

Plant Procedures  
Procedure No.: 42400B  
Issue Date: 10-1-76

SECTION I  
INSPECTION OBJECTIVES

1. To confirm that the scope of the plant procedures system is adequate to control safety related operations within applicable regulatory requirements.
2. To determine the adequacy of management controls in implementing and maintaining a viable procedure system.

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SECTION II  
INSPECTION REQUIREMENTS

Note: Review those definitions incorporated within Section III  
to assure a consistent inspection.

1. Verify that administrative controls have been established for the review, approval, and periodic updating of the following categories of procedures:
  - (a) Administrative
  - (b) General Plant Operation
  - (c) Startup, Operation and Shutdown of  
Safety Related Systems
  - (d) Correcting Abnormal, Offnormal or  
Alarm Conditions
  - (e) Combating Emergencies and other  
significant events
  - (f) Control of Radioactivity

- (g) Control of Measuring and Test Equipment
  - (h) Maintenance
  - (i) Chemical and Radiochemical Activities
  - (j) Security
  - (k) Refueling
  - (l) Emergency Plans
  - (m) Technical Support
2. Verify that responsibilities have been assigned in writing to assure that the procedures identified in 1. above will be reviewed, updated, and approved as required (to include 50.59 considerations).
3. Verify that controls have been established in writing for the following:
- a. Preparation of procedures listed in 1. above including the desired format and content.
  - b. Issuing new and revised procedures.

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- c. Control/disposal of outdated procedures.
  - d. Controlling temporary changes to procedures.
  - e. Assuring that changes to procedures listed in
    - 1. above will be approved by the same organization that approved the original document unless another qualified organization has been designated.
  - f. Assuring that training organization is apprised of a changes to procedures.
4. Verify that, if Standing Orders and/or Special Orders are to be used, administrative controls have been established that:
- a. Provide a mechanism for their issue and distribution.
  - b. Require that they be periodically reviewed and updated.
  - c. Assign responsibilities in writing to assure 4a and 4b above will be implemented.
  - d. Establish limitation on what type of instructions may be issued as Standing or Special Orders.

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5. Verify that administrative controls provide for the preparation and correction of operating logs, shift turnover activities and log reviews.
  
6. Select a minimum of 10 recently issued plant procedures identified in Item 1. above (no more than 2 from the same category) and verify that:
  - a. Review, approval, and updating has been made in accordance with administrative controls identified in Item 1. above.
  - b. Issue a new procedures and control of superseded procedures has been in accordance with administrative controls identified in Item 3 above.
  - c. Working copy (control room, shop, etc as appropriate) is the same as the current approved revision in master file.

7. Verify by interviewing a reactor shift supervisor, that he is aware of and understands the systems established for controlling temporary changes to procedures identified in Item 3.d. above.
8. Select 10% of the current standing and special orders and verify that they were issued in accordance with the established controls identified in Item 4 above. Also verify that such orders are not being used in place of procedures which should undergo appropriate reviews and approvals.
9. Verify that the licensee's administrative control program includes provisions for assuring that procedure revisions or changes are distributed to the organization responsible for performing the prescribed activity.

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SECTION III  
INSPECTION GUIDANCE

General Guidance

Procedures guide the operation and maintenance of reactor facilities. Each safety related job that can be identified should have a written procedure. Serious nuclear accidents can be induced by misoperation. Procedures provide an approved method of conducting operations and eliminate reliance on memory. Their use prevents on-the-spot analysis and snap judgements which could lead to accidents.

The Office of Inspection and Enforcement has the responsibility of providing its findings and judgements to the Office of Nuclear Reactor Regulation, as to whether a plant can be operated safely and should be licensed for operation. Part of this determination includes reasonable assurance that the licensee's procedures are adequate to guide safe operation.

Regulatory Guidance is presented in Regulatory Guide 1.33, which endorses ANSI N18.7 "Administrative Controls and Quality Assurance for the Operational Phase of Nuclear Power Plants," (formerly ANS3.2) and ANSI N45.2, "Quality Assurance Program Requirements for Nuclear Power Plants." ANSI N18.7-1972 was updated and issued as ANSI N18.7-1976. The 1976 revision incorporates provisions of ANSI N18.7-1972 and ANSI N45.2 and should be used for guidance in connection with this procedure.

I. Definitions

Procedures - Written and approved guides, steps, or instructions used by a licensee to prescribe or guide the conduct of an operation or of equipment test, calibration, or repair.

Abnormal Conditions Procedures - Abnormal conditions procedures specify operation actions to restore an

operating variable to its normal controlled value when it goes out of normal bounds, or to restore normal operating conditions following a perturbation. If the condition is not corrected, it could degenerate into a condition requiring action under an emergency procedure. Some facilities refer to these procedures as alarm procedures, since the condition is normally indicated by an alarm.

Emergency Procedures - Emergency procedures specify operator actions involving manipulation of plant controls to prevent an accident, to prepare for anticipated acts of nature, or to reduce the consequences of an accident or a hazardous condition which has already occurred or developed. If the condition is not corrected, or prepared for, a threat to the public health and safety may occur, and portions or all of the emergency plan may have to be invoked.

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Note: Emergency procedures, as used in this instruction include those detailed procedures that implement the Emergency Plan, such as the evacuation or take cover procedures.

Emergency Preparedness Plan (Emergency Plan) - The Emergency Preparedness Plan is the document, submitted to NRR for review, which provides the basis for actions to be taken to cope with an accident which adversely affects, or threatens, the health and safety of the general public, employees of the licensee, or other persons temporarily or permanently assigned to the reactor facility.

Review of Procedures - Review of a procedure means an examination of the procedure in sufficient detail to determine whether the procedure satisfies all important nuclear safety require-

ments relating to the operation being controlled. The review should include the prerequisites, precautions, limitations, actions, and sequence of operations, as applicable.

II. Management Philosophy

Facility management controls the implementation of requirements governing procedure writing, revising, updating, and use. It should spell out for the operators and for the supervisors what is required of them in using procedures, and these requirements should be included in the procedure manual. The operators and supervision should know whether procedures must be followed literally, or if deviations are permitted; and they should be given the methods for deviating from procedures, if allowed, including the approvals they are required to obtain.

An example of one of several acceptable and effective approaches to adherence to procedures is as follows:

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- (a) Operators cannot deviate from written procedures.
- (b) Shift supervisors may make changes which do not change the intent of the original procedure, provided that the shift supervisor is a licensed senior operator, a note of the deviation is placed in the procedures manual (properly dated and initialed) or in the operating log, the operators are informed of the change, and the change is reviewed by the plant operations review committee and approved by the Operations Superintendent or his representative at the earliest practicable time. Current technical specifications contain statements that require operating personnel to follow procedures, except as permitted by a temporary change method similar to that described above.

Management should state clearly the authorities and responsibilities of operators and senior operators with regard to operations, including:

- (a) the operators authority to and responsibility for shutting the reactor down when he feels that the safety of the reactor is in jeopardy;
- (b) the responsibility of operators for not returning the reactor to power following a scram, setback, or unexplained power reduction without the presence and direction of the senior operator;
- (c) responsibility of the senior operator to determine the circumstances, analyze the cause, and correct the fault before directing the return of the reactor to power after a scram, setback, or unexplained power reduction;
- (d) responsibility to believe instrument indications until they are proven to be incorrect;

- (e) the operator's responsibility for scrambling the reactor when operating parameters exceed the reactor protection circuit system set point and the automatic scram does not occur; and
- (f) responsibility to adhere to the technical specifications.

The procedures manual should also describe the method for logging operating information and the content of entries to include description, date, time and initials. Instructions should also be included to indicate method of job turnover at shift change and other periods when operators are relieving or being relieved.

### III. Approvals

If the review and approval route for procedures is not prescribed in the technical specifications,

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the method described below is an example of one of several acceptable methods.

New procedures, and significant revisions, should be walked through to test the effectiveness of the procedure to control the operation. Persons representing applicable disciplines (such as nuclear, health physics, instrumentation, or electrical) should concur in procedures after a detailed review in their areas of speciality. The plant operations review committee should review the procedure and minutes of the review committee meetings should verify that procedures have been reviewed. Each procedure should be approved by an appropriate member of facility management, usually the plant manager. The approval signature and issue date should appear on the procedure.

The licensee's procedures manual should require the plant staff to review and update procedures periodically. One

good system in current use by some licensees assigns a portion of the procedures to each operating shift. The shift is responsible for updating its assigned procedures. Periodically, the procedures are reassigned to a different shift so that each shift eventually has had the updating responsibility for all procedures. This system also has the added advantage of providing a continual training program.

The above measures produce procedure reliability and give the users confidence that procedures are current, accurate, and will do the job safely.

V. Documentation and Retention

If a procedure is used by the licensee to perform significant operations, or to meet recordkeeping .

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requirements of the technical specifications or license, a record of the data should be provided and a retention period specified. To meet recordkeeping requirements, the procedure should clearly identify the source, applicability, and date of the information; and responsible persons should sign or initial that the data are correct or the specifications are met.

Specific Inspection Guidance

Section 13.4 of the standard FSAR and Section 6.8 of the standard Technical Specifications will normally describe the review, change and approval procedures for all plant procedures. Both these documents may make reference to the requirements set forth in ANSI N18.7. The standard Technical Specifications also reference Appendix A of Regulatory Guide 1.33.

Plant procedures reflect the conditions that exist at the time they are written. To ensure that the procedures in current use provide the test instructions to the personnel using them,

periodic reviews are required. In reviewing the administrative controls for reviewing procedures, make certain that provisions are made for specifying the frequency of periodic reviews.

- 1.a. Administrative procedures pertain to such items as personnel conduct and control, on call availability of professional and supervisory personnel, the preparation and retention of plant documentation, shift turnover, etc.
- 1.e. This category of procedures covers the calibration of tools, gauges, instruments and other measuring and testing devices subject to maladjustment through use, wear or deterioration, at some stated frequency in order to maintain accuracy within specified limits.
- 1.f Many of these procedures may not be all written at the time of this inspection.

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- 1.1 Examples of procedures which might fall under the Technical Support procedure category would be: a procedure for measuring the flux perturbation between fuel pellets as a result of fuel densification; a procedure for conducting heat balance calculations; a procedure for determining if any BWR control rods were inadvertently installed upside down in the core; a procedure for conducting in-situ steam generator leak tests during the hot shutdown, etc.
4. Standing orders are used to disseminate to the plant staff instructions of a general and continuing nature. They may deal with such items as job turnover and relief, definition of the duties of operators, transmittal or operating data to management, filing of charts, etc.

Special orders or night orders as they are sometimes called, are used to disseminate management instructions that have short-term applicability. They deal with such items as

special operations, housekeeping, data taking,  
plotting process parameters, personnel actions, etc.

Provisions should be made for the periodic review  
and up-dating of standing and special orders, and  
the cancellation of special orders if appropriate.

ANSI N18.7 provides guidance on the issueing of  
standing and special orders.

5. Look for controls to assure that operating logs  
will be prepared in a neat and legible manner  
and in sufficient detail so as to be informative. It  
is particularly important that the shift supervisor  
be required to provide sufficient log details  
regarding licensee event reports, operating  
problems, etc., which were experienced during his  
shift while they are still fresh in his memory

Historically, IE inspectors have found many log entries involving plant problems to be so terse in nature as to be of little or no use in providing information on what happened; it should be noted that computer printouts and other recorder traces provide information concerning what happened.

9. ANSI N18.7-1976, Section 5.2.15 states that measures shall assure that documents, including revisions or changes, are reviewed for adequacy and approved for release by authorized individuals; and are distributed in accordance with current distribution lists and used by the personnel performing the prescribed activity, and that procedures are provided to avoid the misuse of outdated or inappropriate documents.

Recognizing that licensees are not legally required to have procedures available until the facility license is issued, Regulatory Guide 1.68, Section B, states that one of the objectives of the preoperational and initial startup testing program is to verify by trial use, that the proposed procedures are adequate. Therefore, those licensees making a commitment to RG 1.68 should demonstrate during the testing program that applicable operating, maintenance, surveillance testing, etc., procedures and changes thereto, expected to be used in connection with safety related systems or equipment are adequate for their intended function.