

August 28, 1984

Docket No. 50-333

Mr. J. P. Bayne  
Executive Vice President,  
Nuclear Generation  
Power Authority of the State  
of New York  
123 Main Street  
White Plains, New York 10601

Dear Mr. Bayne:

The Commission has issued the enclosed Amendment No. 83 to Facility Operating License No. DPR-59 for the James A. FitzPatrick Nuclear Power Plant. The amendment consists of changes to the Technical Specifications in response to your request dated February 20, 1981.

The revision of the Technical Specifications adds the use of the term "operable" as it applies to safety systems in power reactors. The change includes a definition of "operable" as well as a section on operability requirements in the Limiting Conditions for Operation and surveillance section of the Technical Specifications. In particular, the change requires the normal or emergency power source as well as the safety system itself to be operable or the unit be placed in a condition required for the individual system itself.

A copy of our Safety Evaluation is enclosed.

Sincerely,

Original signed by/

Harvey I. Abelson, Project Manager  
Operating Reactors Branch #2  
Division of Licensing

Enclosures:

1. Amendment No. 83 to  
License No. DPR-59
2. Safety Evaluation

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cc w/enclosures:  
See next page

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James A. FitzPatrick Nuclear Power Plant

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

POWER AUTHORITY OF THE STATE OF NEW YORK

DOCKET NO. 50-333

JAMES A. FITZPATRICK NUCLEAR POWER PLANT

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 83  
License No. DPR-59

1. The Nuclear Regulatory Commission (the Commission) has found that:
  - A. The application for amendment by the Power Authority of the State of New York (the licensee) dated February 20, 1981, 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 applications, 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 changes to the Technical Specifications as indicated in the attachment to this license amendment and paragraph 2.C(2) of Facility Operating License No. DPR-59 is hereby amended to read as follows:

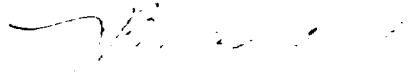
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(2) Technical Specifications

The Technical Specifications contained in Appendices A and B, as revised through Amendment No. 83, 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



Domenic B. Vassallo, Chief  
Operating Reactors Branch #2  
Division of Licensing

Attachment:  
Changes to the Technical  
Specifications

Date of Issuance: August 28, 1984

ATTACHMENT TO LICENSE AMENDMENT NO. 83

FACILITY OPERATING LICENSE NO. DPR-59

DOCKET NO. 50-333

Revise the Technical Specifications by removing and inserting the following pages:

<u>Remove</u>	<u>Insert</u>
3	3
4	4
30	30
-	30a
-	30b
-	30c
-	30d
-	30e
-	30f
181	181
218	218
219	219
220	220

## 1.0 (cont'd)

will be started and valves operated.

7. Protective Action - An action initiated by the Protection System when a limiting safety system setting is reached. A protective action can be at a channel or system level.
8. Protective Function - A system protective action which results from the protective action of the channels monitoring a particular plant condition.
9. Simulated Automatic Actuation - Simulated automatic actuation means applying a simulated signal to the sensor to actuate the circuit in question.
10. Trip System - A trip system means an arrangement of instrument channel trip signals and auxiliary equipment required to initiate action to accomplish a protective function. A trip system may require one or more instrument channel trip signals related to one or more plant parameters in order to initiate trip system action. Initiation of protective action may require the tripping of a single trip system or the coincident tripping of two trip systems.

11. Sensor - A sensor is that part of a channel used to detect variations in a monitored variable and to provide a suitable signal to logic.

G. Limiting Conditions for Operation (LCO)

The limiting conditions for operation specify the minimum acceptable levels of system performance necessary to assure safe startup and operation of the facility. When these conditions are met, the plant can be operated safely and abnormal situations can be safely controlled.

H. Limiting Safety System Setting (LSSS) -

The limiting safety system settings are settings on instrumentation which initiate the automatic protective action at a level such that the safety limits will not be exceeded. The region between the safety limit and these settings represent margin with normal operation lying below these settings. The margin has been established so that with proper operation of the instrumentation safety limits will never be exceeded.

I. Modes of Operation (Operational Mode)

Mode - The reactor mode is established by the Mode Selector Switch. The modes include shutdown, refuel, startup/hot standby, and run which are defined as follows:

## 1.0 Continued

1. Refuel Mode - The reactor is in the refuel mode when the Mode Switch is in the Refuel Mode position. When the Mode Switch is in the Refuel position, the refueling interlocks are in service.
2. Run Mode - In this mode the reactor system pressure is at or above 850 psig and the Reactor Protection System is energized with APRM protection (excluding the 15 percent high flux trip) and the RBM interlocks in service.
3. Shutdown Mode - The reactor is in the shutdown mode when the Reactor Mode Switch is in the Shutdown Mode position.
  - a. Hot shutdown means conditions as above with reactor coolant temperature  $> 212^{\circ}$  F.
  - b. Cold shutdown means conditions as above with reactor coolant temperature  $\leq 212^{\circ}$  F. and the reactor vessel vented.
4. Startup/Hot Standby - In this mode the reactor protection scram trips initiated by main steam line isolation valve closure is bypassed when reactor pressure is less than 1,005 psig, the low pressure main steam line isolation valve closure trip is bypassed, the Reactor Protection System is energized with APRM (15 percent) and IRM neutron monitoring system trips and control rod withdrawal interlocks in service.
- J. Operable - A system, subsystem, train, component or device shall be OPERABLE or have OPERABILITY when it is capable of performing its specified function(s). Implicit in this definition shall be the assumption that all necessary attendant instrumentation, controls, normal and emergency electrical power sources, cooling or seal water, lubrication or other auxiliary equipment that are required for the system, subsystem, train, component or device to perform its function(s) are also capable of performing their related support function(s).
- K. Operating - Operating means that a system or component is performing its intended functions in its required manner.
- L. Operating Cycle - Interval between the end of one refueling outage and the end of the subsequent refueling outage.
- M. Primary Containment Integrity - Primary containment integrity means that the drywell and pressure suppression chamber are intact and all of the following conditions are satisfied:
  1. All manual containment isolation valves on lines connected to the Reactor Coolant System or containment which are not required to be open during plant accident conditions are closed. These valves may be

### 3. Limiting Conditions for Operation

#### 3.0 General

##### Applicability:

Applies to the general LCO requirements of Section 3.

##### Objective:

To specify the general requirements applicable to each Limiting Condition for Operation listed in Section 3.

##### Specification:

- A. Limiting Conditions for Operation and ACTION requirements shall be applicable during the OPERATIONAL CONDITIONS (modes) specified for each specification.
- B. Adherence to the requirements of the Limiting Condition for Operation and associated ACTION within the specified time interval shall constitute compliance with the specification. In the event the Limiting Condition for Operation is restored prior to expiration of the specified time interval, completion of the ACTION statement is not required.
- C. In the event a Limiting Condition for Operation and/or associated ACTION requirements cannot be satisfied because of circumstances in excess of those addressed in the specification, the unit shall be placed in COLD SHUTDOWN within the following 24 hours unless corrective measures are completed that permit operation under the permissible ACTION or until the reactor is placed in an OPERATIONAL CONDITION (mode) in which the specification is not applicable. Exceptions to these requirements shall be stated in the individual specifications.

### 4. Surveillance Requirements

#### 4.0 General

##### Applicability:

Applies to the general surveillance requirements of Section 4.

##### Objective:

To specify the general requirements applicable to each surveillance requirement in Section 4.

##### Specification:

- A. Surveillance Requirements shall be applicable during the OPERATIONAL CONDITIONS (modes) specified for individual Limiting Condition for Operation unless otherwise stated in the individual Surveillance Requirements.
- B. Each Surveillance Requirement shall be performed within the specified time interval with:
  - 1. An allowable variation of +25% of the surveillance interval,
  - 2. A total maximum combined interval time for any three (3) consecutive surveillance intervals not to exceed 3.5 times the specified surveillance interval.
- C. Performance of a Surveillance Requirement within the specified time interval shall constitute compliance with OPERABILITY requirements for a Limiting Condition for Operation and associated ACTION statements unless otherwise required by the specification. Surveillance requirements do not have to be performed on inoperable equipment.

### 3.0 Continued

- D. Entry into an OPERATIONAL CONDITION (mode) shall not be made unless the conditions of the Limiting Condition for Operation are met without reliance on provisions contained in the ACTION statements unless otherwise excepted. This provision shall not prevent passage thru OPERATIONAL CONDITIONS (modes) required to comply with ACTION requirements.
- E. When a system, subsystem, train, component or device is determined to be inoperable solely because its emergency power source is inoperable, or solely because its normal power source is inoperable, it may be considered OPERABLE for the purpose of satisfying the requirements of its applicable Limiting Condition for Operation, provided: (1) its corresponding normal or emergency power source is OPERABLE; and (2) all of its redundant system(s), subsystem(s), train(s), component(s) and device(s) are OPERABLE, or likewise satisfy the requirements of this specification. Unless both conditions (1) and (2) are satisfied, the unit shall be placed in COLD SHUTDOWN within the following 24 hours. This specification is not applicable when in Cold Shutdown or Refuel Mode.

### 4.0 Continued

- D. Entry into an OPERATIONAL CONDITION (mode) shall not be made unless the Surveillance Requirement(s) associated with the Limiting Condition for Operation have been performed within the applicable surveillance interval or as otherwise specified.

### 3.0 BASES

- A. This specification states the applicability of each specification in terms of defined OPERATIONAL CONDITION (mode) and is provided to delineate specifically when each specification is applicable.
- B. This specification defines those conditions necessary to constitute compliance with the terms of an individual Limiting Condition for Operation and associated ACTION requirement.
- C. This specification delineates the ACTION to be taken for circumstances not directly provided for in the ACTION statements and whose occurrence would violate the intent of the specification. Under the terms of Specification 3.0, the facility is to be placed in COLD SHUTDOWN within the following 24 hours. It is assumed that the unit is brought to the required OPERATIONAL CONDITION (mode) within the required times by promptly initiating and carrying out the appropriate ACTION statement.
- D. This specification provides that entry into an OPERABLE CONDITION (mode) must be made with (a) the full complement of required systems, equipment or components OPERABLE and (b) all other parameters as specified in the Limiting Conditions for Operation being met without regard for allowable deviations and out of service provisions contained in the ACTION statements.

#### D. Continued

The intent of this provision is to insure that facility operation is not initiated with either required equipment or systems inoperable or other limits being exceeded.

Exceptions to this provision may be made for a limited number of specifications when startup with inoperable equipment would not affect plant safety. These exceptions are stated in the ACTION statements of the appropriate specifications.

- E. This specification delineates what additional conditions must be satisfied to permit operation to continue, consistent with the ACTION statement for power sources, when a normal or emergency power source is not OPERABLE. It specifically prohibits operation when one division is inoperable because its normal or emergency power source is inoperable and a system, subsystem, train, component or device in another division is inoperable for another reason.

The provisions of this specification permit the ACTION statements associated with individual systems, subsystems, trains, components or devices to be consistent with the ACTION statement of the associated electrical power source. ( ) allows operation to be governed by the time

### 3.0 BASES - Continued

#### E. Continued

limits of the ACTION statement associated with the Limiting Condition for Operation for the normal or emergency power source, and not by the individual ACTION statements for each system, subsystem, train, component or device that is determined to be inoperable solely because of the inoperability of its normal or emergency power source.

For example, Specification 3.9.A. requires in part that both emergency diesel generator systems be OPERABLE. The ACTION statement provides for a 7 day out-of-service time when emergency diesel generator system A or B is not OPERABLE. If the definition of OPERABLE were applied without consideration of Specification 3.0.E., all systems, subsystems, trains, components and devices supplied by the inoperable emergency power source, diesel generator system A or B, would also be inoperable. This would dictate invoking the applicable ACTION statements for each of the applicable Limiting Conditions for Operation. However, the provisions of Specification 3.0.E. permit the time limits for continued operation to be consistent with the ACTION statement for the inoperable emergency diesel generator system instead, provided the other specified conditions are satisfied. If they are not satisfied, shutdown is required in accordance with this specification.

#### E. Continued

As a further example, Specification 3.9.A. requires in part that two 115KV lines and reserve station transformers be available. The ACTION statement provides a 7 day out-of-service time when both required offsite circuits are not OPERABLE. If the definition of OPERABLE were applied without consideration of Specification 3.0.E., all systems, subsystems, trains, components and devices supplied by the inoperable normal power sources, both of the offsite circuits, would also be inoperable. This would dictate invoking the applicable ACTION statements for each of the applicable LCOs. However, the provisions of Specification 3.0.E. permit the time limits for continued operation to be consistent with the ACTION statement for the inoperable normal power sources instead, provided the other specified conditions are satisfied. In this case, this would mean that for one division the emergency power source must be OPERABLE (as must be the components supplied by the emergency power source) and all redundant systems, subsystems, trains, components and devices in the other division must be OPERABLE, or likewise satisfy Specification 3.0.E. (i.e., be capable of performing their design functions and have an emergency power source OPERABLE). In other words, both emergency power sources A and B must be OPERABLE and all redundant systems, subsystems, trains, components and devices in both divisions

### 3.0 BASES - Continued

#### E. Continued

must also be OPERABLE. If these conditions are not satisfied, shutdown is required in accordance with this specification.

In Cold Shutdown and Refuel Modes, Specification 3.0.E. is not applicable, and thus the individual ACTION statement for each applicable Limiting Condition for Operation in these OPERATIONAL CONDITIONS (modes) must be adhered to.

#### 4.0 BASES

- A. This specification provides that surveillance activities necessary to insure the Limiting Conditions for Operation are met and will be performed during the OPERATIONAL CONDITIONS (modes) for which the Limiting Conditions for Operation are applicable. Provisions for additional surveillance activities to be performed without regard to the applicable OPERATIONAL CONDITIONS (modes) are provided in the individual Surveillance Requirements.
- B. The provisions of this specification provide allowable tolerances for performing surveillance activities beyond those specified in the normal surveillance interval. These tolerances are necessary to provide operational flexibility because of scheduling and performance considerations.
- C. The provisions of this specification set forth the criteria for determination of compliance with the OPERABILITY requirements of the Limiting Conditions for Operation. Under this criteria,

#### C. Continued

equipment, systems or components are assumed to be OPERABLE if the associated surveillance activities have been satisfactorily performed within the specified time interval. Nothing in this provision is to be construed as defining equipment, systems or components OPERABLE, when such items are found or known to be inoperable although still meeting the Surveillance Requirements.

- D. This specification ensures that surveillance activities associated with a Limiting Condition for Operation have been performed within the specified time interval prior to entry into an applicable OPERATIONAL CONDITION (mode). The intent of this provision is to ensure that surveillance activities have been satisfactorily demonstrated on a current basis as required to meet the OPERABILITY requirements of the Limiting Condition for Operation.

Under the terms of this specification, for example, during initial plant start-up or following extended plant outage, the applicable surveillance activities must be performed within the stated surveillance interval prior to placing or returning the system or equipment into OPERABLE status.

3.1 LIMITING CONDITIONS FOR OPERATION3.1 REACTOR PROTECTION SYSTEMApplicability:

Applies to the instrumentation and associated devices which initiate the reactor scram.

Objective:

To assure the operability of the Reactor Protection System.

Specification:

- A. The setpoints, minimum number of trip systems, minimum number of instrument channels that must be operable for each position of the reactor mode switch shall be as shown on Table 3.1-1. The design system response time from the opening of the sensor contact to and including the opening of the trip actuator contacts shall not exceed 50 msec.

B. Minimum Critical Power Ratio (MCPR)

During reactor power operation at rated power and flow, the MCPS operating limits shall not be less than those shown below:

1. When surveillance requirement 4.1.E is met.  $(\tau_{AVE} \leq \tau_B)$

4.1 SURVEILLANCE REQUIREMENTS4.1 REACTOR PROTECTION SYSTEMApplicability:

Applies to the surveillance of the instrumentation and associated devices which initiate reactor scram.

Objective:

To specify the type of frequency of surveillance to be applied to the protection instrumentation.

Specification:

- A. Instrumentation systems shall be functionally tested and calibrated as indicated in Tables 4.1-1 and 4.1-2 respectively.

B. Maximum Fraction of Limiting Power Density (MFLPD)

The MFLPD shall be determined daily during reactor power operation at  $\geq 25\%$  rated thermal power and the APRM high flux scram (and Rod Block trip settings adjusted if necessary as required by Specifications 2.1.A.1.c and 2.1.A.1.d, respectively.

## 3.7 (cont'd)

9. Primary containment atmosphere shall be continuously monitored for hydrogen and oxygen when containment integrity is required. The monitoring system shall be considered operable if at least one monitor is operable.
  - a) From and after the time the primary containment atmosphere monitoring instruments are found or made to be inoperable for any reason, continued reactor operation is permissible for the succeeding thirty (30) days unless one instrument monitoring each parameter is sooner made operable, provided an appropriate grab sample is obtained and analyzed at least once each twenty-four (24) hour period.
  - b) If specification 3.7.A.9.a cannot be met, the reactor shall be placed in the cold condition within twenty-four (24) hours.

B. Standby Gas Treatment System

1. Except as specified in 3.7.B.2 below both circuits of the Standby Gas Treatment System shall be operable at all times when secondary containment integrity is required.

## 4.7 (cont'd)

## 9. Primary Containment Atmosphere Monitoring Instruments

- a. Instrumentation shall be functionally tested and calibrated as specified in Table 4.7-1.

B. Standby Gas Treatment System

1. Standby Gas Treatment System surveillance shall be performed as indicated below:
  - a. At least once per operating cycle, it shall be demonstrated that:
    - (1) Pressure drop across the combined high-efficiency and charcoal filters is less than 5.7 in. of water at 6,000 scfm and
    - (2) Each 39kW heater shall dissipate greater than 29kW of electric power as calculated by the following expression:  $P = \sqrt{3} EI$  where  
 P= Dissipated Electrical Power;  
 E= Measured line-to-line voltage in volts (RMS); I= Average measured phase current in amperes (RMS).

### 3.9 Continued

#### C. Diesel Fuel

There will be a minimum of 64,000 gal. of diesel fuel on site for each operable pair of diesel generators.

1. From and after the time that the fuel oil storage tank level instrumentation is made or found to be inoperable for any reason continued reactor operation is permissible indefinitely, provided that the level in the affected storage tank is manually measured at least once/day.

### 4.9 Continued

6. Once within one hour and at least once per eight hours thereafter, while the reactor is being operated in accordance with Specifications 3.9.B.1, 3.9.B.3, and 3.9.B.4, the availability of the operable off-site sources shall be verified by the correct breaker alignment indicating power availability.

#### C. Diesel Fuel

Once a month the quantity of diesel fuel available in each storage tank shall be manually measured and compared to the reading of the local level indicators to ensure the proper operation thereof.

1. Once each month a sample of the diesel fuel in each storage tank shall be checked for quality as per the following:

Flash Point - °F	125°F min.
Pour Point - °F	10°F max.
Water & Sediment	0.50% max.
Ash	0.5% max.
Distillation 90% Point	540 min.
Viscosity (SSU) at 100°F	40 max.
Sulfur	1% max.
Copper Strip Corrosion	No. 3 max.
Cetane #	35 min.

### 3.9 Continued

2. The Diesel Fuel Oil Transfer System shall be operable whenever the diesel generator it supplies is required to be operable, except as specified below:
  - a. From and after the time that fuel oil transfer pump per Diesel Generator System is made or found to be inoperable for any reason, continued reactor operation is permissible for a period not to exceed 60 days; provided that the remaining fuel oil transfer pumps be demonstrated to be operable immediately and weekly thereafter.
  - b. From and after the time that only two fuel oil transfer pumps per Diesel Generator System are operable, continued reactor operation is permissible for a period not to exceed 30 days total per pair of diesels, provided that the remaining fuel oil transfer pumps are demonstrated to be operable immediately and daily thereafter.

### 4.9 Continued

2. During the monthly diesel generator testing, the diesel fuel oil transfer systems shall be checked for proper operation.

### 3.9 Continued

- c. From and after the time that only one fuel oil transfer pump in a Diesel Generator System is found to be operable, that Diesel Generator System shall be considered inoperable and continued reactor operation shall be in accordance with Specification 3.9.B.3 above.

- 3. Whenever the diesel fuel on site for each operable pair of Diesel Generators decreases to less than 64,000 gallons as a result of operation of the Diesel Generators "to meet Technical Specification requirements," Specification 3.0.C does not apply. 48 hours are allowed to restore fuel oil storage tank quantity to a minimum of 64,000 gallons.

#### D. Diesel Generator Operability

Whenever the reactor is in the cold shutdown or refueling modes, a minimum of one of the pairs of Emergency Diesel Generators, and all its associated emergency equipment shall be operable whenever any work is being done which has the potential for draining the vessel, secondary containment is required, or a core or containment cooling system is required.

### 4.9 continued

#### D. Not Applicable



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

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

SUPPORTING AMENDMENT NO. 83 TO FACILITY OPERATING

LICENSE NO. DPR-59

POWER AUTHORITY OF THE STATE OF NEW YORK

JAMES A. FITZPATRICK NUCLEAR POWER PLANT

DOCKET NO. 50-333

1.0 Introduction

By letter dated December 20, 1981, the Power Authority of the State of New York (the licensee) proposed certain changes to the Technical Specifications (TS) of Facility Operating License No. DPR-59 for the James A. FitzPatrick Nuclear Power Plant. The revisions to the Technical Specifications addressed in this Safety Evaluation regard the use of the term "operable" as it applies to safety systems in power reactors. The change proposed by the licensee includes a definition of "operable" as well as a section on operability requirements in the Limiting Conditions for Operation and Surveillance section of the Technical Specifications. In particular the proposed change requires the normal or emergency power source as well as the safety system itself to be operable or the unit be placed in a condition required for the individual system itself. The change proposed by the licensee was in response to a generic letter issued to all licensees on April 10, 1980 on Multi-plant Item D-17. The letter provided Technical Specifications for each licensee and requested that they be adopted.

2.0 Evaluation

The staff has reviewed and endorses the finding in our contractor's Technical Evaluation Report (TER), EGG-EA-6480 dated January 1984 entitled "Definition of Operable, James A. FitzPatrick Nuclear Power Plant." The report concludes and the staff concurs that the licensee's proposed amendment to the FitzPatrick TS provides adequate clarification of the term "OPERABLE" as it applies for safety-related systems and includes "Operability Requirements" in the Limiting Condition for Operation section of the Technical Specifications equivalent to those proposed in the model Technical Specifications issued by the staff. The TER is attached.\*

\*Although the Report contains a legend that this is "an informal report intended for use as a preliminary working document," the report in fact represents EG&G's final evaluation of this amendment request for NRC. These statements will be clarified in reports issued in the near future.

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### 3.0 Environmental Consideration

This amendment involves a change in the installation or use of a facility component located within the restricted area as defined in 10 CFR Part 20. The staff has determined that the amendment involves 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 this amendment involves no significant hazards consideration and there has been no public comment on such finding. Accordingly, this amendment meets 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 this amendment.

### 4.0 Conclusions

We have 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, and (2) such activities will be conducted in compliance with the Commission's regulations and the issuance of this amendment will not be inimical to the common defense and security or to the health and safety of the public.

Principal Contributor: H. Abelson

Attachment:  
Technical Evaluation  
Report

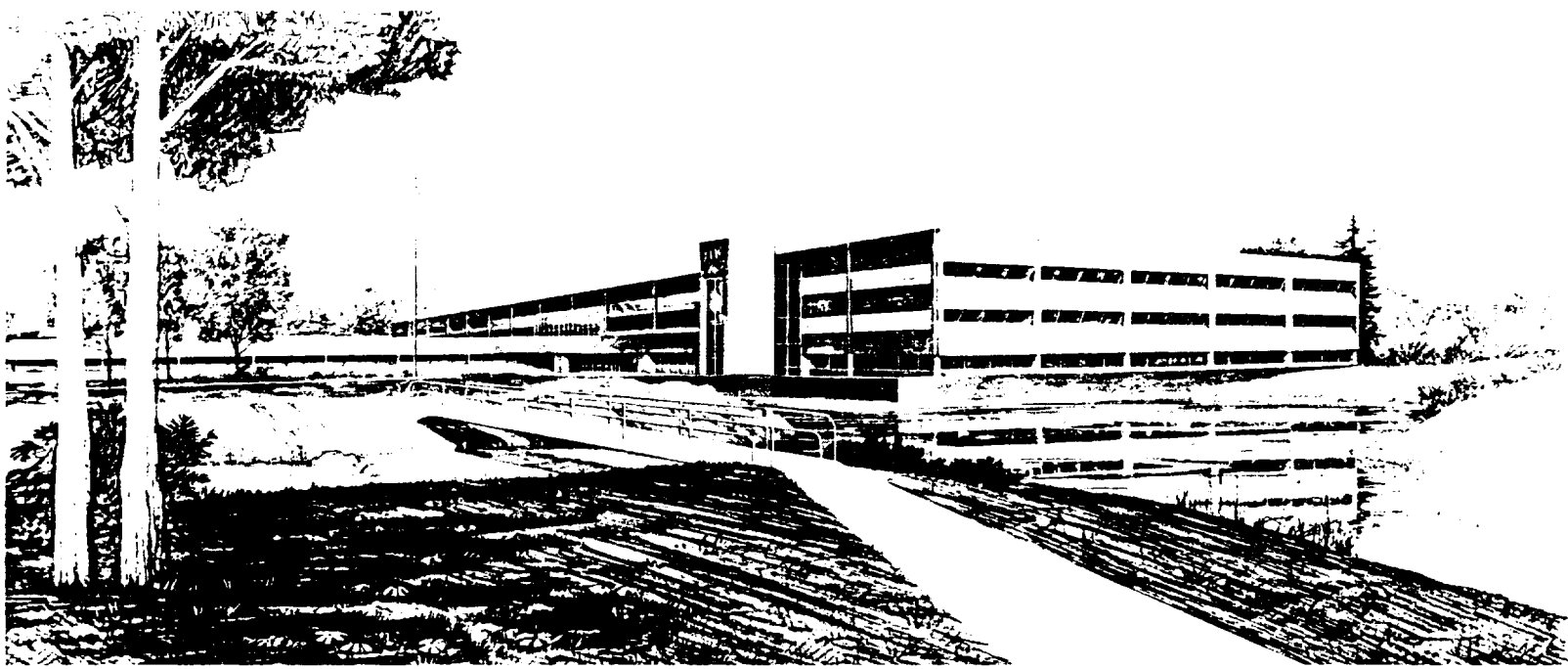
Dated: August 28, 1984

EGG-EA-6480  
JANUARY 1984

DEFINITION OF OPERABLE  
JAMES A. FITZPATRICK NUCLEAR POWER PLANT

F. G. Farmer

**Idaho National Engineering Laboratory**  
Operated by the U.S. Department of Energy



This is an informal report intended for use as a preliminary or working document

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Prepared for the  
U. S. NUCLEAR REGULATORY COMMISSION  
Under DOE Contract No. DE-AC07-76ID01570  
FIN No. A6429



EGG-EA-6480

DEFINITION OF OPERABLE  
JAMES A. FITZPATRICK NUCLEAR POWER PLANT

Published January 1984

F. G. Farmer

EG&G Idaho, Inc.  
Idaho Falls, Idaho 83415

Responsible NRC Individual and Division:  
H. Abelson/Division of Licensing

Docket No. 50-333  
TAC No. 43019

Prepared for the  
U.S. Nuclear Regulatory Commission  
Under DOE Contract No. DE-AC07-76ID01570  
FIN No. A6429

## ABSTRACT

This report reviews the extent of compliance of proposed changes to the James A. FitzPatrick Nuclear Power Plant Technical Specifications with clarifications of the definition and application of the term OPERABLE which have been required by the U.S. Nuclear Regulatory Commission.

## FORWARD

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## DEFINITION OF OPERABLE, JAMES A. FITZPATRICK NUCLEAR POWER PLANT

### 1. INTRODUCTION

On April 10, 1980, the Nuclear Regulatory Commission (NRC) issued a generic letter to all Power Reactor Licensees which clarified the term OPERABLE and identified portions of the Model Technical Specifications (MTS) which are recommended to assure that safety systems remain OPERABLE within the limits of the single failure criterion (Reference 1). In that letter the NRC requested that Licensees review their Technical Specifications (TS) and submit such proposed changes as were necessary to incorporate the requirements of the MTS.

On February 20, 1981, the Power Authority of the State of New York (PASNY) responded to the generic letter, proposing changes to the FitzPatrick Technical Specifications (Reference 3). EG&G Idaho, Inc., has reviewed the proposed changes to the FitzPatrick TS. This report provides an evaluation of the proposed TS changes for conformance to the criteria established by the NRC.

### 2. REVIEW CRITERIA

The review criteria for this task are contained in NRC's April 10, 1980, letter and in Reference 2 and are summarized below.

#### Definition of OPERABLE

A system, subsystem, train, component or device shall be OPERABLE or have OPERABILITY when it is capable of performing its specified function(s). Implicit in this definition shall be the assumption that all necessary attendant instrumentation, controls, normal and emergency electrical power sources, cooling or seal water, lubrication or other auxiliary equipment that are required for the system, subsystem, train, component or device to perform its function(s) are also capable of performing their related support function(s).

### Limiting Condition for Operation

When a Limiting Condition for Operation is not met because of circumstances in excess of those addressed in the specification, except as provided in the associated ACTION requirements, within one hour action shall be initiated to place the unit in a MODE in which the Specification does not apply by placing it, as applicable, in:

1. At least STARTUP within the next 6 hours,
2. At least HOT SHUTDOWN within the following 6 hours, and
3. At least COLD SHUTDOWN within the subsequent 24 hours.

Where corrective measures are completed that permit operation under the ACTION requirements, the ACTION may be taken in accordance with the specified time limits as measured from the time of failure to meet the Limiting Condition for Operation. Exceptions to these requirements are stated in the individual Specifications.

When a system, subsystem, train, component or device is determined to be inoperable solely because its emergency power source is inoperable, or solely because its normal power source is inoperable, it may be considered OPERABLE for the purpose of satisfying the requirements of its applicable Limiting Condition for Operation, provided: (a) its corresponding normal or emergency power source is OPERABLE; and (b) all of its redundant system(s), subsystem(s), train(s), component(s) and device(s) are OPERABLE, or likewise satisfy the requirements of this specification. Unless both conditions (a) and (b) are satisfied, within two hours action shall be initiated to place the unit in at least STARTUP within 6 hours, in at least HOT SHUTDOWN within the next 6 hours, and in at least COLD SHUTDOWN within the following 24 hours. This specification is not applicable in MODES 5 or 6.

### 3. DISCUSSION

The proposed amendment (Reference 3) to the FitzPatrick TS provides a new definition of the term OPERABLE which is extracted verbatim from the MTS. This proposed definition complies with the review criteria.

The licensee's proposed amendment includes changes to the FitzPatrick Limiting Conditions for Operation (LCOs) which add these conditions:

In the event a Limiting Condition for Operation and/or associated ACTION requirements cannot be satisfied because of circumstances in excess of those addressed in the specification, the unit shall be placed in COLD SHUTDOWN within the following 24 hours unless corrective measures are completed that permit operation under the permissible ACTION or until the reactor is placed in an OPERATIONAL CONDITION (mode) in which the specification is not applicable. Exceptions to these requirements shall be stated in the individual specifications.

When a system, subsystem, train, component or device is determined to be inoperable solely because its emergency power source is inoperable, or solely because its normal power source is inoperable, it may be considered OPERABLE for the purpose of satisfying the requirements of its applicable Limiting Condition for Operation, provided: (1) its corresponding normal or emergency power source is OPERABLE; and (2) all of its redundant system(s), subsystem(s), train(s), component(s) and device(s) are OPERABLE, or likewise satisfy the requirements of this specification. Unless both conditions (1) and (2) are satisfied, the unit shall be placed in COLD SHUTDOWN within the following 24 hours. This specification is not applicable when in Cold Shutdown or Refuel Mode.

These constraints are more stringent than the MTS and are thus in conformance with the review criteria.

### 4. CONCLUSION

The licensee's proposed redefinition of the term OPERABLE and the revised LCOs meet the NRC requirements for providing adequate clarification of the term OPERABLE as it applies for Essential Safety Features systems to support system outages or multiple outages of redundant components.

## 5. REFERENCES

1. NRC letter, D. G. Eisenhut to All Power Reactor Licensees, dated April 10, 1980.
2. NRC internal memorandum, S. Miner to S. Varga, et al., "Definition of Operability--Multi-Plant Item D-17", dated March 26, 1981.
3. Power Authority of the State of New York letter, J. P. Bayne to NRC, Director, NRR, dated February 20, 1981.

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