Reportability

R504B

Chapter 4.14

Objectives

1. Recognize the purpose for reporting events under 10 CFR 50.72 and 10 CFR 50.73.
2. Identify the five types of reports required under 10 CFR 50.72.
3. Recognize the preferred method for making immediate notifications, alternate methods for making the reports and who receives the reports.

Objectives

4. Recognize when ERDS is required to be initiated.
5. Distinguish between a valid and an invalid actuation of RPS and ESF systems.

Main Purposes

Reports help achieve two of the many aspects of nuclear safety, specifically:

- Aiding in emergency response
- feedback of operating experience into plant operations

Purpose

Used by the staff in:

- Responding to emergencies,
- Monitoring ongoing events,
- Confirming licensing bases,
- Studying potentially generic safety problems,

Purpose

Used by the staff in:

- Assessing trends and patterns of operational experience,
- Monitoring performance,
- Identifying precursors of more significant events, and
- Providing operational experience to the industry.

Overview

- 50.72 provides for immediate notification requirements via the emergency notification system (ENS)
  - Emergency declarations: Immediate
  - Non-emergency: 1-hour, 4 hour, 8 hour & followup
  - should not interfere with ensuring the safe operation of a nuclear power plant
- 50.73 provides for 60-day written licensee event reports (LERs).
- Implementation guidance in NUREG 1022

Emergency Notification System

- Part of the Federal Telecommunications System (FTS) and provides a direct link from the utility to the Headquarters Operations Officer in the NRC Operations Center to facilitate timely notifications of off-normal incidents
- If unavailable, alternatives include:
  - Commercial phone (301) 816-5100
  - Cellular Phone
  - Satellite Phone
  - Radio links to other facilities where communications can be relayed to the NRC Operations Center

ERDS

- Emergency Response Data System (ERDS) is a direct near real-time electronic data link between the licensee's onsite computer system and the NRC Operations Center
- Limited data set of selected parameters
  - Reactor core and coolant system conditions;
  - Reactor containment conditions;
  - Radioactivity release rates; and
  - Plant meteorological tower data.
- Placed in Service within 1 hour of Alert and above

ERDS Data Point Example

ERDS PNT No	NRC ERDS PARAMETER	POINT ID	PLANT SPECIFIC POINT DESCRIPTION
1	NI POWER RNG	SPDS0001	RX POWER APRM - COMPOSED
2	NI INTER RNG	CALC045	AVERAGE OF 8 IRM'S
3	NI SOURC RNG	SPDS0041	RX POWER SRM - AVG
4	REAC VES LEV	SPDS0007	RX WATER LEVEL - COMPOSED
5	MAIN FD FLOW	CALC040	RFW FLOW TO REACTOR
6	RCIC FLOW	71-36	RCIC PUMP DISCHARGE FLOW
7	RCS PRESSURE	SPDS0008	RX PRESSURE - COMPOSED
8	HPCI FLOW	73-33	HPCI PUMP DISCHARGE FLOW
9	LPCI FLOW	74-50	RHR SYS I FLOW
10	LPCI FLOW	74-64	RHR SYS II FLOW
11	CR SPRAY FL	75-21	CORE SPRAY SYS I FLOW
12	CR SPRAY FL	75-49	CORE SPRAY SYS II FLOW
13	CND A/E RAD	SPDS0047	OFFGAS POST TREATMENT AVG
14	CND A/E RAD	90-157	OFFGAS PRE TREATMENT AVG
15	DW RAD	90-272A	DW RAD-RX 582,45 DEG AZIMUTH
16	DW RAD	90-273A	DW RAD-RX 560, 270 DEG AZIMUTH
17	MN STEAM RAD	90-136	MAIN STM LINE A RAD LEVEL

Typical Implementation

- Reporting requirements included in site administrative procedure.
- Procedure typically includes 50.72 and other reports required by regulation as well as internal management reporting.
- Responsibility for initial reporting with Shift Manager, with review of report by other plant personnel (e.g., Licensing) as time allows.
- Responsibility transferred during emergencies.

Typical Implementation

- If reportability is indeterminate, most utilities will make the report and retract it later if further analysis shows it was not reportable.
- An ENS notification may be retracted via a follow-up telephone call. LER canceled by letter.

Valid

- RPS, ESF and ECCS actuations are valid if the actual process parameter being monitored exceeds the initiation setpoint. (Includes manual actuation)
- Invalid actuation results from instrument failure, operator error or system malfunction where the system process parameter did not actually exceed the initiation setpoint.

Types of reports

10 CFR 50.72 (and associated LER if required)

- Emergency
- One-Hour Non-Emergency
- Four-Hour Non-Emergency
- Eight-Hour Non-Emergency
- Followup Reports

10 CFR 50.72 with no LER required

LERs with no Immediate Report Required

Emergency Reporting

The licensee shall notify the NRC **immediately after** notification of the appropriate State or local agencies and **not later than one hour** after the time the licensee declares one of the **Emergency Classes**.

– If a licensee discovers that a condition existed which met the emergency plan criteria but no emergency was declared and the basis for the emergency class no longer exists, licensees have declared the emergency class, immediately terminated the emergency class and then made the appropriate notifications.

One Hour Non-Emergency

- Report deviation from the plant's Technical Specifications authorized pursuant to Sec. **50.54(x)** of this part.
  - A licensee may take reasonable action that departs from a license condition or a technical specification when this action is immediately needed to protect the public health and safety.
- Shall be approved by a licensed SRO prior to taking the action
  - Per RIS 2008-26, these actions may be approved by a non-licensed individual in a higher position of authority such as Site Emergency Director, Operations Manager, Plant Manager or Site Vice President.

Four Hour Non-Emergency

1) The **initiation** of any nuclear plant shutdown required by the plant's Technical Specifications
   - 50.73: **completion** of a shutdown required by the plant's Technical Specifications.
   - Shutdown is from Mode 1 or 2 to Mode 3 (not Mode 3 to Mode 4 even if required by TS)
   - Clock starts when negative reactivity added

Four Hour Non-Emergency

2) Any event that results or should have resulted in emergency core cooling system **(ECCS) discharge** into the reactor coolant system as a result of a **valid** signal
3) Any event or condition that results in **actuation of** the reactor protection system (**RPS**) when the reactor is critical ***(including invalid actuations)***

Four Hour Non-Emergency

4) Any event or situation, related to the health and safety of the public or onsite personnel, or protection of the environment, for which a **news release** is planned or notification to **other government agencies** has been or will be made.
   - No LER required

Eight Hour Non-Emergency

1) Any event or condition that results in:
   (A) The condition of the nuclear power plant, including its **principal safety barriers**, being **seriously degraded**; or
   (B) The nuclear power plant being in an **unanalyzed condition** that significantly degrades plant safety.

- Fuel Clad Failures, RCS pressure boundary threat, Primary Containment Integrity
- Widespread ECCS voiding, single failure proof system isn't, fire barriers relied on are missing

Eight Hour Non-Emergency

2) Any event or condition that results in **valid actuation** of any of the systems listed below, except when the actuation results from and is part of a pre-planned sequence during testing or reactor operation:
   - Reactor protection system
   - General containment isolation signals affecting containment isolation valves in more than one system or multiple main steam isolation valves (MSIVs).

Eight Hour Non-Emergency

2) Events involving **valid** actuations (continued)
   - ECCS for pressurized water reactors (PWRs): High-head, intermediate-head, and low-head injection systems and the low pressure injection.
   - ECCS for boiling water reactors (BWRs): HPCI, CS, HPCS, LPCI
   - BWR reactor core isolation cooling system; isolation condenser system; and feedwater coolant injection system

Eight Hour Non-Emergency

2) Events involving **valid** actuations (continued)
   - PWR auxiliary or emergency feedwater system
   - Containment heat removal and depressurization systems, including containment spray and fan cooler systems
   - Emergency ac electrical power systems, including BWR dedicated Division 3 EDGs

- ***50.73 includes invalid actuations unless the system was properly removed from service or the safety function was already met.***
- ***Phone notification can be made in lieu of a written LER***

Eight Hour Non-Emergency

3) Any event or condition that at the time of discovery could have **prevented the fulfillment of the safety function** of structures or systems that are needed to:
   (A) Shut down the reactor and maintain it in a safe shutdown condition;
   (B) Remove residual heat;
   (C) Control the release of radioactive material; or
   (D) Mitigate the consequences of an accident.
   - ***Used to determine NRC PI for SSFF***
   - ***Not reported if redundant equipment available in same system***

Eight Hour Non-Emergency

4) Any event requiring the **transport of a radioactively contaminated person** to an offsite medical facility for treatment.
   - *No LER*
5) Any event that results in a **major loss of emergency assessment capability, offsite response capability, or offsite communications capability** (e.g., significant portion of control room indication, Emergency Notification System, or offsite notification system).
   - *No LER*

Followup Reports

Immediately report

(i) any **further degradation** in the level of safety of the plant or other worsening plant conditions, including those that require the declaration of any of the Emergency Classes, if such a declaration has not been previously made, or

(ii) any **change from one Emergency Class** to another, or

(iii) a **termination of the Emergency Class**.

Followup Reports

Immediately report

(i) the **results of ensuing evaluations or assessments** of plant conditions,

(ii) the **effectiveness of response or protective measures taken**, and

(iii) information related to plant **behavior that is not understood**.

Requires licensee to maintain open line if requested

50.72 reports not requiring LER

- **Emergency Classification** (may be reportable under other criteria)
- Any event requiring the **transport of a radioactively contaminated person** to an offsite medical facility for treatment
- **News release/Other Gov't Agency**
- **Loss of Emergency response capability**

LERs but no 50.72

- Any operation or condition which was **prohibited by the plant's Technical Specifications** except when:
  (1) The Technical Specification is administrative in nature;
  (2) The event consisted solely of a case of a late surveillance test where the oversight was corrected, the test was performed, and the equipment was found to be capable of performing its specified safety functions; or
  (3) The Technical Specification was revised prior to discovery of the event such that the operation or condition was no longer prohibited at the time of discovery of the event.
  - **Time of discovery unless firm evidence of earlier failure**
  - **Multiple failures**

LERs but no 50.72

- Any event that posed an **actual threat** to the safety of the nuclear power plant or significantly **hampered site personnel** in the performance of duties necessary for the safe operation of the nuclear power plant including **fires, toxic gas releases, or radioactive releases** (may be reportable under emergency classification or emergency response capability)

LERs but no 50.72

- Any **natural phenomenon** or other external condition that posed an **actual threat** to the safety of the nuclear power plant or significantly **hampered site personnel** in the performance of duties necessary for the safe operation of the nuclear power plant. (may be reportable under emergency classification or emergency response capability)

LERs but no 50.72

- Any event where a **single cause** or condition caused at least **one independent train or channel to become inoperable in multiple systems** or two independent trains or channels to become inoperable **in a single system** designed to:
  (A) Shut down the reactor and maintain it in a safe shutdown condition;
  (B) Remove residual heat;
  (C) Control the release of radioactive material; or
  (D) Mitigate the consequences of an accident.

LERs but no 50.72

- Any event or condition that **as a result of a single cause** could have prevented the fulfillment of a safety function for **two or more trains or channels in different systems** that are needed to:

  (A) Shut down the reactor and maintain it in a safe shutdown condition;

  (B) Remove residual heat;

  (C) Control the release of radioactive material; or

  (D) Mitigate the consequences of an accident.

LERs but no 50.72

(A) Any **airborne radioactive** release that, when averaged over a time period of 1 hour, resulted in airborne radionuclide concentrations in an unrestricted area that exceeded **20 times** the applicable concentration limits specified in appendix B to part 20, table 2, column 1.

(B) Any **liquid effluent release** that, when averaged over a time period of 1 hour, exceeds **20 times** the applicable concentrations specified in appendix B to part 20, table 2, column 2, at the point of entry into the receiving waters (i.e., unrestricted area) for all radionuclides except tritium and dissolved noble gases.

Summary

50.72

- Made an Emergency Declaration [Immediate]
- Invoked 50.54(x) [1-hr]
- Initiation of plant SD required by TS [4-hr]
- Valid ECCS discharge into RCS [4-hr]
- RPS Actuation [4-hr]
- News Release/Notification to another other government agency [4 hr]

50.73

- None directly
- Invoked 50.54(x)
- Completion of Plant SD required by TS
- Valid ECCS discharge into RCS
- RPS Actuation
- None

Summary

50.72	50.73
• Principle Safety Barriers Seriously Degraded [8-hr]	• Principle Safety Barriers Seriously Degraded
• Unanalyzed Condition [8-hr]	• Unanalyzed Condition
• Valid Safety System Actuation [8 hr]	• Valid Safety System Actuation
• Event prevent fulfillment of Safety Function [8-hr]	• Event prevent fulfillment of Safety Function
• Transport of contaminated person [8-hr]	• None
• Major loss of Emergency Assessment, response, or communication [8-hr]	• None

Summary

50.72

- None
- *May be under Emergency*
- *May be under Emergency*
- *Maybe under unanalyzed condition*
- *Maybe under emergency, news release or Part 20*

50.73

- Condition Prohibited by TS
- Actual threat or hampering personnel due to fire, toxic gas or radioactive release.
- Actual threat or hampering personnel due to natural phenomenon
- Common cause failures
- Radiological Releases

NRC FORM 361
(12-2000)

U.S. NUCLEAR REGULATORY COMMISSION
OPERATIONS CENTER

REACTOR PLANT
EVENT NOTIFICATION WORKSHEET

EN #

NRC OPERATION TELEPHONE NUMBER: PRIMARY -- 301-816-5100 or 800-532-3469*, BACKUPS -- [1st] 301-951-0550 or 800-449-3694*, [2nd] 301-415-0550 and [3rd] 301-415-0553

*Licensees who maintain their own ETS are provided these telephone numbers.

NOTIFICATION TIME	FACILITY OR ORGANIZATION	UNIT	NAME OF CALLER	CALL BACK #

EVENT TIME & ZONE	EVENT DATE	POWER/MODE BEFORE	POWER/MODE AFTER

EVENT CLASSIFICATIONS

	GENERAL EMERGENCY	GEN/AAEC
	SITE AREA EMERGENCY	SIT/AAEC
	ALERT	ALE/AAEC
	UNUSUAL EVENT	UNU/AAEC
	50.72 NON-EMERGENCY	(see next columns)
	PHYSICAL SECURITY (73.71)	DDDD
	MATERIAL/EXPOSURE	B???
	FITNESS FOR DUTY	HFIT
	OTHER UNSPECIFIED REQMT.	(see last column)
	INFORMATION ONLY	NNF

1-Hr. Non-Emergency 10 CFR 50.72(b)(1)

		TS Deviation	ADEV

4-Hr. Non-Emergency 10 CFR 50.72(b)(2)

	(i)	TS Required S/D	ASHU
	(iv)(A)	ECCS Discharge to RCS	ACCS
	(iv)(B)	RPS Actuation (scram)	ARPS
	(xi)	Offsite Notification	APRE

8-Hr. Non-Emergency 10 CFR 50.72(b)(3)

	(ii)(A)	Degraded Condition	ADEG
	(ii)(B)	Unanalyzed Condition	AUNA
	(iv)(A)	Specified System Actuation	AESF
	(v)(A)	Safe S/D Capability	AINA
	(v)(B)	RHR Capability	AINB
	(v)(C)	Control of Rad Release	AINC
	(v)(D)	Accident Mitigation	AIND
	(xii)	Offsite Medical	AMED
	(xiii)	Loss Comm/Asmt/Resp	ACOM

60-Day Optional 10 CFR 50.73(a)(1)

	Invalid Specified System Actuation	AINV

Other Unspecified Requirement (Identify)

	NONR
	NONR

DESCRIPTION

Include: Systems affected, actuations and their initiating signals, causes, effect of event on plant, actions taken or planned, etc. *(Continue on back)*

NRC FORM 366 (MM-YYYY) U.S. NUCLEAR REGULATORY COMMISSION

LICENSEE EVENT REPORT (LER)

(See reverse for required number of digits/characters for each block)

APPROVED BY OMB NO. 3150-0104 EXPIRES MM-YYYY

Estimated burden per response to comply with this mandatory information collection request: 50 hrs. Reported lessons learned are incorporated into the licensing process and fed back to industry. Forward comments regarding burden estimate to the Records Management Branch (T-6 F33), U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001, and to the Paperwork Reduction Project (3150-0104), Office of Management and Budget, Washington, DC 20503. If an information collection does not display a currently valid OMB control number, the NRC may not conduct or sponsor, and a person is not required to respond to, the information collection.

FACILITY NAME (1)	DOCKET NUMBER (2)	PAGE (3)
	05000	1 O

TITLE (4)

EVENT DATE (5)			LER NUMBER (6)			REPORT DATE (7)			OTHER FACILITIES INVOLVED (8)	
MO	DAY	YEAR	YEAR	SEQUENTIAL NUMBER	REV NO	MO	DAY	YEAR	FACILITY NAME	DOCKET NUMBER 05000
				–	–				FACILITY NAME	DOCKET NUMBER 05000

OPERATING MODE (9)	
POWER LEVEL (10)	

THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR §: (Check all that apply) (11)

20.2201(b)	20.2203(a)(3)(i)	50.73(a)(2)(i)(C)	50.73(a)(2)(vii)
20.2201(d)	20.2203(a)(3)(ii)	50.73(a)(2)(ii)(A)	50.73(a)(2)(viii)(A)
20.2203(a)(1)	20.2203(a)(4)	50.73(a)(2)(ii)(B)	50.73(a)(2)(viii)(B)
20.2203(a)(2)(i)	50.36(c)(1)(i)(A)	50.73(a)(2)(iii)	50.73(a)(2)(ix)(A)
20.2203(a)(2)(ii)	50.36(c)(1)(ii)(A)	50.73(a)(2)(iv)(A)	50.73(a)(2)(x)
20.2203(a)(2)(iii)	50.36(c)(2)	50.73(a)(2)(v)(A)	73.71(a)(4)
20.2203(a)(2)(iv)	50.46(a)(3)(ii)	50.73(a)(2)(v)(B)	73.71(a)(5)
20.2203(a)(2)(v)	50.73(a)(2)(i)(A)	50.73(a)(2)(v)(C)	OTHER
20.2203(a)(2)(vi)	50.73(a)(2)(i)(B)	50.73(a)(2)(v)(D)	Specify in Abstract below or in NRC Form 366A

LICENSEE CONTACT FOR THIS LER (12)

NAME	TELEPHONE NUMBER (Include Area Code)

COMPLETE ONE LINE FOR EACH COMPONENT FAILURE DESCRIBED IN THIS REPORT (13)

Other Regulations Requiring Event Reporting

10 CFR Part 20	Radiation Protection
10 CFR Part 21	Defects and Non-Compliances
10 CFR Part 26	Fitness For Duty
10 CFR 50.9	Complete and Accurate Information
10 CFR 50.36	Violation of TS (SL, LSSS, LCO)
10 CFR 50.46	ECCS Acceptance Criteria
10 CFR Part 72	ISFSI
10 CFR Part 73	Security

Part 20

Immediate notifications

- **(20.1906)** The licensee shall immediately notify the final delivery carrier and the NRC Operations Center (301-816-5100), by telephone, when (1) **Removable radioactive surface contamination exceeds the limits** or (2) **External radiation levels exceed the limits**

- (**20.2201)** Immediately after its occurrence becomes known to the licensee, **any lost, stolen, or missing licensed material** in an aggregate quantity equal to or greater than **1,000 times the quantity specified** in appendix C to part 20 under such circumstances that it appears to the licensee that an exposure could result to persons in unrestricted areas

Part 20

Immediate Notifications (continued)

- **(20.2202)** Immediately report any **event** involving byproduct, source, or special nuclear material possessed by the licensee that may have caused or threatens to cause any of the following conditions
  - An **individual to receive** (i) A total effective **dose** equivalent of **25 rems** or more; or (ii) A lens dose equivalent of 75 rems or more; or (iii) A shallow-dose equivalent to the skin or extremities of 250 rads or more; or
  - The **release** of radioactive material, inside or outside of a restricted area, so that, had an individual been present for 24 hours, the **individual could have received an intake five times the annual limit on intake**

Part 20

Twenty-four hour notification

- (**20.2202**) Report any event involving loss of control of licensed material that may have caused, or threatens to cause, any of the following conditions:
  - An **individual to receive**, in a period of 24 hours (i) A total effective dose equivalent exceeding **5 rems**; or (ii) A lens dose equivalent exceeding 15 rems; or (iii) A shallow-dose equivalent to the skin or extremities exceeding 50 rems
  - The **release** of radioactive material, inside or outside of a restricted area, so that, had an individual been present for 24 hours, the individual could have received an intake in excess of **one occupational annual limit on intake**

Part 20

30 day reports

- Reports of **exposures, radiation levels, and concentrations of radioactive material exceeding the constraints or limits**
  - (1) Any incident for which notification is required by § 20.2202; or
  - (2) Doses in excess of any of the following:
    - The occupational dose limits for adults, minors, an embryo/fetus of a declared pregnant woman, an individual member of the public , Any applicable limit in the license; or the ALARA constraints for air emissions
  - (3) Levels of radiation or concentrations of radioactive material in
    - (i) A restricted area in excess of any applicable limit in the license; or
    - (ii) An unrestricted area in excess of 10 times any applicable limit set forth in this part or in the license; or
- **Planned special exposures**
- Occurrence of any **lost, stolen, or missing licensed material** becomes known to the licensee, all licensed material in a quantity greater than **10 times** the quantity specified in appendix C to part 20 that is still missing at this time.

Part 21

Basic component means a structure, system, or component, or part thereof that affects its safety function necessary to assure:

(A) The integrity of the reactor coolant pressure boundary;

(B) The capability to shut down the reactor and maintain it in a safe shutdown condition; or

(C) The capability to prevent or mitigate the consequences of accidents which could result in potential offsite exposures comparable to those referred to in § 50.34(a)(1), § 50.67(b)(2), or § 100.11 of this chapter, as applicable

Substantial safety hazard means a loss of safety function to the extent that there is a major reduction in the degree of protection provided to public health and safety for any facility or activity licensed or otherwise approved or regulated by the NRC

Part 21

Defect means:

(1) A deviation in a basic component delivered to a purchaser for use in a facility or an activity subject to the regulations in this part if, on the basis of an evaluation, the deviation could create a **substantial safety hazard**;

(2) The installation, use, or operation of a basic component containing a defect;

(3) A deviation in a portion of a facility provided the deviation could, on the basis of an evaluation, create a **substantial safety hazard** and the portion of the facility containing the deviation has been **offered to the purchaser for acceptance**;

(4) A condition or circumstance involving a basic component that could contribute to the **exceeding of a safety limit**; or

(5) An error, omission or other circumstance in a design certification, or standard design approval that, on the basis of an evaluation, could create a **substantial safety hazard**.

Part 21

- Any individual director or responsible officer of a firm constructing, owning, operating or supplying the components of any facility or activity who obtains information reasonably indicating:
  (a) That the facility, activity or basic component supplied to such facility or activity fails to comply with the Atomic Energy Act of 1954, or any applicable rule, regulation, order, or license of the Commission relating to **substantial safety hazards** or
  (b) That the facility, activity, or basic component supplied to such facility or activity contains defects, which could create a **substantial safety hazard**,

  to **immediately notify** the Commission of such failure to comply or such defect, unless he has actual knowledge that the Commission has been adequately informed of such defect or failure to comply.

Part 21

- Evaluate deviations and failures to comply to identify defects and failures to comply associated with substantial safety hazards as soon as practicable, and, in all cases within **60 days of discovery**, in order to identify a reportable defect or failure to comply that could create a **substantial safety hazard**, were it to remain uncorrected,
- Initial notification by facsimile, which is the preferred method of notification, to the NRC Operations Center at (301) 816 - 5151 or by telephone at (301) 816 - 5100 within **two days** following receipt of information by the director or responsible corporate officer on the identification of a defect or a failure to comply.

Part 26

24-hour Reports

(1) The use, sale, distribution, possession, or presence of illegal **drugs**, or the consumption **or** presence of **alcohol within a protected area**;

(2) Any acts by any person licensed under 10 CFR parts 52 and/or 55 to operate a power reactor (i.e. **licensed operators**), if such acts—

(i) Involve the **use, sale, or possession of a controlled substance**;

(ii) Result in a determination that the individual has **violated** the licensee's or other entity's **FFD policy (including subversion**); or

(iii) Involve the **consumption of alcohol** within a protected area or while performing the duties that require the individual to be subject to the FFD program;

(3) Any **intentional act that casts doubt on the integrity of the FFD program**; and

(4) Any **programmatic failure, degradation, or discovered vulnerability of the FFD program** that may permit undetected drug or alcohol use or abuse by individuals within a protected area, or by individuals who are assigned to perform duties that require them to be subject to the FFD program.

Part 26

24-hour Reports (continued)

(5) **false positive** error occurs on a blind performance test sample submitted to an HHS-certified laboratory

(6) **false negative** error occurs on a quality assurance check of validity screening tests

30 Day Report

- Testing errors or unsatisfactory performance discovered in performance testing at either a licensee testing facility or an HHS-certified laboratory, in the testing of quality control or actual specimens, or through the processing of reviews and MRO reviews, as well as any other **errors** or matters that could adversely reflect on the integrity of the **random selection or testing process.**

50.9

- **50.9 Completeness and accuracy of information**. Each applicant or licensee shall notify the Commission of information identified by the applicant or licensee as having for the regulated activity a significant implication for public health and safety or common defense and security. Notification shall be provided to the **Administrator of the appropriate Regional Office within two working days** of identifying the information.

50.36

- If any **safety limit is exceeded**, the reactor must be shut down. The licensee shall notify the Commission, review the matter, and record the results of the review, including the cause of the condition and the basis for corrective action taken to preclude recurrence. Operation must not be resumed until authorized by the Commission. Licensee shall notify the Commission as required by 50.72 and submit a Licensee Event Report to the Commission as required by 50.73.

50.46

- For each change to or error discovered in an ECCS analysis, the applicant or licensee shall report the nature of the change or error and its estimated effect on the limiting ECCS analysis to the Commission at least **annually**.
- If the change or error is **significant**, report within **30 days**
- If ECCS acceptance criteria not met, report per **50.72 and 50.73** and take immediate steps to restore compliance.

Part 72

One Hour Report

- Each licensee shall notify the NRC Operations Center within **one hour of discovery of accidental criticality or any loss of special nuclear material**.

Emergency reports

Four-hour reports:

1) An action taken in an emergency that departs from a condition or a technical specification contained in a license or certificate of compliance issued under this part when the action is immediately needed to protect the public health and safety, and no action consistent with license or certificate of compliance conditions or technical specifications that can provide adequate or equivalent protection is immediately apparent. (**Equivalent to 50.54(x)**)

(2) Any event or situation related to the health and safety of the public or onsite personnel, or protection of the environment, for which a **news release** is planned or notification to **other Government agencies** has been or will be made. Such an event may include an onsite fatality or inadvertent release of radioactively contaminated materials. (written report not required).

Part 72

Eight-hour reports:

(1) A **defect in any spent fuel structure, system, or component that is important to safety.**

(2) A significant **reduction in the effectiveness of any spent fuel storage confinement system during use**.

(3) Any event requiring the **transport of a radioactively contaminated person** to an offsite medical facility for treatment (written report not required).

24-hour reports:

An event in which important to safety equipment is disabled or fails to function as designed when (**equivalent to safety system functional failure**):

(i) The equipment is required by regulation, license condition, or certificate of compliance to be available and operable to prevent releases that could exceed regulatory limits, to prevent exposures to radiation or radioactive materials that could exceed regulatory limits, or to mitigate the consequences of an accident; and

(ii) No redundant equipment was available and operable to perform the required safety function

60 Day Written Reports

Each licensee who makes an initial notification required by paragraphs (b)(1), (c)(1), (c)(2), or (d)(1) of this section shall also submit a written follow-up report to the Commission within 60 days of the initial notification.

Part 73

One hour reports, followed by a written report within 60 days.

- **loss of any shipment of SNM or spent fuel**, and within one hour after recovery of or accounting for such lost shipment.
- Any event in which there is reason to believe that a person has committed or caused, or attempted to commit or cause, or has made a credible threat to commit or cause:

  (1) **A theft or unlawful diversion of special nuclear material**; or

  (2) **Significant physical damage to a power reactor** or any facility possessing SSNM or its equipment or carrier equipment transporting nuclear fuel or spent nuclear fuel, or to the nuclear fuel or spent nuclear fuel a facility or carrier possesses; or

  (3) Interruption of normal operation of a licensed nuclear power reactor through the unauthorized use of or **tampering with its machinery, components, or controls including the security syst**em.
- **An actual entry of an unauthorized person into a protected area**, material access area, controlled access area, vital area, or transport.
- Any failure, degradation, or the discovered **vulnerability in a safeguard system that could allow unauthorized or undetected access** to a protected area, material access area, controlled access area, vital area, or transport for which compensatory measures have not been employed.
- The actual or attempted **introduction of contraband** into a protected area, material access area, vital area, or transport.

Summary of Other Reports

Regulation	Title	General Subject
10 CFR Part 20	Standards for Protection Against Radiation	Radiological events including releases, exposures and contaminations
10 CFR Part 21	Reporting Defects and Non-Compliances	Defects in basic components or services used in nuclear facilities that constitute a substantial safety hazard
10 CFR Part 26	Fitness for Duty Programs	Violations of or deficiencies in a facility's fitness for duty program
10 CFR 50.9	Completeness and Accuracy of Information	Incomplete or inaccurate information contained in licensee submittals that pose a significant implication for public health and safety or common defense and security

Summary of Other Reports

Regulation	Title	General Subject
10 CFR 50.36	Technical Specifications	Violations of TS safety limits, limiting safety system settings or limited conditions for operation
10 CFR 50.46	Acceptance criteria for emergency core cooling systems for light-water nuclear power reactors	Change to or errors in the ECCS analysis that are significant and/or result in not meeting the ECCS acceptance criteria
10 CFR Part 72	Licensing requirements for the independent storage of spent nuclear fuel and high-level radioactive waste, and reactor related greater than Class C waste	Includes reporting criteria for events pertaining to Independent Spent Fuel Storage Installations (ISFSIs)
10 CFR Part 73	Physical Protection of Plants and Materials	Security Safeguards Events

Objectives

1. Recognize the purpose for reporting events under 10 CFR 50.72 and 10 CFR 50.73.
2. Identify the five types of reports required under 10 CFR 50.72.
3. Recognize the preferred method for making immediate notifications, alternate methods for making the reports and who receives the reports.

Objectives

4. Recognize when ERDS is required to be initiated.
5. Distinguish between a valid and an invalid actuation of RPS and ESF systems.

Questions?