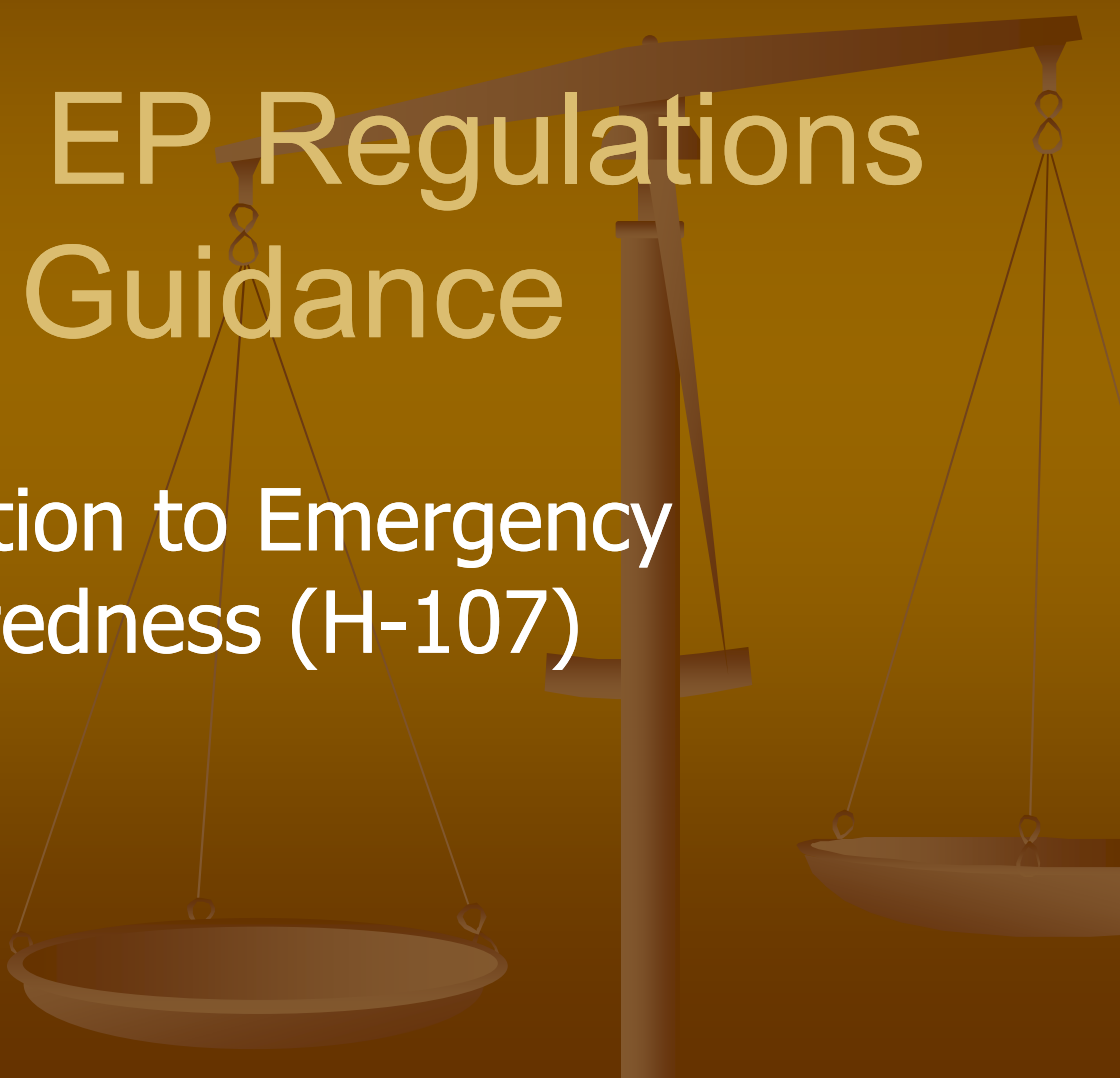


Chapter 3: EP Regulations and Guidance



Introduction to Emergency
Preparedness (H-107)

Topics:

- 10 CFR 50.47(b) -- The 16 Planning Standards
- 10 CFR 50 Appendix E
- 10 CFR 50.54(q)
- 10 CFR 50.54(t)
- Supporting Guidance



10 CFR 50.47(b)

- 16 Emergency Planning Standards
 - A high-level set of standards to be applied to emergency planning
 - Further detail on how to practically apply the planning standards is contained in Appendix E and NUREG 0654
 - Must be met in licensee and State and local emergency plans

10 CFR 50.47(b)(1)

- Primary responsibilities for emergency response by the nuclear facility licensee and by State and local organizations within the EPZs have been assigned, emergency responsibilities of the various supporting organizations have been specifically established, and each principal response organization has staff to respond and to augment its initial response on a continuous basis.
- ***Translated:***
 - Responsibilities for onsite/offsite personnel/organizations are established to support 24/7 coverage
- ***Examples:***
 - Emergency response organizational chart
 - Position descriptions

10 CFR 50.47(b)(2)

- On-shift facility licensee responsibilities for emergency response are unambiguously defined, adequate staffing to provide initial facility accident response in key functional areas is maintained at all times, timely augmentation of response capabilities is available and the interfaces among various onsite response activities and offsite support are specified.
- ***Translated:***
 - Transition from normal duties to emergency responsibilities; ensuring sufficient onshift emergency staff at all times; timely augmentation of onshift staff; and identifying offsite emergency resources
- ***Examples:***
 - Shift Manager to Emergency Director
 - Shift Staffing Schedule to Support Onshift Emergency Response
 - Table B-1
 - Identify local ambulance agency(s), fire department(s), police, hospital(s), etc. and obtain MOU's

10 CFR 50.47(b)(3)

- Arrangements for requesting and effectively using assistance resources have been made, arrangements to accommodate State and local staff at the licensee's near-site EOF have been made, and other organizations capable of augmenting the planned response have been identified.
- ***Translated:***
 - Federal, State, and local governmental assistance is arranged with space available in EOF for their response and other technical organizations as needed by the plan
- ***Examples:***
 - INPO
 - Utility Owner's Groups
 - Coast Guard

10 CFR 50.47(b)(4)

- A standard emergency classification and action level scheme, the bases of which include facility system and effluent parameters, is in use by the nuclear facility licensee, and State and local response plans call for reliance on information provided by facility licensees for determinations of minimum initial offsite response measures.
- ***Translated:***
 - Ability to classify an emergency via a standard scheme
- ***Examples:***
 - Emergency Action Levels
 - ORO Standard Operating Plans (SOPs) entry conditions

10 CFR 50.47(b)(5)

- Procedures have been established for notification, by the licensee, of State and local response organizations and for notification of emergency personnel by all organizations; the content of initial and follow-up messages to response organizations and the public have been established; and the means to provide early notification and clear instruction to the populace within the plume exposure pathway EPZ have been established.
- ***Translated:***
 - Capability to provide notification and response instructions to onsite/offsite emergency response personnel and the public.
- ***Examples:***
 - Call out list
 - Notification Forms
 - EAS Messages
 - ANS
 - Tone Alert Radios

10 CFR 50.47(b)(6)

- Provisions exist for prompt communications among principal response organizations to emergency personnel and to the public.
- ***Translated:***
 - Have plans for contacting all necessary OROs and emergency personnel
- ***Examples:***
 - Pagers, Cell Phones, Blackberries
 - ENS
 - Direct ringdown phones from licensee to counties/States

10 CFR 50.47(b)(7)

- Information is made available to the public on a periodic basis on how they will be notified and what their initial actions should be in an emergency, the principal points of contact with the news media for dissemination of information during an emergency are established in advance, and procedures for coordinated dissemination of information to the public are established.
- ***Translated:***
 - Information on nuclear power plant emergencies shall be provided annually to the general public and the media
- ***Examples:***
 - JICs
 - Phone Books
 - Annual Mailers, Calendars
 - Annual Media Training

10 CFR 50.47(b)(8)

- Adequate emergency facilities and equipment to support the emergency response are provided and maintained.
- ***Translated:***
 - Provide and maintain all facilities and equipment necessary to support emergency response at all times.
- ***Examples:***
 - TSC, EOF, OSC, EMAs
 - Air Samplers, Computers, FAX machines, UPS
 - Met towers

10 CFR 50.47(b)(9)

- Adequate methods, systems, and equipment for assessing and monitoring actual or potential offsite consequences of a radiological emergency condition are in use.
- ***Translated:***
 - Ability to monitor and assess radiological release
- ***Examples:***
 - Dose modeling software (RASCAL)
 - Radiation monitors

10 CFR 50.47(b)(10)

- A range of protective actions has been developed for the plume exposure pathway EPZ for emergency workers and the public. In developing this range of actions, consideration has been given to evacuation, sheltering and as a supplement to these, the prophylactic use of potassium iodide as appropriate. Guidelines for the choice of protective actions during an emergency, consistent with Federal guidance, are developed and in place and protective actions for the ingestion exposure pathway EPZ appropriate to the locale have been developed.
- ***Translation:***
 - Have a set of preplanned protective actions (that must consider evacuation and sheltering – potassium iodide is a possible supplement, but not a replacement) that can be implemented based on radiological conditions for both EPZs
- ***Examples:***
 - Evacuation sector maps
 - Onsite Assembly Areas
 - List of Dairy Farms within 50 miles

10 CFR 50.47(b)(11)

- Means for controlling radiological exposures, in an emergency, are established for emergency workers. The means for controlling radiological exposures shall include exposure guidelines consistent with EPA Emergency Worker and lifesaving Activity Protective Action Guides.
- ***Translated:***
 - Have a plan for protecting and directing plant personnel that must respond to radiological hazards during an emergency and base it on the EPA guidance
- ***Examples:***
 - Life-saving dose levels identified and those who can authorize entry
 - Emergency worker dosimetry both onsite and offsite

10 CFR 50.47(b)(12)

- Arrangements are made for medical services for contaminated injured individuals.
- ***Translated:***
 - Arrangements made with ambulance and hospitals responsible for contaminated personnel
- ***Examples:***
 - Evaluated drills with ambulance and hospital personnel
 - Onsite emergency medical squads

10 CFR 50.47(b)(13)

- General plans for recovery and reentry are developed.
- ***Translated:***
 - Create a framework for recovering from an emergency
- ***Examples:***
 - Event Termination and/or de-escalation criterion pre-established in the emergency plan

10 CFR 50.47(b)(14)

- Periodic exercises are (will be) conducted to evaluate major portions of emergency response capabilities, periodic drills are (will be) conducted to develop and maintain key skills, and deficiencies identified as a result of exercises or drills are (will be) corrected.
- ***Translated:***
 - Evaluated and training exercises/drills are conducted to identify and correct weaknesses and maintain proficiency
- ***Examples:***
 - Biennial Evaluated Exercise (FEMA)
 - Licensed Operator Requal (LOR) Drills
 - Fire Drills
 - Critiques

10 CFR 50.47(b)(15)

- Radiological emergency response training is provided to those who may be called on to assist in an emergency.
- ***Translated:***
 - Training to onsite and offsite emergency response personnel
- ***Examples:***
 - Fire Department training on decontamination efforts
 - Classroom training on classifying emergencies

10 CFR 50.47(b)(16)

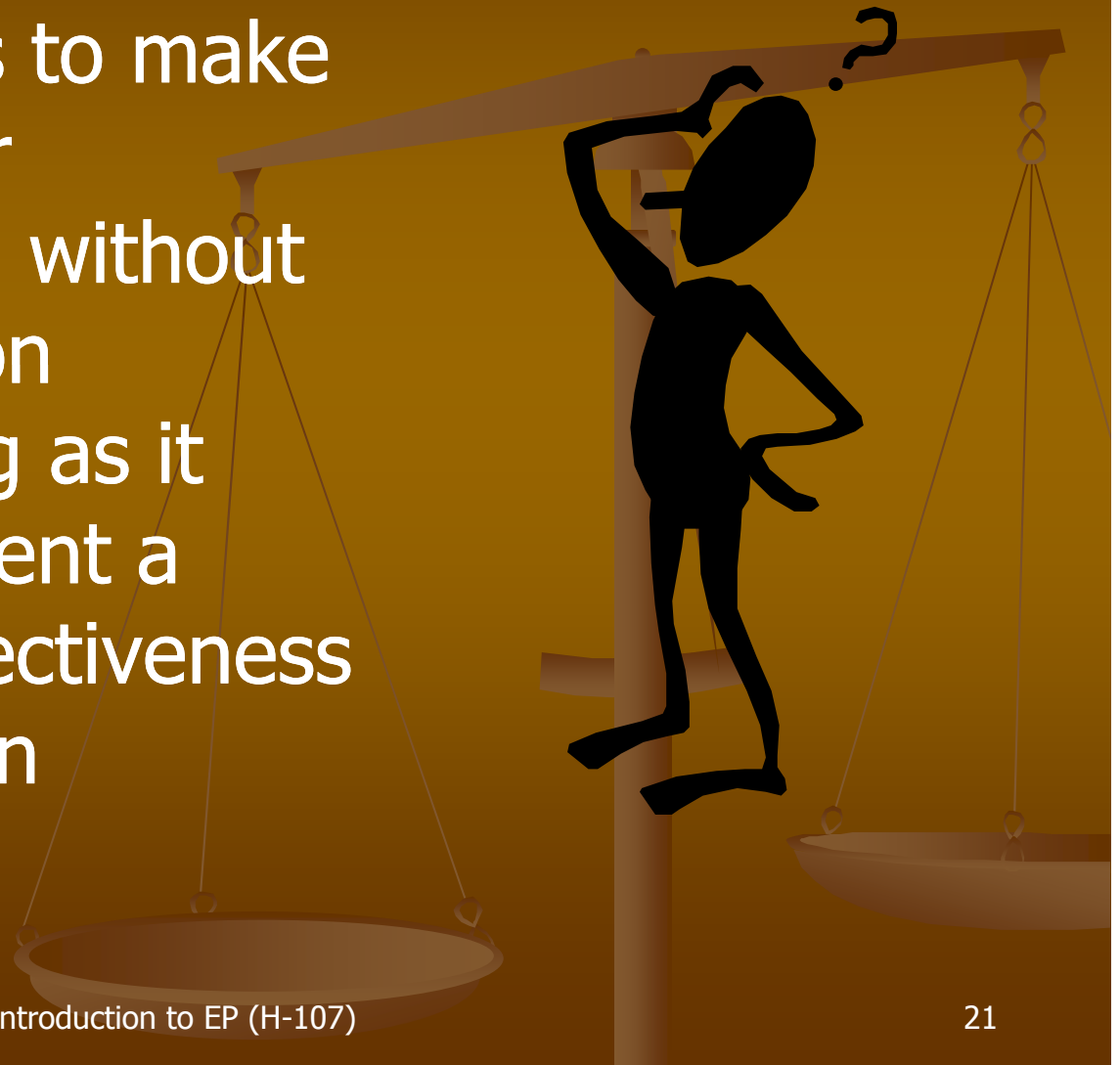
- Responsibilities for plan development and review and for distribution of emergency plans are established and planners are properly trained.
- ***Translation:***
 - An emergency planning department is established with qualified personnel
- ***Examples:***
 - Initial and continuous training of EP department staff
 - Annual review of emergency plan

10 CFR 50 Appendix E

- “Emergency Planning and Preparedness for Production and Utilization Facilities”
- Contains the requirements for emergency plans that support the 16 planning standards
- Examples
 - Requires the capability to notify State and local authorities within 15 minutes of emergency declaration
 - Defines equipment and facility needs
 - Defines exercise and training expectations

10 CFR 50.54(q)

- Allows licensees to make changes to their emergency plan without prior Commission approval as long as it does not represent a Decrease in Effectiveness (DIE) of the plan



10 CFR 50.54(t)

- Requires a periodic review of the licensee's EP program
 - A deliberately critical examination, including observation of plant operation, evaluation of audit results, procedures, certain contemplated actions and after the fact investigations of abnormal conditions
- Review conducted by persons having no direct responsibility for implementation of Emergency Preparedness Program Evaluation of adequacy of interfaces with State and local governments
- Evaluation of licensee's drills and exercises and emergency response capabilities
- Results of review and recommendations are documented
 - Results are reported to corporate and plant management
 - Report retained for 5 year period
 - Report is made available to State and local governments

10 CFR 50.72

■ Licensee notifications to NRC

■ Emergencies

- Notify the NRC immediately following notification of State and local agencies and not later than one hour after declaration
- Immediately notify NRC of emergency class escalation

■ Non-emergency events

- One, four, and eight hour reports
- EP related eight hour report: 10 CFR 50.72(b)(3)(xiii)
 - 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, ENS, or offsite notification system).

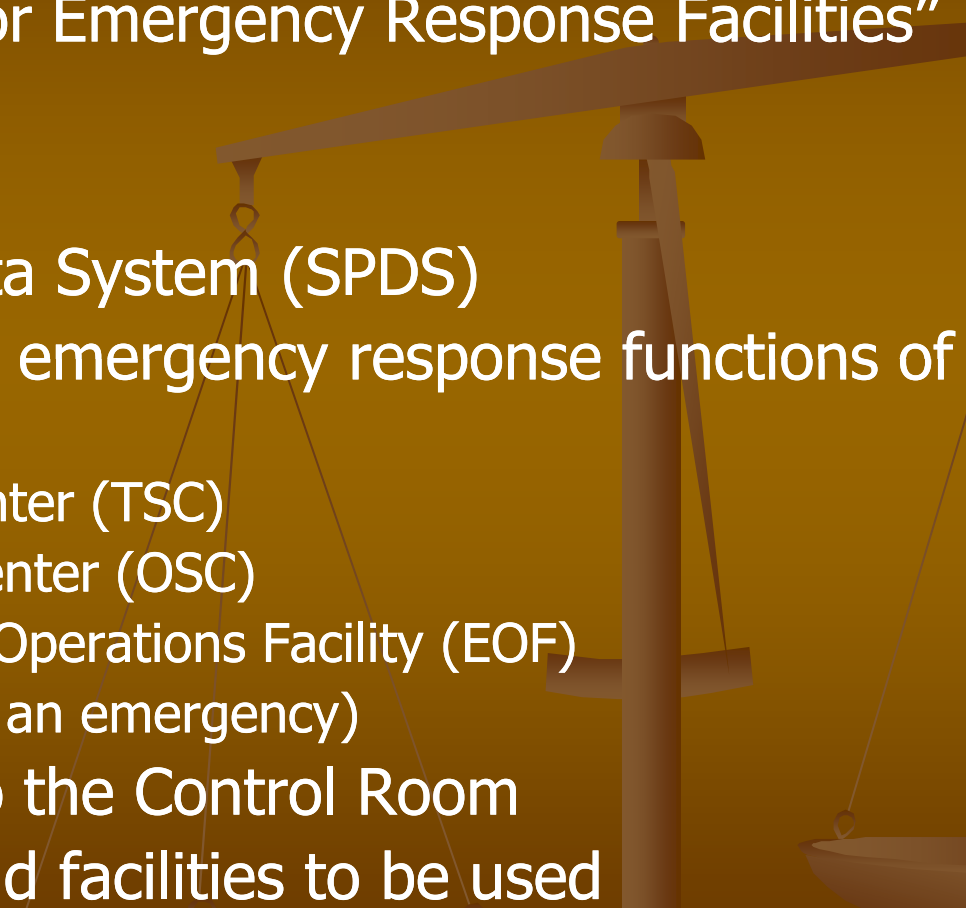
NUREG-0654/FEMA-REP-1

- “Criteria for Preparation and Evaluation of Radiological Emergency Response Plans and Preparedness in Support of Nuclear Power Plants”
- Product of a joint NRC/FEMA Steering Committee
- Guidance and criteria for satisfying 10 CFR 50.47(b) and Appendix E
- Generic, systematic approach to EALs
- Organized to link back to the regulations

NUREG-0396

- “Planning Basis for the Development of State and Local Government Radiological Emergency Response Plans in Support of Light Water Nuclear Power Plants”
- Joint NRC/EPA Task Force formed in 1976
- Issued December 1978
- Determined the appropriate degree of emergency response planning efforts around nuclear power plants
- Introduced Generic Emergency Planning Zones (EPZs) concept as basis for planning of response actions
- Provides basis for federal/State/local government emergency response

NUREG-0696

- “Functional Criteria for Emergency Response Facilities”
 - February 1981
 - Safety Parameter Data System (SPDS)
 - Provides guidance on emergency response functions of the:
 - Technical Support Center (TSC)
 - On-Site Operations Center (OSC)
 - Near Site Emergency Operations Facility (EOF)
 - Control Room (during an emergency)
 - Integrated support to the Control Room
 - Describes systems and facilities to be used
- 

Alternate EAL Schemes

- ❖ Products of NRC and industry
 - ❖ Acceptable alternatives to NUREG-0654 EAL Scheme
- ❖ NUMARC/NESP-007, "A Methodology for Development of Emergency Action Levels"
 - ❖ Endorsed by Reg Guide 1.101, rev. 3
- ❖ NEI 99-01, "Methodology for Development of Emergency Action Levels"
 - ❖ Endorsed by Reg Guide 1.101, rev. 4
 - ❖ Added EALs for permanently shutdown reactors and dry cask spent fuel storage
 - ❖ Improvements to NUMARC/NESP-007
- ❖ Cannot mix portions of methodologies

Regulatory Guide 1.101

- “Emergency Planning and Preparedness for Nuclear Power Reactors”
- Issued to provide an acceptable method for complying with regulations for the content of emergency plans
- Revision 1
 - Criteria for plans to cope with emergencies and serious accidents emphasized need for procedures to implement drills and exercises
- Revision 2
 - Endorsed NUREG-0654/FEMA-REP-1
- Revision 3
 - Endorsed NUMARC/NESP-007, Methodology for Development of EALs
 - Could use either 0654 or 007, but not portions of both
- Revision 4
 - Endorsed NEI 99-01, Methodology for Development of EALs
 - RIS 2003-18 issued to describe EAL change approval process
- Revision 5
 - Draft guidance for co-located licensees

EP Position Paper (EPPOS)

❖ Inspector Guidance

- ❖ EPPOS No. 1 Acceptable Deviations from NUREG-0654
- ❖ EPPOS No. 2 Timeliness of Emergency Classification
- ❖ EPPOS No. 3 Onshift Dose Assessment Capability
- ❖ EPPOS No. 4 Emergency Plan Changes (DIE)
 - ❖ Retracted
- ❖ EPPOS No. 5 Emergency Planning Information to Public

Generic Communications

- Used to inform industry of generic issues relating to emergency preparedness
- Bulletins, Generic Letters, Regulatory Issue Summaries, Information Notices
- Recent examples
 - RIS 2004-13 – Consideration of Sheltering
 - RIS 2004-15 – EP Issues: Post 9/11
 - IN 2004-19 – Backup power supplies to ERFs
 - RIS 2005-02 – 10 CFR 50.54q
 - Bulletin 2005-02 – EP Enhancements
- A complete list of EP-related generic communications can be found at:
<http://www.nrc.gov/what-we-do/emerg-preparedness/regs-guide-comm/ep-generic-comm.html>



End Chapter 3

Next up:

Chapter 4: EP Inspection Program
and Enforcement