock failures (the remaining 75%), but also represents the large potential leakage path. While testing at a pressure of Pa after each opening will identify seal leakage, seal leakage can also be identified by alternative methods such as pressurizing between double-gasketed door seals (for airlocks designed with this type of seal) or pressurizing the airlock to pressures other than Pa. Furthermore, experience gained in testing airlocks since the issuance of Appendix J indicates that the use of one of these alternative methods may be preferable to the full-pressure test of the entire airlock.

Reactor plants designed prior to the issuance of Appendix J often do not have the capability to test airlocks at Pa without the installation of strongbacks or the performance of mechanical adjustments to the operating

mechanisms of the inner doors. This is because the inner doors are designed to seat with accident pressure on the containment side of the door, and therefore, the operating mechanisms were not designed to withstand accident pressure in the opposite direction. When the airlock is ssurized for a local airlock test (i.e., pressurized between the door ssure is exerted on the airlock side of the inner door causing the door to unseat and preventing the conduct of a meaningful test. The strongback or mechanical adjustments prevent the unseating of the inner door, allowing the test to proceed. The installation of strongbacks or performance of mechanical adjustments is time consuming (often taking several hours), may result in additional radiation exposure to operating personnel, and may also cause degradation to the operating mechanism of the inner door with consequential loss of reliability of the airlock. In addition, when conditions require frequent openings over a short period of time, testing at Pa after each opening becomes both impractical (tests often take from 8 hours to several days) and accelerates the rate of exposure to personnel and degradation of mechanical equipment.

For these reasons, it is concluded that the intent of Appendix J is satisfied and the undesirable effects of testing after each opening are reduced if a satisfactory test of the airlock door seals is performed within 3 days of each opening or every 72 hours during periods of frequent openings whenever containment integrity is required. The test of the airlock door seals may be performed by pressurizing the space between the double-gasketed seals (if so equipped) or by pressurizing the entire airlo to a pressure less than Pa that does not require the installation of strongbacks or performance of other mechanical adjustments. If the reduced pressure airlock test is employed, the results of this test must be conservatively extrapolated to the results of the Pa air test. Further, a 1980 revision to Section III.D.2 of Appendix J incorporated the above provisions into the regulation.

In view of the foregoing discussion, NSP's proposal to test airlock door seals at 10 psig every 3 days when the airlock is in use is acceptable in meeting the after-each-opening requirement of Appendix J, but unacceptable in meeting the requirement for the semiannual test. A Type B test of the entire airlock assembly every 6 months at peak calculated accident pressure (Pa) is

essential to the verification of airlock integrity and must be performed in accordance with Appendix J.

Furthermore, both the acceptance criteria of 1 cc/min/lineal inch of resilent seal and the extrapolation factor of Pa/Pt, discussed in Reference 5, are unacceptable. Section III.B.3 of Appendix J requires that the total of all Type B and Type C tests (local leakage rate tests) be less than 0.6 La (maximum allowable containment integrated leakage). Therefore, Appendix J requires that the airlock leakage at Pa, when combined with leakage from local testing of penetrations and isolation valves in accordance with Appendix J, does not exceed 0.6 La. Since this leakage rate is in terms of Pa, the results of testing at Pt must be conservatively extrapolated to Pa.

The extrapolation that consists of multiplying the leakage rate measured at Pt by Pa/Pt to determine the leakage rate at Pa, as proposed by NSP, is not considered acceptable because it is not necessarily conservative. In the absence of knowledge of the leakage path geometry, it is possible that the leakage path consists of the space between two very closely spaced surfaces. Since air is compressible, the mass flow rate measured at Pt should be multiplied by:

$$\frac{[(Pa + Patm)^2 - (Patm)^2]\ (\mu t)}{[(Pt + Patm)^2 - (Patm)^2]\ (\mu a)}$$

where Pa and Pt are in psig. Patm is discharge pressure for the leakage path in psia, μa is the visosity of air at the temperature at which a test at Pa would be performed, and μt is the viscosity of air at the temperature of the test. For example, if Pa = 60 psig, Pt = 10 psig, Patm = 14.7 psia, and $\mu t = \mu a$, then the extrapolation factor is 13.6 rather than 6 as obtained from the formula Pa/Pt.

3.1.3 Direction of Test Pressure

In Reference 2, NSP stated:

In a small number of cases isolation valves are tested in a direction opposite to the existing under accident conditions. There is no provision

for testing these valves in the correct direction. There is no assurance that testing these valves in the reverse direction results in a conservative leakage measurement.

In Reference 5, NSP stated:

Testing of blind flanges involves pressurizing the piping between the inboard and outboard flanges. The inboard flange is pressurized in the reverse direction. This is a conservative test since test pressure acts to unseat the inboard flange. Testing of airlock overall leakage is, for the same reason, a conservative test since the inner door is pressurized in the reverse direction which tends to open the door.

Testing globe valves in the reverse direction is acceptable if this results in applying pressure under the seat. Testing butterfly valves in the reverse direction is also acceptable if they are constructed for sealing in either direction. Reverse direction testing should also pressurize the valve stem seal (if any) or the integrity of the stem seal should be verified in some other manner. This position is consistent with the requirements of IWV-3423 of Section XI of the ASME Boiler and Pressure Code, 1977 Edition, Summer 1978 Addenda, which is used in conducting the inservice inspection program valve leakage tests. Testing gate valves in the reverse direction is generally unacceptable.

Each of the penetrations tested in the reverse direction will be reviewed to determine if it meets the above criteria. Procedure changes or modifications will be made to allow testing in the direction of post-accident pressure if they are found to be feasible. This review will be completed prior to the conduct of the 1981 refueling outage Type B and Type C tests.

Evaluation

Section III.C.1 of Appendix J requires that Type C tests be performed by local pressurization applied in the same direction as that for which the valve would be required to perform its safety function, unless it can be determined that the results from tests in which the pressure is applied in a different direction will provide equivalent or more conservative results. In Reference 5, NSP has provided criteria by which it will determine whether or not reverse direction testing in the case of the valves at Prairie Island will provide equivalent or conservative results.

FRC concurs that the criteria specified by NSP for this determination are sufficient. Reverse direction testing of valves which satisfy the criteria is acceptable and no exemption is required. Reverse direction testing of valves

which do not satisfy the criteria is unacceptable and exemptions are not appropriate.

3.1.4 Water Testing of Isolation Valves

In Reference 2, NSP stated:

All Type C tests are not conducted using air or nitrogen pressure as required by Section III.C.2 The Technical Specifications permit a large number of isolation valves to be hydrostatically tested at Pa. The test results are corrected to equivalent gas leakage by applying an appropriate air/water leakage correlation factor. It is not practical to drain and vent these penetrations to conduct an air or nitrogen test.

In Reference 5, NSP stated:

The Prairie Island Technical Specification currently allows water tests of the following penetrations:

RHR Supply and Return
Charging Line
Reactor Coolant Pump Seal Supply and Return
Safety Injection
Containment Spray
Containment Sump ECCS Suction
Low Head Safety Injection

All of these lines will remain water filled and intact outside containment following a loss of coolant or steam line break accident. Present practice is to apply an air/water leakage scaling factor of approximately 60. This scaling factor effectively limits the permitted water leakage to a total of a few liters/min to permit the overall containment penetration leakage rate criterion to be satisfied. Leakage rates of this magnitude do not raise serious questions concerning available makeup inventory of any of the systems involved.

Evaluation

Section III.C.2 of Appendix J requires that valves, unless pressurized with fluid from a seal system, be pressurized with air or nitrogen at a pressure of Pa. This is because Appendix J is concerned with measuring the rate of escape of containment air to the outside atmosphere, and therefore, the test medium must closely approximate post-accident containment air. Where it is not convenient to test certain valves with air or nitrogen, water testing may be acceptable where the measured leakage rate can be conserva-

tively correlated to equivalent air leakage. However, to date, no acceptable correlation factor has been demonstrated by any licensee nor is NSP's proposed scaling factor of 60 considered acceptable. Nevertheless, where it can be demonstrated that, because of the design of the system (i.e., safety-related, missile-protected, designed to remain intact and water-filled or operational post-accident, etc.), the isolation valves will be water sealed throughout the post-accident period, Appendix J does not require testing with air or nitrogen because these valves are not relied upon to prevent the escape of containment air to the outside atmosphere.

NSP's justification provided in Reference 5 that leakage rates of a few liters/min do not raise serious questions concerning available makeup inventory of any of the systems involved does not provide ample assurance that these valves will remain water sealed throughout the post-accident period. A clear demonstration that valves will remain water sealed is one that meets the Appendix J criteria for seal systems given in Section III.C.3.b.

3.1.5 Draining of Systems for Type A Testing

In Reference 2, Table 1, Item 4, NSP stated:

> The primary system is vented to the containment atmosphere, but coolant is not drained to expose systems communicating with the primary system to the air test pressure. Each system is, however, subjected to Type C test if practicable.

Further explaining this statement in Reference 5, NSP provided the following:

> Section III.A.1.(d) of Appendix J requires "...portions of the fluid systems that are part of the reactor coolant pressure boundary and are open directly to the containment atmosphere under post-accident conditions and become an extension of the boundary of the containment shall be opened or vented to the containment atmosphere prior to and during the test. Portions of closed systems inside containment that penetrate containment and rupture as a result of a loss of coolant accident shall be vented to the containment atmosphere". We believe this requires that draining and venting of those systems inside containment which may communicate with the post-accident atmosphere either through design or due to failure of non-seismic or non-missile protected piping. Systems designed for the accident environment (such as the seismic,

missile protected fan coil units and the secondary side of the steam generators) need not be drained and vented.

Section III.A.1.(d) does not require systems which are normally operating and filled with water following an accident to be vented to the containment. Type C tests of isolation valves in these systems are required, however.

Prairie Island does not conform to the requirements of Section III.A.1.(d) since many of the isolation valve tests are performed using water and not air as required by Section III.C of Appendix J. As discussed in Item 2.4, however, we believe water tests are more appropriate for these isolation valves. Also, as discussed earlier, tests are performed in some cases with pressure applied in a direction opposite to post-accident pressure. The validity of this testing will be reviewed as noted in our response to Item 2.3.

Evaluation

FRC concurs with NSP's interpretation of the venting and draining requirements of Section III.A.1.(d). As to testing of isolation valves with water in lieu of air or nitrogen and testing of valves in the reverse direction, these items have been evaluated in Sections 3.1.4 and 3.1.3, respectively.

3.2 PROPOSED TECHNICAL SPECIFICATION CHANGES

In Reference 6, NSP submitted a License Amendment Request which included proposed revisions to Technical Specification 4.4.A, Containment Leakage Tests. Although submitted prior to the NRC's generic letter of June 1976, this License Amendment Request had been submitted to provide conformance with the requirements of Appendix J. Technical evaluations of the proposed changes are provided in the following subparagraphs.

3.2.1 Proposed Specification 4.4.A.2, Type B and C Testing

This proposed specification requires that Type B and C tests (except for airlocks) be performed at 46 psig (Pa) in accordance with Sections III.B and III.C of Appendix J.

Evaluation

This proposed specification is in accordance with Appendix J and is acceptable.

3.2.2 Proposed Specification 4.4.A.3, Airlock Testing

This proposed specification requires airlock testing at 6-month intervals and airlock seal testing, by pressurizing the intergasket space, every 3 days when in use at a pressure of 10 psig.

Evaluation

This proposed specification does not conform to the requirements of Sections III.B.2 and III.D.2 of Appendix J with regard to testing of containment airlocks and is, therefore, unacceptable. For a detailed evaluation of NSP's airlock testing proposal, see Section 3.1.2 of this report.

3.2.3 Proposed Specification 4.4.A.4, Hydrostatic Testing of Isolation Valves

The proposed specification provides that penetrations which are hydrostatically tested at 46 psig with the measured leakage converted to equivalent gas leakage use a volumetric scaling factor of 280 scc/min air leakage to 1 cc (at 46 psig)/min of water leakage.

Evaluation

Section III.C.2 of Appendix J requires that Type C testing be performed with air or nitrogen as a test medium. NSP's proposal to perform this testing hydrostatically and convert the results to equivalent air leakage is unacceptable for the reasons given in Section 3.1.4 of this report.

3.2.4 Proposed Specification 4.4.A.7, Type B and C Testing Acceptance Criteria

The proposed specification requires that Type B and C test be considered satisfactory if the combined leakage rate of all components subjected to Type B and C testing does not exceed 60% of La and if additional conditions are met.

Evaluation

Sections III.B.3 and III.C.3 of Appendix J require that the combined total of the Type B and Type C tests are not exceed 0.6 La. Consequently, this proposed specification is acceptable. The additional requirements imposed by NSP in 4.4.A.7.a and 4.4.A.7.b are not material to the requirements of Appendix J and are not evaluated as part of this report, but are left to the discretion of the Licensee.

3.2.5 Proposed Specification 4.4.A.8, Retest Requirements

The proposed specification requires retest schedules for Type A, B, and C tests be in accordance with Section III.D of Appendix J.

Evaluation

This requirement conforms to Appendix J and is acceptable.

3.2.6 Proposed Specification 4.4.A.9, Inspection and Reporting

The proposed specification provides various requirements regarding the inspection and reporting requirements for the Type A, B, and C tests.

Evaluation

This proposed specification is in accordance with Section V of Appendix J and in accordance with information previously reviewed by the NRC, and is acceptable.

3.2.7 Proposed Table 4.4-1, Penetration Designation for Leakage Tests

The proposed table provides a listing of containment penetrations and the type testing performed.

Evaluation

Subject to the findings of Sections 3.1.3 and 3.1.4 of this report regarding the testing of penetrations, this proposed table is acceptable.

4. CONCLUSIONS

Technical evaluations of all outstanding issues regarding the implementation of 10CFR50, Appendix J, at Prairie Island (requests for exemption and proposed technical specification changes) were provided. The conclusion of these evaluations are provided below:

- Fan coil isolation valves may be excluded from Type C testing, and no exemption is needed because Appendix J does not require testing of these valves.
- NSP's proposal to test airlock door seals at 10 psig every 3 days when the airlock is in use is acceptable, but testing airlocks at 10 psig is not sufficient to satisfy the requirement to test at Pa every 6 months.
- NSP's proposal to determine the adequacy of reverse direction testing for certain valves in accordance with NSP's stated criteria is acceptable. Reverse direction testing of valves which satisfy the criteria is acceptable, and no exemptions are necessary. Exemptions are not appropriate for valves which do not satisfy the criteria.
- NSP's proposal to test certain valves hydraulically and to convert the results to equivalent air leakage using a scaling factor of 60 is unacceptable.
- NSP's interpretation of Section III.A.1.(d) regarding the draining and venting of systems during Type A testing is agreed with by FRC.
- The proposed changes to the Technical Specifications at Prairie Island submitted by NSP in August 1975 were found to be acceptable with the exception of airlock testing and hydraulic testing of isolation valves for the reasons enumerated above.

5. REFERENCES

1. NRC
Letter to Mr. L. O. Mayer (NSP)
Subject: Prairie Island Nuclear Generating Plants Units 1 and 2
June 25, 1976

2. Mr. L. O. Mayer (NSP)
Letter to Mr. K. R. Goller (NRC)
Subject: Prairie Island Compliance with the Requirements of 10CFR50 Appendix J
August 9, 1977

3. Mr. L. O. Mayer (NSP)
Letter to Mr. V. Stello (NRC)
Subject: Request to Terminate Containment Integrated Leak Rate Test in Less than 24 Hours
November 2, 1977

4. Mr. L. O. Mayer (NSP)
Letter to Director NRR
Subject: Information on Implementation of 10CFR50 Appendix J
May 30, 1980

5. Mr. A. Schwencer (NRC)
Letter to Mr. L. O. Mayer (NSP)
Subject: Information on Implementation of 10CFR50 Appendix J
April 11, 1980

6. Mr. L. O. Mayer (NSP)
Letter to Mr. A. Giambusso (NRC)
Subject: License Amendment Request dated August 7, 1975
August 7, 1975