

UNITED STATES
NUCLEAR REGULATORY COMMISSION
OFFICE OF NUCLEAR REACTOR REGULATION
WASHINGTON, D.C. 20555

December 15, 1995

NRC GENERIC LETTER 95-10: RELOCATION OF SELECTED TECHNICAL SPECIFICATIONS
REQUIREMENTS RELATED TO INSTRUMENTATION

Addressees

All holders of operating licenses or construction permits for nuclear power reactors.

Purpose

The U.S. Nuclear Regulatory Commission (NRC) is issuing this generic letter to advise those licensees that have not converted or are not in the process of converting to the improved Standard Technical Specifications that they may request a license amendment to relocate selected instrumentation requirements from their Technical Specifications (TSs).

Description of Circumstances

This line-item TS improvement was developed in response to TS amendments proposed by licensees and ongoing NRC TS improvement programs. The intent of this generic letter is to reduce the resources spent by licensees and the NRC staff in amending requirements related to the selected instrumentation-related TSs. Relocating requirements to licensee-controlled documents or programs will reduce costs for licensees by allowing them to change the requirements without necessarily amending their licenses. The NRC staff will save time and reduce costs by using internal guidance to review amendments related to this generic letter and by decreasing the number of plant-specific changes to the affected TSs.

Discussion

Section 182a of the Atomic Energy Act (the Act) requires applicants for nuclear power plant operating licenses to include TSs as part of the license. In Section 50.36 of Title 10 of the *Code of Federal Regulations* (10 CFR 50.36), the Commission established the regulatory requirements related to the content of TSs. That regulation requires that the TSs include items in five specific categories, including (1) safety limits, limiting safety system settings, and limiting control settings; (2) limiting conditions for operation; (3) surveillance requirements; (4) design features; and (5) administrative controls. However, the regulation does not specify the particular requirements to be included in TSs.

The NRC developed criteria, as described in the "Final Policy Statement on Technical Specifications Improvements for Nuclear Power Reactors"

9512120370

updated on 12/15/95

PDR ADOCK

05000003

P

951215

ID#R-5-Information/Generic Letters
D03

(58 FR 39132), to determine which of the design conditions and associated surveillances should be located in the TSs as limiting conditions for operation. Four criteria were subsequently incorporated into the regulations by an amendment to 10 CFR 50.36 (60 FR 36953):

1. installed instrumentation that is used to detect, and indicate in the control room, a significant abnormal degradation of the reactor coolant pressure boundary;
2. a process variable, design feature, or operating restriction that is an initial condition of a Design Basis Accident or Transient analysis that either assumes the failure of or presents a challenge to the integrity of a fission product barrier;
3. a structure, system, or component that is part of the primary success path and which functions or actuates to mitigate a Design Basis Accident or Transient that either assumes the failure of or presents a challenge to the integrity of a fission product barrier;
4. a structure, system, or component which operating experience or probabilistic safety assessment has shown to be significant to public health and safety.

The Commission's Final Policy Statement and documentation related to the revision of 10 CFR 50.36 acknowledged that implementation of these criteria may cause some requirements presently in TSs to be moved out of existing TSs to documents and programs controlled by licensees. This generic letter addresses the relocation of selected TS requirements related to instrumentation as a result of applying the 10 CFR 50.36 criteria. On reviewing typical TSs for nuclear power reactors, the staff determined that, in accordance with the 10 CFR 50.36 criteria, several specifications did not warrant inclusion in TSs. The staff also concluded that the instrumentation addressed by these specifications are not related to dominant contributors to plant risk. The following typical TSs are among the candidates for relocation to licensee-controlled documents:

- Incore Detectors (Movable Incore Detectors, Traversing Incore Probe)
- Seismic Monitoring Instrumentation
- Meteorological Monitoring Instrumentation
- Chlorine Detection System
- Loose-Part Detection System
- Explosive Gas Monitoring Instrumentation
- Turbine Overspeed Protection

Requested Information

Licensees that voluntarily choose to use the guidance in this generic letter will need to submit license amendment requests in order to relocate the affected technical specifications. These licensees are encouraged to propose TS changes consistent with the guidance in Attachment 1 to this generic letter.

Licensees that do not wish to amend technical specifications are not expected to submit any response to this generic letter.

Required Response

Licensees that voluntarily choose to use the guidance in this generic letter are required to submit license amendment requests in order to relocate affected technical specification requirements.

Licensee requests should be submitted to the U.S. Nuclear Regulatory Commission, ATTN: Document Control Desk, Washington, DC 20555, under the provisions of 10 CFR 50.90.

Backfit Discussion

This generic letter requests information under the provisions of 10 CFR 50.90 only from addressees that voluntarily choose to use the contained guidance to seek an amendment of an operating license. Any action by licensees to propose TS changes in accordance with the guidance of this generic letter is voluntary and, therefore, not a backfit under 10 CFR 50.109. Therefore, the staff has not performed a backfit analysis.

Federal Register Notification

A notice of opportunity for public comment was published in the Federal Register (60 FR 33239) on June 27, 1995. Comments were received from one industry organization. Copies of the staff evaluation of these comments will be made available in the NRC Public Document Room.

Paperwork Reduction Act Statement

The voluntary information collections contained in this request are covered by the Office of Management and Budget clearance number 3150-0011, which expires on July 31, 1997. The public reporting burden for this voluntary collection of information is estimated to average 40 person-hours per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding this burden estimate or any other aspect of this voluntary collection of information, including

suggestions for reducing this burden, to the Information and Records Management Branch (T-6F33), U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001, and the Desk Officer, Office of Information and Regulatory Affairs, NEOB-3019, (3150-0011), Office of Management and Budget, Washington, DC 20503.

Compliance with the following request for information is voluntary. The following information would assist the NRC in evaluating the cost of complying with this generic letter:

1. licensee staff time and costs to prepare the amendment request, and
2. an estimate of the long-term costs or savings accruing from this TS change.

If you have any questions about this matter, please contact the technical contact listed below or the appropriate Office of Nuclear Reactor Regulation (NRR) project manager.


Dennis M. Crutchfield, Director
Division of Reactor Program Management
Office of Nuclear Reactor Regulation

Technical contact: William D. Reckley
(301) 415-1314
Internet: wdr@nrc.gov

Attachments:

1. Guidance for a Proposed License
Amendment To Relocate Selected
Technical Specifications Requirements
Related to Instrumentation
2. List of Recently Issued NRC Generic Letters

Attachments filed in Jacket

suggestions for reducing this burden, to the Information and Records Management Branch (T-6F33), U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001, and the Desk Officer, Office of Information and Regulatory Affairs, NEOB-3019, (3150-0011), Office of Management and Budget, Washington, DC 20503.

Compliance with the following request for information is voluntary. The following information would assist the NRC in evaluating the cost of complying with this generic letter:

1. licensee staff time and costs to prepare the amendment request, and
2. an estimate of the long-term costs or savings accruing from this TS change.

If you have any questions about this matter, please contact the technical contact listed below or the appropriate Office of Nuclear Reactor Regulation (NRR) project manager.

original signed by

Dennis M. Crutchfield, Director
Division of Reactor Program Management
Office of Nuclear Reactor Regulation

Technical contact: William D. Reckley
(301) 415-1314
Internet:wdr@nrc.gov

Attachments:

1. Guidance for a Proposed License
Amendment To Relocate Selected
Technical Specifications Requirements
Related to Instrumentation
2. List of Recently Issued NRC Generic Letters

DOCUMENT NAME: 95-10.GL
Tech Ed reviewed this document 11/16/95
SECY 95-283 DTD 11/29/95

To receive a copy of this document, indicate in the box: "C" = Copy without attachment/enclosure "E" = Copy with attachment/enclosure "N" = No copy

OFFICE	TECH CONTACT*	OGC*	C/PECB*	D/DRM/	
NAME		SHLewis	ACHaffee	DMCrutchfield	
DATE	11/16/95	11/21/95	11/22/95	12/14/95	

OFFICIAL RECORD COPY

GUIDANCE FOR A PROPOSED LICENSE AMENDMENT TO RELOCATE SELECTED TECHNICAL SPECIFICATIONS REQUIREMENTS RELATED TO INSTRUMENTATION

Introduction

The NRC is issuing the following guidance for preparing a proposed license amendment to relocate from Technical Specifications (TSs) selected requirements related to instrumentation. As discussed in the Final Policy Statement and documentation related to the revision of 10 CFR 50.36, licensees submitting amendment requests should identify the location of and controls for the relocated requirements. It is expected that most of the TSs addressed by this generic letter will be relocated to the Updated Final Safety Analysis Report (UFSAR) and that changes to those provisions will be performed in accordance with 10 CFR 50.59, "Changes, tests and experiments." If requirements are relocated to other documents (e.g., the emergency plan), controls may be provided by regulatory requirements such as 10 CFR 50.54, "Conditions of licenses." The adequacy of controls for relocated provisions which do not fit in the above categories will be reviewed and approved by the NRC staff on a case-by-case basis.

License amendment requests should contain a commitment to relocate each selected requirement to a particular licensee-controlled document or program, (e.g., the UFSAR or the emergency plan). The commitment should also address the submittal of the revised documents to the NRC in accordance with the applicable regulation (e.g., 10 CFR 50.71(e)). In the amendment request, the licensee should clearly describe the program it will use to control changes to relocated provisions (e.g., 10 CFR 50.59 or 50.54(q)). Control of the relocated provisions in accordance with the applicable regulation ensures that NRC review and approval will be requested for changes exceeding the stated regulatory threshold (e.g., an unreviewed safety question or a decrease in effectiveness).

Licensees should note that this generic letter supersedes TS-related guidance contained in several previously issued NRC documents, such as regulatory guides and the Standard Review Plan (NUREG-0800). Commitments contained in the UFSAR or other docketed correspondence may need to be revised to reflect the deviations from these NRC documents. However, this generic letter addresses only the need to include requirements related to the affected systems in TSs. Staff positions in the regulatory guides or other documents on matters other than TS content are not affected by the issuance of this generic letter.

The NRC has approved the relocation of most of these specific instrumentation requirements in various amendments issued to specific licensees. The improved standard TSs also reflect the staff position that these requirements do not meet the 10 CFR 50.36 criteria for inclusion in TSs. The staff has also concluded that these provisions are not related to dominant contributors to

plant risk. Additional discussions follow for each of the selected relocated instrumentation requirements.

Incore Detectors

The relocation of requirements related to incore neutron detectors affects the TS sections entitled "Incore Detectors" or "Movable Incore Detectors," for pressurized water reactors (PWRs), or "Traversing Incore Probe," for boiling water reactors (BWRs). Incore instrumentation is used periodically to calculate power peaking factors to verify nuclear design predictions, ensure operation within established fuel performance limits, and calibrate other nuclear instrumentation. The measurements are used in a confirmatory manner and do not provide direct input to reactor protection system or engineered safety features actuation system functions.

These instruments are neither used for, nor capable of, detecting a significant abnormal degradation of the reactor coolant pressure boundary before a design basis accident, nor do they function as a primary success path to mitigate events which assume a failure of or a challenge to the integrity of fission product barriers. Although the core power distributions (measured by the incore detectors) constitute an important initial condition to design basis accidents and therefore need to be addressed by TSs, the detectors themselves are not an active design feature needed to preclude analyzed accidents or transients. The staff has determined, therefore, that the incore detector requirements do not meet the criteria of 10 CFR 50.36 for inclusion in TSs. Licensees may propose to relocate the incore detector requirements to the UFSAR and control changes to those provisions in accordance with 10 CFR 50.59.

Relocation of the incore detector requirements from the TSs to the UFSAR does not imply any reduction in their importance in confirming that core power distributions are bounded by safety analysis limits. It is expected that licensees will continue to maximize the number of available incore detectors. Evaluations related to changes in incore detector requirements are expected to consider such factors as the need to identify the inadvertent loading of a fuel assembly into an improper location, the calibration of protection systems using incore measurements, and the allowances for measurement and nuclear design uncertainties. Should these or other considerations lead to the identification of a proposed change as an unreviewed safety question, the licensee should request NRC review and approval in accordance with 10 CFR 50.59(c).

Seismic Monitoring Instrumentation

Section VI(a)(3) of Appendix A to 10 CFR Part 100 requires that seismic monitoring instrumentation be provided to promptly determine the response of those nuclear power plant features important to safety in the event of an earthquake. This capability is required to allow for a comparison of the

measured response to that used in the design basis for the unit. Comparison of such data is needed to (1) determine whether the plant can continue to be operated safely and (2) permit such timely action as may be appropriate. However, seismic instrumentation does not actuate any protective equipment or serve any direct role in the mitigation of an accident.

The capability of the plant to withstand a seismic event or other design basis accident is determined by the initial design and construction of systems, structures, and components. The instrumentation is used to alert operators to the seismic event and evaluate the plant response. The Final Policy Statement explained that instrumentation to detect precursors to reactor coolant pressure boundary leakage, such as seismic instrumentation, is not included in the first criterion. As discussed above, the seismic instrumentation does not serve as a protective design feature or part of a primary success path for events which challenge fission product barriers. The staff has concluded that the seismic monitoring instrumentation does not satisfy the 10 CFR 50.36 criteria and need not be included in the TSs. Licensees may propose to relocate the seismic monitoring instrumentation requirements to the UFSAR and control changes to those provisions in accordance with 10 CFR 50.59.

Meteorological Monitoring Instrumentation

In 10 CFR 50.47, "Emergency Plans," and 10 CFR Part 50, Appendix E, "Emergency Planning and Preparedness for Production and Utilization Facilities," the Commission requires power plant licensees to provide reasonable assurance that adequate protective measures can and will be taken in the event of a radiological emergency. Timely access to accurate local meteorological data is important for estimating potential radiation doses to the public and for determining appropriate protective measures. In 10 CFR 50.36a(a)(2), the Commission requires nuclear power plant licensees to submit annual reports specifying the quantity of each of the principal radionuclides released to unrestricted areas in liquid and airborne effluents and such other information as may be required by the NRC to estimate maximum potential annual radiation doses to the public. A knowledge of meteorological conditions in the vicinity of the reactor is important in providing a basis for estimating annual radiation doses resulting from radioactive materials released in airborne effluents. Accordingly, the meteorological monitoring instrumentation serves a useful function in estimating radiation doses to the public from either routine or accidental releases of radioactive materials to the atmosphere.

The meteorological monitoring instrumentation does not serve such a primary protective function as to warrant inclusion in the TSs in accordance with the 10 CFR 50.36 criteria. The instrumentation does not serve to ensure that the plant is operated within the bounds of initial conditions assumed in design basis accident and transient analyses or that the plant will be operated to preclude transients or accidents. Likewise, the meteorological instrumentation does not serve as part of the primary success path of a safety sequence analysis used to demonstrate that the consequences of these events

are within the appropriate acceptance criteria. Accordingly, the staff has concluded that the meteorological instrumentation does not meet the 10 CFR 50.36 criteria and need not be included in TSs. The staff has determined that requirements related to the meteorological monitoring instrumentation may be moved from the TSs to the UFSAR and that any subsequent changes to the provisions may be controlled pursuant to 10 CFR 50.59. Licensees may alternately choose to relocate the meteorological monitoring instrumentation requirements from the TSs to the facility's emergency plan. In this case, subsequent changes would be made in accordance with 10 CFR 50.54(q).

Chlorine Detection System

Chlorine detection systems ensure that sufficient capability is available to promptly detect and initiate protective action to isolate the control room in the event of an accidental chlorine release. Some plants may also have systems to detect other toxic gases that have the potential to hamper plant operation in the case of their accidental release from onsite or offsite sources. This discussion of the typical chlorine detection systems also applies to the relocation of TSs related to other toxic gas detection systems. Staff positions regarding the relationship of the chlorine detection systems to the general design criteria (GDC) appear in NUREG-0800, "Standard Review Plan" (SRP); Regulatory Guide (RG) 1.78, "Assumptions for Evaluating the Habitability of a Nuclear Power Plant Control Room During a Postulated Hazardous Chemical Release"; and RG 1.95, "Protection of Nuclear Power Plant Control Room Operators Against an Accidental Chlorine Release."

As discussed above, chlorine detection systems may serve an important role in protecting control room personnel from internal or external hazards related to toxic gases. However, the release of chlorine or other hazardous chemicals is not part of an initial condition of a design basis accident or transient analysis that assumes a failure of or presents a challenge to the integrity of a fission product barrier. Since the release of toxic gases is not assumed to initiate or occur simultaneously with design basis accidents or transients involving challenges to fission product barriers, the chlorine detection system is not part of a success path for the mitigation of those accidents or transients. The staff has, therefore, concluded that requirements for this system do not meet the 10 CFR 50.36 criteria and need not be included in TSs. Licensees may propose to relocate the chlorine detection system requirements to the UFSAR and control changes to those provisions in accordance with 10 CFR 50.59.

Loose-Part Detection System

The loose-part detection system identifies the existence of possible loose parts in the reactor coolant system. Early detection can give operators time to take corrective actions and avoid or mitigate damage to or malfunctions of primary system components. However, as discussed in the Final Policy

Statement, the loose-part detection system does not function to detect significant abnormal degradation of the reactor coolant pressure boundary. The loose-part detection system does not serve as an active design feature for establishing initial conditions or mitigation of design basis accidents or transients. The staff has concluded that requirements for this system do not satisfy the 10 CFR 50.36 criteria and need not be included in TSs. Licensees may propose to relocate the requirements related to the loose-part detection system from the TSs to the UFSAR and control changes to those provisions in accordance with 10 CFR 50.59.

Explosive Gas Monitoring Instrumentation

The relocation of most of the instrumentation related to radioactive gaseous effluent monitoring was addressed in Generic Letter 89-01, "Implementation of Programmatic Controls for Radiological Effluent Technical Specifications [RETS] in the Administrative Controls Section of the Technical Specifications and the Relocation of Procedural Details of RETS to the Offsite Dose Calculation Manual or the Process Control Program." Relocation of the requirements for explosive gas monitoring instrumentation was not addressed in the guidance provided by Generic Letter 89-01. Staff positions regarding the monitoring of explosive gases within the radioactive waste management systems are outlined in SRP Section 11.3 and Branch Technical Position ETSB-11-5, "Postulated Radioactive Releases Due to a Waste Gas System Leak or Failure."

The actions required by existing TSs typically require alternate sampling, limited operation of the gaseous waste system, and submittal of a special report if the explosive gas monitoring instrumentation does not conform to the limiting condition for operation. The explosive gas monitoring instrumentation requirements address detection of possible precursors to the failure of a waste gas system but do not prevent or mitigate design basis accidents or transients which assume a failure of or present a challenge to a fission product barrier. Acceptable concentrations of explosive gases are actually controlled by other limiting conditions for operation (e.g., Gaseous Effluents, Explosive Gas Mixture) or by programs described in the "Administrative Controls" section of TSs. The requirements related to explosive gas monitoring instrumentation do not conform to the 10 CFR 50.36 criteria for inclusion in the TSs. Therefore, licensees may propose to relocate the explosive gas monitoring instrumentation requirements to the UFSAR and control changes to those provisions in accordance with 10 CFR 50.59.

Turbine Overspeed Protection

Existing TSs typically include limiting conditions for operation and surveillance requirements for the turbine overspeed protection system. The turbine is equipped with control valves and stop valves which control turbine speed during normal plant operation and protect it from overspeed during abnormal conditions. The turbine overspeed protection system consists of

separate mechanical and electrical sensing mechanisms which are capable of initiating fast closure of the control and stop valves. Current TSs may require particular operability and surveillance requirements for these steam control and stop valves to minimize the potential for fragment missiles generated by a turbine overspeed event. General Design Criterion 4 of Appendix A to 10 CFR Part 50 requires that structures, systems, and components important to safety be appropriately protected from the effects of missiles that may result from equipment failures. Application of the design criteria to turbine missiles is described in SRP Section 10.2 and in subsequent safety evaluations related to probabilities of turbine failures, turbine orientations, and surveillance requirements for turbine overspeed protection systems. In NUREG-1366, "Improvements to Technical Specifications Surveillance Requirements," the staff discusses the benefits, resultant costs, and the safety impact of performing turbine overspeed protection surveillances.

Although the design basis accidents and transients include a variety of system failures and conditions which might result from turbine overspeed events and potential missiles striking various plant systems and equipment, the system failures and plant conditions are much more likely to be caused by events other than turbine failures. In view of the low likelihood of turbine missiles, assumptions related to the turbine overspeed protection system are not part of an initial condition of a design basis accident or transient that either assumes the failure of or presents a challenge to the integrity of a fission product barrier. The turbine overspeed protection system is not relied upon in the design basis accident or transient analyses as a primary success path to mitigate such events.

Probabilistic safety assessments and operating experience have demonstrated that proper maintenance of the turbine overspeed control valves is important to minimize the potential for overspeed events and turbine damage; however that experience has also demonstrated that there is low likelihood of significant risk to public health and safety because of turbine overspeed events. Further, the potential for and consequences of turbine overspeed events are diminished by factors such as the orientation of the turbine relative to plant structures and equipment, licensee inservice testing programs, which must comply with 10 CFR 50.55(a), and surveillance programs for the turbine control and stop valves derived from the manufacturer's recommendations.

Accordingly, the staff has concluded that the turbine overspeed protection system does not meet the 10 CFR 50.36 criteria and need not be included in TSs. Licensees may propose to relocate the turbine overspeed protection requirements to the UFSAR and control changes to those provisions in accordance with 10 CFR 50.59.

LIST OF RECENTLY ISSUED GENERIC LETTERS

<u>Generic Letter</u>	<u>Subject</u>	<u>Date of Issuance</u>	<u>Issued To</u>
95-09	MONITORING AND TRAINING OF SHIPPERS AND CARRIERS OF RADIOACTIVE MATERIALS	11/03/95	ALL U.S. NRC LICENSEES
95-08	10 CFR 50.54(p) PROCESS FOR CHANGES TO SECURITY PLANS WITHOUT PRIOR NRC APPROVAL	10/31/95	ALL HOLDERS OF OLs & CPs FOR NPRs
88-20, Supp. 5	INDIVIDUAL PLANT EXAMINATION OF EXTERNAL EVENTS FOR SEVERE ACCIDENT VULNERABILITIES	09/08/95	ALL HOLDERS OF OLs (EXCEPT THOSE LICENSES THAT HAVE BEEN AMENDED TO POSSESSION-ONLY STATUS) OR CPs FOR NPRs.
95-07	PRESSURE LOCKING AND THERMAL BINDING OF SAFETY-RELATED POWER-OPERATED GATE VALVES	08/17/95	ALL HOLDERS OF OLs (EXCEPT THOSE LICENSES THAT HAVE BEEN AMENDED TO POSSESSION-ONLY STATUS) OR CPs FOR NPRs.
95-06	CHANGES IN THE OPERATOR LICENSING PROGRAM	08/15/95	ALL HOLDERS OF OLs (EXCEPT THOSE LICENSES THAT HAVE BEEN AMENDED TO A POSSESSION ONLY STATUS) OR CPs FOR NPRs.
95-05	VOLTAGE-BASED REPAIR CRITERIA FOR WESTINGHOUSE STEAM GENERATOR TUBES AFFECTED BY OUTSIDE DIAMETER STRESS CORROSION CRACKING	08/03/95	ALL HOLDERS OF OLs OR CPs FOR PRESSURIZED WATER REACTORS (PWRs).

OL = OPERATING LICENSE
CP = CONSTRUCTION PERMIT
NPR = NUCLEAR POWER REACTORS