14.0 EMERGENCY MANAGEMENT

14.1 PURPOSE OF REVIEW

The purpose of this review is to determine if the applicant established, before the start of operations, adequate emergency management facilities and procedures to protect the public, the workers, and the environment. The applicant should also show how the emergency management facilities and procedures comply with NRC regulations while coexisting with the Department of Energy's (DOE) emergency planning requirements and that DOE's requirements do not contradict any NRC requirements.

An emergency plan is required when an evaluation shows that the maximum dose to a member of the public offsite due to a release of radioactive materials would exceed 0.01 Sv (1 rem) effective dose equivalent. This section applies to facilities authorized to possess enriched uranium (U) or plutonium (Pu) for which a criticality accident alarm system is required, uranium hexafluoride (UF_6) in excess of 50 kg (110 lb) in a single container or 1000 kg (2200 lb) total, or Pu in excess of 2 Ci in unsealed form or on foils or plated sources.

Emergency capability is incorporated into the baseline design criteria of 10 CFR Part 70, as revised, and is intended to ensure control of licensed material, evacuation of personnel, and availability of emergency facilities.

14.2 RESPONSIBILITY FOR REVIEW

Primary: Emergency Preparedness Specialist

Secondary: Project Manager

Supporting: Regional Emergency Preparedness Inspector
Fuel Facility Inspection staff

14.3 AREAS OF REVIEW

The NRC staff should review the applicant's submittal for an acceptable level of evidence of planning for emergency preparedness directed at situations involving real or potential radiological hazards. The review should address those design features, facilities, functions, and equipment that may affect some aspect of emergency planning or the capability of an applicant to cope with plant emergencies. In addition, the review should address coordination with offsite organizations. The staff should either review the emergency plan made in accordance with 10 CFR 70.22(i)(1)(ii) and with the guidance contained in the acceptance criteria below, or should review the applicant's evaluation that demonstrates that the maximum dose to a member of the public would not exceed 0.01 Sv (1 rem) effective dose equivalent in accordance with 10 CFR 70.22(i)(1)(i).

The NRC staff reviewer should review the material presented, as described below.

14.3.1 Specific Items to be Reviewed When the Applicant Submits an Evaluation

If the applicant submits an evaluation to demonstrate that the maximum dose to a member of a public would not exceed 0.01 Sv (1 rem) effective dose equivalent, the staff should review the evaluation against 10 CFR 70.22(i)(1)(i), and NUREG-1140, "A Regulatory Analysis of Emergency Preparedness for Fuel Cycle and Other Radioactive Material Licensees." NUREG/CR-6410, "Nuclear Fuel Cycle Facility Accident Analysis Handbook," also contains useful information. Areas to be evaluated should include the following:

A. A description of the facility and proposed licensed activities;
B. Types of materials used, including both radioactive material and hazardous chemicals;
C. Types of accidents;
D. Detection of accidents;
E. Site specific information used to support the evaluation; and
F. An evaluation of the consequences, both onsite and offsite.
G. The evaluation should address one or more of the factors provided in 10 CFR 70.22(i)(2).

14.3.2 Specific Items to be Reviewed When the Applicant Submits an Emergency Plan

If the applicant submits an emergency plan, the staff should evaluate the emergency plan against 10 CFR 70.22(i)(1)(ii) and Regulatory Guide 3.67, "Standard Format and Content for Emergency Plans for Fuel Cycle and Materials Facilities," which provides a standard format and content for an emergency plan. Elements in the emergency plan should include:

A. Facility description (including both onsite and offsite emergency facilities);
B. Types of accidents;
C. Classification of accidents;
D. Detection of accidents;
E. Mitigation of consequences (and safe shutdown);
F. Assessment of releases (both radioactive materials and hazards chemicals);
G. Responsibilities of applicant;
H. Notification and coordination;
I. Information to be communicated and parties to be contacted;
J. Training;
K. Safe shutdown (recovery and plant restoration);
L. Exercises (and drills);
M. Hazardous chemicals inventories and locations; and
N. Responsibilities for developing and maintaining the emergency program and its procedures.

14.4 ACCEPTANCE CRITERIA

14.4.1 Regulatory Requirements

10 CFR Part 70.22(i)(1)(i) specifies when an emergency plan does not have to be submitted to the NRC and, if an emergency plan is required to be submitted, 10 CFR Part 70.22(i)(3), contains the information that must be included in the emergency plan.

10 CFR Part 70.64(a)(6) requires that applicants address the control of licensed material, evacuation of personnel, and availability of onsite emergency facilities that facilitate the use of available offsite services.

14.4.2 Regulatory Guidance

Regulatory guidance for preparing an emergency plan includes:

A. Regulatory Guide 3.67, "*Standard Format and Content for Emergency Plans for Fuel Cycle and Materials Facilities,"* January 1992.

B. NUREG-1140, “A Regulatory Analysis of Emergency Preparedness for Fuel Cycle and Other Radioactive Materials,” January 1988.

C. NUREG/CR-6410, “Nuclear Fuel Cycle Facility Accident Analysis Handbook,” 1998.

14.4.3 Regulatory Acceptance Criteria

If the applicant’s proposed total possession limit for radioactive material exceeds the emergency plan threshold in 10 CFR 70.22(i)(1), the applicant may either submit a site specific evaluation that demonstrates maximum public exposure is less that the limits in 70.22(i)(1)(i), or an emergency plan. If the applicant submits an evaluation, the regulatory acceptance criteria in Section 14.4.3.1 apply. If the applicant submits an emergency plan, the regulatory acceptance criteria in Section 14.4.3.2 apply.

14.4.3.1 Evaluation

The adequacy of the applicant’s evaluation that the maximum dose to a member of the public offsite due to a release of radioactive materials would not exceed 0.01 Sv (1 rem) or an intake of 2 mg (7.04×10^{-5} ounces) of soluble uranium should be evaluated by the reviewer against the requirements in 10 CFR Part 70.22(i)(2) and the specific criteria given in this section of the SRP. The applicant’s evaluation should be acceptable if the regulatory requirements and the following criteria are met:

14.4.3.1.1 Facility Description

The applicant's evaluation includes a description of the facility and site, the area near the site, and the licensed activities conducted at the facility sufficient to support the evaluation. The facility description should be acceptable if it includes:

A. A detailed drawing of the site showing (1) onsite and near offsite (within 1.6 km [1 mile]) structures with building numbers and labels, (2) roads and parking lots onsite and main roads near the site, (3) site boundaries, showing fences and gates, (4) major site features, (5) water bodies within approximately 1.6 km (1mile), and (6) the location(s) of nearest residence(s);

B. The stack heights, typical stack flow rates, and the efficiencies of any emission control devices; and

C. A general description of the proposed licensed and other major activities conducted at the facility, and the type, form, solubility and maximum quantities of radioactive and other hazardous material normally onsite.

14.4.3.1.2 Types of Accidents

The applicant's evaluation describes each type of accident identified by the Integrated Safety Analysis (ISA) Summary that has the maximum offsite consequences exceeding the limit of 10 CFR 70.22(i)(1)(i). The types of accidents should be acceptable if they include:

A. The process and physical location where each accident could occur;

B. Complicating factors and possible onsite and offsite consequences, including non-radioactive hazardous material released;

C. The accident sequence that has the potential for the greatest radiological and toxic chemical impact.

14.4.3.1.3 Detection of Accidents

The applicant's evaluation should be acceptable if, for each type of accident identified, the applicant identifies:

A. The means of detecting the accident;
B. The means of detecting any release of radioactive or other hazardous material;
C. The means of alerting the operating staff; and
D. The anticipated response of the operating staff.

14.4.3.1.4 Maximum Public Exposure

In addition to the acceptance criteria in Sections 14.4.3.1 - 14.4.3.3, the applicant's evaluation should be acceptable if it includes a description of the following information sufficient to allow the primary reviewer to independently verify the calculations:

A. Type of accident (e.g., fire, exposure, chemical release, nuclear criticality);

B. Location of accident;

C. Maximum source term;

D. Solubility of material;

E. Facility design or engineered safety features in the facility and the proposed release fraction;

F. Location and distance of nearest member of the public to the facility;

G. Dose model used and the process used to verify the reliability of the model and validity of the assumptions;

H. Assumed worst case weather condition; and

I. Maximum calculated dose to a member of the public at the facility boundary.

The applicant's site specific evaluation should include a list and a description of the factors in 10 CFR 70.22(i)(2) that the applicant considered in evaluating maximum dose to members of the public. The applicant should demonstrate why the factors used in the evaluation are appropriate when compared to the factors in NUREG-1140. If the factors and evaluation show that the maximum dose to a member of the public offsite due to a release of radioactive materials could not exceed 0.01 Sv (1 rem) effective dose equivalent or the intake of soluble uranium of 2 mg (7.04×10^{-5} ounces), no emergency plan is required in accordance with 10 CFR 70.22(i)(1)(i). If the primary reviewer finds that the maximum dose to a member of the public could exceed 0.01 Sv (1 rem), the applicant must either submit an emergency plan consistent with the requirements in Section 14.4.3.2, or decrease the total possession limit for radioactive material below the emergency plan threshold in 10 CFR 70.22(i)(1).

14.4.3.2 Criteria When an Emergency Plan is Required

The adequacy of the applicant's proposed emergency plan should be evaluated by the reviewer against the requirements in 10 CFR Part 70.22(i)(3), and the specific criteria given in Section 14.4.3.2 of the SRP. The applicant's emergency plan should be acceptable if the regulatory requirements and the following criteria are met:

14.4.3.2.1 Facility Description

14.4.3.2.1.1 Operational Facilities

The applicant's emergency plan includes a description of the facility and site, the area near the site, and the licensed activities conducted at the facility sufficient to support emergency management activities. The description should be acceptable if it includes:

A. A detailed drawing of the site showing:

   i. Onsite and near offsite (within 1.6 km [1 mile]) structures with building numbers and labels;

   ii. Roads and parking lots onsite and main roads near the site;

   iii. Site boundaries, showing fences and gates;

   iv. Major site features; and

   v. Water bodies within approximately 1.6 km (1 mile).

B. A general area map (approximately 16 km [10 mile] radius), a United States Geological Survey topographical quadrangle (7 ½ minute series; including the adjacent quadrangle(s) if site is located less than 1.6 km [1 mile] from the edge of the quadrangle), and a map or aerial photograph indicating onsite structures and near-site structures (about 1.6 km [1 mile] radius). The general area map indicates the location of sensitive facilities near the site such as hospitals, schools, nursing homes, nearest residence(s), fire departments, prisons, environmental sampling locations, and other structures and facilities important to emergency management.

C. The stack heights, typical stack flow rates, and the efficiencies of any emission control devices;

D. A general description of licensed and other major activities conducted at the facility and the type, form, and quantities of radioactive and other hazardous materials normally onsite by location (use and storage) and building, including the hazardous characteristics (exposure rates, pH, temperature, and other characteristics) important to emergency management.

E. Certification that the applicant has met responsibilities under Emergency Planning and Community Right To Know Act of 1986, Title III, Public Law 99-499, in accordance with 10 CFR 70.22(i)(3)(xiii).

14.4.3.2.2 Onsite and Offsite Emergency Facilities

The applicant's emergency plan includes a list and description of onsite and offsite facilities that could be relied upon in the event of an emergency. The onsite and offsite emergency facilities should be acceptable if they include:

A. A list and description of both onsite and offsite emergency facilities by location and purpose of the facility.

B. A description of emergency monitoring equipment which is available for personnel and area monitoring, as well as that for assessing the release of radioactive or hazardous materials to the environment.

C. A description of the onsite and offsite services which support emergency response operations, including:

   i. Decontamination facilities;
   ii. Medical treatment facilities;
   iii. First aid personnel;
   iv. Fire fighters;
   v. Law enforcement assistance; and
   vi. Ambulance services.

D. In addition, the applicant's emergency facilities, equipment, and resources are ready to support emergency response operations, including:

   i. Facilities of adequate size and appropriate location that are designated, equipped, and ready for emergency use;

   ii. Adequate backup facilities required by the emergency plan and supporting documents that are available and ready for use;

   iii. Appropriate equipment and supplies necessary to support emergency response activities that are accessible during accident conditions;

   iv. Emergency equipment that is inventoried, tested, and serviced on a periodic basis to ensure accountability and reliability;

   v. Sufficient reliable primary and backup communications channels that are available to accommodate emergency needs;

   vi. Offsite emergency resources and services that are identified, and are ready to ensure their timely mobilization and use;

vii. Operational engineering information, such as current as-built drawings and procedures, that are readily available in the emergency facilities;

viii. Sufficient equipment for personnel protection and monitoring; and

ix. Systems in place to alert onsite and offsite personnel in the event of an emergency.

14.4.3.2.3 Types of Accidents

The applicant's emergency plan includes a description for each accident identified by the ISA for which protective actions may be needed. The types of accidents should be acceptable if they include:

A. The process and physical location(s) where accidents could occur;

B. Complicating factors and possible onsite and offsite consequences, including nonradioactive hazardous material releases that could impact emergency response efforts;

C. The accident sequence that has the potential for the greatest radiological and toxic chemical impact; and

D. Figure(s) projecting dose and toxic substance concentration as a function of distance and time for various meteorological stability classes.

14.4.3.2.4 Classification of Accidents

The applicant's emergency classification system for classifying events at the facility should be acceptable if it includes:

A. The following two event classifications:

i. "Alert:" Events that may occur, are in progress, or have occurred that could lead to a release of radioactive material or hazardous chemicals incident to the process, but the release is not expected to require a response by an offsite response organization to protect persons offsite; and

ii. "Site area emergency:" Events that may occur, are in progress, or have occurred that could lead to a significant release of radioactive material or hazardous chemicals incident to the process that could require a response by offsite emergency response organizations to protect persons offsite.

B. For each accident in the emergency plan, the classification (alert or site area emergency) that is expected for each accident is identified.

C. The emergency plan specifies emergency action levels (EALs) at which an alert or site area emergency will be declared. EALs are specific conditions that require emergency response

measures to be performed. The applicant's EALs are consistent with Appendix A of Regulatory Guide 3.67 and are compared with the Environmental Protection Agency's Protective Action Guides (EPA 400-R-92-001, May 1992 Revision). Transportation accidents more than 1.6 km (1 mile) from the facility are not classified.

D. The emergency plan designates the personnel positions and alternates with the responsibility for accident classification during normal and back shift hours.

14.4.3.2.5 Detection of Accidents

The emergency plan should be acceptable if it describes, for each type of accident identified:

A. The means of detecting the accident;
B. The means of detecting any release of radioactive or other hazardous material;
C. The means of alerting the operating staff; and
D. The anticipated response of the operating staff.

14.4.3.2.6 Mitigation of Consequences

The applicant's emergency plan should be acceptable if it adequately describes mitigation of consequences, including:

A. The emergency plan describes for each accident identified, adequate measures and equipment for safe shutdown and for mitigating the consequences to workers onsite and offsite as well as to the public offsite.

B. For impending danger from an accident initiator, the emergency plan describes the following:

   i. The criteria that will be used to determine whether a single process or the entire facility will be shut down;

   ii. The steps that will be taken to ensure a safe orderly shutdown of a single process or the entire facility;

   iii. The approximate time required to accomplish a safe shutdown of processes; and

   iv. The compensatory measures required for safety during the shutdown period following an accident.

14.4.3.2.7 Assessment of Releases

The applicant's emergency plan should be acceptable if it describes how the applicant assesses any radioactive material or hazardous chemical releases, including:

A. The applicant's procedures to promptly and effectively assess the release of radioactive material or hazardous chemicals associated with the processing of radioactive material, including:

   i. The procedures for estimating or measuring the release rate or source term;

   ii. Valid computer codes used to project doses or concentrations to the public or environment and associated assumptions, along with adequate justifications to show the validity of the assumptions;

   iii. The types, methods, frequencies, implementation time, and other details of onsite and offsite sampling and monitoring that will be performed to assess a release of radioactive material or hazardous chemicals; and

   iv. Method for assessing collateral damage to the facility, especially safety controls.

B. The applicant's procedure for validating any code used to assess releases of radioactive material or hazardous chemicals.

14.4.3.2.8 Responsibilities

The applicant's emergency plan should be acceptable if it describes the emergency response organization and administration which ensures effective planning, implementation, and control of emergency preparedness activities and meets the following criteria:

A. The organizational structure and chain of command are clearly defined;

B. Staffing and resources are sufficient to accomplish assigned tasks;

C. Responsibilities and authority for each management, supervisory, and professional position are clearly defined. Responsibility is assigned for the coordination of onsite and offsite radiation/hazardous material emergency response preparedness;

D. Interfaces with supporting groups, both onsite and offsite, are clearly defined;

E. Mutual cooperation agreements exist with local agencies such as fire, police, ambulance/rescue, and medical units;

F. Plant management measures include audit and assessment (SRP Section 15.6) of emergency preparedness to ensure site readiness to handle emergencies and to identify and correct problems;

G. The onsite emergency response organization as described provides reasonable assurance of effective command and control of the site during the assessment, mitigation, and recovery phase of an accident;

H. The emergency public information staff provides advance and ongoing information to the media and public on subjects that would be discussed during an emergency, such as radiation hazards, chemical hazards, site operation, and site emergency plans; and

I. The schedule of emergency preparedness procedure development provides for availability of procedures to support start-up and operation of new processes/facilities onsite.

14.4.3.2.9 Notification and Coordination

The applicant's emergency plan should be acceptable if it adequately describes the applicant's notification and coordination procedures, including:

A. Reasonable assurance that emergency notification procedures will enable the emergency organization to correctly classify emergencies, notify emergency response personnel, and initiate or recommend appropriate actions in a timely manner, based on the following:

   i. Classification of emergency events are based on the current emergency plan;

   ii. Notification procedures minimize distractions of shift operating personnel and include concise, preformatted messages. Appropriate follow-up messages to offsite authorities are issued in a timely manner;

   iii. Information on the nature and magnitude of the hazards are made available to appropriate emergency response personnel;

   iv. Radiological and chemical source term data are available to the command post, technical support center, emergency operations center, and appropriate State personnel, in cooperation with NRC;

   v. When available, offsite field monitoring data are logged, compared with source term data, and used in the protective action recommendation process;

   vi. Protective Action Guides are available and used by appropriate personnel in a timely manner;

   vii. The emergency public information program ensures timely dissemination of accurate, reliable, and understandable information;

viii. Systems are in place, if required, to alert, notify, and mobilize onsite and offsite response personnel in the event of an emergency;

ix. Notification and coordination with responsible parties when some personnel, equipment, and facility components are not available.

B. How and by whom the following actions will promptly and effectively be taken:

i. Decision to declare an alert or site area emergency;

ii. Activation of onsite emergency response organization during all shifts;

iii. Prompt notification of offsite response authorities that an alert or site area emergency has been declared, including the licensee's initial recommendation for offsite protective actions (normally within 15 minutes);

iv. Notification to the NRC Operations Center (as soon as possible and, in any case, no later than one hour after a declared emergency);

v. Decision on what onsite protective actions to initiate;

vi. Decision on what offsite protective actions to recommend;

vii. Decision to request support from offsite organizations; and

viii. Decision to terminate the emergency or enter recovery mode.

14.4.3.2.10 Information To Be Communicated

The applicant's emergency plan should be acceptable if it describes the information to be communicated during an emergency and includes:

A. A standard reporting checklist to facilitate timely notification;

B. The types of information to be provided concerning facility status, radioactive or hazardous chemical releases, and protective action recommendations;

C. A description of preplanned protective action recommendations to be made to each appropriate offsite organization;

D. The offsite officials to be notified, as a function of the classification of the event;

E. The recommended actions to be implemented by offsite organizations for each accident treated in the emergency plan.

14.4.3.2.11 Training

The applicant's emergency plan includes an adequate training program for onsite and offsite emergency response personnel to ensure knowledge of the emergency plan, assigned duties, and effectively respond to an actual emergency. The training program should be acceptable if it includes:

A. The topics and general content of training programs used for training the onsite and offsite emergency response personnel to satisfy the objectives described above;

B. The administration of the training program, including responsibility for training, the positions to be trained, the schedules for training, the frequency of retraining, use of team training and the estimated number of hours of initial training and retraining;

C. The training to be provided on the use of protective equipment such as respirators, protective clothing, monitoring devices, and other equipment used in emergency response;

D. The training program for onsite personnel who are not members of the emergency response staff; and

E. The instructions and tours that will be offered to fire, police, medical, and other emergency personnel to the extent necessary commensurate with the results of the ISA.

14.4.3.2.12 Safe Shutdown (recovery and plant restoration)

The applicant's emergency plan describes the plans for adequately restoring the facility to a safe status after an accident and recovery after an emergency. The safe shutdown should be acceptable if it includes:

A. Appropriate methods and responsibilities for assessing the damage to and the status of the facility's capabilities to safely control radioactive material or hazardous chemicals associated with the process;

B. Procedures for promptly determining the actions necessary to reduce any ongoing releases of radioactive or other hazardous chemicals and to prevent further incidents;

C. Provisions for promptly and effectively accomplishing required restoration action; and

D. Describing the key positions in the recovery organization.

14.4.3.2.13 Exercises and Drills

The applicant's emergency plan commits to conducting exercises and drills in a manner that demonstrates the capability of the organization to plan and perform an effective response to an emergency. The commitment should be acceptable if it demonstrates:

A. Task-related knowledge is demonstrated through periodic participation by all qualified individuals for each position in the emergency response organization;

B. Drill performance is assessed against specific scenario objectives, using postulated accidents, that adequately test personnel, equipment, and resources, including previously identified weaknesses;

C. Effective player, controller, evaluator, and observer pre-drill briefings are conducted;

D. Scenario data and exercise messages provided by the controllers effectively maintain the time line and do not interfere with the emergency organization's response to exercise scenario events, except where safety considerations are involved;

E. Trained evaluators are used to identify and record participant performance, scenario strengths and deficiencies, and equipment problems;

F. Prestaging of equipment and personnel is minimized to realistically test the activation and staffing of emergency facilities;

G. Critiques are conducted in a timely manner and include a follow-up plan for correcting identified weaknesses and improving training effectiveness;

H. Emergency drills demonstrate that resources are effectively used to control the site, to mitigate further damage, to control radiological/chemical releases, to perform required onsite activities under simulated radiation/airborne and other emergency conditions, to provide accurate assessments and status during an accident, and to initiate recovery;

I. Emergency drills demonstrate personnel protection measures, including controlling and minimizing hazards to individuals during events such as fires, medical emergencies, mitigation activities, search and rescue, and other similar events;

J. The emergency drill demonstrates that onsite communications effectively support emergency response activities;

K. The emergency drill demonstrates that the emergency public information organization disseminates accurate, reliable, timely, and understandable information;

L. Provisions are made for conducting quarterly communications checks with offsite response organizations;

M. Offsite organizations are invited to participate in the biennial onsite exercise that tests the major elements of the emergency plan and response organizations.

14.4.3.2.14 Responsibilities for Developing and Maintaining Current the Emergency Program and Its Procedures

The applicant's emergency plan describes the responsibilities for developing and maintaining the emergency program and its procedures. The responsibilities should be acceptable if they include:

A. The means for ensuring that the revisions to the emergency plan and the procedures which implement the emergency plan are adequately prepared, kept up to date normally (within 30 days of any changes), and distributed to all affected parties including the NRC.

B. The provisions for approval of the implementing emergency procedures, making and distributing changes to the procedures, and ensuring that each person responsible for an emergency response function has immediate access to a current copy of emergency procedures.

C. The provisions for approval of changes to the emergency plan and the procedures and those individuals authorized to make these changes;

D. Procedures for allowing offsite response organizations 60 days to comment on the emergency plan before submitting it to the NRC, and to provide NRC any comments received within 60 days along with the plan; and

E. Procedures for modifying the emergency plan in accordance with 10 CFR 70.32(i).

14.5 REVIEW PROCEDURES

14.5.1 Acceptance Review

The primary reviewer should perform an acceptance review to determine if the application (construction or license) adequately addresses the items in Section 14.1.3, "Areas of Review."

Guidance specific to the application for construction approval and the license application is provided below.

A. Application for Construction Approval

The applicant is not expected to submit either an emergency plan as described in Section 14.3.2 or an evaluation as described in Section 14.3.1 with the application for construction approval. However, the primary reviewer should evaluate the safety assessment of the design basis to ensure that the commitments and program goals are appropriate for emergency protection at the design stage.

B. License Application

Specifically, the license application should either contain an evaluation described in Section 14.3.1 or an emergency plan as described in Section 14.3.2.

If the primary reviewer verifies that emergency protection is adequately addressed in the application for construction approval or the license application, the primary reviewer should accept the application for the safety evaluation in Section 13.1.5.2. If the primary reviewer identifies significant deficiencies in the material provided, the primary reviewer should request that the applicant submit additional information prior to the start of the safety evaluation.

14.5.2 Safety Evaluation

After determining that the application is acceptable for review in accordance with either Section 14.5.1(A) (application for construction approval) or 14.5.1(B) (license application), the primary reviewer should perform a safety evaluation against the acceptance criteria described in Section 14.4. On the basis of its review, the staff may request that the applicant provide additional information or modify the application to meet the acceptance criteria in SRP Section 14.4.

Guidance specific to the application for construction approval and the license application is provided below.

A. Application for Construction Approval

The primary reviewer should ensure that the design basis includes appropriate commitments for emergency protection at the design stage. For example, if the safety assessment of the design basis shows a dose to a member of the public that exceeds the limits in 10 CFR 70.22(i)(1)(i), the applicant should commit to providing an emergency plan with the license application.

B. License Application

i. No Emergency Plan

The primary reviewer should verify that the applicant's evaluation is consistent with the potential accident sequences described in the ISA. The ISA reviewer and the primary reviewer should coordinate to assure the resolution of any issues concerning the evaluation relative to ISA information. The final step for the primary reviewer should be to prepare a Safety Evaluation Report (SER) in accordance with Section 14.6 which either agrees with the applicant's conclusion that no emergency plan is required or indicates that the staff does not accept the applicant's evaluation and recommends that an emergency plan be required by the applicant.

ii. Emergency Plan

After it is determined that an acceptable application containing an emergency plan has been received from the applicant, the primary reviewer should conduct a complete review of the emergency plan and determine its acceptability in accordance with Section 14.4.3.2. The reviewer should verify that emergency planning is consistent with the potential accident sequences described in the ISA. The ISA reviewer and emergency plan reviewer should coordinate to assure the resolution of any issues concerning the emergency plan relative to ISA information. This information may be supplemented by a personal visit to the site by the primary reviewer and meetings with the applicant. The final step for the primary reviewer should be to prepare an SER in accordance with Section 14.6, "Evaluation Findings."

14.6 EVALUATION FINDINGS

The primary reviewer should document the safety evaluation by preparing material suitable for inclusion in the SER. The primary reviewer should describe the review, explain the basis for the findings, and state the conclusions.

The staff could document the safety evaluation for the application for construction approval as follows:

The staff evaluated the application for construction approval for [insert facility name] in accordance with Chapter 14.0 of NUREG-1718. The staff evaluated [insert a summary statement of what was evaluated] and found that [insert a summary statement of the findings]. The NRC staff determined that the applicant's commitments, including the commitment to provide an emergency plan with the license application [if the applicant's design basis safety assessment shows it is required], are adequate to meet the requirements for a construction approval in accordance with 10 CFR Part 70.

The staff could document the safety evaluation for the license application, where the applicant submits an emergency plan, as follows:

The staff evaluated the emergency plan submitted as part of the license application for [insert facility name] to possess and use SNM in accordance with Chapter 14.0 of NUREG-1718. The staff evaluated [insert a summary statement of what was evaluated] and found that [insert a summary statement of the findings]. In accordance with 10 CFR 70.22(i), the licensee commits to maintaining and executing an emergency plan for responding to the radiological hazards resulting from a release of radioactive material and to any associated chemical process hazards. NRC staff determined that the applicant's emergency plan is adequate to demonstrate compliance with 10 CFR 70.22(i), including: (1) the plant is properly configured to limit releases of radioactive materials in the event of an accident, (2) a capability exists for measuring and assessing the significance of accidental releases of radioactive materials, (3) appropriate emergency equipment and procedures are provided onsite to protect workers against radiation and other chemical hazards that might be encountered following an accident, (4) a notification system has been established for notifying Federal, State, and local government agencies and recommending appropriate protective actions to protect members of the public, and (5) necessary recovery actions are established for returning the plant to a safe condition following an accident. The requirements of the emergency plan are implemented through approved written procedures. Changes which decrease the effectiveness of the emergency plan may not be made without NRC approval. The NRC will be notified of other changes which do not decrease the effectiveness of the emergency plan within six months of the changes.

The NRC staff concluded that the applicant's emergency plan meets the requirements of 10 CFR 70.22(i).

14.7 REFERENCES

A. U.S. Nuclear Regulatory Commission, Part 30 Statements of Consideration and Emergency Preparedness for Fuel Cycle and Other Radioactive Material Licensees, Federal Register 54, 14051, 1989.

B. NUREG/CR-6410, Nuclear Fuel Cycle Accident Analysis Handbook, U.S. Nuclear Regulatory Commission, 1998.

C. NUREG/BR-0150, Vol. 1, Rev. 4, RTM-96 Response Technical Manual, U.S. Nuclear Regulatory Commission, 1996.

D. EPA 400-R-92-001, Manual of Protective Action Guides and Protective Actions for Nuclear Incidents, Environmental Protection Agency, May 1992.