

December 29, 1975

Docket Nos, ~~50-250~~  
and 50-260

Tennessee Valley Authority  
ATTN: Mr. James E. Watson  
Manager of Power  
818 Power Building  
Chattanooga, Tennessee 37201

Gentlemen:

The Commission has issued the enclosed Amendment No. 19 to Facility Operating License No. DPR-35 and Amendment No. 16 to Facility Operating License No. DPR-52 for the Browns Ferry Nuclear Power Plant Units 1 and 2. This amendment is in response to your requests dated November 29, 1974, and September 15, 1975.

The amendment incorporates into the Browns Ferry Technical Specifications changes to the reporting requirements. Changes to your proposal were necessary to meet our requirements. These have been discussed with your staff. The technical specifications are based on Regulatory Guide 1.16, "Reporting of Operating Information - Appendix A Technical Specifications", Revision 4, and Regulatory Guide 1.21, "Measuring, Evaluating, and Reporting Radioactivity in Solid Wastes and Releases of Radioactive Materials in Liquid and Gaseous Effluents From Light Water Cooled Nuclear Power Plants", Revision 1.

We request that you use the formats presented in the Appendices to Regulatory Guide 1.16, Revision 4, for reporting operating information and that you report events of the type described under the section "Events of Potential Public Interest". Instructions for using these reporting formats are contained in Regulatory Guide 1.16 (a copy of which is enclosed for your use), and AEC report OOE-SS-001 titled "Instructions for Preparation of Data Entry Sheets for Licensee Event Report (LER) File" (a copy of which was provided you previously). This report is modified by updated instructions dated December 3, 1975, which are enclosed. Copy requirements are summarized in Regulatory Guide 10.1, "Compilation of Reporting Requirements for Persons Subject to NRC Regulations", a copy of which is also enclosed. This Guide will assist you in identifying reports that are required by the Commission's regulations set forth in Title 10 Code of Federal Regulations but are not contained in your technical specifications. Reports that are required by the regulations have not been reported in your technical specifications.

*const*  
*[Signature]*

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Copies of the related Safety Evaluation and the Federal Register Notice also are enclosed.

Please note that we have discontinued the use of separate identifying numbers for changes to technical specifications. Sequential amendment numbers will be continued as in the past.

Sincerely,

Original signed by  
R. A. Purple

Robert A. Purple, Chief  
Operating Reactors Branch #1  
Division of Reactor Licensing

Enclosures:

- 1. Amendment No. 1 9/16
- 2. Regulatory Guide 1.16
- 3. Updated Instructions
- 4. Regulatory Guide 10.1
- 5. Safety Evaluation
- 6. Federal Register Notice

cc w/enclosures:  
See next page

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- OPA (Clare Miles)
- TBAbernathy, DTIE
- JRBuchanan, NSIC

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| OFFICE ▶  | RL:ORB#1     | RL:ORB#1 | OELD                   |  |  |  |
| SURNAME ▶ | TVWambach:lb | RAPurple | See memo dated 11/3/75 |  |  |  |
| DATE ▶    | 12/24/75     | 12/29/75 |                        |  |  |  |

cc w/enclosures:

H. S. Sanger  
General Counsel  
629 New Sprankle Building  
Knoxville, Tennessee 37919

Athens Public Library  
South and Forrest  
Athens, Alabama 35611

Mr. Thomas Lee Hammons  
Chairman, Limestone County Board  
of Revenue  
Athens, Alabama 35611

cc w/enclosures and incoming:

Ira L. Myers, M.D.  
State Health Officer  
State Department of Public Health  
State Office Building  
Montgomery, Alabama 36104

TENNESSEE VALLEY AUTHORITY

DOCKET NO. 50-259

BROWNS FERRY NUCLEAR PLANT UNIT 1

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 19  
License No. DPR-33

1. The Nuclear Regulatory Commission (the Commission) has found that:
  - A. The applications for amendment by Tennessee Valley Authority (the licensee) dated November 29, 1974, and September 15, 1975, comply 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. An environmental statement or negative declaration need not be prepared in connection with the issuance of this amendment.
2. Accordingly, the license is amended by a change to the Technical Specifications as indicated in the attachment to this license amendment and Paragraph 2.C.(2) of Facility License No. DPR-33 is hereby amended to read as follows:

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"2.c.(2) Technical Specifications

The Technical Specifications contained in Appendices A and B, as revised, are hereby incorporated in the license. The licensee shall operate the facility in accordance with the Technical Specifications.

3. This license amendment is effective 30 days after the date of its issuance.

FOR THE NUCLEAR REGULATORY COMMISSION

Original signed by

R. A. Purple

Robert A. Purple, Chief  
Operating Reactors Branch #1  
Division of Reactor Licensing

Attachment:  
Changes to the  
Technical Specifications

Date of Issuance: DEC 28 1975

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TENNESSEE VALLEY AUTHORITY

DOCKET NO. 50-260

BROWNS FERRY NUCLEAR PLANT UNIT 2

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 13  
License No. DPR-52

1. The Nuclear Regulatory Commission (the Commission) has found that:
  - A. The applications for amendment by Tennessee Valley Authority (the licensee) dated November 29, 1974, and September 15, 1975, comply 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. An environmental statement or negative declaration need not be prepared in connection with the issuance of this amendment.
2. Accordingly, the license is amended by a change to the Technical Specifications as indicated in the attachment to this license amendment and Paragraph 2.C.(2) of Facility License No. DPR-52 is hereby amended to read as follows:

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"2.C.(2) Technical Specifications

The Technical Specifications contained in Appendices A and B, as revised, are hereby incorporated in the license. The licensee shall operate the facility in accordance with the Technical Specifications.

- 3. This license amendment is effective 30 days after the date of its issuance.

FOR THE NUCLEAR REGULATORY COMMISSION

Original signed by  
R. A. Purple

Robert A. Purple, Chief  
Operating Reactors Branch #1  
Division of Reactor Licensing

Attachment:  
Changes to the  
Technical Specifications

Date of Issuance: DEC 2 1975

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ATTACHMENT TO LICENSE AMENDMENT NO. 1 § TO DPR-33

AND LICENSE AMENDMENT NO. 1 § TO DPR-52

DOCKET NOS. 50-259 AND 50-260

Revise Appendix A as follows:

Remove Pages

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Insert New Pages

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## 1.0 DEFINITIONS

The succeeding frequently used terms are explicitly defined so that a uniform interpretation of the specifications may be achieved.

- A. Safety Limit - The safety limits are limits below which the reasonable maintenance of the cladding and primary systems are assured. Exceeding such a limit requires unit shutdown and review by the Atomic Energy Commission before resumption of unit operation. Operation beyond such a limit may not in itself result in serious consequences but it indicates an operational deficiency subject to regulatory review.
- B. 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 the safety limits will never be exceeded.
- C. 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.
- D. DELETED

1.0 DEFINITIONS (Cont'd)

- E. Operable - A system or component shall be considered operable when it is capable of performing its intended function in its required manner.
- F. Operating - Operating means that a system or component is performing its intended functions in its required manner.
- G. Immediate - Immediate means that the required action will be initiated as soon as practicable considering the safe operation of the unit and the importance of the required action.
- H. Reactor Power Operation - Reactor power operation is any operation with the mode switch in the "Startup" or "Run" position with the reactor critical and above 1% rated power.
- I. Hot Standby Condition - Hot standby condition means operation with coolant temperature greater than 212°F, system pressure less than 1055 psig, the main steam isolation valves closed and the mode switch in the Startup/Hot Standby position.
- J. Cold Condition - Reactor coolant temperature equal to or less than 212°F.
- K. Hot Shutdown - The reactor is in the shutdown mode and the reactor coolant temperature greater than 212°F.
- L. Cold Shutdown - The reactor is in the shutdown mode, the reactor coolant temperature equal to or less than 212°F, and the reactor vessel is vented to atmosphere.
- M. Mode of Operation - A reactor mode switch selects the proper interlocks for the operational status of the unit. The following are the modes and interlocks provided:
  - 1. Startup/Hot Standby Mode - In this mode the reactor protection scram trips initiated by condenser low vacuum and main steam line isolation valve closure, are bypassed when reactor pressure is less than 1055 psig, the reactor protection system is energized with IRM neutron monitoring system trip, the AFRM 15% high flux trip, and control rod withdrawal interlocks in service. This is often referred to as just Startup Mode. This is intended to imply the Startup/Hot Standby position of the mode switch.

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Table 6.3.A

PROTECTION FACTORS FOR RESPIRATORS

| DESCRIPTION                                                          | MODES <sup>1/</sup> | PROTECTION FACTORS 2/<br>PARTICULATES<br>AND VAPORS AND<br>GASES EXCEPT<br>TRITIUM OXIDE <sup>3/</sup> | GUIDES TO SELECTION OF EQUIPMENT<br>BUREAU OF MINES APPROVAL SCHEDULES*<br>FOR EQUIPMENT CAPABLE OF PROVIDING AT<br>LEAST EQUIVALENT PROTECTION FACTORS<br>*or schedule superseding for equipmen<br>of type listed |
|----------------------------------------------------------------------|---------------------|--------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>I. AIR-PURIFYING RESPIRATORS</b>                                  |                     |                                                                                                        |                                                                                                                                                                                                                    |
| Facepiece, half-mask <u>4/</u> <u>7/</u>                             | NP                  | 5                                                                                                      |                                                                                                                                                                                                                    |
| Facepiece, full <u>7/</u>                                            | NP                  | 100                                                                                                    | 30 CFR Part 11 Subpart K<br>30 CFR Part 11 Subpart K                                                                                                                                                               |
| <b>II. ATMOSPHERE-SUPPLYING RESPIRATOR</b>                           |                     |                                                                                                        |                                                                                                                                                                                                                    |
| <b>1. Airline Respirator</b>                                         |                     |                                                                                                        |                                                                                                                                                                                                                    |
| Facepiece, half-mask                                                 | CF                  | 100                                                                                                    |                                                                                                                                                                                                                    |
| Facepiece, full                                                      | CF                  | 1,000                                                                                                  | 30 CFR Part 11 Subpart J                                                                                                                                                                                           |
| Facepiece, full <u>7/</u>                                            | D                   | 100                                                                                                    | 30 CFR Part 11 Subpart J                                                                                                                                                                                           |
| Facepiece, full                                                      | PD                  | 1,000                                                                                                  | 30 CFR Part 11 Subpart J                                                                                                                                                                                           |
| Hood                                                                 | CF                  | <u>5/</u>                                                                                              | 30 CFR Part 11 Subpart J                                                                                                                                                                                           |
| Suit                                                                 | CF                  | <u>5/</u>                                                                                              | 30 CFR Part 11 Subpart J                                                                                                                                                                                           |
| <b>2. Self-contained breathing apparatus (SCBA)</b>                  |                     |                                                                                                        |                                                                                                                                                                                                                    |
| Facepiece, full <u>7/</u>                                            | D                   | 100                                                                                                    | 30 CFR Part 11 Subpart H                                                                                                                                                                                           |
| Facepiece, full                                                      | PD                  | 1,000                                                                                                  | 30 CFR Part 11 Subpart H                                                                                                                                                                                           |
| Facepiece, full                                                      | R                   | 1,000                                                                                                  | 30 CFR Part 11 Subpart H                                                                                                                                                                                           |
| <b>III. COMBINATION RESPIRATOR</b>                                   |                     |                                                                                                        |                                                                                                                                                                                                                    |
| Any combination of air-purifying and atmosphere-supplying respirator |                     | Protection factor for type and mode of operation as listed above                                       | 30 CFR Part 11 §11.63(b)                                                                                                                                                                                           |

1/, 2/, 3/, 4/, 5/, 6/, 7/, (These notes are on the following pages)

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MCO 2319/5

1/ See the following symbols:

CF: continuous flow  
D : demand  
NP: negative pressure (i.e., negative phase during inhalation)  
PD: pressure demand (i.e., always positive pressure)  
R : recirculating (closed circuit)

2/ (a) For purposes of this specification the protection factor is a measure of the degree of protection afforded by a respirator, defined as the ratio of the concentration of airborne radioactive material outside the respiratory protective equipment to that inside the equipment (usually inside the facepiece) under conditions of use. It is applied to the ambient airborne concentration to estimate the concentration inhaled by the wearer according to the following formula:

$$\text{Concentration Inhaled} = \frac{\text{Ambient Airborne Concentration}}{\text{Protection Factor}}$$

(b) The protection factors apply:

(i) only for trained individuals wearing properly fitted respirators used and maintained under supervision in a well-planned respiratory protective program.

(ii) for air-purifying respirators only when high efficiency (above 99.9% removal efficiency by U.S. Bureau of Mines type dioctyl phthalate (DOP) test) particulate filters and/or sorbents appropriate to the hazard are used in atmospheres not deficient in oxygen.

(iii) for atmosphere-supplying respirators only when supplied with adequate respirable air.

3/ Excluding radioactive contaminants that present an absorption or submersion hazard. For tritium oxide approximately half of the intake occurs by absorption through the skin so that an overall protection factor of not more than approximately 2 is appropriate when atmosphere-supplying respirators are used to protect against tritium oxide. Air-purifying respirators are not recommended for use against tritium oxide. See also footnote 5/, below, concerning supplied-air suits and hoods.

4/ Under chin type only. Not recommended for use where it might be possible for the ambient airborne concentration to reach instantaneous values greater than 5 times the pertinent values in Appendix B, Table I, Column 1 of 10 CFR, Part 20.

- 5/ Appropriate protection factors must be determined taking account of the design of the suit or hood and its permeability to the containment under conditions of use. No protection factor greater than 1,000 shall be used except as authorized by the Commission.
- 6/ No approval schedules currently available for this equipment. Equipment must be evaluated by testing or on basis of available test information.
- 7/ Only for shaven faces.

NOTE 1: Protection factors for respirators, as may be approved by the U.S. Bureau of Mines and/or NIOSH according to approval schedules for respirators to protect against airborne radionuclides, may be used to the extent that they do not exceed the protection factors listed in this table. The protection factors in this table may not be appropriate to circumstances where chemical or other respiratory hazards exist in addition to radioactive hazards. The selection and use of respirators for such circumstances should take into account approvals of the U.S. Bureau of Mines and/or NIOSH in accordance with its applicable schedules.

NOTE 2: Radioactive contaminants for which the concentration values in Appendix B, Table I of this part are based on internal dose due to inhalation may, in addition, present external exposure hazards at higher concentrations. Under such circumstances, limitations on occupancy may have to be governed by external dose limits.

6.4 Actions to be Taken in the Event of a Reportable Occurrence in Plant Operation (Ref. Section 6.7)

- A. Any reportable occurrence shall be promptly reported to the Nuclear Operations Coordinator and shall be promptly reviewed by PORC. This committee shall prepare a separate report for each reportable occurrence. This report shall include an evaluation of the cause of the occurrence and recommendations for appropriate action to prevent or reduce the probability of a repetition of the occurrence.
- B. Copies of all such reports shall be submitted to the Nuclear Operations Coordinator, the Manager of Power, the Nuclear Engineering Branch, and the Chairman of the SRB for their review.
- C. The plant superintendent shall notify the NRC as specified in Specification 6.7 of the circumstances of any reportable occurrence.

6.5 Action to be Taken in the Event a Safety Limit is Exceeded

If a safety limit is exceeded, the reactor shall be shut down and reactor operation shall not be resumed until authorized by the NRC. A

prompt report shall be made to the Nuclear Operations Coordinator and the Chairman of the SRB. A complete analysis of the circumstances leading up to and resulting from the situation, together with recommendations to prevent a recurrence, shall be prepared by the PORC. This report shall be submitted to the Nuclear Operations Coordinator, the Manager of Power, the Nuclear Engineering Branch, and the SRB. Notification of such occurrences will be made to the NRC by the plant superintendent within 24 hours.

## 6.6 Station Operating Records

- A. Records and/or logs shall be kept in a manner convenient for review as indicated below:
1. All normal plant operation including such items as power level, fuel exposure, and shutdowns
  2. Principal maintenance activities
  3. Abnormal occurrences
  4. Checks, inspections, tests, and calibrations of components and systems, including such diverse items as source leakage
  5. Reviews of changes made to the procedures or equipment or reviews of tests and experiments to comply with 10 CFR 50.59
  6. Radioactive shipments
  7. Test results, in units of microcuries, for leak tests performed pursuant to Specification 3.8.B.
  8. Record of annual physical inventory verifying accountability of sources on record.
  9. Gaseous and liquid radioactive waste released to the environs
  10. Off-site environmental monitoring surveys
  11. Fuel inventories and transfers
  12. Plant radiation and contamination surveys
  13. Radiation exposures for all plant personnel
  14. Updated, corrected, and as-built drawings of the plant
  15. Reactor coolant system inservice inspection
  16. Minutes of meetings of the Safety Review Board
  17. Design fatigue usage evaluation
    - a. Monitoring, recording, evaluating, and reporting requirements contained in 17.b, below, will be met for various portions of the reactor coolant pressure boundary (RCPB)

for which detailed fatigue usage evaluation per the ASME Boiler and Pressure Vessel Code Section III was performed<sup>1</sup> for the conditions defined in the design specification. In this plant, the applicable codes required fatigue usage evaluation for the reactor pressure vessel only. The locations to be monitored shall be:

1. The feedwater nozzles
  2. The shell at or near the waterline
  3. The flange studs
- b. Recording, Evaluating, and Reporting
- (1) Transients that occur during plant operations will be reviewed and a cumulative fatigue usage factor determined.
  - (2) For transients which are more severe than the transients evaluated in the stress report, code fatigue usage calculations will be made and tabulated separately.
  - (3) In the Annual Operating Report, the fatigue usage factor determined for the transients defined in (1) and (2) above shall be added and a cumulative fatigue usage factor to date shall be listed. When the cumulative usage factor reaches a value of 1.0, an in-service inspection shall be included for the specific location at the next scheduled inspection (3-1/3-year interval) period and 3-1/3-year intervals thereafter, and a subsequent evaluation performed in accordance with the rules of ASME Section XI Code if any flaw indications are detected. The results of the evaluation shall be submitted in a Special Report (Section 6.7.3) for review by the Commission.
- B. Except where covered by applicable regulations, items 1 through 8 above shall be retained for a period of at least 5 years and items 9 through 17 shall be retained for the life of the plant. A complete inventory of radioactive materials in possession shall be maintained current at all times.

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1. See paragraph N-415.2, ASME Section III, 1965 Edition.

## 6.7 Reporting Requirements

In addition to the applicable reporting requirements of Title 10, Code of Federal Regulations, the following identified reports shall be submitted to the Director of the appropriate Regional Office of Inspection and Enforcement unless otherwise noted.

### 1. Routine Reports

- a. Startup Report. A summary report of plant startup and power escalation testing shall be submitted following (1) receipt of an operating license, (2) amendment to the license involving a planned increase in power level, (3) installation of fuel that has a different design or has been manufactured by a different fuel supplier, and (4) modifications that may have significantly altered the nuclear, thermal, or hydraulic performance of the plant. The report shall address each of the tests identified in the FSAR and shall in general include a description of the measured values of the operating conditions or characteristics obtained during the test program and a comparison of these values with design predictions and specifications. Any corrective actions that were required to obtain satisfactory operation shall also be described. Any additional specific details required in license conditions based on other commitments shall be included in this report.

Startup reports shall be submitted within (1) 90 days following completion of the startup test program, (2) 90 days following resumption or commencement of commercial power operation, or (3) 9 months following initial criticality, whichever is earliest. If the Startup Report does not cover all three events (i.e., initial criticality, completion of startup test program, and resumption or commencement of commercial power operation), supplementary reports shall be submitted at least every three months until all three events have been completed.

- b. Annual Operating Report.<sup>1/</sup> Routine operating reports covering the operation of the unit during the previous calendar year shall be submitted prior to March 1 of each year. The initial report shall be submitted prior to March 1 of the year following initial criticality.

The annual operating reports made by licensees shall provide a comprehensive summary of the operating experience gained during the year, even though some repetition of



previously reported information may be involved. References in the annual operating report to previously submitted reports shall be clear.

Each annual operating report shall include:

- (1) A narrative summary of operating experience during the report period relating to safe operation of the facility, including safety-related maintenance not covered in item 1.b.(2)(e) below.
- (2) For each outage or forced reduction in power<sup>2/</sup> of over twenty percent of design power level where the reduction extends for greater than four hours:
  - (a) the proximate cause and the system and major component involved (if the outage or forced reduction in power involved equipment malfunction);
  - (b) a brief discussion of (or reference to reports of) any reportable occurrences pertaining to the outage or power reduction;
  - (c) corrective action taken to reduce the probability of recurrence, if appropriate;
  - (d) operating time lost as a result of the outage or power<sup>3/</sup> reduction (for scheduled or forced outages, use the generator off-line hours; for forced reductions in power, use the approximate duration of operation at reduced power);
  - (e) a description of major safety-related corrective maintenance performed during the outage or power reduction, including the system and component involved and identification of the critical path activity dictating the length of the outage or power reduction; and
  - (f) a report of any single release of radioactivity or radiation exposure specifically associated with the outage which accounts for more than 10% of the allowable annual values.

- (3) A tabulation on an annual basis of the number of station, utility and other personnel (including contractors) receiving exposures greater than 100 mrem/yr and their associated man rem exposure according to work and job functions,<sup>4/</sup> e.g., reactor operations and surveillance, inservice inspection, routine maintenance, special maintenance (describe maintenance), waste processing, and refueling. The dose assignment to various duty functions may be estimates based on pocket dosimeter, TLD, or film badge measurements. Small exposures totalling less than 20% of the individual total dose need not be accounted for. In the aggregate, at least 80% of the total whole body dose received from external sources shall be assigned to specific major work functions.
- (4) Indications of failed fuel resulting from irradiated fuel examinations, including eddy current tests, ultrasonic tests, or visual examinations completed during the report period.
- c. Monthly Operating Report. Routine reports of operating statistics and shutdown experience shall be submitted on a monthly basis to the Office of Inspection and Enforcement U.S. Nuclear Regulatory Commission, Washington, D.C. 20555, with a copy to the appropriate Regional Office, to arrive no later than the tenth of each month following the calendar month covered by the report.

## 2. Reportable Occurrences

Reportable occurrences, including corrective actions and measures to prevent reoccurrence, shall be reported to the NRC. Supplemental reports may be required to fully describe final resolution of occurrence. In case of corrected or supplemental reports, a licensee event report shall be completed and reference shall be made to the original report date.

a. Prompt Notification With Written Followup. The types of events listed below shall be reported as expeditiously as possible, but within 24 hours by telephone and confirmed by telegraph, mailgram, or facsimile transmission to the Director of the appropriate Regional Office, or his designate no later than the first working day following the event, with a written followup report within two weeks. The written followup report shall include, as a minimum, a completed copy of a licensee event report form. Information provided on the licensee event report form shall be supplemented, as needed, by additional narrative material to provide complete explanation of the circumstances surrounding the event.

- (1) Failure of the reactor protection system or other systems subject to limiting safety system settings to initiate the required protective function by the time a monitored parameter reaches the setpoint specified as the limiting safety system setting in the technical specifications or failure to complete the required protective function.

Note: Instrument drift discovered as a result of testing need not be reported under this item but may be reportable under items 2.a(5), 2.a(6), or 2.b(1) below.

- (2) Operation of the unit or affected systems when any parameter or operation subject to a limiting condition is less conservative than the least conservative aspect of the limiting condition for operation established in the technical specifications.

Note: If specified action is taken when a system is found to be operating between the most conservative and the least conservative aspects of a limiting condition for operation listed in the technical specifications, the limiting condition for operation is not considered to have been violated and need not be reported under this item, but it may be reportable under item 2.b(2) below.

- (3) Abnormal degradation discovered in fuel cladding, reactor coolant pressure boundary, or primary containment.

Note: Leakage of valve packing or gaskets within the limits for identified leakage set forth in technical specifications need not be reported under this item.

- (4) Reactivity anomalies, involving disagreement with the predicted value of reactivity balance under steady state conditions during power operation, greater than or equal to  $1\% \Delta k/k$ ; a calculated reactivity balance indicating a shutdown margin less conservative than specified in the technical specifications; short-term reactivity increases that correspond to a reactor period of less than 5 seconds or, if sub-critical, an unplanned reactivity insertion of more than  $0.5\% \Delta k/k$ ; or occurrence of any unplanned criticality.
- (5) Failure or malfunction of one or more components which prevents or could prevent, by itself, the fulfillment of the functional requirements of system(s) used to cope with accidents analyzed in the SAR.
- (6) Personnel error or procedural inadequacy which prevents or could prevent, by itself, the fulfillment of the functional requirements of systems required to cope with accidents analyzed in the SAR.

Note: For items 2.a(5) and 2.a(6) reduced redundancy that does not result in a loss of system function need not be reported under this section but may be reportable under items 2.b(2) and 2.b(3) below.

- (7) Conditions arising from natural or man-made events that, as a direct result of the event require plant shutdown, operation of safety systems, or other protective measures required by technical specifications.
- (8) Errors discovered in the transient or accident analyses or in the methods used for such analyses as described in the safety analysis report or in the bases for the technical specifications that have or could have permitted reactor operation in a manner less conservative than assumed in the analyses.
- (9) Performance of structures, systems, or components that requires remedial action or corrective measures to prevent operation in a manner less conservative than assumed in the accident analyses in the safety analysis report or technical specifications bases; or discovery during plant life of conditions not specifically considered in the safety analysis report or technical specifications that require remedial action or corrective measures to prevent the existence or development of an unsafe condition.

Note: This item is intended to provide for reporting of potentially generic problems.

b. Thirty Day Written Reports. The reportable occurrences discussed below shall be the subject of written reports to the Director of the appropriate Regional Office within thirty days of occurrence of the event. The written report shall include, as a minimum, a completed copy of a licensee event report form. Information provided on the licensee event report form shall be supplemented, as needed, by additional narrative material to provide complete explanation of the circumstances surrounding the event.

- (1) Reactor protection system or engineered safety feature instrument settings which are found to be less conservative than those established by the technical specifications but which do not prevent the fulfillment of the functional requirements of affected systems.
- (2) Conditions leading to operation in a degraded mode permitted by a limiting condition for operation or plant shutdown required by a limiting condition for operation.

Note: Routine surveillance testing, instrument calibration, or preventative maintenance which require system configurations as described in items 2.b(1) and 2.b(2) need not be reported except where test results themselves reveal a degraded mode as described above.

- (3) Observed inadequacies in the implementation of administrative or procedural controls which threaten to cause reduction of degree of redundancy provided in reactor protection systems or engineered safety feature systems.
- (4) Abnormal degradation of systems other than those specified in item 2.a(3) above designed to contain radioactive material resulting from the fission process.

Note: Sealed sources or calibration sources are not included under this item. Leakage of valve packing or gaskets within the limits for identified leakage set forth in technical specifications need not be reported under this item.

### 3. Unique Reporting Requirements

#### A. Radioactive Effluent Release Report

A report on the radioactive discharges released from the site during the previous 6 months of operation shall be submitted to the Director of the Regional Office of Inspection and Enforcement within 60 days after January 1 and July 1 of each year. The report shall include a summary of the quantities of radioactive liquid and gaseous effluents released and solid waste shipped from the plant as delineated in Regulatory Guide 1.21, Revision 1, "Measuring, Evaluating, and Reporting Radioactivity in Solid Wastes and Releases of Radioactive Materials in Liquid and Gaseous Effluents from Light-Water-Cooled Nuclear Power Plants," with data summarized on a quarterly basis following the format of Appendix B thereof.

The report shall include a summary of the meteorological conditions concurrent with the release of gaseous effluents during each quarter as outlined in Regulatory Guide 1.21, Revision 1, with data summarized on a quarterly basis following the format of Appendix B thereof. Calculated offsite dose to humans resulting from the release of effluents and their subsequent dispersion in the atmosphere shall be reported as recommended in Regulatory Guide 1.21, Revision 1.

#### B. Source Tests

Results of required leak tests performed on sources if the tests reveal the presence of 0.005 microcurie or more of removable contamination.

#### C. Radiological Environmental Monitoring

##### 1. Routine Reporting

- a. TVA shall prepare a report entitled "Environmental Radioactivity Levels - Browns Ferry Nuclear Plant - Semiannual Report". The report shall cover six-month periods commencing January 1 and July 1. The report shall be submitted to NRC during the six months subsequent to the reporting period. The time required to process the environmental samples preclude submission of the report within 60 days after the sampling period.
- b. If statistically significant variations of offsite environmental radionuclide concentrations with time are observed, a comparison of these results with effluent releases shall be provided.
- c. Individual samples which show higher than normal levels (25% above background for external dose, or twice background for radionuclide content) should be noted in the reports.

2. Anomalous Measurements

- a. If, during any six-month report period, a measured level of radioactivity in any environmental medium other than those associated with gaseous radioiodine releases exceeds ten times the control station value, a written notification will be submitted within one week advising the NRC of this condition.\* This notification should include an evaluation of any release conditions, environmental factors, or other aspects necessary to explain the anomalous result.
- b. If, during any six-month report period, a measured level of radioactivity in any environmental medium other than those associated with gaseous radioiodine releases exceeds four times the control station value, a written notification will be submitted within 30 days advising the NRC of this condition. This notification should include an evaluation of any release conditions, environmental factors, or other aspects necessary to explain the anomalous result.

\* In the case of a tentatively anomalous value for radiostrontium, a confirmatory reanalysis of the original, a duplicate or a new sample may be desirable. In this instance the results of the confirmatory analysis shall be completed at the earliest time consistent with the analysis, and if the high value is real, the report to the NRC shall be submitted within one week following this analysis.

- c. If individual milk samples show I-131 concentrations of 10 picocuries per liter or greater, a plan shall be submitted within one week advising the NRC of the proposed action to ensure the plant related annual doses will be within the design objective of 15 mrem/yr to the thyroid of any individual.
- d. If milk samples collected over a calendar quarter show average concentrations of 4.8 picocuries per liter or greater, a plan shall be submitted within 30 days advising the NRC of the proposed action to ensure the plant related annual doses will be within the design objective of 15 mrem/yr to the thyroid of any individual.
- e. If such levels as discussed in 6.7.2.C3 and 4 can be definitely shown to result from sources other than the Browns Ferry Nuclear Plant, the reporting action called for in 6.7.2.C3 and 4 need not be taken. Justification for assigning high levels of radioactivity to sources other than the Browns Ferry Nuclear Plant must be provided in the semi-annual report.

D. SPECIAL REPORTS (in writing to the Director of the Regional Office of Inspection and Enforcement)

1. Reports on the following areas shall be submitted as noted:

- |                                                  |       |                                            |
|--------------------------------------------------|-------|--------------------------------------------|
| a. Secondary Containment<br>Leak Rate Testing(5) | 4.7.C | Within 90 days of completion of each test. |
| b. Fatigue Usage:<br>Evaluation                  | 6.6   | Annual Operating Report                    |

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DEC 29 1975



FOOTNOTES

1. A single submittal may be made for a multiple unit station. The submittal should combine those sections that are common to all units at the station.
2. The term "forced reduction in power" is normally defined in the electric power industry as the occurrence of a component failure or other condition which requires that the load on the unit be reduced for corrective action immediately or up to and including the very next weekend. Note that routine preventive maintenance, surveillance, and calibration activities requiring power reductions are not covered by this section.
3. The term "forced outage" is normally defined in the electric power industry as the occurrence of a component failure or other condition which requires that the unit be removed from service for corrective action immediately or up to and including the very next weekend.
4. This tabulation supplements the requirements of §20.407 of 10 CFR Part 20.
5. Each integrated leak rate test of the secondary containment shall be the subject of a summary technical report. This report should include data on the wind speed, wind direction, outside and inside temperatures during the test, concurrent reactor building pressure, and emergency ventilation flow rate. The report shall also include analyses and interpretations of those data which demonstrate compliance with the specified leak rate limits.

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

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

SUPPORTING AMENDMENT NO. 1 § TO FACILITY LICENSE NO. DPR-33

AND AMENDMENT NO. 1 § TO FACILITY LICENSE NO. DPR-52

TENNESSEE VALLEY AUTHORITY

BROWNS FERRY NUCLEAR PLANT UNITS 1 AND 2

DOCKET NOS. 50-259 AND 50-260

Introduction

By letters dated November 29, 1974 and September 15, 1975, Tennessee Valley Authority proposed changes to the Technical Specifications appended to Facility Operating License Nos. DPR-33 and DPR-52 for Browns Ferry Nuclear Plant Units 1 and 2. The proposed changes involve changes to the reporting requirements.

Discussion

The proposed changes would be administrative in nature and would affect present reporting of safety related activities. The proposed changes are intended to provide uniform license requirements. Areas covered by the proposed uniform specifications include reporting requirements and abnormal occurrence definition change.

In Section 208 of the Energy Reorganization Act of 1974 "abnormal occurrences" is defined as an unscheduled incident or event which the Commission determines is significant from the standpoint of public health and safety. The term "abnormal occurrence" is reserved for usage by NRC. Regulatory Guide 1.16, "Reporting of Operating Information - Appendix A Technical Specification", Revision 4, enumerates required reports consistent with Section 208. The proposed change to required reports identifies the reports required of all licensees not already identified by the regulations and those unique to this facility. The proposal would formalize present reporting and would delete any reports no longer needed for assessment of safety related activities.

### Evaluation

The new guidance for reporting operating information does not identify any event as an "abnormal occurrence". The proposed reporting requirements also delete reporting of information no longer required and duplication of reported information. The standardization of required reports and desired format for the information will permit more rapid recognition of potential problems.

During our review of the proposed changes, we found that certain modifications to the proposal were necessary to have conformance with the desired regulatory position. These changes were discussed with the licensee and have been incorporated into the proposal.

We have concluded that the proposal as modified improves the licensee's reporting of the operating information needed by the Commission to assess safety related activities and is acceptable. The modified reporting program is consistent with the guidance provided by Regulatory Guide 1.16, "Reporting of Operating Information - Appendix A Technical Specifications", Revision 4, and Regulatory Guide 1.21, "Measuring, Evaluating, and Reporting Radioactivity in Solid Wastes and Releases of Radioactive Material in Liquid and Gaseous Effluents from Light-Water-Cooled Nuclear Power Plants", Revision 1.

We have determined that the amendments do not authorize a change in effluent types or total amounts nor an increase in power level and will not result in any significant environmental impact. Having made this determination, we have further concluded that the amendments involve an action which is insignificant from the standpoint of environmental impact and pursuant to 10 CFR §51.5(d)(4) that an environmental statement, negative declaration or environmental impact appraisal need not be prepared in connection with the issuance of this amendment.

### Conclusion

We have concluded, based on the considerations discussed above, that:  
(1) Because the change does not involve a significant increase in the probability or consequences of accidents previously considered and does not involve a significant decrease in a safety margin, the change does not involve a significant hazards consideration, (2) there is reasonable assurance that the health and safety of the public will not be endangered by operation in the proposed manner, and (3) 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.

Date: DEC 29 1975

UNITED STATES NUCLEAR REGULATORY COMMISSION

DOCKET NOS. 50-259 AND 50-260

TENNESSEE VALLEY AUTHORITY

NOTICE OF ISSUANCE OF AMENDMENT TO FACILITY  
OPERATING LICENSES

Notice is hereby given that the U.S. Nuclear Regulatory Commission (the Commission) has issued Amendment No. 1 § to Facility Operating License No. DPR-33 and Amendment No. 1 § to Facility Operating License No. DPR-52 issued to Tennessee Valley Authority which revised Technical Specifications for operation of the Browns Ferry Nuclear Plant, Units 1 and 2, located in Limestone County, Alabama. The amendments are effective 30 days after the date of issuance.

These amendments revise the reporting requirements of the Technical Specifications for the Browns Ferry Nuclear Plant, Units 1 and 2.

The applications for the amendments comply with the standards and requirements of the Atomic Energy Act of 1954, as amended (the Act), and the Commission's rules and regulations. The Commission has made appropriate findings as required by the Act and the Commission's rules and regulations in 10 CFR Chapter I, which are set forth in the license amendment. Prior public notice of these amendments is not required since the amendments do not involve a significant hazards consideration.

The Commission has determined that the issuance of these amendments will not result in any significant environmental impact and that pursuant to 10 CFR §51.5(d)(4) an environmental statement, negative declaration or

environmental impact appraisal need not be prepared in connection with issuance of these amendments.

For further details with respect to this action, see (1) the applications for amendment dated November 29, 1974, and September 15, 1975, (2) Amendment No. 19 to License No. DPR-33 and Amendment No. 10 to License No. DPR-52 and, (3) the Commission's related Safety Evaluation. All of these items are available for public inspection at the Commission's Public Document Room, 1717 H Street, NW., Washington, D.C., and at the Athens Public Library, South and Forrest, Athens, Alabama 35611.

A copy of items (2) and (3) may be obtained upon request addressed to the U.S. Nuclear Regulatory Commission, Washington, D.C. 20555, Attention: Director, Division of Reactor Licensing.

Dated at Bethesda, Maryland, this DEC 28 1975

FOR THE NUCLEAR REGULATORY COMMISSION

Original signed by  
R. A. Purple

Robert A. Purple, Chief  
Operating Reactors Branch #1  
Division of Reactor Licensing

|           |                           |                         |                                |  |  |
|-----------|---------------------------|-------------------------|--------------------------------|--|--|
| OFFICE >  | RL:ORB#1<br><i>J.V.W.</i> | OELD                    | RL:ORB#1<br><i>[Signature]</i> |  |  |
| SURNAME > | TVWambach:dc              | See memo<br>dtd 11/3/75 | RAPurple                       |  |  |
| DATE >    | 12/24/75                  | 12/ /75                 | 12/29/75                       |  |  |

1. For info  
2. Dir. → Fletcher  
attach a copy of this to the bottom of all over packages in this subject.

| ROUTING AND TRANSMITTAL SLIP                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |          | ACTION           |  |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------|------------------|--|
| 1 TO (Name, office symbol or location)<br><br>OELD - f/concurrences                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | INITIALS | CIRCULATE        |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | DATE     | COORDINATION     |  |
| 2<br><br>DLZiemann - f/signatures                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | INITIALS | FILE             |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | DATE     | INFORMATION      |  |
| 3<br><br>Reba - for final checks                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | INITIALS | NOTE AND RETURN  |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | DATE     | PER CONVERSATION |  |
| 4                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | INITIALS | SEE ME           |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | DATE     | SIGNATURE        |  |
| <p>REMARKS</p> <p>Attached for your concurrence are five packages (Dresden Station, Quad Cities Station, Cooper, Pilgrim and Calvert Cliffs) of nine from ORB 2 which incorporate <u>standard reporting requirement sections into the Appendix A Technical Specifications</u>. One package, Pilgrim also revises the entire administrative controls section.</p> <p>It is requested that, in the interest of review consistency, these packages (and the 4 future reporting requirements packages) be assigned to one OELD reviewer.</p> <p>Questions may be directed to the PM for the particular case or to Mike Fletcher, coordinator for reporting (Exts. 7403, 7450)</p> <p>Do NOT use this form as a RECORD of approvals, concurrences, disapprovals, clearances, and similar actions</p> |          |                  |  |
| FROM (Name, office symbol or location)<br><br>DLZiemann <i>DLZ</i>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |          | DATE<br>11-3-75  |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |          | PHONE<br>7380    |  |

*11/3/75*  
*Need for OELD concurrence this sent on subject*

*DLZ*  
*11/3*