U. S. NUCLEAR REGULATORY COMMISSION

REGION III

Report No. 50-440/84-23(DRSS)

Docket No. 50-440 License No. CPPR-148

Licensee: Cleveland Electric Illuminating Company
Post Office Box 5000
Cleveland, OH 44101

Facility Name: Perry Nuclear Power Plant

Inspection At: Perry Site, Painsville, OH

Inspection Conducted: October 2-3, 1984

Inspector: W. G. Snell 10/16/84
Date

Approved By: M. P. Phillips, Chief 10/16/84
Emergency Preparedness Section Date

Inspection Summary

Inspection on October 2-3, 1984 (Report No. 50-440/84-23(DRSS))
Areas Inspected: Routine, unannounced inspection of the Perry Nuclear Power Plant, Unit 1, to evaluate the licensee's readiness for a preoperational emergency preparedness appraisal. All areas of emergency preparedness including equipment, training, and facilities were discussed with the licensee. In addition, the inspectors observed a drill of the coordinated implementation of the emergency preparedness program. The inspection involved 24 inspector-hours onsite by two NRC inspectors.
Results: No items of noncompliance or deviations were identified.

DETAILS

1. Persons Contacted

*M. Edelman, Vice President Nuclear Group
*W. Coleman, General Superintendent Community Relations
*B. Walrath, General Superintendent Engineering
*M. Lyster, Manager Perry Plant Operation Division
*D. Hulbert, Emergency Preparedness Coordinator
*J. Wack, Quality Engineer
R. Cochnar, Jr., Environmentalist
G. Dunn, Chemistry Specialist
D. Thayer, Plant Technical Engineer
L. Alexander, Contractor
D. Heck, Superintendent Nuclear Skill Training
B. Farrell, Licensing Engineer
M. Mlachak, Unit Supervisor
B. Tripplet, Unit Supervisor

*Denotes those present at the exit interview on October 3, 1984.

2. Current Status of Emergency Preparedness

Two inspectors from Region III accompanied by a representative from the Emergency Preparedness Branch of the Office of Inspection and Enforcement, NRC, HQ, met with members of the Cleveland Electric, Illuminating Company and Perry Nuclear Plant to discuss the status of the emergency preparedness program and all its facets including emergency organization, emergency equipment, emergency facilities and training. The inspectors also observed an emergency preparedness drill of the Technical Support Center (TSC), Operational Support Center (OSC), Emergency Operations Facility (EOF) and the Control Room (conducted in the simulator room).

The three NRC representatives made a brief inspection of the Control Room, TSC, OSC, EOF and Post Accident Sampling System. The most significant item still to be completed is the Post Accident Sampling System (PASS). The licensee has a projected completion date of March 1, 1985 for the PASS. In addition, the two NRC telephone systems, Emergency Notification System (ENS) and Health Physics Network (HPN), have not been installed in any of the Emergency Response Facilities. The installation of these systems is the responsibility of the NRC, with the ENS scheduled for installation by May 1, 1985, and no projected date for the HPN.

Observation of the drill by the NRC representatives did not identify any significant problem areas that would impact on the date of the full-scale exercise, currently scheduled for November 28, 1984. However, one area noted that needs improvement is the status boards in the licensee's emergency response facilities. Attachment 1 contains copies of the NRC Region III status boards that may be of use to the licensee.

3. Exit Interview

The inspectors held an exit interview at the conclusion of the inspection with the licensee's representatives denoted in Paragraph 1. The areas of emergency preparedness inspected were summarized by the inspectors. The NRC representatives have tentatively scheduled the Emergency Preparedness Implementation Appraisal (EPIA) for February 25 through March 8, 1985. Attachment 2 contains the NRC Appraisal Guidance that will be used to conduct the EPIA.

Attachments:

1. NRC Region III Status Boards
2. NRC Inspection Criteria for Emergency Preparednss Implementation Appraisal

Attachment 1

PROTECTIVE MEASURES STATUS

EMERGENCY CLASSIFICATION:_____ TIME:_____

RECOMMENDED PROTECTIVE MEASURES (LICENSEE):_____ TIME:_____

PROTECTIVE MEASURES TAKEN BY OFFSITE AUTHORITIES:_____ TIME:_____

COMMENTS:_____

OFFSITE SURVEY RESULTS

LOCATION:_____ WB DOSE RATE:____ DOSE RATE (THY):__ PART. CONC.:_____ IODINE CONC.:_____

COMMENTS:_____

PROJECTED RADIATION DOSE TO THE PUBLIC

DURATION OF RELEASE:_____

PROJECTED DOSE (WB):_____ % of PAG:_____ PROJECTED DOSE (THY):_____ % of PAG:_____

SIZE OF POPULATION AFFECTED:_____ EVACUATION TIME ESTIMATE:_____

COMMENTS:_____

METEOROLOGY

TIME:_____

STABILITY CLASS:_____

WIND SPEED:_____

WIND DIRECTION:_____ (FROM)

PRECIPITATION:_____

FORECAST:_____

COMMENTS:_____

OPERATIONS STATUS FOR 0 DAY

REACTOR STATUS	PRIMARY COOLANT STATUS	CONTAINMENT STATUS	SECONDARY PLANT STATUS	ECCS STATUS	ELECTRICAL STATUS
POWER LEVEL:_____%	FLOW:_____LBS/HR	ISOLATIONS	ISOLATED:_____	HPCI/HPCS FLOW:_____	OFFSITE AC POWER:_____
TREND:_____		VESSEL:_____			
	COOLING METHOD				TURBINE GENERATOR
SHUTDOWN:_____	A. BYPASS VALVES TO CONDENSER:_____	PRIMARY CONTAINMENT:_____	FEEDWATER/CONDENSATE SYSTEM:_____	ADS:_____	STATUS:_____
		SECONDARY CONTAINMENT:_____			
CONTROL RODS IN:_____	B. RELIEF VALVES TO SUPPRESSION POOL:_____				DIESEL GENERATOR
		DRYWELL	CIRCULATING WATER	RCIC:_____	STATUS:_____
	C. STEAM CONDENSING:_____		SYSTEM:_____		
RECIRCULATION LOOP					
TEMPERATURE:_____ F	D. SHUT DOWN COOLING:_____	PRESSURE___PSIG TREND:___			
					250 VDC STATUS:_____
TREND:_____	E. ISOLATION CONDENSER:___	TEMPERATURE:__ F TREND:__		MODE FLOW	
					125 VDC STATUS:_____
		RAD. LEVELS:____ TREND:__	SERVICE WATER	RHR(A):_____ _____GPM	
			SYSTEM:_____		ESS/UFS STATUS:_____
REACTOR PRESSURE:_____PSIG	VESSEL MAKE UP FLOW			RHR(B):_____ _____GPM	
					COMMENTS:_____
TREND:_____	A. FEED SYSTEM:_____	SUPPRESSION POOL		RHR(C):_____ _____GPM	
	B. RCIC:_____	PRESSURE:_____PSIG		RHR(D):_____ _____GPM	
			OFFGAS SYSTEM:_____		
LEVEL:_____	C. HPCI/HPCS:_____	LEVEL:_____			
					DEGRADED EQUIPMENT
TREND:_____	D. RHR/CORE SPRAY:_____	TEMPERATURE:_____			
				CORE SPRAY (A) FLOW:____GPM	
	E. OTHER:_____				COMMENTS:_____
		SECONDARY CONTAINMENT	ACTIVITY LEVELS:_____		
REACTOR VESSEL				CORE SPRAY (B) FLOW:____GPM	
LEVEL:_____		SBGTS RUNNING:_____			
	STEAM LINE ACTIVITY:_____				
TREND:_____		RADIATION LEVELS:_____			OTHER
COMMENTS:_____	COMMENTS:_____	COMMENTS:_____	COMMENTS:_____	COMMENTS:_____	SECOND UNIT STATUS:_____
					COMMENTS:_____

HEALTH PHYSICS STATUS

Containment Monitor — Time / Dose Rate / Activity

Primary Coolant Activity — Time / Gross Act. / Iodine

RELEASE INFORMATION

Airborne Pathway _____ Wind _____ Stability Class _____ Elev. _____

Time
Noble Gas
Particulate
Iodine

_____ Pathway _____ Elev. _____

Time
Noble Gas
Particulate
Iodine
Act. Conc.
Total Vol.
Total Act.

PERSONNEL STATUS

Overexposures

Personal Contam.

Injuries

Accountability

ONSITE EVACUATION STATUS

Area Status Time

TRANSPORTATION

Location _____
Mode of Transport _____
Description of Shipment:

SITE SURVEYS

Location _____ — Time / Dose Rate / Air Act. / Contam.

Location _____ — Time / Dose Rate / Air Act. / Contam.

Location _____ — Time / Dose Rate / Air Act. / Contam.

Location _____ — Time / Dose Rate / Air Act. / Contam.

Location _____ — Time / Dose Rate / Air Act. / Contam.

Location _____ — Time / Dose Rate / Air Act. / Contam.

Location _____ — Time / Dose Rate / Air Act. / Contam.

Attachment 2

REFERENCE 1

EMERGENCY PREPAREDNESS

APPRAISAL PROGRAM

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I. Introduction

The U.S. Nuclear Regulatory Commission has recently upgraded its emergency planning regulations to assure that protective measures can and will be taken to protect the health and safety of the public in the event of an emergency at a nuclear power plant. Pursuant to these upgraded regulations, nuclear power plant licensees were required to submit upgraded emergency plans, together with the upgraded emergency response plans of state and local governments, to the Commission by January 2, 1981. In addition, the licensees were required to: 1) submit to the Commission by March 1, 1981 the procedures which will be used by the licensees to implement their upgraded emergency plans, and 2) implement those plans by April 1, 1981. Further, more extensive guidance has been issued by the Commission in the form of NUREGs for use by licensees in meeting the requirements of the upgraded emergency planning regulations. Of specific interest in this regard is NUREG-0654, Rev. 1, and its supporting documents.

The program described in this document was developed to clearly define the methods which will be used by NRC to review and evaluate the licensees' emergency planning and preparedness. The appraisal procedures cover three major aspects:

- Preparation for Onsite Appraisal;
- Onsite Emergency Preparedness Appraisal;
- Documentation

The methods described in this report are predominantly aimed at the onsite implementation review stage and the overall review and evaluation process. This document addresses only the NRC portions of the review and evaluation process related to a licensee overall emergency preparedness. The Federal Emergency Management Agency (FEMA) is responsible for the determination as to whether state and local emergency plans are adequate and capable of being implemented. The NRC will review the FEMA findings and determinations in addition to the results of its own review of the licensee's preparedness to arrive at an overall determination of adequacy of emergency preparedness.

II. Regulatory Background

Pursuant to the provisions of the Atomic Energy Act of 1954, as amended, P.L. 83-703 and Title II of the Energy Reorganization Act of 1974, as amended, P.L. 93-438, the U.S. Nuclear Regulatory Commission is vested with the authority and responsibility to regulate the processing and utilization of source, by-product, and special nuclear material in the national interest and in order to provide for the common defense and security and to protect the health and safety of the public.

Further, pursuant to the provisions of the Atomic Energy Act of 1954, as amended, the Energy Reorganization Act of 1974, as amended and the President's Statement of December 7, 1979 (with the accompanying fact sheet) the U.S. Nuclear Regulatory Commission is specifically charged with responsibility for the development and promulgation of guidance to nuclear facilities operators, States and local

governments, in coordination with other Federal agencies, for the preparation of radiological emergency response plans and assessing the adequacy of such plans.

In June 1979, the Nuclear Regulatory Commission began a formal reconsideration of the role of emergency planning to ensure the continued protection of the public health and safety in areas around nuclear power facilities. The Commission began this reconsideration in recognition of the need for more effective emergency planning and in response to the TMI accident and to reports issued by responsible offices of government and the NRC's Congressional oversight committees.

In response to and guided by the various reports and public comments, as well as its own determination on the significance of emergency preparedness, the Commission has therefore concluded that adequate emergency preparedness is an essential aspect in the protection of the public health and safety. Therefore, on August 19, 1980, the USNRC published in the Federal Register (45 FR 55402) its final rule regarding emergency planning for nuclear power facilities licensed under 10 CFR Parts 50 and 70. The Commission's final rules are based on the significance of adequate emergency planning and preparedness to ensure adequate protection of the public health and safety. It is clear, that onsite and offsite emergency preparedness as well as proper siting and engineered design features are needed to protect the health and safety of the public.

In order to discharge effectively its statutory responsibilities, the Commission must know that proper means and procedures will be in place to assess the course of an accident and its potential severity, that NRC and other appropriate authorities and the public will be notified promptly, and that adequate protective actions in response to actual or anticipated conditions can and will be taken. The Commission must also determine that the means and procedures will be in place by which this state of emergency preparedness will be maintained.

III. Emergency Preparedness Appraisal Program

A. Objectives

To determine the adequacy of emergency preparedness at licensed nuclear power plants.

B. Method

The guidance necessary to accomplish this objective (Appendix A) was developed to satisfy the need for a clearly defined method for appraising the licensee's emergency preparedness program, and to provide guidance to the appraisal teams in both scope and implementation of the review and evaluation process. This program is designed to be dynamic. The content will be subjected to further scrutiny and subsequent improvement. It is anticipated that this program will evolve in such a manner that it will serve as the basis for the emergency planning inspection program when the implementation review phase has been completed.

The program is described using analytic trees, written guidance and a series of questions. The analytic trees provide a graphical depiction which aids in the deductive analysis of the system. The guidance sections provide the user with the objectives to be met, a discussion of the basis for the questions and need to review a given area and suggests review methods. The questions are intended to lead the reviewer into the major areas pertinent to a comprehensive evaluation of the various aspects of emergency preparedness.

The analytic trees and worksheets are provided as tools to evaluate the information gathered to reach findings. Use of these tools will aid in identifying interrelationships of findings, thereby permitting an assessment of the total impact of findings in a logical way. They can also be helpful in communicating the findings to the licensee.

This method will be used by all teams. The team leaders, however, are permitted some flexibility in application. Whether the analytic trees are presented and discussed with the licensee is strongly encouraged but not mandatory. Also, the questions are not on all inclusive listing of significant items. They are intended as an aid in providing an overview of the areas of interest and as directive guidance in conducting the appraisal to prevent team oversights in critical areas. Thus while each and every question need not necessarily be answered, all of the major areas must be explored and a sufficient number of questions must be answered to assure acceptability.

The analytic trees provide a clear picture of the basic elements of the program and provide a logic display of interrelationships. The trees start with a single desirable condition and systematically proceed through lower levels or tiers until all important factors which produce the major condition are specified. The trees presented in this document provide a description of the elements of a fully implemented emergency plan which meets the planning standards in 10 CFR Part 50.47(b) and the specific criteria in NUREG-0654, Rev. 1, (NUREG-0654 Plan). Use of these trees can help in the detection and correction of licensee oversights and omissions.

Each of the trees has some degree of interface with the other. Important interfaces are highlighted by transfer functions (triangles with arrows and a letter or number). The questions accompanying each tree are carefully structured to avoid duplicative effort in the interface areas.

The interfaces between areas are important in the evaluation process. To properly evaluate areas where transfers are noted, data collected from one area must be "transferred" to another and considered in the evaluation of both areas. The end result is that the impact of a particular finding can be assessed in a systematic way and assurance provided that a given area is adequate or inadequate, with a minimum amount of time and effort.

No method or program can or should eliminate the need for professional judgement. In this sense, the program is not an attempt to preclude the reviewer's application of judgement factors, but rather seeks to clarify where such judgment is needed and to aid the reviewer in making judgements by bounding the area requiring such professional judgments. The "Acceptance Criteria" column reflects both those areas where the reviewer's professional judgement is the sole acceptance

criterion and areas where the NRC Staff has determined that existing regulations, guides or standards should be used as the acceptance criteria. Even in those areas where firm acceptance criteria exist, the reviewer still must exercise judgement in evaluating the degree to which a particular area meets criteria. In those areas where no firm criteria exist, the question itself may be considered the criterion to be met. In this case, the reviewer uses his judgement to determine the degree to which the licensee's system meets the objective intent of the question. Reviewers should keep in mind that the licensee's Emergency Plan itself constitutes criteria that must be met. In total, the reviewers should have adequate "criteria" upon which to base their evaluations.

C. Design

1. General

Special team appraisals of emergency preparedness programs will be conducted at each of the sites which have power reactors in operation or which are classified as NTOLs. The schedule for completion of these inspections is April 1982, with the first appraisal being conducted in April 1981. Review teams will be composed of four members, with the team leader being a senior NRC Office of Inspection and Enforcement individual. Other members of the team will be professionals provided by PNL and the NRC headquarters and regional staffs.

Each member of the appraisal teams will be under the direction of the NRC team leader. Individual team members are not expected to have thorough knowledge of all areas, but are to be assigned to selected areas for appraisal based, in part, on their expertise. Although there are inspection outlines and guidance provided, reasonable flexibility will be allowed each member in the conduct of these inspections/evaluations to account for the individual character of each plan. A more indepth review than is defined by the scope of the questions may be pursued at the discretion of the team leader for areas in which weaknesses have been identified.

Each onsite appraisal will be preceded by about two weeks of advanced preparation of appraisal details and familiarization of site specifics such as plant layouts, technical specifications, the HP Appraisal Findings, the Emergency Plan and Implementing Procedures. During this two week period, all or a major portion of the procedure review portions of the appraisal (Section 5.0) should be performed. If this preparation phase requires a meeting of team members, the meeting should be scheduled immediately before the onsite appraisal to minimize travel costs and time.

Appraisals will be performed during a 2-week period at the licensee's nuclear power reactor site and are to involve review of records, discussions with plant personnel, observation of work practices and conduct of independent measurements by team members.

Upon completion of the onsite appraisal, a formal appraisal report is required. Discussions and coordination of report findings may necessitate conferring with team members.

Some accumulation of radiation dose is expected during the conduct of the appraisal program, however, individual team members are expected to apply ALARA principles. Under no circumstances shall team members exceed 1¼ rems per quarter.

2. Philosophy

NUREG-0654 Rev. 1 does not give specific guidance for implementation of emergency plans other than to say they must be effectively implemented.

The purpose of developing the Emergency Preparedness Appraisal Program was to institute a standard means for performing a comprehensive evaluation of the overall adequacy and effectiveness of power reactor licensees' total emergency preparedness program. The appraisal must result in a finding that there is or is not reasonable assurance that appropriate assessment and protective measures can and will be taken in the event of a radiological emergency. Any deficiencies preventing a positive finding must be identified. To make this finding, the licensee must demonstrate that proper equipment, trained personnel and adequate procedures are in the place to detect and assess the course of an accident and its potential severity, that the licensee's emergency organization, appropriate authorities and the public will be notified promptly, and that adequate protective actions can and will be taken in response to the emergency. Current emergency planning inspections are compliance oriented and lead to the inspection of emergency planning programs by discrete subject areas. The appraisal program was structured to facilitate an integrated look at the total program. Also, by the very nature of the goal, which is to evaluate the overall adequacy and effectiveness of emegency plan implementation, the appraisal program may be directed into areas for which explicit regulatory requirements may not currently exist. This appraisal program is geared toward evaluating the total program in terms of capabilities and performance and identifying major inadeqaucies, not towards identification of noncompliance.

An emergency response consists of the performance of a sequence of crucial tasks under a wide range of conditions. The effectiveness of the response is dependent upon the establishment and maintenance of an effective response capability. The fact that a site has an emergency plan that meets all guidance of NUREG-0654, Rev. 1, does not mean that plan can or will be implemented effectively under emergency conditions. Therefore, the appraisal is designed to assess the ability of licensee response personnel to complete the sequence of crucial tasks under emergency conditions using the resources available at the site to meet the fundamental objective of an emergency response. The findings in relation to the licensee's ability to meet the objective will be based on evaluations of:

- the administrative elements essential to the establishment and continued maintenance of the response capability;

- the structure and definition of the emergency organization;

- the training of response personnel;
- the facilities, equipment and decisional aids essential to the performance of the crucial emergency response tasks;
- the form, scope and content of the procedures which will guide the performance of the crucial tasks;
- the coordination of the licensee's response tasks with those of supporting groups; and
- performance demonstrations of critical tasks by key emergency response personnel.

The ultimate benefits to be gained from the appraisal program are in terms of adequate emergency planning and preparedness for the workers and the general public. However, in order for these benefits to be achieved, licensees must take specific actions to strengthen areas that are weak and correct areas that are inadequate or which do not meet regulations and guidance. To provide that assurance, licensees will be directed to respond in writing within 25 days of the date of the letter transmitting the report to all major findings of weakness or inadequacy and to correct such weaknesses or inadequacies within four months of the date of the letter. To assure that lasting corrective efforts are implemented as part of the appraisal, the team will also recommend improvements to the Emergency Plan where identified weaknesses appear to have their cause in incomplete planning.

The team leader (and appropriate team members) should meet with plant management during the appraisal to discuss any significant findings such that prompt corrective actions can be formulated prior to the exit meeting. Following the appraisal, there will be an exit interview. If major concerns were identified during the appriasal, appropriate corrective actions and possible enforcement actions will be discussed. Licensee commitments will be obtained where needed. For the remainder of the appraisal findings, the licensee will be allowed the opportunity to review the report details and coordinate an integrated corrective action.

IV. Appraisal Program Procedures

A. Preparation for onsite appraisal

1. Document Acquisition and Distribution

Before beginning the 2-week preparation period, the Team Leader will obtain copies of the following documents for the facility to be appraised:

- Emergency Plan (EP)
- Emergency Plan Implementing Procedures (EPIP)
- Other procedures referenced in the EP or EPIP (Emergency Operating Procedures, Emergency Alarm Procedures, Health Physics Procedures, Chemistry Procedures, etc...)

- Technical Specifications (may only need a limited portion, e.g., Section 6.0)

- Current FSAR (Appropriate sections - e.g. those dealing with analyzed accidents; effluent radiation monitoring instruments; other area or process instruments; etc.

- Health Physics Appraisal Report (at least the emergency planning portions).

- Complete case file relative to emergency preparedness (e.g. inspection reports and resulting outstanding items list; correspondence on exceptions to NRC policy; NUREG-0578, 0737; etc.)

The Team Leader will assure that the documents are distributed to the appropriate team members, and should assign team members their areas of review. An appraisal matrix has been provided in Appendix B to simplify the task of assignment.

2. Document Review

During the 2-week preparation period the team members will;

- Review the documents distributed by the Team Leader in their assigned areas to identify the tasks crucial to detection, assessment, notification, and protective action implementation and the conditions that can influence performance of these tasks paying particular attention to areas that would cause under-reaction or over-reaction to the emergency.

- Identify the response individuals who perform the crucial tasks,

- Identify the minimum equipment, procedures and decisional aids required to perform the crucial tasks,

- Identify any deficiencies in the emergency plans and procedures (The existence of deficiencies in the emergency plan will not preclude or postpone the onsite appraisal),

- Identify any other procedures or documents needed during the site visit and transmit the listing to the Team Leader, and

- Review the questions in light of this information to highlight gaps, thereby identifying "high priority questions."

3. Logistics

At least two weeks prior to the projected onsite appraisal, the Team Leader will assure that plant management has been contacted to arrange for team access, workspace and training for access. This will be confirmed by a standard letter sent from the Regonal Director, detailing the schedule for the appraisal, team composition (by name and affiliation) and other appropriate logistical details.

The Team Leaders must coordinate lodging for the team. The team shall stay at the same location to facilitate coordination and availability for daily meetings.

B. Onsite Plan Implementation & Emergency Preparedness Appraisal

1. Entrance Onsite

Upon arrival at the site for the start of the appraisal, an entrance meeting should be held with the plant manager and other appropriate onsite and corporate management personnel. The resident inspector, though not a member of the team, should be invited to the meeting. Other than this meeting and the exit, the resident inspector will not be required to participate in the appraisal. The Team Leader must, however, keep him informed of the appraisal findings. During the meeting, licensee personnel should be informed of the overall scope and schedule for the appraisal, the team members should be introduced, and the method of appraisal discussed. The intent is to coordinate the appraisal teams activities with those of the licensee, thereby avoiding unnecessary conflicts or delays. Other areas to be discussed during the entrance include:

- Records, procedures and other documents to be reviewed and made available;

- the need to interview personnel;

- any special plant considerations that may impact on the appraisal.

A situation may occur where a licensee will conduct a drill during the appraisal. The Team Leader should determine, during the entrance, if such will occur. If so, the licensee should be informed that selected portions of the drill may be observed at the discretion of the Team Leader in partial fulfillment of the walk through portion of the Appraisal Program (Section 7.0).

It should be noted that the appraisal team will not observe a full scale joint exercise as part of the onsite appraisal process. This exercise will be evaluated and documented as a separate activity.

2. Conduct of Appraisal

The Team Leader has the overall lead for this activity and apportions the workload to his team members as he deems necessary. An "Appraisal Matrix" is provided to assist the Team Leader in this task (Appendix B). Individual team members are not expected to have thorough knowledge of all areas and should be assigned to areas suitable to their expertise. Guidance is provided for the conduct of each of the seven phases of appraisal, however, reasonable flexibility will be allowed each member in the conduct of the appraisal. Offsite agencies and groups and all shifts of licensee personnel should be contacted. The team should meet daily to review current status and progress toward meeting the appraisal objective.

During the onsite portion of the appraisal, information relating to identified "high priority" questions (see Section IV.A.2 of this document) must be sought to provide a complete picture. All remaining questions may be asked to the extent necessary to verify that the information gathered during the review is actually representative of the "as implemented" condition. The detailed questions, therefore, should not be viewed as an all inclusive listing of significant items that, if answered, will provide a totally adequate review of the effectiveness and adequacy of the licensee's program. The questions are intended to aid the appraiser in providing an overview of the specific areas of interest and in providing specific questions to serve as directional guidance in conducting the appraisal.

3. Exit Interview

At the conclusion of the appraisal, an exit meeting should be held with the most senior licensee representative for the site. Appropriate corporate representatives should also be present as should key members of the station staff. A member or members of the NRC's Regional Office Management, commensurate with the significance of the appraisal findings will also attend this meeting. The resident inspector should be invited to attend. Except as provided in Section C, the team will prepare a draft appraisal report prior to this exit interview along with the transmittal letter Appendix A, "Significant Appraisal Deficiency Findings."

During the exit interview, the licensee should be made aware of the preliminary appraisal findings. Commitments should be solicited for significant deficiencies requiring immediate attention where the level of concern would be equivalent to that necessitating an immediate action letter. Other commitments to Appendix A, "Significant Appraisal Deficiency Findings," will be requested in writing in response to the appraisal package.

C. Documentation

The following steps are suggested to assure promot documentation of the results of the onsite appraisal.

- When the team leader is not from the Regional office which will review the product, an effort should be made by the team leader to stop by the Regional office for a day after the onsite portion of the appraisal to confer with the appropriate regional supervisors on the report.

- The report should be completed in first draft form while the team is onsite. The team leader should assure that team member assignments allow time for writing during the onsite phase. The drafts are to be typed with a System 6 typing ball so that the draft can be read onto System 6 at Headquarters without retyping. Overnight delivery service should be used when the draft cannot be handcarried to headquarters. At the team leader's request, authorization may be given by the Chief, EPLB, to relocate the team to the Regional office during the second week for the report writing phase, providing a commitment from Regional management is obtained to assure that the team is not diverted to other tasks.

- After entry on System 6, the draft report will be transmitted to the Region for review and issuance. A parallel concurrence review will be performed in headquarters.

1. Transmittal Letter

Reference 3 of TI-2515/55 contains a sample transmittal letter. The basic content and structure of this letter are to be used to maintain consistency.

Briefly summarize the most significant findings in terms of the overall program and explain the importance of these findings. It is important that these major findings be discussed from the broadest perspective as opposed to individual items which, when combined, lead to the conclusion that a significant weakness or inadequacy exists. Likewise, if no significant weakness is found, this should be stated.

a. Appendix A, "Significant Appraisal Deficiency Findings"

- Identify the major deficiencies in the state of emergency preparedness. Generally, this will be a discussion of those major topic headings contained in the appraisal program which were found to exhibit significant weaknesses or inadequacies. These deficiencies are those which, in accordance with 50.54(s)(2), cause the NRC to find "that the state of emergency preparedness does not provide reasonable assurance that appropriate protective measures can and will be taken in the event of a radiological emergency." It is not intended nor is it necessary to discuss all of the major headings.

- Examples of the individual items which formed the basis for the broader conclusions should be included in the discussion of the significant weaknesses. Inclusion of all examples is not necessary.

Note: Significant items will be identified with the appropriate section of the appraisal report and the appropriate regulation (items (1) through (16) of 50.47(b) which are also the A through P standards of NUREG-0654, Rev. 1). Regulation sections 50.54(s)(2), and 50.47(b) will form the basis for enforcement action for any items not corrected within four months.

b. Appendix B "Notice of Violations"

While this is not a compliance inspection, Appendix B, "Notice of Violations" will be used to transmit to the licensee glaring items of non-compliance identified during the appraisal, similar in use to that in the Health Physics Appraisal Program.

c. Appendix C, "Other Emergency Preparedness Deficiencies"

This appendix will contain deficiencies identified in the licensee's emergency plan, which are of lesser significance than Appendix A "Significant Appraisal Findings;" but still require corrective actions.

2. Appraisal Report

The appraisal report shall consist of at least the three headings listed below. It shall be given a docket number and transmitted to the PDR and to the licensee with the transmittal letter.

a. Summary: This will briefly list the findings of the appraisal. It should include the status of any outstanding emergency planning items identified during the Health Physics Appraisal or other inspection.

b. Details Section: This part of the report should be subdivided into the major topic headings which correspond to the numbered sections of the questions in Appendix A of this document, "Basic Program." It is similar to the format used in the documentation of the Health Physics Appraisal program and should include:

* Strengths as well as weaknesses

* A conclusion for each section (major topic heading) as to the adequacy or inadequacy of the licensee's program. One of the following statements may be used to conclude each major report section:

1. If this portion of the licensee's program is implemented in accordance with the plan and the implementation meets the implementation objective use the following:

   Based on the above findings, this portion of the licensee's program appears to be acceptable.

2. If weaknesses are found which warrant identification as Appendix A items, use the following:

   Based on the above findings, the following deficiencies must be corrected to achieve an acceptable program: (summarize specific areas).

A listing of key persons contacted during the appraisal should be included as an appendix to the report, including individuals from outside support agencies. Other plant personnel contacted should be grouped by job function (i.e. operators, technicians, security personnel, etc.) and total numbers in each group should be indicated. Contractor members of the appraisal team need not sign the report but should be provided a copy of the final draft at the same time it is undergoing management review in the region.

All significant appraisal findings, items of non-compliance, emergency plan deficiencies, and any unresolved items, if any, will be tracked with a unique identifying number in the body of the report using the Regional Outstanding Items List (OIL) System.

c. Emergency Plan Evaluation

If the results of the emergency plan evaluation have not previously been transmitted to the licensee, it should be done in this section. The section should be subdivided into major topic headings which correspond to the planning standards A through P identified in NUREG-0654 Revision 1. The format will be similar to that previously used in previous Safety Evaluation Reports.

V. Follow-up of Appraisal Findings

Followup will be performed on identified appraisal deficiencies by the Regional Office (or in conjunction with appraisal team members where numerous serious items were identified). The time frame for followup will be based on the level of significance of the items, the completion dates for corrective action and available resources.

VI. Drills and Exercises

The full scale joint exercises are not evaluated as part of this Appraisal Program. The excercise observation and evaluation will be documented in a separate report along with FEMA's evaluation of offsite emergency response.

VII. References

ANSI 3.1 — American National Standard for Selection and Training of Nuclear Power Plant Personnel. January 17, 1978.

ANSI 3.7.1 — Facilities and Medical Core for On-site Nuclear Power Plant Radiological Emergencies, April 1979.

ANSI 3.7.2 — Emergency Core Centers for Nuclear Power Plants, April 1979.

ANSI 3.7.3 — Radiological Emergency Preparedness Exercises for Nuclear Power Plants, April 1979.

ANSI 13.12 — Control of Radioactive Surface Contamination on Materials, Equipment, and Facilities to be Released From Uncontrolled Use (DRAFT) August 1978.

NUREG-0041 — Manual of Respiratory Protection Against Airborne Radioactive Materials.

NUREG 0396 — State and Local Emergency Plans.

NUREG 0578 — TMI-2 Lessons Learned Task Force Status Report and Short-Term Recommendations, July 1979.

NUREG 0585 — TMI-2 Lessons Learned Task Force Final Report, October 1979.

NUREG 0600 — Investigation Into the March 28, 1979 Three Mile sland Accident by Office of Inspection and Enforcement, July 1979.

NUREG 0616	Report to the Director, Office of Inspection and Enforcement on Lessons Learned from Three Mile Island, December 1979.
NUREG 0654	Criteria for Preparation and Evaluation of Radiological Emergency Response Plans and Preparedness in Support of Nuclear Power Plants, Rev. 1, November 1980.
NUREG 0660	NRC Action Plan Developed as a Result of the TMI-2 Accident, Volumes 1 and 2, Rev. 1, July 1980.
NUREG 0696	Functional Criteria for Emergency Response Facilities, February 1981.
NUREG 0728	Report to Congress: NRC Incident Response Plan, September 1980.
NUREG 0729	Report to Congress on NRC Emergency Communication, September 1980.
NUREG 0730	Report to Congress on the Acquisition of Reactor Data for the NRC Operations Center, September 1980.
NUREG 0731	Guidelines for Utility Management Structure and Technical Resources (DRAFT), September 1980.
NUREG 0737	Clarification of TMI Action Plan Requirements, November 1980.
NUREG 75/087	Standard Review Plan for the Review of SAR.
NUREG/CR 0314	An Air Sampling System for Evaluating the Thyroid Dose Commitment Due to Fission Products Released from Reactor Containment.
NUREG/CR 0315	Environmental Radioiodine Monitoring to Control Exposure Expected from containment Release Accidents, April 1979.
NUREG/CR 1368	Development of a Checklist for evaluating Maintenance, Test and Calibration Procedures Used in Nuclear Power Plants, May 1980.
NUREG/CR 1745	Analysis of Techniques for Estimating Evacuation Times for Emergency Planning Zones, November 1980.
10 CFR 20	Standards for Protection Against Radiation.
10 CFR 50	Domestic Licensing of Production and Utilization Facilities.
10 CFR 73	Physical Protection of Plants and Materials.
10 CFR 1090	DN 76N-0050 Accidental Radioactive Contamination of Human Food and Animal Feeds.
21 CFR 1090	DN 780-0343 Potassium Iodide as a Thyroid Blocking Agent in a Radiation Emergency.

EPA 520/ 1-75-001 Manual of Protective Action Guides for Protective Actions for Nuclear Incidents.

EPA 520/ 6-74-002 Evacuation Risks-An Evaluation.

Reg. Guide 1.8 Personnel Selection and Training (under revision).

Reg. Guide 1.23 Onsite Meteorological Programs, February 1972.

Reg. Guide 1.33 Quality Assurance Program Requirements (Operation, Rev. 2, March 1978.

Reg. Guide 1.97 Instrumentation for Light-Water-Cooled Nuclear Power Plants to Assess Plant Conditions During and Following an Accident, Rev. 2, December 1980.

Reg. Guide 1.98 Assumptions Used for Evaluating the Potential Radiological Consequences of a Radioactive Offgas System Failure in a Boiling Water Reactor, March 1976.

Reg. Guide 1.109 Calculation of Annual Doses to Man from Routine Releases of Reactor Effluents for the Purpose of Evaluating Compliance with 10 CFR Part 50, App. I. Rev. 1, October 1977.

Reg. Guide 4.1 Program Monitoring Radioactivity in the Environs of Nuclear Plants, Rev. 1, April 1975.

SECY 79-497 Thyroid Protection.

SECY 80-257 Radiation Protection - Thyroid Blocking.

NCRP 29 Exposure to Radiation in an Emergency.

NCRP 55 Protection of Thyroid Gland in the Event of Release of Radioiodine.

IAEA 29 Application of Meteorology to Nuclear Power Plants.

NCRP 65 Management of Persons Accidently Contaminated with Radionuclides.

IAEA-CN-39/95 Accident Assessment: Role of the Containment Radiation Monitor.

HASL-300 EM Procedures Manual.

ICRP-23 Report of the Task Group on Reference Manual.

Kemeny Commission Report.

Rogovin Report.

Red Cross Multimedia Standard First Aid - Revision 1978.

N-716 Proposed Standard Criteria for Dosimetry.

Meteorology and Atomic Energy, 1968 AEC Publication.

BNL-21541 High Efficiency Mixed Species Radioiodine Air Sampling Readout and Dose Assessment System.

RAB Technical Position on an Acceptable Radiological Environmental Monitoring Program, Rev. 1, November 1979.

CPG 1-17 Outdoor Warning Systems Guide, March 1980.

Respiratory Protection Devices Manual, American Industrial Hygiene Association, 1963.

Nuclear Power Plant Emergency Response Plan, AIF, October 1979.

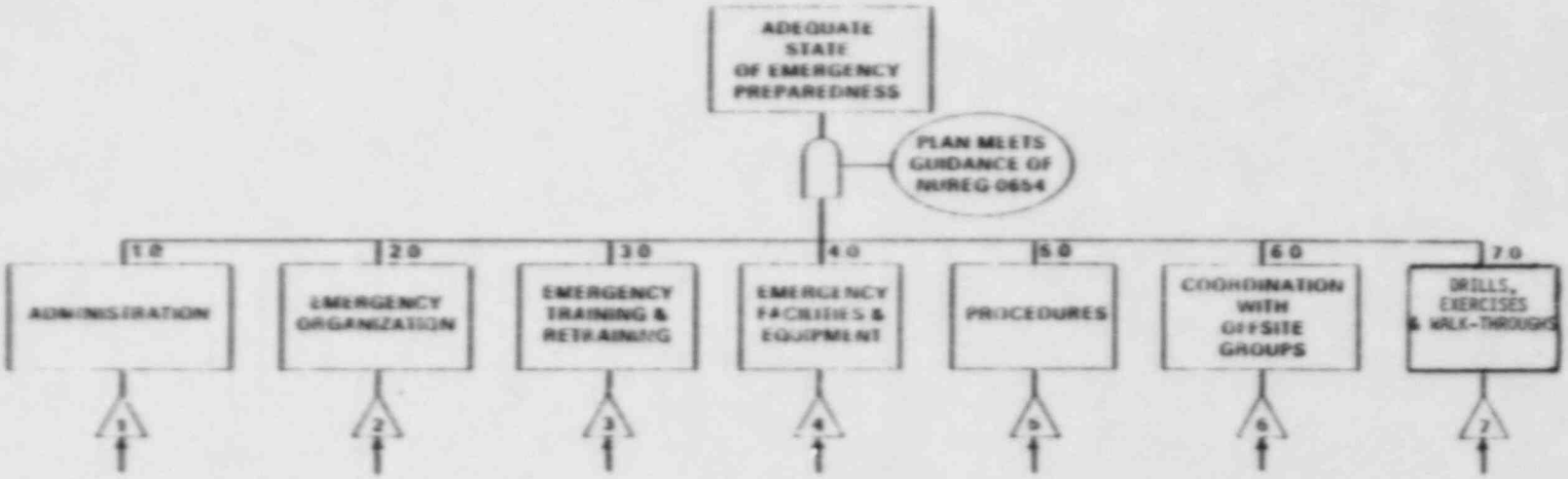
Letter from H. R. Denton, NRC, to All Operating Plants, "Discussion of Lessons Learned Short-Term Requirements," dated October 30, 1979.

Letter from D. G. Eisenhut, NRC, to All Licensees, "Clarification of NRC Requirements for Emergency Response Facilities at Each Site," dated April 25, 1980.

Letter from D. G. Eisenhut, NRC, to All Licensees, "Post-TMI Requirements for the Emergency Operations Facility (Generic Letter 81-10), February 18, 1981.

Letter from D. G. Eisenhut, NRC, to All Licensees, No Title, November 13, 1980.

APPENDIX A
BASIC PROGRAM


ADEQUATE STATE OF EMERGENCY PREPAREDNESS
PLAN MEETS GUIDANCE OF NUREG-0654
1.0
ADMINISTRATION
2.0
EMERGENCY ORGANIZATION
3.0
EMERGENCY TRAINING & RETRAINING
4.0
EMERGENCY FACILITIES & EQUIPMENT
5.0
PROCEDURES
6.0
COORDINATION WITH OFFSITE GROUPS
7.0
DRILLS, EXERCISES
1
2
3
4
5
6
7

SECTION 1.0

ADMINISTRATION OF EMERGENCY PREPAREDNESS

1.0 ADMINISTRATION OF THE EMERGENCY PLAN

Objective

To verify that the licensee has implemented formal provisions for centralized management control of the administrative aspects of the emergency planning program.

Basis

In the past, the development of emergency plans and procedures and the management of the day-to-day activities necessary for the continued maintenance of a readiness capability were fragmented. Tasks were assigned to individuals at various levels throughout the licensee's organization and the contractors. Often the assignments were made informally and without the assigned individual being allocated the authority, manpower, time or money necessary to permit effective accomplishment of the task. Since the emergency planning tasks were in addition to their primary duties, it was not uncommon to have routine duties take priority of resources, resulting in a degraded response capability. To compound the difficulty, there was no formal overall responsibility for ensuring that the various individuals were performing their emergency preparedness tasks.

Support from corporate and site management is essential for a satisfactory emergency planning program. They should provide for the assignment of responsibilities for the various aspects of emergency planning. Authorities to satisfy these responsibilities should also be given. In addition, corporate and site management should provide for adequate support of emergency planning in terms of personnel, time, and finances.

There is a need to assign specific responsibility for the emergency plan and implementing procedures. This assignment would include initial preparation as well as future updating and modifications. If this assignment(s) has been made a corporate function, there should be provisions for participation by appropriate personnel at the site. (See section 5.0.)

Agreements with nonlicensee organizations are in important part of an emergency plan. The responsibility for making such agreements and periodically confirming or modifying them should be assigned. Also these agreements should be made in the context of the overall emergency planning effort.

In addition to those tasks already discussed, several other responsibilities are important to the management of emergency planning and should be specifically assigned. There is a need to: provide appropriate training to individuals; conduct drills and exercises; maintain emergency facilities and equipment; maintain implementing procedures; and, review and audit the various aspects of the emergency planning program.

Since the emergency planning program involves a number of persons and organizations, there is a need to assure coordination of all of these efforts within the licensee's organization in order to provide adequate assurance that an appropriate level of emergency preparedness will be maintained. Since an important aspect of coordination exists between the licensee and the various non-licensee organizations, the various participating organizations should be aware of who in the licensee's organization is responsible for such coordination.

The above discussion must also include the subject of personnel. The matters of specific assignments/duties, documented responsibilities and appropriate authority to accomplish the assigned responsibilities, selection criteria and supplemental training must also be addressed. All of these items as they relate to the management of the emergency planning program should be covered.

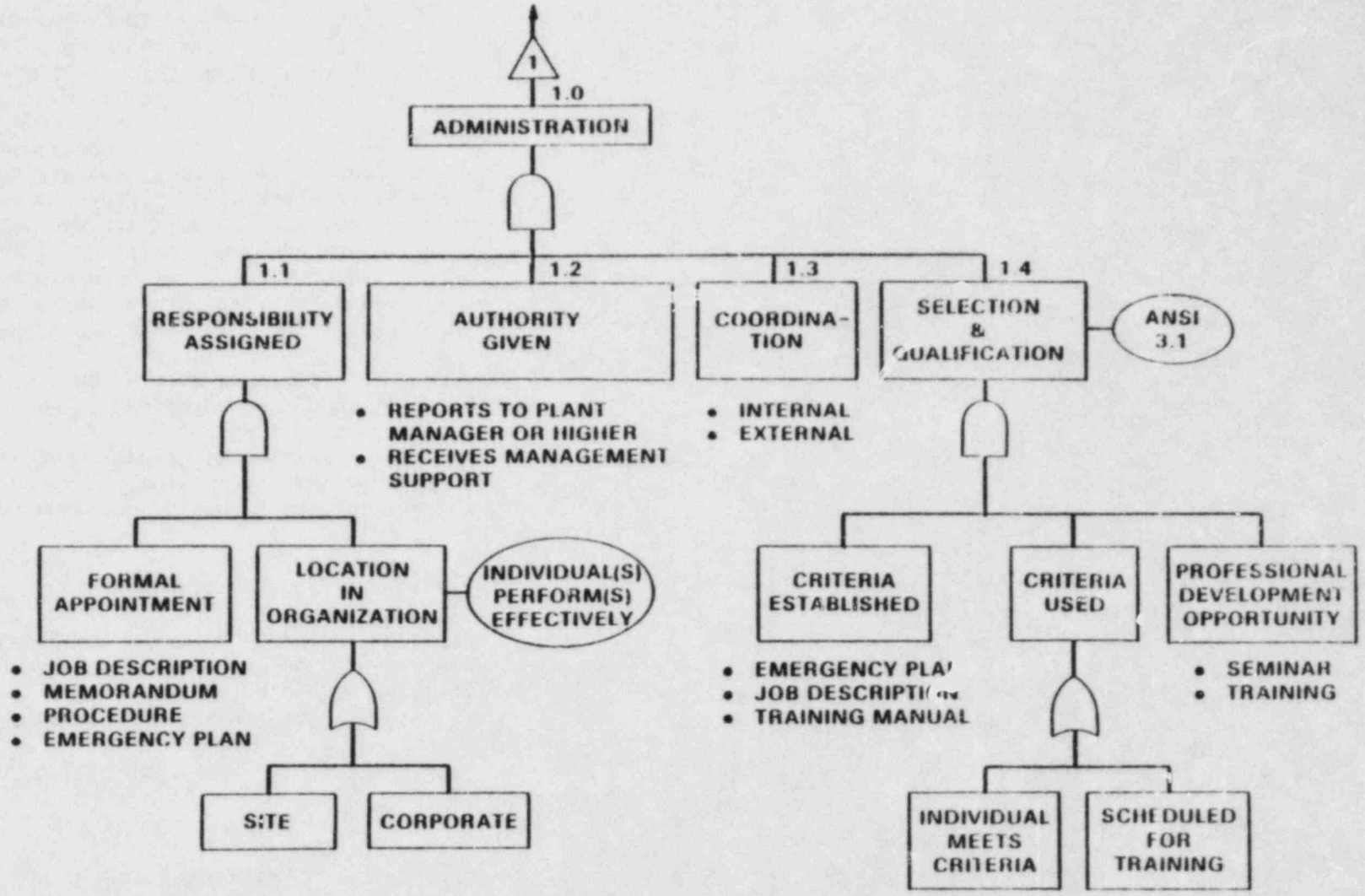
Appraisal Guidance

Review the appropriate sections of the Emergency Plan that relate to management of the program.

Discuss with site and corporate management their support of the emergency planning program. Such discussions should address the subjects of assignment of responsibility, provision of appropriate authority and support in the areas of personnel, time and finances.

Review the management of the emergency planning program to assure that the above discussed responsibilities have been addressed and there is appropriate authority to perform these responsibilities. Also check for appropriate coordination among the various responsibilities.

Review the assignment of personnel. Compare their qualifications to the selection criteria. Also identify selection criteriathat may be absent or inappropriate. Interview some of these personnel to determine whether they understand their assigned responsibilities and authority to perform and ascertain the training they have received.


1
1.0
ADMINISTRATION
1.1
RESPONSIBILITY ASSIGNED
1.2
AUTHORITY GIVEN
1.3
COORDINA-TION
1.4
SELECTION & QUALIFICATION
ANSI 3.1
• REPORTS TO PLANT MANAGER OR HIGHER
• RECEIVES MANAGEMENT SUPPORT
• INTERNAL
• EXTERNAL
FORMAL APPOINTMENT
LOCATION IN ORGANIZATION
INDIVIDUAL(S) PERFORM(S) EFFECTIVELY
CRITERIA ESTABLISHED
CRITERIA USED
PROFESSIONAL DEVELOPMENT OPPORTUNITY
• JOB DESCRIPTION
• MEMORANDUM
• PROCEDURE
• EMERGENCY PLAN
• EMERGENCY PLA
• JOB DESCRIPTI
• TRAINING MANUAL
• SEMINAR
• TRAINING
SITE
CORPORATE
INDIVIDUAL MEETS CRITERIA
SCHEDULED FOR TRAINING

IMPLEMENTATION AREA	NUREG 0654, REV. 1 ELEMENT	PLAN/ PROCEDURE REFERENCE	ACCEPT. CRITERIA	COMMENTS
ADMINISTRATION OF EMERGENCY PLAN	P.1 P.2 P.3		P.J.	
1.1 Responsibility Assigned			P.J.	
a. Is there an individual at the site formally appointed (e.g, job description, procedure, memorandum, etc.) as the Emergency Planning Coordinator (EPC)?				
b. Is there a counterpart at the corporate level?				
c. Is emergency planning part of the appointed individual's normal duties or "additional" in nature?				
d. Is there provision for input to emergency planning by site personnel?				
e. Are there any other individuals assigned responsibilities for maintaining the response capability? If so, what are the responsibilities and are the responsibilities formally assigned by job description, procedure, memorandum, etc.?				
f. Do individuals in management and the professional staff at the site know who is responsible for emergency planning?				

IMPLEMENTATION AREA	NUREG 0654, REV. 1 ELEMENT	PLAN/ PROCEDURE REFERENCE	ACCEPT. CRITERIA	COMMENTS
1.2 Authority			P.J.	
a. Are assigned responsibilities supported with necessary authority?				
b. Do personnel responsible for emergency planning receive management support where exercising this authority?				
c. Do personnel responsible for emergency planning report to the plant manager or higher?				
1.3 Coordination			P.J.	
a. Do routine coordination events such as PORC meetings, budget input, etc. involve personnel responsible for emergency planning?				
b. Is there coordination with and between all licensee organizations in the areas related to emergencyp lanning?				
c. Is the interaction between the site and corporate individuals well defined?				
d. Is there coordination between the licensee and offsite groups, general public, news media, etc.?				
e. Is the responsibility for this well documented? (See Section 6.0)				

IMPLEMENTATION AREA	NUREG 0654, REV. 1 ELEMENT	PLAN/ PROCEDURE REFERENCE	ACCEPT. CRITERIA	COMMENTS
1.4 Selection and Qualification			ANSi N3.1, para 4.3.2	
a. Are there selection criteria established for the personnel responsible for emergency planning?				
b. Do the incumbents meet the criteria?				
c. Is there appropriate training provided to those persons who do not meet the criteria?				
d. Are professional development training courses made available to the personnel responsible for emergency planning to maintain state-of-the-art knowledge?				

SECTION 2.0

EMERGENCY ORGANIZATION

2.0 EMERGENCY ORGANIZATION

Objective

To verify that the licensee has unambiguously defined the key functional areas of emergency activity; assigned identifiable personnel to the functional areas; and that the individuals so assigned are aware of their potential duties.

Basis

The nature and manner of definition of functional areas of emergency activity vary considerably from one licensee to another. In many cases, the definition of the functional areas is so broad as to be almost meaningless. Conversely, some are so overly detailed that there are more functional areas than there are station staff to fill the functions. In the planning process, the objective should be to define the functional areas to such a degree that there is minimal, if any, necessity for the "ad hoc" assignment of people to functions that "crop up" during an actual emergency.

NUREG-0654, Rev. 1, Table B-1, presents nine functional areas of emergency activity. The table is not intended to mean that there is a maximum of nine acceptable functional areas that must be defined. The table is necessarily broad in order to afford licensee's latitude in the specific configuration of the emergency organization. Consequently, a licensee who has defined his organization in line with the nine functional area designations of Table B-1, has not been specific enough in the description of the functional areas of emergency activity. For example, consider the major functional area titled, "Radiological Accident Assessment and Support of Operational Accident Assessment." An emergency organization in which the functional areas are defined only to that level will exhibit disorganization during an actual response. Rather, the broad area of Accident Assessment should be further defined by functional areas which are more accurately represented by the "Major Tasks" columns of Table B-1. Therefore, rather than specifying that the emergency organization has a Radiological Assessment Group, the workable definition would include such functional areas as: offsite survey teams; onsite survey teams, in-plant survey teams; etc. Adequate definition of the functional areas is a key prerequisite to proper configuration of the emergency organization and selection of personnel for assignment to the functional areas. The degree of specificity of the functional area definition has a direct bearing on the nature and scope of the training program for qualifying individuals to fill positions in the emergency organization.

The assignment of individuals to the functional areas must be unambiguous. The Emergency Plan should specify in an unambigous way, the generic types of people (by position or title) who will be assigned to the functional areas of emergency activity. This generic description in the plan, will in turn, specify the types of individuals who will be selected for qualification by the training program.

To implement the plan's general description of persons assigned to the various functional areas of emergency activity, there must ultimately be a linking of specific names or titles to the functional areas. The individuals so linked, therefore, must come from the generic disciplines described in the plan. This listing may be part of the notification procedure call list, or other organizational documentation. Licensees also use methods such as call-boards, rotary files, etc. Whatever method is used, the delineation must be unambiguous, formal and under some type of management control to ensure that the proper people are selected and trained for the proper function during an actual emergency.

In the implementation scheme (procedures in particular) functional titles indicative of the emergency duty being performed should be used in lieu of normal duty titles. For example; the Manager, Radiation Protection may be the individual responsible for coordinating radiological assessment with Radiation Protection Engineers as alternates. This would be an acceptable definition for the Plan. The procedures, however, should use the term Radiological Assessment Coordinator and not the normal duty title Manager, Radiation Protection since he may not always be available.

Appraisal Guidance

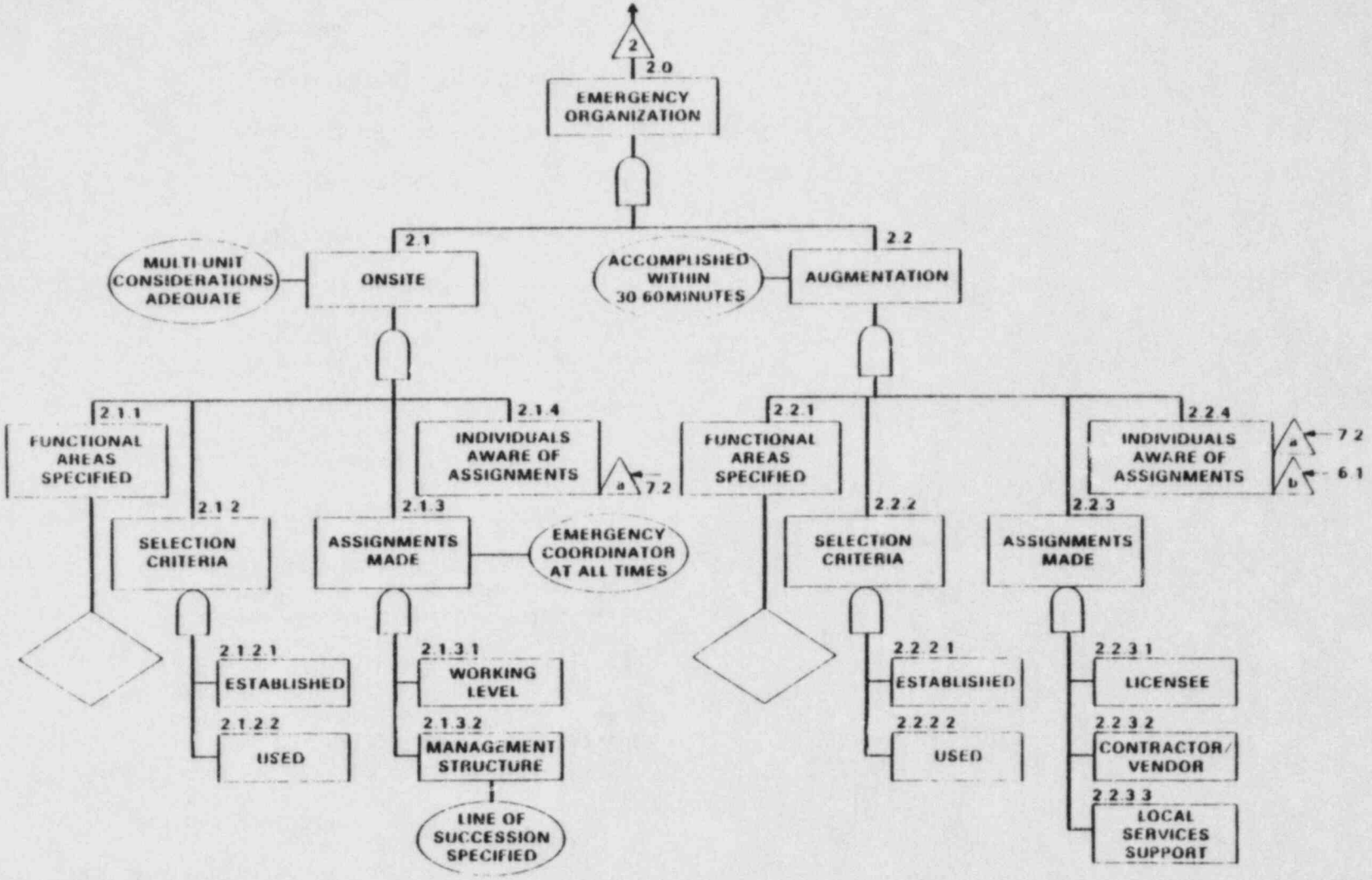
Review the generic emergency organization description in the Emergency Plan to include augmentation groups.

Review the applicable implementation procedures to verify that the general description is further detailed to associate names with functions. Such name association is not necessary for non-licensee organizations.

Compare the two descriptions for consistency.

Select a sampling of assigned individuals and interview them to verify that they are aware of their assignments. Select individuals from the corporate office as well as the site organization. This interview may be done at the same time as the discussions for verifying training per section 3.0. Certain individuals may be assigned to more that one functional area. Be careful to verify all functions.

Discussions with non-licensee personel should be held during the portion of the appraisal relative to Coordination With Offsite Groups. (Section 6.0)


2
2.0
EMERGENCY ORGANIZATION
2.1
ONSITE
MULTI UNIT CONSIDERATIONS ADEQUATE
2.2
AUGMENTATION
ACCOMPLISHED WITHIN 30 60MINUTES
2.1.1
FUNCTIONAL AREAS SPECIFIED
2.1.2
SELECTION CRITERIA
2.1.3
ASSIGNMENTS MADE
EMERGENCY COORDINATOR AT ALL TIMES
2.1.4
INDIVIDUALS AWARE OF ASSIGNMENTS
a
7.2
2.1.2.1
ESTABLISHED
2.1.2.2
USED
2.1.3.1
WORKING LEVEL
2.1.3.2
MANAGEMENT STRUCTURE
LINE OF SUCCESSION SPECIFIED
2.2.1
FUNCTIONAL AREAS SPECIFIED
2.2.2
SELECTION CRITERIA
2.2.3
ASSIGNMENTS MADE
2.2.4
INDIVIDUALS AWARE OF ASSIGNMENTS
a
7.2
b
6.1
2.2.2.1
ESTABLISHED
2.2.2.2
USED
2.2.3.1
LICENSEE
2.2.3.2
CONTRACTOR/ VENDOR
2.2.3.3
LOCAL SERVICES SUPPORT

3/81

IMPLEMENTATION AREA	NUREG 0654 ELEMENT	PLAN REFERENCE	ACCEPT. CRITERIA	COMMENTS
EMERGENCY ORGANIZATION				
2.1 Onsite Organization	A.1.b A.1.c		P.J.	
a. Are the persons who may be assigned to the following functional areas of emergency activity specified in the Emergency Plan and Implementing Procedures (by position or title and name) down to the working level and are the descriptions consistent within the various documents and with the actual organization?	A.1.d A.4 B.1 B.2 B.3 B.5 B.6 C.2.b G.3.a G.4.a			
- Emergency Response Coordination	G.4.b I.8			
- Plant systems operation	L.1			
- Operational accident assessment				
- Radiological environmental survey and monitoring				
- First aid/rescue				
- Personnel monitoring				
- Decontamination				
- Security of plant and site access control				
- Repair/corrective actions				
- Personnel accountability				
- Radiological accident assessment				

IMPLEMENTATION AREA	NUREG 0654 ELEMENT	PLAN REFERENCE	ACCEPT. CRITERIA	COMMENTS
- Communications				
- Radiation protection				
- Plant chemistry				
- Radwaste operations				
- Technical support				
- Manpower planning and logistical support				
- Public information				
- Licensee representative to State EOC				
b. Does the emergency organization description in the plan and procedures include a designated management structure for the above functional areas?				
c. Are there provisions implemented to ensure that an emergency coordinator* is available onsite at all times, having the authority and responsibility to initiate any emergency actions within the provisions of the emergency plan, including the exchange of information with authorities responsible for coordinating and implementing offsite emergency measures?			ANSI N3.1,	

IMPLEMENTATION AREA	NUREG 0654 ELEMENT	PLAN REFERENCE	ACCEPT. CRITERIA	COMMENTS

*Note: emergency coordinator as used here differs from the EPC. The EPC is the generic position of the individual in overall charge of directing the emergency response; known by such other titles as Emergency Director, Site Emergency Coordinator, etc. NUREG-0654 Rev. 1, P 23 B.2.

d. Are the lines of succession for the emergency coordinator position and the management structure for the various functional areas specified?

e. Are there established selection criteria for use in assigning individuals to the various functional areas of emergency activity?

f. Do the individuals assigned to the various functional areas of emergency activity meet the selection criteria or, as a minimum have work experience in the general types of duties of the functional area?

g. Are the interfaces between and among the onsite functional areas of emergency activity clearly specified by an organization chart and understood by the individuals assigned to the emergency organization? (See Section 3.0)

	IMPLEMENTATION AREA	NUREG 0654 ELEMENT	PLAN REFERENCE	ACCEPT. CRITERIA	COMMENTS
2.2	Augumentation of Onsite Emergency Organization	A.1.a A.1.b		P.J.	
	a. Are there corporate personnel who will augment the onsite emergency organization specified by position or title and name for each of the following areas:	A.1.c A.3 B.5 B.6 B.7			
	- Emergency response coordination	B.8 B.9			
	- Operational accident assessment	C.2.b C.3			
	- Radiological accident assessment	C.4 G.3.a			
	- Radiological environmental survey and monitoring	G.4.b L.4			
	- Health physics				
	- Technical support				
	- Manpower and logistical support				
	- Public information				
	- Licensee representative to state EOC				
	- Dosimetry and measurements				
	b. Do the licensee individuals selected to augment the onsite emergency organization have work experience in the general types of duties of their assigned functional area?				
	c. Do the licensee's plans for for augmenting the onsite organization include provisions for supplementing the HP staff beyond 24 hours under accident conditions?				

IMPLEMENTATION AREA	NUREG 0654 ELEMENT	PLAN REFERENCE	ACCEPT. CRITERIA	COMMENTS
d. Are the contractor and private organizations who may be requested to provide technical assistance to and augmentation of the emergency organization specified? Do they have written contracts?				
e. Has the licensee demonstrated through a study or drill that the minimum augmentation specified in NUREG-0654, Rev. 1, Table B-1, can be accomplished within the 30-60 minutes requirement? (If a drill was used to demonstrate the capability, review this item as part of section 7.1)				
f. Is the extension of the organizational capability to be provided by local services for handling emergencies specified, e.g., ambulance, medical, hospital and fire fighting organizations.				
g. Are the authorities, responsibilities and limits on the actions of the corporate, contractor, private organization and local services support groups understood by these groups? (See Sections 3.0 and 6.0)				
h. Are the interfaces between the onsite functional areas of emergency activity and the augmentation groups clearly specified by an organization chart and understood by both parties? (See Sections 3.0 and 6.0)				
i. If tag boards are used to make taks assignments during an emergency, have priorities been established?				

SECTION 3.0

EMERGENCY PLAN TRAINING/RETRAINING

3.0 EMERGENCY PLAN TRAINING/RETRAINING

Objective(s)

To verify that the licensee has developed and implemented an emergency plan training program.

To verify that all personnel (even if only a backup) have been trained in accordance with the program.

To evaluate the adequacy of the scope and content of the established program.

Basis

Emergency situations precipitate changes in reporting chains, scope and nature of duties, and the perceptions of individuals. When under stress, individuals may revert to established behavior patterns. These behavioral patterns may be productive or counter-productive and random in purpose depending upon the way in which the behavior patterns were established. Proper training partially serves to establish acceptable behavior patterns and eliminate randomness of purpose. Once desired behavior patterns are established, they must be reinforced and then tested and evaluated under stress to ensure that the desirable behavior is sufficiently ingrained. A "test" (whether written or a practical exercise) will help in making a determination that the individual understands the information he has been presented and is capable of performing in the desired manner. This testing should be against student performance objectives which comprise a portion of the lesson plan. These performance objectives should define the task to be performed, give the conditions under which it is to be performed, and briefly describe the standards by which performance is to be judged. Testing which addresses only general knowledge when specific knowledge is expected is inadequate. All personnel who may perform a task must be trained and tested even though they may only be a backup. Training should also be provided for those personnel who have no role to play in emergency response so they will know what they are to do in an emergency.

An adequate training program should not consist solely of classroom instruction, demonstrations of equipment to the group, or using maps or plant drawings to point out emergency response duty stations. Rather, the training program should also include hands-on use of equipment and tours of areas since the individual may be required to use equipment or go to locations with which he is unfamiliar. Historically, emergency plan training has been conducted using a broad range of methods, from simple self-administered reading assignments to lecture/practical exercise combinations. The latter method has proven to be the most effective.

Licensee training programs must also contain provisions for training the various offsite agencies. Normally these agencies will include the State agency responsible for the planning effort and for protective action decision-making, local ambulance/rescue services, the offsite medical treatment facility, local fire companies and local emergency planning personnel. The purpose of the training should be to ensure mutual understanding of roles, procedures, and interfaces. The licensee should offer the training at times convenient to the offsite agency to ensure maximum participation. Although licensees can

not control or require offsite groups to participate in the training, appraisers must assess the capabilities of these groups to provide the degree of support to the licensee that is relied upon and the extent to which they participate in the training. Much of this information should be available from FEMA If not, the appraiser should discuss the topic during contacts with the offsite groups.

Guidance

Obtain a copy of the emergency organization chart and the listing of personnel assigned to the functional areas of emergency activities and the agencies forming a part of the response scheme.

Review the training procedure/training manual description of the training program and compare the content for consistency with the Emergency Plan.

Review lesson plans to verify adequacy of scope and content and consistency with the duties as reflected in the implementing procedures.

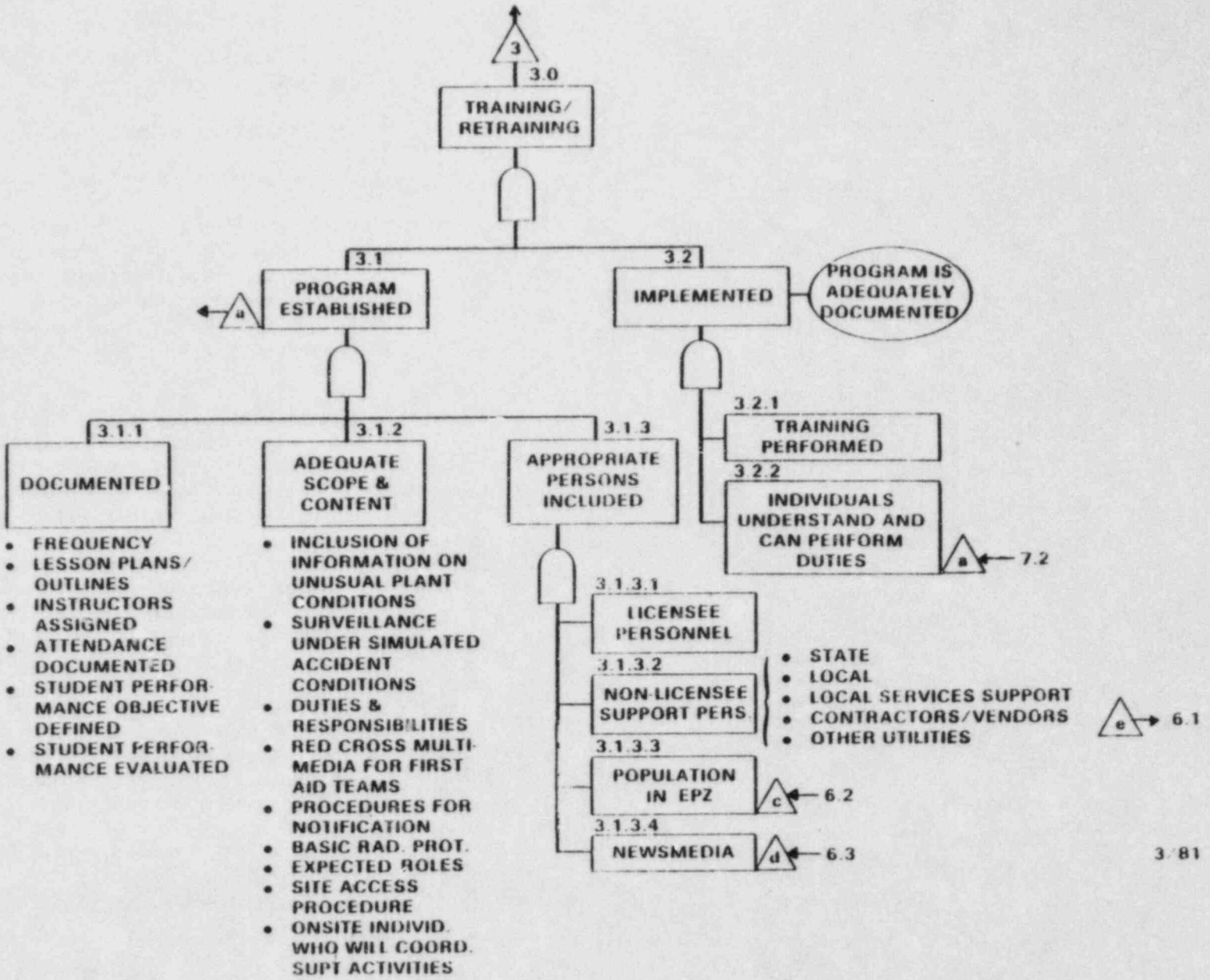
Interview instructors to ascertain their background and experience in the areas which they teach.

Review training records and compare attendance listing with the procedures and list of persons assigned to the emergency organization to verify that all required sessions were conducted and all required personnel have been trained.

Review a sampling of tests and test results from each training class to verify that tests were adequate, that they were actually given, and that they measured student performance against the training objectives. Verify that individuals who failed to meet performance objectives have been retrained and passed, or were removed from the emergency organization.

Interview several individuals assigned to each functional area (onsite and corporate) to verify that training was actually conducted and was of the scope required. Contact individuals on all shifts. Question individuals in relation to their duties and the procedures and equipment which they would be required to use. Do not have them demonstrate their ability to perform at this time. This will be accomplished during the last phase of the appraisal in accordance with Section 7.0. If a training session is to be conducted, attend a session.

During interviews with offsite agencies performed as part of section 6.0, discuss the scope and nature of the training provided and verify that it was presented from their perspective and met the needs of the agencies and persons involved. (Before interviewing offsite agencies the FEMA RAC chairman should be contacted to determine what information he has relative to training of offsite agencies. The RAC chairman should be told of the intentions to interview offsite agencies and the information provided by him should be used to judge the depth and scope of the interviews).


3
3.0
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IMPLEMENTATION AREA	NUREG-0654 REV. 1 ELEMENT	PLAN/ PROCEDURE REFERENCE	ACCEPT. CRITERIA	COMMENTS
EMERGENCY PLAN TRAINING/RETRAINING	G.5 0.1		ANSI/ANS 3.7.3	
3.1 Program Established	0.1.a 0.1.b		Section 3	
a. Does the licensee have a formally documented and approved emergency plan training/retraining program description (procedure or training manual)?	0.2 0.3 0.4.a 0.4.b 0.4.c 0.4.d			
b. Does it include qualification criteria for the individuals selected for assignment to the various functional areas of emergency activity?	0.4.e 0.4.f 0.4.g 0.4.h 0.4.i 0.4.j			
c. Are training and retraining required at least annually (± 3 months) for licensee personnel assigned to all functional areas applicable to the licensee's plans?	0.5			
d. Are the number and designation of the training categories consistent with the number and designation of the functional areas of emergency activity in the emergency organization? For example:				
- Emergency response coordination;				
- Plant systems operation;				
- Radiological environmental survey and monitoring;				

IMPLEMENTATION AREA	NUREG-0654 REV. 1 ELEMENT	PLAN/ PROCEDURE REFERENCE	ACCEPT. CRITERIA	COMMENTS
- First aid/rescue;				
- Personnel monitoring;				
- Decontamination;				
- Security and site access control;				
- Repair/corrective actions;				
- Personnel accountability;				
- Radiological accident assessment;				
- Communications;				
- Radiation protection and in-plant radiological survey and monitoring;				
- Plant chemistry;				
- Radwaste operations; and				
- Technical support.				
e. Are training and retraining required at least annually (± 3 months) for general employees (note, the training referred to here is in addition to annual drills and exercises; general employees are those that normally do not have a function assigned by the emergency plan)?			10 CFR 19	

IMPLEMENTATION AREA	NUREG-0654 REV. 1 ELEMENT	PLAN/ PROCEDURE REFERENCE	ACCEPT. CRITERIA	COMMENTS
f. Are training and retraining required at least annually (± 3 months) for licensee augmentation personnel (e.g., corporate)?				
g. Are training and retraining offered to state and local services support organizations and the news media at least annually (± 3 months)?				
h. Where mutual aid agreements exist between local agencies such as fire, police, ambulance/rescue units, is the training also offered to the other departments who are members of the mutual aid pact?				
i. Is there an approved, formal lesson plan for each category of training?				
j. Do lesson plans have clearly stated student performance objectives.				
k. Do the performance objectives provide a basis for a valid test of the individuals' ability to perform their assigned emergency tasks?				
l. Are the instructors selected and qualified in accordance with established criteria?				

IMPLEMENTATION AREA	NUREG-0654 REV. 1 ELEMENT	PLAN/ PROCEDURE REFERENCE	ACCEPT. CRITERIA	COMMENTS

m. Are there provisions for documenting:

- the name of individual attendees;
- the date;
- lesson title;
- instructor

n. Do training programs consist of lecture-type classroom instruction and hands-on use of all equipment (including respiratory protection etc.) and procedures which attendees may be expected to use in responding to emergencies.

o. Do the training program provide that individuals are walked-through or talked-through their emergency duties, with erroneous performance corrected, on-the-spot and additional training given and a demonstration of the proper performance provided by the instructor (Note, this "walk-through" is in addition to the drills and exercises required by section 7)?

p. Does the training include:

- information on what might be expected under unusual plant conditions, e.g., components and areas with high radiation levels, magnitudes of radiation increases, changed nuclide composition, etc.?

IMPLEMENTATION AREA	NUREG-0654 REV. 1 ELEMENT	PLAN/ PROCEDURE REFERENCE	ACCEPT. CRITERIA	COMMENTS

- discussion of the procedures applicable to the functional area
- a description of the emergency organization and the relationship of the functional area to the entire organization;
- communication;
- limits of authorities and responsibilities;
- protective action decision making?

q. Does training of personnel in surveillance under accident conditions include:

- use of equipment;
- interpretation of results;
- personnel access control;
- protective action decision making;
- special precautions (protective actions) to be implemented?

r. Does training for individuals assigned to licensee first aid teams include Red Cross Standard First Aid-Multimedia?

IMPLEMENTATION AREA	NUREG-0654 REV. 1 ELEMENT	PLAN/ PROCEDURE REFERENCE	ACCEPT. CRITERIA	COMMENTS
s. Does training for hospital personnel, ambulance/rescue, police and fire departments include the procedures for notification, basic radiation protection, and their expected roles?				
t. For those local services support organizations who will enter the site, (fire/ambulance and rescue) does the training also include site access procedures and identification of the individual in the onsite emergency organization who will control the organization's support activities?				
u. Does the training of licensee personnel assigned to the emergency organization include pratical exercises and/or tests, without coaching, in which each individual demonstrates his ability to perform his assigned emergency function under accident conditions (e.g. - take readings while wearing a mask or meeting the student performance objective set forth in the lesson plan)?				
v. Does the training of offsite protective action decision makers include the relationship between plant conditions and protective measures?				

IMPLEMENTATION AREA	NUREG-0654 REV. 1 ELEMENT	PLAN/ PROCEDURE REFERENCE	ACCEPT. CRITERIA	COMMENTS
w. Are there provisions to train members of the emergency organization in changes to procedures and equipment which occur in the period between the scheduled training sessions?				
x. Is the method for training personnel in changes to procedures and equipment similar to the method used for the basic qualification training program (e.g. lesson plans, hands on use of equipment, tests, etc.)?				
y. Are there provisions to train non-licensee augmentation personnel (e.g., contractors, HPs, vendors, etc.) upon arrival in response to a request for assistance, prior to their assimilation into the emergency organization?				
3.2 Program Implementation				
a. Do training records indicate that all required training had been completed in the manner required?				
b. Did discussions with licensee and non-licensee emergency personnel assigned to each of the functional areas of emergency activity indicate that the training actually took place?				
c. Was the training content consistent with the content as described in the licensee's records?				

IMPLEMENTATION AREA	NUREG-0654 REV. 1 ELEMENT	PLAN/ PROCEDURE REFERENCE	ACCEPT. CRITERIA	COMMENTS
d. Did licensee personnel demonstrate, through your questioning and observation of their performance, an understanding of their duties? (See Section 7.2)				

SECTION 4.0

FACILITIES AND EQUIPMENT

4.0 EMERGENCY FACILITIES AND EQUIPMENT

Objective

To verify that the licensee has emergency facilities and equipment that will allow him to efficiently and effectively respond to the scope of emergencies defined in his plan and procedures.

Basis

The nature of emergency facilities and equipment varies considerably from one licensee to another. It is often dependent on the design and physical characteristics of the licensee's buildings, site and the number of units operating.

Emergency equipment such as types of instrumentation, sampling media, samplers, etc., are subject to licensee's preferences and budget allowance limitations. Emergency equipment not only has to be readily available and consistent with the plan and procedures, but its characteristics must be such that users can accomplish their intended actions and objectives with the use of the equipment. For example, if the stated objective is to be able to detect airborne radioiodine concentratons of at least 1E-07 μCi/cc, the instrument filter media and air samplers and their intrinsic parameters (e.g., instrument sensitivity, retention efficiency of sampling medium, air sampler's flow-rate, etc.) must be such that detection and measurement can, in fact, be readily and accurately determined. A substantial change in any of the critical parameters, (e.g., decrease in detector efficiency, lower medium retention efficiency, change in the flow-rate, etc.) will significantly alter the results, and the objectives of the emergency plan and procedures may not be achievable in this area.

The above considerations require that all equipment and facilities should be looked into with great care for technical details, to insure that in addition to being available, they are capable of producing the results demanded by the licensee's emergency plan and procedures.

The scope of such inquiry into technical detail may be limited to emergency equipment other than that used on a routine basis (e.g., by the health physics group) or to equipment that, although used routinely, is in any way modified (e.g., calibrated differently, etc.) for custom use during emergencies.

In the case of radiation survey meters, TLDs, and pocket dosimeters, that are part of emergency kits but included within routine health physics activities, it may be necessary to verify that the calibration procedures are adequate. A review of sections of the Health Physics Appraisal and recent inspection reports applicable to these areas should be performed.

The depth of the inquiry into technical detail should also be limited to those aspects, judged by the reviewer, to be essential to the objectives of the emergency plan and procedures (e.g., it would be inefficient to verify step-by-step calibration of instrumentation, or whether TLDs contain the substances specified by the supplier, or whether such quantities are within the specifications expected, etc.).

Licensee checks of operability should contain provisions for checks with sources, instructions of how to perform such tests, and criteria for acceptance or rejection of equipment.

Adequacy of airborne radioiodine and particulate detection and measurement systems should consider:

- The efficiency of the detector system;
- The adsorption characteristics of the sampling medium;
- The retention efficiency of the sampling medium;
- The air flow rates and sampling time;
- The determination of amount of radioactivity in sampling medium;
- Calculation of data;
- Determination of MDL (Minimum Detectable Limit) and the upper limit of detection for the system for consistency with required PAGs;
- Calibration of air sampling equipment and detector system;
- Effects of high background;
- Sampling medium protection from rain and snow during and after sampling;
- Upper range alarm points, and EALs of area and process monitors should be consistent with expected high readings during emergencies;
- Conversion charts, multi-point recorder charts and tables should be readily available and easy to read and interpret;
- Determination as to whether calibrations are based on theoretical models or on empirical data;
- Whether calibrational models are adequate (e.g., do not assume a line source when in fact the geometry demands a three dimensional source);
- Samples of gases and particulates should be representative (e.g., are isokinetic probes used for the main stack sampling of particulates etc?);
- Are detectors shielded to prevent interference from other sources of radiation that may confound results; and
- Equipment input (AC, DC) consistent with use.

Throughout the review, consider the impact of multi-unit operation on the emergency facility and equipment adequacy. Certain multi-unit sites may use common monitors with the readouts in only one of the two control rooms.

Guidance

Select a sampling of records to verify that inventories, maintenance and calibrations are being performed. Types of equipment should include: survey instruments; emergency kits; communications; area and process radiation monitors, respiratory protection equipment, air samplers; dosimeters, etc.

Inspect effluent monitoring systems, meteorological monitoring systems, process monitors specified in the plan and procedures to verify availability and operability. Pay particular attention to any common monitors at multi-unit sites.

Inspect each generic type of emergency kit and verify accuracy of the inventory, location, operability and serviceability of contents. Operability checks of radiation survey equipment should be performed using appropriate check sources. (Use the licensee's emergency equipment inventory procedure to perform the verification).

Request a test of the various alarms (evacuation, fire, etc.). Position individuals at various locations to verify adequacy.

Interview a number of station personnel to verify audibility/visibility of emergency alarms.

Inspect the TSC, OSC, EOF, control room and associated decisional aids (e.g., isopleths, procedures, conversion charts, etc.).

Inspect the onsite medical treatment and decontamination facilities.

Visit assembly/reassembly areas.

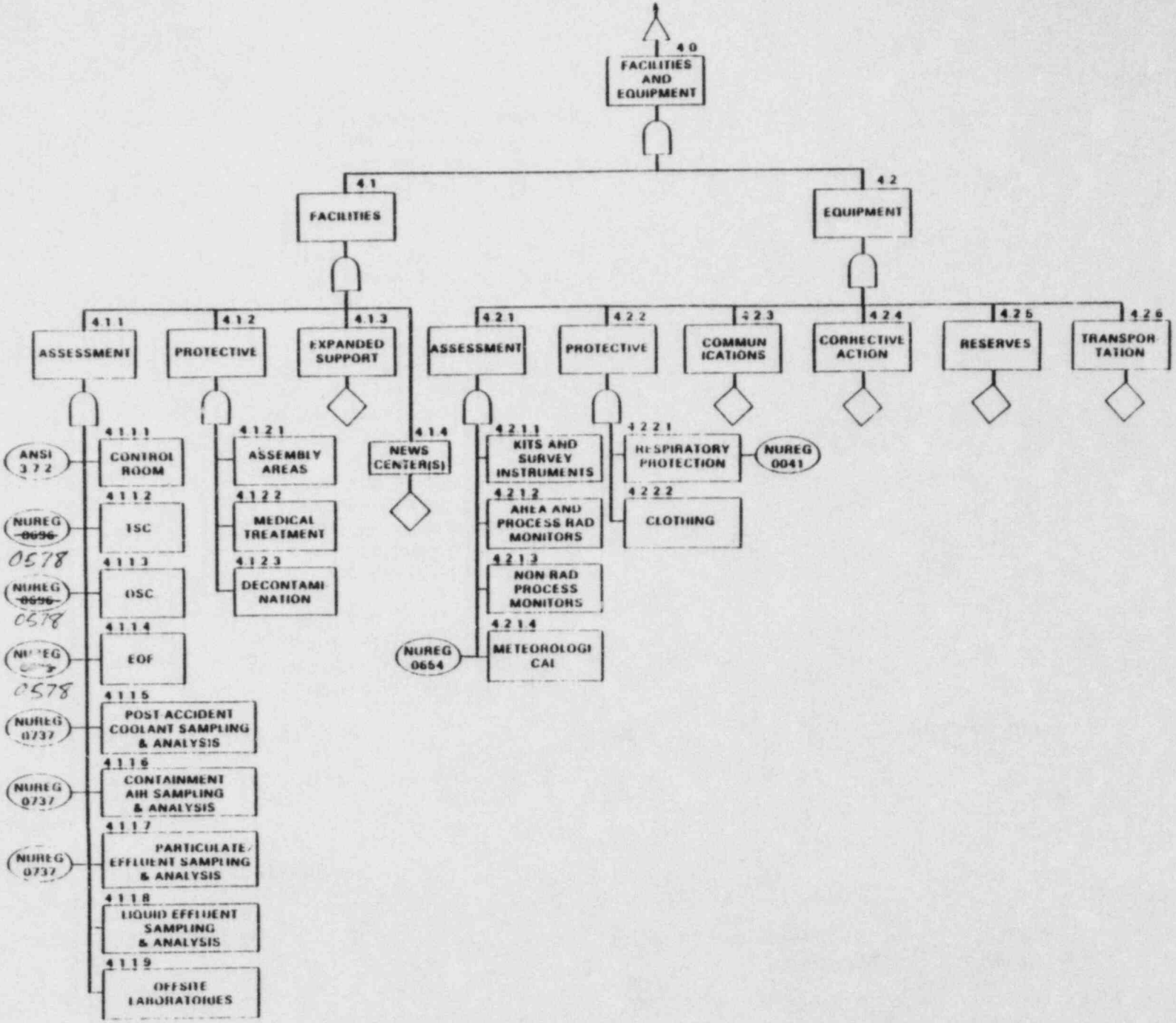
Inspect licensee vehicles used for emergencies.

The team may desire or find it necessary to verify the calibration of selected emergency instrumentation. It may be possible to coordinate the visit of the Regional Independent Measurements van to assist in this effort, or to use the R-meter system used in the teletherapy verification program. This system can be used to establish a known gamma field to check both dose rate instrumentation and dosimeters which are used for emergencies. Beta calibration sources also should be obtained and taken to the site to verify the beta calibration of beta-gamma emergency instrumentation. If the team is traveling to the site by automobile, these sources can be carried in the vehicle (appropriately marked as radioactive materials). If the team is traveling by aircraft, the sources should be taken to the site by the van (if it is used) or shipped via truck freight or mailed in care of the resident inspector, prior to the appraisal visit rather than carrying them aboard commercial aircraft or in personal luggage*.

*Before transporting or sending radioactive standards to the licensee's site, team members must be aware of provisions of governing regulations:

1. U.S. Postal Publication #6 on Radioactive Materials (December 1975).
2. IE Temporary Instruction #TI 2800/3.

In the event the Regional Laboratory van cannot be scheduled to visit the site during the appraisal, the team leader may wish to make arrangements to have the calibration of emergency instrumentation verified during its next scheduled visit. It may also be appropriate for the appraisal team to use reference standards available from the licensee, provided these standards are traceable and corrected for decay.


4 0
FACILITIES AND EQUIPMENT
4 1
FACILITIES
4 2
EQUIPMENT
4 1 1
ASSESSMENT
4 1 2
PROTECTIVE
4 1 3
EXPANDED SUPPORT
4 2 1
ASSESSMENT
4 2 2
PROTECTIVE
4 2 3
COMMUN ICATIONS
4 2 4
CORRECTIVE ACTION
4 2 5
RESERVES
4 2 6
TRANSPOR TATION
4 1 1 1
CONTROL ROOM
ANSI 3 7 2
4 1 1 2
TSC
NUREG 0696
0578
4 1 1 3
OSC
NUREG 0696
0578
4 1 1 4
EOF
NUREG
0578
4 1 1 5
POST ACCIDENT COOLANT SAMPLING & ANALYSIS
NUREG 0737
4 1 1 6
CONTAINMENT AIR SAMPLING & ANALYSIS
NUREG 0737
4 1 1 7
PARTICULATE/ EFFLUENT SAMPLING & ANALYSIS
NUREG 0737
4 1 1 8
LIQUID EFFLUENT SAMPLING & ANALYSIS
4 1 1 9
OFFSITE LABORATORIES
4 1 2 1
ASSEMBLY AREAS
4 1 2 2
MEDICAL TREATMENT
4 1 2 3
DECONTAMI NATION
4 1 4
NEWS CENTER(S)
4 2 1 1
KITS AND SURVEY INSTRUMENTS
4 2 1 2
AREA AND PROCESS RAD MONITORS
4 2 1 3
NON RAD PROCESS MONITORS
4 2 1 4
METEOROLOGI CAL
NUREG 0654
4 2 2 1
RESPIRATORY PROTECTION
NUREG 0041
4 2 2 2
CLOTHING

IMPLEMENTATION AREA	NUREG 0654, Rev. 1 ELEMENT	PLAN/PROCEDURE REFERENCE	ACCEPT CRITERIA	COMMENTS
EMERGENCY FACILITIES AND EQUIPMENT				
4.1 Emergency Facilities				
4.1.1 Assessment Facilities				
4.1.1.1 Control Room	H.2		ANSI/ANS-3.7.2	
a. Is there an updated copy of the Emergency Plan and Implementing Procedures available?				
b. Are the emergency equipment and decisional aids specified in the Emergency Plan and Implementing Procedures in place and operable?				
c. If a multi-unit site, are common monitor readouts readily available? (See Sections 4.2.1.2, 4.2.1.3 and 4.2.1.4)				
d. If a multi-unit site, are there communication provisions between units? (See Section 4.2.3)				
4.1.1.2 Technical Support Center (TSC)	H.1		NUREG-0578 10 CFR 50 Appendix E	
a. Can personnel move safely and easily between the TSC and control room(s) in emergency situations?				

IMPLEMENTATION AREA	NUREG 0654, Rev. 1 ELEMENT	PLAN/PROCEDURE REFERENCE	ACCEPT. CRITERIA	COMMENTS
b. Is the TSC located close to the control room so as to readily provide face to face interaction between personnel responsible for control room and TSC activities?				
c. Is there working space in the TSC for assigned personnel?				
d. Are data displays, records and communications accessible?				
e. Does the TSC have the same radiation shielding capability as the control room?				
f. Does the ventilation system function in a manner comparable to the control room ventilation system?				
g. Are particulate (HEPA) and charcoal filters installed in the ventilation system?				
h. Are there dedicated individual voice links between the TSC and the control room, (all control rooms if a multi-unit site) EOF and NRC? (See Section 4.2.3)				
i. Are there at least 2 designated commercial telephones for NRC use?				

IMPLEMENTATION AREA	NUREG 0654, Rev. 1 ELEMENT	PLAN/PROCEDURE REFERENCE	ACCEPT. CRITERIA	COMMENTS
j. Is there an operable ENS extension installed.				
k. Is there an operable HPN extension installed?				
l. Are there dedicated telephone links between the TSC and the primary local government response agency(s)?				
m. Are other telephones available for communications between the TSC and other onsite and offsite emergency control centers, and response agencies and organizations?				
n. Is radio reception available between the TSC and field monitoring?				
o. Does the TSC contain up-to-date records such as current plant Technical Specification, Plant Operating Procedures, Emergency Operating Procedures, Final Safety Analysis Report and drawings, schematics and diagrams showing current condition of plant structure and systems?				

IMPLEMENTATION AREA		NUREG 0654, Rev. 1 ELEMENT	PLAN/PROCEDURE REFERENCE	ACCEPT. CRITERIA	COMMENTS
4.1.1.3	Operations Support Center (OSC)	H.1 H.9		NUREG-0578	
	a. Is the OSC located as stated in the plan and procedures?				
	b. Is the OSC large enough to accommodate the number of assigned personnel?				
	c. Does the OSC offer personnel protection from direct radiation and airborne contaminants?				
	d. If not, are there provisions for a backup locations in the event the primary facility becomes uninhabitable?				
	e. Are primary and backup voice communication links provided between the OSC, control room (all control rooms if a multi unit site) and TSC?				
4.1.1.4	Emergency Operations Facility (EOF)	G.3.a G.3.b H.2 H.12		NUREG-0578 10 CFR 50, Appendix E	

IMPLEMENTATION AREA	NUREG 0654, Rev. 1 ELEMENT	PLAN/PROCEDURE REFERENCE	ACCEPT. CRITERIA	COMMENTS

a. Are there provisions for an EOF from which direction, evaluation and coordination of all licensee actvities related to an emergency will be performed?

b. Are the locations of the EOFs as specified in the Emergency Plan?

c. Are the EOFs large enough to provide working space for assigned personnel?

d. Is space available for a limited number of news media? (See Section 4.1.4 and 6.3)

e. Is the EOF equipped as stated in the plan and procedures?

f. Are the equipment and supplies available in the EOF adequate for the EOF to perform its mission, e.g.:

- Low range GM beta/gamma survey meter;
- Low range ion-chamber beta/gamma survey meter;
- High range gamma survey meter;

IMPLEMENTATION AREA	NUREG 0654, Rev. 1 ELEMENT	PLAN/PROCEDURE REFERENCE	ACCEPT. CRITERIA	COMMENTS
- Air sampler with capability for particulate and radioiodine sampling;				
- Sample counting equipment;				
- Personnel Dosimetry (TLDs/film and high range direct reading dosimeters);				
- Check or calibration sources;				
- Facility Emergency Plan and Implementation Procedures;				
- State and local Emergency Plans and Implementation Procedures;				
- Site map, USGS 7 1/2 minute (where available) marked with cardinal polar coordinates, 22 1/2 degree sectors with the first sector splitting true North and covering the plume exposure EPZ with markings to depict preselected monitoring points, TLD locations and environmental air sampling stations;				

IMPLEMENTATION AREA	NUREG 0654, Rev. 1 ELEMENT	PLAN/PROCEDURE REFERENCE	ACCEPT. CRITERIA	COMMENTS

- Emergency assignment board with team designations and emergency assignments;
- Applicable sections of the FSAR and ER;
- Isopleths;
- As-built plant layout drawings (schematics and diagrams showing current condition of plant structures and systems, pipe and valve locations) and sufficient models/ photos/plant layouts for job planning and training for re-entry under accident conditions;
- Writing materials and note pads;
- Readout of the station meteorology;
- First-aid kit and decontamination supplies; and
- clock;
- Emergency personnel protective equipment (e.g., respirators, protective clothing).

IMPLEMENTATION AREA		NUREG 0654, Rev. 1 ELEMENT	PLAN/PROCEDURE REFERENCE	ACCEPT. CRITERIA	COMMENTS
	g. Does the EOF have dedicated voice communications with the TSC and the control room (both control rooms if a multi-unit site)?				
	h. Are there sufficient non-dedicated voice communication links to provide access to the NRC, other federal, state and local agencies and emergency support organizations?				
	i. Have mobile communication links (radio) been provided for communication with field monitoring teams?				
	j. Have reliable back-up means of communication been provided?				
	k. Are there at least 2 designated commercial telephones for NRC use?				
	l. Is there a working ENS extension installed at the NRC assigned work location?				
	m. Is there a working HPN extension installed at the NRC assigned work location?				

IMPLEMENTATION AREA		NUREG 0654, Rev. 1 ELEMENT	PLAN/PROCEDURE REFERENCE	ACCEPT. CRITERIA	COMMENTS
4.1.1.5	Post-Accident Coolant Sampling and Analysis			NUREG-0737	
	a. Is the location of the post-accident reactor coolant sampling area accessible during accident conditions? (i.e., would the user have to traverse or work in very high radiation fields to obtain the sample?)				
	b. Is the design and shielding of the reactor coolant sampling area and sample lines such that radiation doses received by the user while taking the sample are ALARA?				
	c. Is the area monitored?				
	d. Are there shielded liquid-sample-containers and remote handling tools for use in transporting the sample?				
	e. Will the sample analysis facility be accessible during accident conditions?				

IMPLEMENTATION AREA	NUREG 0654, Rev. 1 ELEMENT	PLAN/PROCEDURE REFERENCE	ACCEPT. CRITERIA	COMMENTS
f. Are the instruments (e.g. MCA, etc.) and detectors for analysis which are described in the relevant procedure, in-place? (See Section 5.4.2.5)				
g. Are other equipment and tools (e.g. micro pipettes, syringes, etc.) described in the procedures available? (See Section 5.4.2.5)				
h. Does the sampling technique provide for a representative sample? (See Section 5.4.2.5)				
i. Can the sample measurement and analysis be performed within 3 hours?				
4.1.1.6 Post-Accident Containment Air Samping and Analysis			NUREG-0737	
a. Is the location of the post-accident reactor air sampling equipment accessible during accident conditions? (i.e. would the user have to traverse or work in very high radiation fields in order to obtain the sample?)				
b. Is the design and shielding of the area equipment and sampling lines such that radiation doses received by				

IMPLEMENTATION AREA	NUREG 0654, Rev. 1 ELEMENT	PLAN/PROCEDURE REFERENCE	ACCEPT. CRITERIA	COMMENTS
	the user while collecting the sample are ALARA?			
	c. Is the area monitored?			
	d. Are there remote handling tools and shielded containers for use in transporting the sample?			
	e. Is the sample analysis facility accessible during accident conditions?			
	f. Are instruments and detectors which are described in the relevant procedure, in place? (See Sections 5.4.2.6 and 5.4.2.7)			
	g. Are other equipment, filter media and handling devices described in the procedures readily available? (See Sections 5.4.2.6 and 5.4.2.7)			
	h. Does the sampling technique provide for a representative sample? (See Section 5.4.2.6)			
	i. Can the sample measurement and analysis be performed within 3 hours?			

IMPLEMENTATION AREA		NUREG 0654, Rev. 1 ELEMENT	PLAN/PROCEDURE REFERENCE	ACCEPT. CRITERIA	COMMENTS
4.1.1.7	Post Accident Gas and Particulate Effluent Sampling and Analysis			NUREG-0737	
	a. Is the location of the post-accident gas and particulate effluent sampling area accessible during accident conditions? (i.e., would the user have to traverse or work in very high radiation fields to obtain the sample?)				
	b. Is the area monitored?				
	c. Are there shielded sample-containers and remote handling tools for use in transporting the sample?				
	d. Is the sample analysis facility accessible during accident conditions?				
	e. Are the instruments (e.g. MCA, etc.) and detectors for analysis which are described in the relevant procedure, in-place? (See Section 5.4.2.9)				
	f. Are other equipment and tools (e.g. micro pipettes, syringes, etc.) described in the procedures available? (See Section 5.4.2.9)				

IMPLEMENTATION AREA		NUREG 0654, Rev. 1 ELEMENT	PLAN/PROCEDURE REFERENCE	ACCEPT. CRITERIA	COMMENTS
	g. Does the sampling technique provide for a representative sample? (See Section 5.4.2.9)				
	h. Can the sample measurement and analysis be performed within 3 hours?				
4.1.1.8	Post Accident Liquid Effluent Sampling and Analysis			NUREG-073/	
	a. Is the location of the liquid effluent sampling area accessible during accident conditions? (i.e., would the user have to traverse or work in very high radiation fields to obtain the sample?)				
	b. Is the area monitored?				
	c. Are there shielded liquid-sample-containers and remote handling tools for transporting the sample?				
	d. Is the sample analysis facility accessible during accident conditions?				

IMPLEMENTATION AREA		NUREG 0654, Rev. 1 ELEMENT	PLAN/PROCEDURE REFERENCE	ACCEPT. CRITERIA	COMMENTS
	e. Are the instruments (e.g. MCA, etc.) and detectors for analysis which are described in the relevant procedure, in-place? (See Section 5.4.2.10)				
	f. Are other equipment and tools (e.g. micro pipettes, syringes, etc.) described in the procedures available? (See Section 5.4.2.10)				
	g. Does the sampling technique provide for a representative sample? (See Section 5.4.2.10)				
	h. Can the sample measurement and analysis be performed within 3 hours?				
4.1.1.9	Offsite Laboratory Facilities				
	a. Is there provision for fixed or mobile laboratory facilities for offsite monitoring and analysis?	H.6.c			
	b. Is this laboratory capability provided by dedicated instrumentation or is the instrumentation taken from onsite facilities during emergencies?				

IMPLEMENTATION AREA		NUREG 0654, Rev. 1 ELEMENT	PLAN/PROCEDURE REFERENCE	ACCEPT. CRITERIA	COMMENTS
	c. Is the instrumentation for this laboratory maintained, calibrated, routinely checked and repaired or replaced promptly? (See Section 5.5.1)				
4.1.2	Protective Facilities				
	4.1.2.1 Assembly/Reassembly Areas	J.2		P.J.	
	a. Are the shelter or assembly areas located as specified in the plan and procedures?				
	b. Do the locations selected consider those features that will ensure their adequacy with respect to capacity for accommodating the number of persons expected, shielding, ventilation, and inventory of supplies, including, for example, respiratory protection, protective clothing, portable lighting, and communications equipment?				
	c. If primary assembly areas are onsite, are there assembly areas offsite in the event of a site evacuation?				

IMPLEMENTATION AREA		NUREG 0654, Rev. 1 ELEMENT	PLAN/PROCEDURE REFERENCE	ACCEPT. CRITERIA	COMMENTS
4.1.2.2	Medical Treatment Facilities	J.10.e J.10.f L.2		ANSI/ANS 3.7.1	
	a. Are the onsite provisions for treatment of individuals who may be injured and contaminated consistent with the description in the plan and procedures.				
	b. Are there provisions for unfettered, immediate access?				
	c. Is the facility accessible to a stretcher being carried by two individuals?				
	d. Does the facility contain first-aid equipment and supplies and is there ready access to supplies/facilities for personnel decontamination?				
	e. Is the facility located near the controlled area?				
	f. Does the facility have an operable, calibrated personnel contamination survey instrument?				
	g. Are there communications available, e.g., telephone, plant page?				
	h. Are procedures for treatment and decontamination available? (See Sections 5.4.3.4 and 5.4.3.5				

IMPLEMENTATION AREA		NUREG 0654, Rev. 1 ELEMENT	PLAN/PROCEDURE REFERENCE	ACCEPT. CRITERIA	COMMENTS
	i. Are emergency dosimetry capabilities available?				
	j. Are supplies of KI available for thyroid blocking of both the licensee and offsite emergency workers?				
4.1.2.3	Decontamination Facilities			P.J.	
	a. Are there provisions for decontamination including adequate instrumentation in close proximity to the onsite medical facility?				
	b. Are there provisions for decontamination at each personnel assembly/reassembly area?				
	c. Are there decontamintion procedures readily available at each location?				
	d. Is there a source of water and available decontaminants (versene, carbasol, potassium permanganate, etc.) consistent with those described in the procedures?				
	e. Are there provisions for disposal of solid and liquid waste?				
	f. Are there provisions for replacement clothing?				

IMPLEMENTATION AREA		NUREG 0654, Rev. 1 ELEMENT	PLAN/PROCEDURE REFERENCE	ACCEPT. CRITERIA	COMMENTS
4.1.3	Expanded Support Facilities			P.J.	
	a. Does the licensee have designated work facilities/resources available for corporate, contractor and non-licensee augmentation personnel?				
	b. Are there communications available in these areas? (See Section 4.2.3)				
4.1.4	News Center				
	a. Are there provisions for a news media center?				
	b. Do the provisions include arrangements with suppliers/contractors for:				
	- Telephone service;				
	- Electric supply to carry added TV load;				
	- Copying;				
	- PA system;				
	- Audio-visual equipment (screen, projectors, etc.);				
	- security (media badging, crowd control, etc.)				
	c. Is the center large enough to accomodate the expected number of media representatives?				

IMPLEMENTATION AREA		NUREG 0654, Rev. 1 ELEMENT	PLAN/PROCEDURE REFERENCE	ACCEPT. CRITERIA	COMMENTS
4.2 Emergency Equipment					
4.2.1 Assessment Equipment					
4.2.1.1	Emergency Kits and Emergency Survey Instrumentation (See Section 5.5.1 for interfacing area)	H.5.b H.6.6 H.7 1.9		P.J.	
	a. Does the licensee reserve pre-positioned supplies and survey instrumentation at specified locations or in kits for use only during emergencies?				
	b. Were the kits, equipment and supplies located as specified in the plan/procedures?				
	c. Would each emergency team provided for in the plan/ procedures have ready availability to all instrumentation, equipment and supplies (assessment and protective) described in the procedures applicable to their emergency duties?				
	d. Were inventories correct?				
	e. Was equipment operable?				

IMPLEMENTATION AREA	NUREG 0654, Rev. 1 ELEMENT	PLAN/PROCEDURE REFERENCE	ACCEPT. CRITERIA	COMMENTS
f. Does equipment to be used for team re-entering the facility or portions thereof include provisions for extremity monitoring and detection and measurement of beta and gamma radiation fields?				
g. Does the instrumentation used for emergency environmental surveys have the capability to detect and measure radioiodine concentrations in air of at least 1E-07 uCi/cc under field conditions in any kind of weather without regard to the presence of noble gases and resulting background radiation.				
h. Does the instrumentation used for emergency environmental surveys have a capability to detect and measure particulate activity in air of 1E-09 uCi/cc (Cs-137 equivalent) without regard to the background radiation?				
i. Are portable ion chamber instruments with beta/gamma distinguishing capability used for measuring whole body dose rates in-plant and plume exposure rates?				

IMPLEMENTATION AREA	NUREG 0654, Rev. 1 ELEMENT	PLAN/PROCEDURE REFERENCE	ACCEPT. CRITERIA	COMMENTS
j. Are GM instruments with beta/ gamma distinguishing capability used for detecting contamination on individuals and in the environment?				
k. Do contents of emergency kits provide sufficient numbers of instruments/supplies to equip the number of team members for its intended function, e.g., high range direct reading dosimeters for onsite reentry, survey teams, extremity dosimetry for repair teams and post-accident sampling, etc.?				
l. Is there an in-plant capability for detecting airborne iodine in the presence of noble gases?				
m. If keys are needed for access to environmental monitoring points, are the keys readily available in the kits?				
n. Are these instruments properly maintained on a routine schedule? (See Section 5.5.1)				
o. Are operability and calibration checks performed? (See Section 5.5.1)				

IMPLEMENTATION AREA		NUREG 0654, Rev. 1 ELEMENT	PLAN/PROCEDURE REFERENCE	ACCEPT. CRITERIA	COMMENTS
	p. Are these checks and calibrations accurate? (See Section 5.5.1)				
	q. Are inoperable instruments promptly repaired or replaced?				
	r. Are there written procedures for calibration of all the types of emergency radiation instruments? (See Section 5.5.1)				
4.2.1.2	Area and Process Radiation Monitors	H.5 H.5.b H.5.c		P.J. NUREG 0737	
	a. Were the area and process radiation monitors that are described in the plan and procedures as being relied upon for emergency detection, classification, and assessment in-place and operable?				
	b. Were all such monitor readouts located in the control room? If not, where?				
	c. If all monitor readouts required to be used for accident assessment were not in the control room, would they be accessible under accident conditions? (e.g. would the user receive higher than allowed radiation dose?)				

IMPLEMENTATION AREA	NUREG 0654, Rev. 1 ELEMENT	PLAN/PROCEDURE REFERENCE	ACCEPT. CRITERIA	COMMENTS
d. Do the monitors have operating characteristics consistent to assess the accident conditions for which the plan is designed to cope? (e.g., range, operating temperature and humidity? Have these operating conditions been certified by the manufacturer?)				
e. Are the sensors of all monitors located so that their readouts would accurately reflect their intended use? (e.g., could they be affected by elevated background radiation?)				
f. Are calibrations performed across the entire response range? (i.e., does the licensee have the capability to extrapolate instrument response from enough data points?)				
g. Are detector efficiencies obtained for all monitors, so that conversion factors from readouts (e.g. CPM, R/hr) accurately represent radioactive concentrations/release rates?				

IMPLEMENTATION AREA		NUREG 0654, Rev. 1 ELEMENT	PLAN/PROCEDURE REFERENCE	ACCEPT. CRITERIA	COMMENTS
	h. If a multi-unit site, are the locations and types of common monitors such that all units have equal accessiblity to readouts?				
	i. Are these instruments properly maintained on a routine schedule? (See Section 5.5.1)				
	j. Are operability and calibration checks performed? (See Section 5.5.1)				
	k. Are these checks and calibrations adequate? (See Section 5.5.1)				
	l. Are inoperable instruments promptly repaired or replaced?				
	m. Are there written procedures for calibration of all of the types of monitors? (See Section 5.5.1)				
	n. Is there vital or redundant power supplied?				
4.2.1.3	Non-Radiation Process Monitors			NUREG-0737	
	a. Were the process monitors described in the plan and procedures as being relied				

IMPLEMENTATION AREA		NUREG 0654, Rev. 1 ELEMENT	PLAN/PROCEDURE REFERENCE	ACCEPT. CRITERIA	COMMENTS
	upon for emergency detection, classification and assessment in-place and operable?				
	b. Were all such monitor readouts located in the control room?				
	c. Are readouts readily observable?				
4.2.1.4	Meteorological Instrumentation	H.5.a H.8 Appendix 2 E.4.3 E.4.g		NUREG 0654, Appx 2	
	a. Do meteorological instruments provide the basic parameters required by the emergency plan and procedures?				
	b. Are all instruments (e.g. sensors and readouts) operable and calibrated?				
	c. Are meterological instrument readouts located in the control room and in other locations (e.g. EOF, TSC) so that they are readily accessible to the users? (If a single system of readouts is used for a multi-unit site, readout data should be readily accessible to both control rooms.)				

IMPLEMENTATION AREA		NUREG 0654, Rev. 1 ELEMENT	PLAN/PROCEDURE REFERENCE	ACCEPT. CRITERIA	COMMENTS
d.	Are there provision for obtaining meteorological information for followup messages from the plant to offsite authorities (see Section 5.4.1 for interfacing area).				
e.	Are there provisions for obtaining representative, real time meteorological information for dose projections and protective action decision making if the onsite primary system becomes inoperable?				
f.	Is equipment installed to inform the licensee that tornadoes, hurricanes or high winds have or may occur at or near the site?				
g.	Is there adequate assurance that the data unavailability goals can be obtained?				
h.	Are operability checks performed on an adequate frequency? (See Section 5.5.1 for interfacing.)				
i.	Are these checks and calibrations adequate?				

IMPLEMENTATION AREA		NUREG 0654, Rev. 1 ELEMENT	PLAN/PROCEDURE REFERENCE	ACCEPT. CRITERIA	COMMENTS
	j. Is inoperable instrumentation detectable and promptly restored?				
	k. Are there written procedures for calibration? (See Section 5.5.1)				
	l. Are meteorological data/projections appropriately integrated into radiological assessment/projection procedures? (See section 5.4.2 for interface area.)				
4.2.2	Protective Equipment				
	4.2.2.1 Respiratory Protection				NUREG-0041
	a. Are self contained breathing (SCBA) devices reserved for emergency use?				
	b. Is there a capability for refilling SCBA devices, and would this equipment be useable under conditions in which the internal areas of the plant have high airborne/direct levels of radiation?				

IMPLEMENTATION AREA		NUREG 0654, Rev. 1 ELEMENT	PLAN/PROCEDURE REFERENCE	ACCEPT. CRITERIA	COMMENTS
	4.2.2.2 Protective Clothing				
	a. Are there stores of protective clothing reserved for emergency use?				
	b. Would the stores be accessible under emergency conditions?				
4.2.3	Emergency Communications Equipment	E.6		P.J.	
	a. Was the onsite and offsite communications equipment specified in the plan/procedures located as stated, including equipment for notifying and instructing the public?	F.1.a F.1.b F.1.c F.1.d F.1.e F.1.f F.3			
	b. Are there specified alarms having specific meanings, e.g., a radiation emergency alarm, evacuation alarm, fire alarm?	Appendix 3			
	c. Were the alarms and other communication devices operable?				
	d. Were aural alarms audible in high noise areas and were visual alarms visible in restricted view areas?				
	e. Are there provisions for routinely checking the operability of emergency communication devices and equipment? (See Section 5.5.2 for interface area)				

IMPLEMENTATION AREA	NUREG 0654, Rev. 1 ELEMENT	PLAN/PROCEDURE REFERENCE	ACCEPT. CRITERIA	COMMENTS
f. Is there 24-hour per day capability to notify the NRC, state and local authorities?				
g. Does each of the following key communication nets have a backup?				
- for initiation of emergency response?				
- between the nuclear facility and the licensee's near site emergency operations facility?				
- between the nuclear facility and the local emergency operations centers?				
- between the nuclear facility and the radiological monitoring teams?				
- between the nuclear facility and state emergency operations center and with contiguous states?				
- with contiguous local governments within the Emergency Planning Zones?				
- with federal emergency response organizations?				
- with NRC Headquarters and NRC Regional Headquarters Offsite Emergency Operations Centers?				

IMPLEMENTATION AREA		NUREG 0654, Rev. 1 ELEMENT	PLAN/PROCEDURE REFERENCE	ACCEPT. CRITERIA	COMMENTS
	- between units at multi-unit sites?				
	h. Are redundant power sources available for communications systems and devices?				
4.2.4	Damage Control/Corrective Action and Maintenance Equipment and Supplies			P.J.	
	a. What needs for onsite damage control, corrective action and/or maintenance equipment and supplies have been considered?				
	b. Have these needs been met?				
4.2.5	Reserve Emergency Supplies and Equipment			P.J.	
	a. Does the licensee rely upon the on-site inventory of supplies, e.g., survey instruments, dosimetry for the radiological environmental monitoring program, protective clothing and equipment to support emergency operations? Are these supplies readily available?				
	b. If so, are there controls in existence, such as minimum stock levels, to insure that the licensee maintain adequate reserves of normal supplies to handle emergency situations?				
	c. Are emergency reserve supplies included in the periodic verification of stock?				

IMPLEMENTATION AREA	NUREG 0654, Rev. 1 ELEMENT	PLAN/PROCEDURE REFERENCE	ACCEPT. CRITERIA	COMMENTS

d. If the licensee relies on equipment and instruments from other sources, is the equipment the same or equivalent in their operational characteristics to the licensee's? (e.g , would they be compatible?)

4.2.6 Transportation

a. Are there vehicles set aside for use in supporting the emergency response (e.g. team transportation, ambulance, offsite monitoring teams, etc.?)

b. If not, are there control provisions to insure availability where needed?

c. Are keys for vehicles accessible to users?

d. Are these vehicles of the proper size and are they properly equipped (e.g. trailer hitch, four wheel drive)?

SECTION 5.0

PROCEDURES

5.0 PROCEDURES

Objective(s)

To verify that the licensee has adequate procedures for implementing the Emergency Plan.

To evaluate the adequacy of the useability, scope and content of the procedures.

Basis

The scope of procedures which implement the emergency plan should address the actions to be taken to maintain a constant state of readiness as well as the actions to be taken during emergencies. In this regard, Administrative, Maintenance, Health Physics, Chemistry, and various other classes of station procedures can have applicability to implementation of the emergency plan. Where existing procedures are applicable to aspects of emergency plan implementation, a simple reference is adequate. There is no need to reiterate all information in the controlling procedure. For example, in a procedure governing the inventory and maintenance of emergency equipment, certain of the items may be calibrated using standard procedures. It is sufficient for the controlling procedure to state that the instruments will be calibrated in accordance with the procedure. The reference should, however, be specific.

Procedures should not have been developed in a vacuum. Input from users and field testing are important elements. During interviews with personnel, discuss their impressions relative to the useability of procedures.

The procedural control should start with the identification of standard conditions and follow these conditons through the identification as an emergency condition, classification, control and remission of the condition. In addition, if the conditions require offsite assistance or create a potential or real hazard to the public, the procedures must insure the prompt notification of offsite authorities. The notification must verify receipt of the communication from the first notification to the termination of the emergency.

It should be possible then to take an off-standard condition and follow it through the procedural control to its resolution. This procedural control will involve whatever personnel resources and assistance agencies are required by the condition. It should be clear that procedural control does not necessarily mean doing every action by the numbers, however, it should provide the necessary guidance to insure that the necessary information is available, recorded and transmitted to allow analyses and judgements to be made and the necessary emergency actions implemented.

Implementing instructions describe what and when various actions must be performed. In essence, these instructions are planned immediate response actions which are required for each emergency condition. Implementing procedures describe how and by whom the actions are to be performed. These detailed procedures are developed for implementing specific tasks or methods identified in the implementing instructions. Their scope, content and perspective should reflect these two separate, yet related, purposes.

Emergency Action Levels (EALs) are: specific installed plant instrumentation readings; radiological dose rates or projected doses; and specific contamination levels of airborne, waterborne or surface-deposited concentrations of radioactive materials. They are thresholds for initiating specific emergency measures such as declaration of a particular class of emergency, implementation of a notification procedure or recommendation or implementation of a particular protective action.

Specific EALs based on installed plant instrumentation are necessary to ensure prompt detection of actual or potential emergencies and the timely implementation of the emergency plan. EALs of this type may appear in either the Emergency Operating Procedures (EOPs) or in the Emergency Plan Implementing Procedures related to the emergency classes covered by the licensee's emergency plan, or in both places.

Licensee's are required by RG 1.33 to develop EOPs for specific types of accidents. Implementation of the EOPs are precipitated by the operators receiving specific instrument indications or combinations of indications. Consequently, these instrument indications should result in implementation of the EOPs and, where the emergency plan so indicates, the subsequent declaration of an emergency under the emergency plan. These instrument indications are, therefore, EALs and must be related to implementation of the emergency plan and the declaration of a particular class of emergency in the following ways:

a. Key instrument responses should be listed in the "Action Level Section" of the appropriate Emergency Plan Implementing Instruction applicable to the particular class of emergency; and

b. The instrument responses should also be tied to the EOPs which either directs the shift supervisor to declare a particular class of emergency or refers him to the appropriate Emergency Plan Implementing Instruction. Both the Implementing Instructions and Procedures must be prioritized to ensure that offsite authorities will be notified within 15 minutes following a serious initiating event.

In addition to the installed instrument readings which are related to the EOPs, there are other instruments whose responses should be considered as EALs for declaration of a particular class of emergency (e.g. ARMs and PRMs). As in the case of installed instrument responses which result in the implementation of a particular EOP, responses on ARMs and PRMs result in the implementation of Alarm Response or Abnormal Event Procedures. Consequently, ARM and PRM instrument responses should be directly related to a particular class of emergency in the same ways that other instrument readings were. Also other initiating conditions such as sample results, offsite dose measurements, and severe weather conditions should be related to the declaration of specific emergency classes.

Supplementary procedures are those which govern the maintenance of the response capability. They may be associated with the implementing procedures or consist of a combination of administrative, HP, maintenance or other procedures. Regardless of their designation, certain minimal tasks must be covered.

Guidance

Compare the listing of procedures from the Appendix of the Emergency Plan with the listing of procedures provided by the licensee to verify completeness of both.

Review the procedures in comparison with Section 5.0 and the licensee's definition of the emergency organization.

Verify that the procedures were reviewed and approved in accordance with the licensee's technical specifications.

Verify telephone numbers (a sampling) to verify they are current.

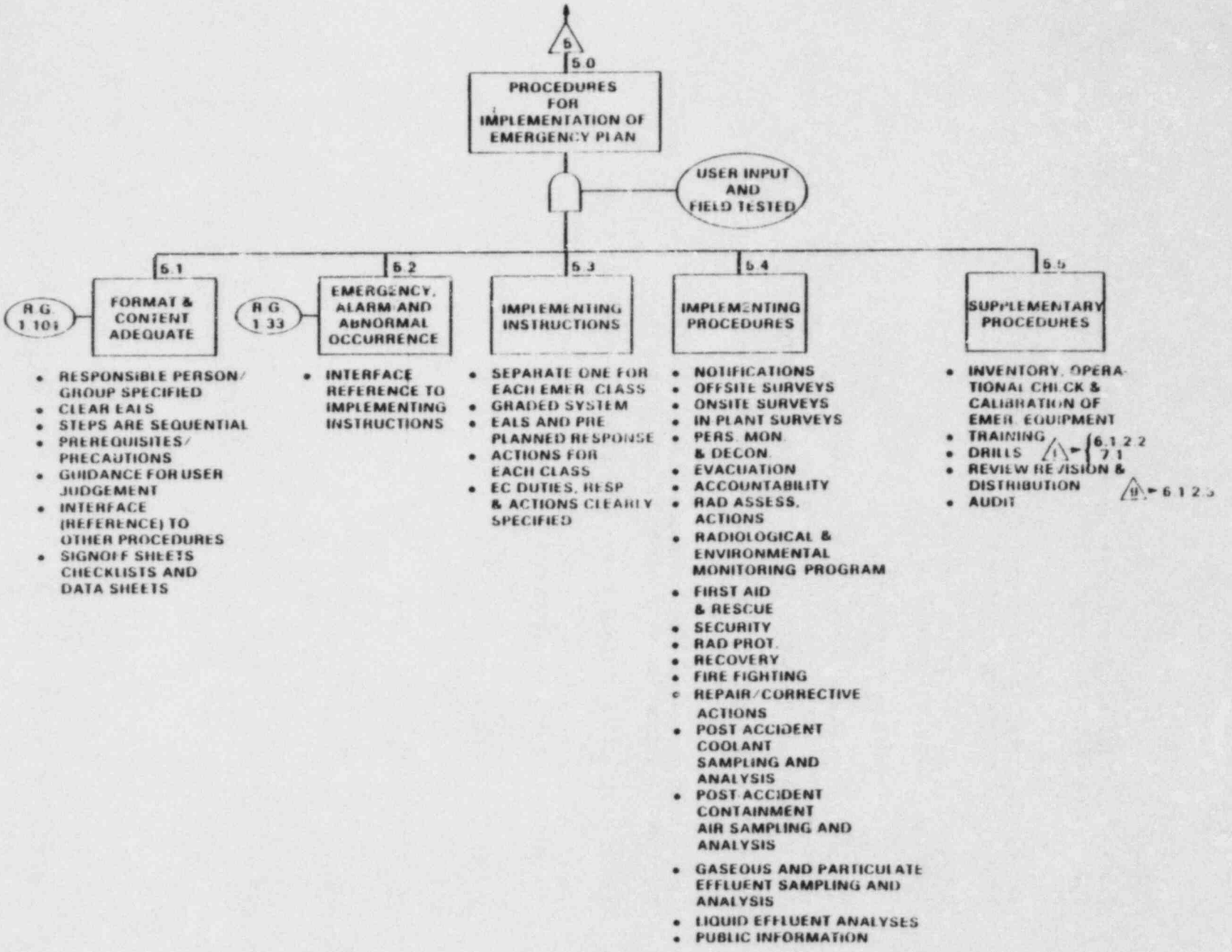
Compare the hardware and facility locations and specifications with those actually in-place. This may be done during a site tour, in conjunction with the inventory of equipment, or during the walk-throughs.

Verify that copies of the plan and procedures have been distributed in accordance with the approved distribution list.

Verify that procedural actions properly mesh, particularly with respect to personnel assignments, time sequences, and locations.

Verify that action statements are explicit and listed separately.

Verify that prerequisites, precautions, and limitations are indicated before the applicable action statements.


5
5.0
PROCEDURES FOR IMPLEMENTATION OF EMERGENCY PLAN
USER INPUT AND FIELD TESTED
5.1
R.G. 1.101
FORMAT & CONTENT ADEQUATE
• RESPONSIBLE PERSON/ GROUP SPECIFIED
• CLEAR EALS
• STEPS ARE SEQUENTIAL
• PREREQUISITES/ PRECAUTIONS
• GUIDANCE FOR USER JUDGEMENT
• INTERFACE (REFERENCE) TO OTHER PROCEDURES
• SIGNOFF SHEETS CHECKLISTS AND DATA SHEETS
5.2
R.G. 1.33
EMERGENCY, ALARM AND ABNORMAL OCCURRENCE
• INTERFACE REFERENCE TO IMPLEMENTING INSTRUCTIONS
5.3
IMPLEMENTING INSTRUCTIONS
• SEPARATE ONE FOR EACH EMER. CLASS
• GRADED SYSTEM
• EALS AND PRE PLANNED RESPONSE
• ACTIONS FOR EACH CLASS
• EC DUTIES, RESP & ACTIONS CLEARLY SPECIFIED
5.4
IMPLEMENTING PROCEDURES
• NOTIFICATIONS
• OFFSITE SURVEYS
• ONSITE SURVEYS
• IN PLANT SURVEYS
• PERS. MON. & DECON.
• EVACUATION
• ACCOUNTABILITY
• RAD ASSESS. ACTIONS
• RADIOLOGICAL & ENVIRONMENTAL MONITORING PROGRAM
• FIRST AID & RESCUE
• SECURITY
• RAD PROT.
• RECOVERY
• FIRE FIGHTING
• REPAIR/CORRECTIVE ACTIONS
• POST ACCIDENT COOLANT SAMPLING AND ANALYSIS
• POST ACCIDENT CONTAINMENT AIR SAMPLING AND ANALYSIS
• GASEOUS AND PARTICULATE EFFLUENT SAMPLING AND ANALYSIS
• LIQUID EFFLUENT ANALYSES
• PUBLIC INFORMATION
5.5
SUPPLEMENTARY PROCEDURES
• INVENTORY, OPERATIONAL CHECK & CALIBRATION OF EMER. EQUIPMENT
• TRAINING
• DRILLS
• REVIEW REVISION & DISTRIBUTION
• AUDIT
6.1.2.2
7.1
6.1.2.3

IMPLEMENTATION AREA	NUREG 0654 ELEMENT	PLAN REFERENCE	ACCEPT. CRITERIA	COMMENTS
) EMERGENCY IMPLEMENTING PROCEDURES				
5.1 General Content and Format	B.5 B.6 B.7 B.8 B.9		Reg. Guide 1.33	
a. Does each procedure specify the individual or organizational element having the authority and responsibility for performing the tasks covered by the procedure?				
b. Are Emergency Action Levels (EALs) and Protective Action Guides (PAGs) clearly specified along with the emergency actions or protective actions to be implemented?				
c. Are "action steps" clearly displayed in a step-by-step sequential fashion?				
d. Does each procedure describe and highlight the prerequisites and conditions that must exist before the specified actions are performed, as well as the precautions and limitations to be observed during performance of the action(s)?				
e. Are guidelines provided for each area in which the user of the procedure is permitted to exercise judgment in the implementation of specific actions, in the interpretation of emergency action levels or the application of protection action guides or the making of recommendations relating thereto?				
f. Do procedures refer the user to other procedures already in existence (chemistry, health physics, radwaste, administrative, etc.) which are required to complete the detailed actions?				

	IMPLEMENTATION AREA	NUREG 0654 ELEMENT	PLAN REFERENCE	ACCEPT. CRITERIA	COMMENTS
	g. Does the reference appear in the body of the procedure at the point where implementation of the other function or procedure is to be performed or considered?				
	h. Are the references available to the user?				
	i. Do procedures have signoff sheets, checklists and/or data sheets to document that the actions described in the procedures have been completed?				
5.2	Emergency, Alarm and Abnormal Occurrence Procedures	D.1 D.2 H.6.a		P.J.	
	a. Do the Emergency, Alarm and Abnormal Occurrence Procedures developed pursuant to Regulatory Guide 1.33 contain a step in the "Immediate Action Section" or "Follow up Action" section which requires evaluation of the initiating conditions relative to emergency action levels contained in the Emergency Plan and implementing instructions?	H.6.b H.6.c I.1			
	b. Does each procedure reference the proper Emergency Plan Implementing Instruction or contain instructions for classifying the situation and implementing the appropriate implementing instruction?				
5.3	Implementing Instructions	C.1.a D.1		P.J.	
	a. Is there a procedure (implementing instruction) for each class of emergency specified in the emergency plan?	D.2 H.4 H.6.a H.6.b			

	IMPLEMENTATION AREA	NUREG 0654 ELEMENT	PLAN REFERENCE	ACCEPT. CRITERIA	COMMENTS
b.	Are implementing instructions written for use by the emergency coordinator (i.e., the Emergency Director)?	H.6.c I.1 I.4 Appendix I			
c.	Is the scope of the authority and responsibility vested in the emergency coordinator specified?				
d.	Are the functional responsibilities assigned to the emergency coordinator clearly specified to include those responsibilities which may not be delegated to other elements of the emergency organization? Initial notifications of any recommendations to state and local agencies and requests for federal assistance shall be among the responsibilities which shall not be delegated.				
e.	Does each procedure describe the specific emergency action levels and planned response actions required to be considered or implemented in response to each class of emergency (e.g. staffing and activiation of facilities and centers, initiation of assessment and protective action, etc.)?				
f.	Are these EALs based on observable information readily available to the individuals responsible for emergency detection, classification, and assessment (e.g.)?				
g.	Do the implementing instructions orchestrate the implementation of other, more specific procedures (implementing procedures) which have been developed to implement or support implementation of the emergency plan?				

IMPLEMENTATION AREA	NUREG 0654 ELEMENT	PLAN REFERENCE	ACCEPT. CRITERIA	COMMENTS
5.4 Implementing Procedures Are the following areas addressed by implementing procedures:				
5.4.1 Notifications	E.1 E.2		P.J.	
a. For each class of emergency, is the sequence of notification to alert, mobilize, or augment the onsite emergency organization and supporting agencies specified?	E.3 E.4.a-n E.6 E.7 F.1.a F.1.e			
b. Are immediate notifications that are the responsibility of the emergency coordinator or shift operating crew incorporated into the "Immediate Action Steps" of the implementing Instructions and Emergency Operating Procedures? Is a description included of how the notifications are to be made (e.g., equipment to be used)?	H.4 J.1.a-d J.7			
c. Are the action levels specified for notification of: - The onsite emergency organization; - Corporate support; - Contractor or private agency support; - Local services support; - Participating local, state and federal (NRC in particular) governmental agencies; and				

IMPLEMENTATION AREA		NUREG 0654 ELEMENT	PLAN REFERENCE	ACCEPT. CRITERIA	COMMENTS
	- General public, including transients and persons at recreational facilities?				
	d. Are the notification action levels consistent with 10 CFR 50.72 and NUREG 0654, Appendix 1?				
	e. Are planned messages, announcements and alarms used for initial notifications?				
	f. Is the content of these messages included in the relevant procedure?				
	g. Does the notification procedure contain a listing of all persons and agencies who are included in the response scheme and the means to be used to make contact?				
	h. Where a telephone is to be used, are the telephone numbers listed?				
	i. Is there an authentication scheme for initial notifications to offsite authorities?				
5.4.2	Assessment Actions	I.2 I.3a		P.J.	
	a. Is there an overall procedure which orchestrates the implementation of the accident assessment scheme (operational and radiological) for gathering information and data upon which to base decisions to escalate, de-escalate, take corrective actions or recommend protective actions onsite and offsite?	I.3b I.4 I.5 I.6 I.10 J.7 M.4			

IMPLEMENTATION AREA	NUREG 0654 ELEMENT	PLAN REFERENCE	ACCEPT. CRITERIA	COMMENTS

b. Is the procedure written for use by the individual assigned overall responsibility for directing the radiological assessment program?

c. Does the procedure identify the priority system and sources of information available, to include area and process radiation monitor readings, meteorological instruments (and a backup source), in-plant radiation survey teams, offsite radiation survey teams, plant chemistry, and plant operating parameters, to include:

- The source term of release of radioactive material;

- The magnitude and duration of the releases of radioactive materials; and,

- The magnitude of any resulting contamination, both onsite and offsite?

d. Are action levels and protective action guides specified which will be used by assessment personnel as a basis for considering or initiating emergency measures to terminate, or mitigate the actual or projected consequences determined from the assessment process?

e. Is there a means, based on installed control room instrumentation, for initially projecting exposures or exposure rates to the whole body and thyroid of individuals located within the plume exposure Emergency Planning Zone and personnel onsite?

IMPLEMENTATION AREA	NUREG 0654 ELEMENT	PLAN REFERENCE	ACCEPT. CRITERIA	COMMENTS
f. Are there provisions for determining the containment source term using the containment monitor and containment air sampling?				
g. Are there provisions for making initial dose projections in the event installed control room instrumentation is offscale or inoperable?				
h. Are there provisions for immediate notification of state and local agencies in the event initial assessment actions indicate an actual or potential exposure to the whole body or thyroid of persons in the plume exposure EPZ in excess of the lower limits of the EPA protective action guides (applicable guides shall be those for the child.)				
i. Are there provisions for trend analysis of assessment data?				
j. Are there provisions for continuous update of assessment information to those offsite agencies responsible for implementing assessment and protective actions in behalf of the general population?				
k. Is there a description of or reference to the data required from the radiological environmental monitoring program including TLDs, soil, vegetation, animal feed, etc., and a reference to the procedures to be implemented?				

IMPLEMENTATION AREA	NUREG 0654 ELEMENT	PLAN REFERENCE	ACCEPT. CRITERIA	COMMENTS
l. Do the procedures include provisions for using data from area and process radiation monitors and in-plant surveys for assessment under accident conditions?				
m. Does the licensee have interim methods (e.g., use of portable instrumentation or calculational methods) for estimating high level releases?				
5.4.2.1 Offsite Radiological Surveys	H.12 I.7			P.J.
a. Are the methods and equipment to be used to perform emergency offsite radiological surveys specified?	K.1.c			
b. Is the procedure written from the viewpoint of the person performing the actual survey?				
c. Are prepositioned survey points or locations used to determine precise location where measurements are made within the plume EPZ?				
d. If not, what method is used to determine where measurements are made?				
e. Is this system consistant with State and local offsite monitoring requirements?				

IMPLEMENTATION AREA	NUREG 0654 ELEMENT	PLAN REFERENCE	ACCEPT. CRITERIA	COMMENTS

f. Is there a means for team members to record:

- The date and time of each survey;
- The location of each survey;
- The name(s) of the individual(s) who performed the survey;
- Are maps provided with monitoring points or locations marked on them? Are they sufficiently detailed for teams to find monitoring locations accurately?
- The instrument used, by type and serial number;
- The mode in which the instrument was used, i.e., window open or window closed;
- The duration of the meter reading;
- Air sampler flow rates;
- Background radiation levels at the time of air sample counting; and

IMPLEMENTATION AREA	NUREG 0654 ELEMENT	PLAN REFERENCE	ACCEPT. CRITERIA	COMMENTS
- Sample count time?				
g. Is each collected environmental sample uniquely labeled for later identification?				
h. Is the means specified by which collected data including the original data sheets, are provided to the organizational element responsible for emergency assessment functions?				
i. Is a central collection point designated for all environmental samples collected by the offsite survey teams?				
j. Is the communication method(s) to be used and a backup means described?				
k. Are the provisions for transportaton of the team(s) specified?				
l. Is radiation protection guidance provided (e.g. exposure, protective clothing, equipment, etc.)?				

IMPLEMENTATION AREA		NUREG 0654 ELEMENT	PLAN REFERENCE	ACCEPT. CRITERIA	COMMENTS
5.4.2.2	Onsite (out-of-plant) Radiological Surveys	I.7 K.1.c		P.J.	
	a. Are the methods and equipment to be used to perform emergency radiological surveys routes specified?				
	b. Is the procedure written from the viewpoint of the person performing the actual survey?				
	c. Is there a means for team members to record:				
	- The date and time of each survey;				
	- The location of each survey;				
	- The name(s) of the individual(s) who performed the survey;				
	- The instrument used, by type and serial number;				
	- The mode in which the instrument was used, i.e., window open or window closed;				
	- The duration of the meter reading;				

IMPLEMENTATION AREA	NUREG 0654 ELEMENT	PLAN REFERENCE	ACCEPT. CRITERIA	COMMENTS

- Air sampler flow rates;
- Background radiation levels at the time of air sample counting; and
- Sample count time?

d. Is each collected sample uniquely labeled for later identification?

e. Is the means specified by which collected data including the original data sheets, are provided to the organizational element responsible for emergency assessment functions?

f. Is a central collection point designated for all samples collected by the onsite survey teams?

g. Is the communication method(s) to be used and a backup means described?

h. Is radiation protection guidance provided? (e.g. exposure, protective clothing, equipment, etc.)

IMPLEMENTATION AREA		NUREG 0654 ELEMENT	PLAN REFERENCE	ACCEPT. CRITERIA	COMMENTS
5.4.2.3	In-plant Radiological Surveys	K.1.c		P.J.	
	a. Are the methods and equipment to be used to perform emergency radiological surveys specified?				
	b. Are the procedures written from the viewpoint of the persons responsible for performing the surveys?				
	c. Is there a means for team members to record:				
	- The date and time of each survey;				
	- The location of each survey;				
	- The name(s) of the individual(s) who performed the survey;				
	- The instrument used, by type and serial number;				
	- The mode in which the instrument was used, i.e., window open or window closed;				
	- The duration of the meter reading;				

IMPLEMENTATION AREA	NUREG 0654 ELEMENT	PLAN REFERENCE	ACCEPT. CRITERIA	COMMENTS

- Air sampler flow rates;
- Background radiation levels at the time of air sample counting; and
- Sample count time?

d. Is each collected sample uniquely labeled for later identification?

e. Is the means specified by which collected data including the original data sheets, are provided to the organizational element responsible for emergency assessment functions?

f. Is a central collection point designated for all samples collected by the inplant survey teams?

g. Is the communication method(s) to be used and a backup means described?

h. Is radiation protection guidance provided? (e.g. exposure, protective clothing, equipment, etc.)

IMPLEMENTATION AREA		NUREG 0654 ELEMENT	PLAN REFERENCE	ACCEPT. CRITERIA	COMMENTS
5.4.2.4	Primary Coolant Sampling	K.1.c		P.J.	
	a. Does the procedure provide a detailed check list for the operation of the emergency sampling equipment?				
	b. Are there provisions to limit exposure to sampling personnel and verify the habitability of the areas occupied by sampling personnel?				
	c. Are the sampling point loca- clearly described?				
	d. Does the procedure address the sampling media and special equipment to be used?				
	e. Are there appropriate data sheets for each sample?				
	f. Does the procedure describe the method of transporting the sample to the analysis area under all accident conditions?				
	g. Are there provisions for labeling samples for later identification?				
	h. Can the sampling be conducted in 1 hour? (See Section 7.2)				

IMPLEMENTATION AREA		NUREG 0654 ELEMENT	PLAN REFERENCE	ACCEPT. CRITERIA	COMMENTS
5.4.2.5	Primary Coolant Sample Analysis	K.1.c		P.J.	
	a. Are there analytical procedures for high level samples?				
	b. Are there provisions for calibration of counting equipment for high level samples?				
	c. Does the procedure describe the means for diluting high level samples?				
	d. Does the procedure describe protection of laboratory personnel working with high level samples?				
	e. Does the procedure describe methods to protect counting facilities from contamination?				
	f. Does the procedure provide for analysis if the primary counting area has a high background?				
	g. Are there analytical data sheets for high level samples?				
	h. Do these sheets key results to EAL's?				

IMPLEMENTATION AREA		NUREG 0654 ELEMENT	PLAN REFERENCE	ACCEPT. CRITERIA	COMMENTS
	i. Is the means specified by which data, including original data sheets, are provided to the organizational element responsible for the assessment function?				
	j. Are there storage provisions for samples?				
	k. Will the analytical methods achieve the desired ends?				
	l. Can the analyses be completed in two hours? (See Section 7.2)				
5.4.2.6	Containment Air Sampling	K.1.c			
	a. Is there an operating procedure with a detailed check list for the operation of the emergency sampling equipment?				
	b. Does the procedure limit exposure to sampling personnel and verify the habitability of the areas occupied by sampling personnel?				
	c. Are the sampling point locations clearly specified?				

IMPLEMENTATION AREA		NUREG 0654 ELEMENT	PLAN REFERENCE	ACCEPT. CRITERIA	COMMENTS
	d. Does the procedure address the sampling media and special equipment to be used?				
	e. Are there appropriate data sheets for each sample?				
	f. Does the procedure describe the methods of transporting the sample to the analysis area under all accident conditions?				
	g. Is each sample uniquely labeled for later identification?				
	h. Can the sampling be completed in one hour? (See Section 7.2)				
5.4.2.7	Containment Air Sample Analysis	K.1.c		P.J.	
	a. Are there analytical procedures for high level samples?				
	b. Are there provisions for calibration of counting equipment for high level samples?				
	c. Does the procedure describe the means for diluting high level samples?				

IMPLEMENTATION AREA		NUREG 0654 ELEMENT	PLAN REFERENCE	ACCEPT. CRITERIA	COMMENTS
	d. Does the procedure describe protection of laboratory personnel working with high level samples?				
	e. Does the procedure describe methods to protect counting facilities from contamination?				
	f. Does the procedure provide for analysis if the primary counting area has a high background?				
	g. Are there analytical data sheets for high level samples?				
	h. Do these sheets key results to EAL's?				
	i. Is the means specified by which data, including original data sheets are provided to the organizational element responsible for the assessment function?				
	j. Is sample disposition specified?				
	k. Will the analytical methods achieve the desired ends?				
	l. Can the analyses be completed in two hours? (See Section 7.2)				

IMPLEMENTATION AREA		NUREG 0654 ELEMENT	PLAN REFERENCE	ACCEPT. CRITERIA	COMMENTS
5.4.2.8	Stack Effluent Sampling	K.1.c		P.J.	
	a. Is there an operating procedure with a detailed check list for the operation of the emergency sampling equipment?				
	b. Is there a procedure to limit exposure to sampling personnel and verify the habitability of the areas occupied by sampling personnel?				
	c. Are the sampling point locations clearly specified?				
	d. Does the procedure address the sampling media and special equipment to be used?				
	e. Are there appropriate data sheets for each sample?				
	f. Is there a procedure to describe transporting the sample to the analysis area under all accident conditions?				
	g. Is each sample iniquely labeled for later identification				

IMPLEMENTATION AREA		NUREG 0654 ELEMENT	PLAN REFERENCE	ACCEPT. CRITERIA	COMMENTS
	h. Can the sampling be completed in one hour? (See Section 7.2)				
5.4.2.9	Stack Effluent Sampling Analysis	K.1.c		P.J.	
	a. Are there analytical procedures for high level samples?				
	b. Is there a procedure for calibration of counting equipment for high level samples?				
	c. Is there a procedure for diluting high level samples?				
	d. Is there a procedure to describe protection of laboratory personnel working with high level samples?				
	e. Is there a procedure to describe methods to describe methods to protect counting facilities from contamination?				
	f. Is there a back-up procedure for analysis if the primary counting area has a high background?				

IMPLEMENTATION AREA		NUREG 0654 ELEMENT	PLAN REFERENCE	ACCEPT. CRITERIA	COMMENTS
	g. Are there analytical data sheets for high level samples?				
	h. Do these sheets key results to EAL's?				
	i. Will the analytical methods achieve the desired ends?				
	j. Can the analyses be completed in two hours? (See Section 7.2)				
5.4.2.10	Liquid Effluent Sampling	K.1.c		P.J.	
	a. Is there an operating procedure with a detailed check list for the operation of the emergency sampling equipment?				
	b. Does the procedure limit exposure to sampling personnel and verify the habitability of the areas occupied by sampling personnel?				
	c. Are the sampling point locations clearly specified?				
	d. Does the procedure address the sampling media and special equipment to be used?				

IMPLEMENTATION AREA		NUREG 0654 ELEMENT	PLAN REFERENCE	ACCEPT. CRITERIA	COMMENTS
	e. Are there appropriate data sheets for each sample?				
	f. Does the procedure describe transporting the sample to the analysis are under all accident conditions?				
	g. Is each sample uniquely labeled for later identification				
	h. Can the sampling be completed in one hour? (See Section 7.2)				
5.4.2.11	Liquid Effluent Sampling Analysis	K.1.c		P.J.	
	a. Are there analytical procedures for high level samples?				
	b. Does the procedure describe the means for calibration of counting equipment for high level samples?				
	c. Does the procedure describe the means for diluting high level samples?				
	d. Does the procedure describe protection of laboratory personnel working with high level samples?				

IMPLEMENTATION AREA	NUREG 0654 ELEMENT	PLAN REFERENCE	ACCEPT. CRITERIA	COMMENTS
e. Does the procedure describe methods to protect counting facilities from contamination?				
f. Does the procedure provide for analysis if the primary counting area has a high background?				
g. Are there analytical data sheets for high level samples?				
h. Do these sheets key results of the EAL's?				
i. Is the means specified by which data, including original data sheets, are provided to the organizational element responsible for the assessmet function?				
j. Is sample disposition specified?				
k. Will the analytical methods achieve the desired ends?				
l. Can the analyses be completed in two hours? (See Section 7.2.)				

IMPLEMENTATION AREA		NUREG 0654 ELEMENT	PLAN REFERENCE	ACCEPT. CRITERIA	COMMENTS
5.4.2.12	Radiological and Environmental Monitoring Program			NUREG-0737	
	a. Are there provisions for a REMP program to be implemented during emergencies, including the assignment of duties for collection and evaluation of data relative to environmental TLDs, soil samples, water samples, etc.?				
	b. Does the licensee have a management coordinated structure for emergency environmental monitoring?				
	c. Is the licensee capable of conducting the emergency monitoring program (e.g., availability of instrumentation and equipment, location of counting laboratory portable power supplies, resin columns, etc.)?				
5.4.3	Protective Action				
5.4.3.1	Radiation Protection During Emergencies	K.1.a K.1.b K.1.c		P.J.	
	a. Is there an overall procedure governing the implementation of the radiation protection	K.1.d K.1.e K.1.f K.1.g			

IMPLEMENTATION AREA		NUREG 0654 ELEMENT	PLAN REFERENCE	ACCEPT. CRITERIA	COMMENTS
	program during emergencies?	K.2 K.3.a K.3.b			
b.	If routine radiation protection procedures are referenced or to be used during emergencies, do these procedures reflect their applicability during emergencies?	K.5.a K.6.a K.6.b K.6.c			
c.	Are the following areas included: - Personnel Dosimetry; - Exposure records; - Positive access controls; - Instructions to emergency workers (licensee as well as contractor or other persons/agencies augmenting the onsite emergency organization) regarding radiological conditions); - Dose assessment; and - Provisions for preventing re-exposure of individuals or limiting further exposure?				

IMPLEMENTATION AREA	NUREG 0654 ELEMENT	PLAN REFERENCE	ACCEPT. CRITERIA	COMMENTS
d. Are special controls implemented for emergency conditions?				
e. Are plans for expanding the respiratory protection program in the event of an accident described, e.g., expanded supply of respirators, provisions for expanded decon facilities, provisions for promptly refilling air bottles, etc.?				
f. Are changing and unusual conditions considered, in the structuring of the emergency radiation protection program, e.g. higher doses, different energies, etc.?				
g. Do procedures exist which describe how and by whom all health physics functions will be performed and the priority during emergency situations (e.g., access control, in-plant surveys, dosimetry, decontamination, general exposure control, high level sampling)?				

IMPLEMENTATION AREA		NUREG 0654 ELEMENT	PLAN REFERENCE	ACCEPT. CRITERIA	COMMENTS
5.4.3.2	Evacuation of Owner Controlled Areas	J.2 J.4		P.J.	
	a. Are there action level(s) that require evacuation of specified areas, buildings and the site?				
	b. Are primary and secondary evacuation routes clearly marked with conspicuously posted arrows, signs, floor markings or other readily visible means?				
	c. Is (are) the location(s) of assembly area(s) specified and the criteria for use?				
	d. Are the specified locations consistent with the actual locations and the locations described in the Emergency Plan.				
	e. Are there provisions for concise oral announcements over the facility public address system or other provisions to describe the immediate actions of non-essential personnel?				

IMPLEMENTATION AREA		NUREG 0654 ELEMENT	PLAN REFERENCE	ACCEPT. CRITERIA	COMMENTS
	f. Does the procedure include a reference to the accountability and personnel monitoring/ decontamination procedures?				
	g. Is there a means to verify that all individuals onsite and in the owner controlled area (licensee and non-licensed) have been warned of emergency conditions and have followed instructions regarding their actions? (See Section 5.4.1 for interface questions)				
5.4.3.3	Personnel Accountability	J.5		P.J.	
	a. Does the procedure for personnel accountability provide for a full accounting of all individuals onsite or identification of missing individuals within 30 minutes from declaration of an emergency?				
	b. Does the procedure specify the individual or position in the emergency organization to whom reports of accountability are to be made?				

IMPLEMENTATION AREA		NUREG 0654 ELEMENT	PLAN REFERENCE	ACCEPT. CRITERIA	COMMENTS
	c. Is there a means to ascertain the whereabouts of individuals reported as missing? In this regard, is there a reference to the search and rescue procedure?				
	d. Are there provisions for continuous accountability of all individuals onsite after the initial accountability has been completed?				
5.4.3.4	Personnel Monitoring and Decontamination	J.3 J.4 K.1.e K.5.a K.5.b K.7		P.J.	
	a. Do procedures provide for monitoring all individuals: - Leaving restricted areas or other areas known or suspected to be contaminated; - At assembly areas; and - At reassembly areas?				
	b. Is there a means for recording the names of individuals surveyed, the extent of any contamination found, the instrument used and the methods employed and results of any decontamination efforts?				

IMPLEMENTATION AREA		NUREG 0654 ELEMENT	PLAN REFERENCE	ACCEPT. CRITERIA	COMMENTS
	c. Are the contamination levels that require decontamination actions specified, to include or reference decontamination procedures for various levels and types of contamination including skin contamination with radioiodine?				
	d. Are action levels specified which will require further assessment to include designation of the elements of the emergency organization responsible for performing the followup assessment?				
	e. Is the means described for providing collected data to the individual or organizational element responsible for the radiation protection program during emergencies?				
5.4.3.5	Onsite First-Aid/Rescue	K.1.a K.1.d		ANSI/ANS-3.7.1	
	a. Do procedures address:	K.1.f K.1.g			
	- The methods for receiving, recovering, transporting and handling injured persons who may also be contaminated; and	L.1 L.2			

IMPLEMENTATION AREA		NUREG 0654 ELEMENT	PLAN REFERENCE	ACCEPT. CRITERIA	COMMENTS
	- Description of the interface and criteria for using the offsite medical treatment facility?				
	b. Is radiation protection guidance provided for the team?				
5.4.4	Security During Emergencies			P.J.	
	a. Are the security measures to be placed in effect during emergencies specified in the station security procedures?				
	b. Are they develcped in accordance with the requirements of Appendix C to 10 CFR 73, and do they complement the Radiation Emergency Plan?				
5.4.5	Repair/Corrective Actions	K.1.b		P.J.	
	a. Does the procedure describe the concept of the operations for repair or corrective action activities?				
	b. Are the individuals to whom the team will report and the steps to assure that individuals are properly briefed as to the radiological conditions, stay times, etc. prior to the conduct of the operation included?				

IMPLEMENTATION AREA		NUREG 0654 ELEMENT	PLAN REFERENCE	ACCEPT. CRITERIA	COMMENTS
5.4.6	Recovery	M.1 M.2 M.3		P.J.	
	a. Is the organizationalauthority specified for declaring that a recovery phase is to be entered?				
	b. Are there provisions for an evaluation of plant operating conditions as well as the in-plant and out-of-plant radiological conditions in this decision?				
	c. Are there notifications to be made to various individuals and agencies that must be completed before a recovery mode may be assumed?				
	d. Are key positions in the recovery organization identified?				
5.4.7	Public Information				
	a. Do the procedures identify the organizations involved in news dissemination?				
	b. Are their locations specified and ways of contacting them there?				
	c. Is the method for coordinating the internal dissemination of information to the various locations and individuals clearly specified?				

IMPLEMENTATION AREA		NUREG 0654 ELEMENT	PLAN REFERENCE	ACCEPT. CRITERIA	COMMENTS
	d. Are there interim provisions for initial dissemination of information to the news media prior to establishment of the licensee's news center?				
	e. Is the utility spokesman clearly identified?				
	f. Are the sources of information to be used by the spokesman clearly specified?				
	g. Are there provisions for coordinating information among the various spokesmen of the various organizations and groups?				
	h. Are there provisions for rumor control, to include: - provisions for responding to public inquiries separate from the newsmedia; - coordinations with the news information function with other organizations.				
5.5 Supplementary Procedures					
5.5.1	Inventory, Operational Check and Calibration of Emergency Equipment, Facilities and Supplies	H.10 H.11		P.J.	

	IMPLEMENTATION AREA	NUREG 0654 ELEMENT	PLAN REFERENCE	ACCEPT. CRITERIA	COMMENTS
	a. Does the procedure provide a specific (not generic) inventory listing of all equipment reserved for use during emergencies and specify the location of the equipment?				
	b. Is the frequency at which emergency equipment is to be inventoried, operationally checked and/or calibrated specified? (Included in the instruments and equipment to be inspected shall be any items which will be relied upon during emergencies, but are not routinely inventoried, or operationally checked in accordance with already existing procedures. Examples of such items are communications equipment, power supplies, batteries).				
	c. Is the responsibility for the performance of the emergency equipment readiness checks and for correcting any noted deficiencies delineated?				
5.5.2	Drills and Exercises	N.1.a&b N.2.a-e N.3.a-f N.4 N.5		ANSI/ANS-3.7.3	
	a. Are drills and exercises administered by the Emergency Planning Coordinator?				
	b. Is each drill and exercise to be conducted in accordance with a scenario developed in advance of the drill?				

IMPLEMENTATION AREA	NUREG 0654 ELEMENT	PLAN REFERENCE	ACCEPT. CRITERIA	COMMENTS
c. Are documentation and evaluation of all observer and participant comments part of the drill or exercise?				
d. Are there management controls to assign responsibility for corrective actions and assignment of completion dated to assure that assigned corrective actions are completed in accordance with established schedule and adequate to resolve the noted deficiency?				
e. Does the licensee consider response to an actual event a substitute for the drills or exercies required in this procedure?				
f. Are there provisions for backshift drills and exercies?				
g. Does the procedure provide for the following drills and excercies at the noted frequencies: - Communication (quarterly); - Fire (Technical Specification frequency); - Medical (annually); - Radiological Monitoring (annually);				

IMPLEMENTATION AREA		NUREG 0654 ELEMENT	PLAN REFERENCE	ACCEPT. CRITERIA	COMMENTS
	- Health Physics (semi-annually);				
	- Exercise (annually);				
	h. Are there provisions for routinely inviting offsite agencies and groups to participate in the above drills and exercises?				
	i. Are there provisions for handling "news media coverage of the drill/exercise", using the news media facilities, equipment, and procedures that would be used during are actual emergency?				
5.5.3	Review, Revision and Distribution		P.4 P.5 P.10		
	a. Are telephone numbers reviewed at least every quarter?				
	b. Are procedures which implement the emergency plan reviewed at least once each calendar year to incorporate changes resulting from drills or changes in the facility or environs?				
	c. Is the responsibility for the review specified?				
	d. Had the plan and procedures been reviewed, approved and updated as required?				
	e. Had changes been distributed in accordance with the approved distribution list?				

	IMPLEMENTATION AREA	NUREG 0654 ELEMENT	PLAN REFERENCE	ACCEPT. CRITERIA	COMMENTS
	f. Was plan and procedure distribution correct?				
	g. Were names, titles, and phone numbers in the implementing procedures correct?				
5.5.4	Audit	P.9		10 CFR 50.54(t)	
	a. Are emergency plans and procedures which implement the emergency plan audited at least once every 12 calendar months?				
	b. Do audits involve discussions with personnel and inspection of equipment rather than just a paper review?				
	c. Does this audit include observation of an emergency drill? (Observation of an emergency drill by the audit team should be in addition to the observers required normally).				

SECTION 6.0

COORDINATION WITH OFFSITE GROUPS

6.0 COORDINATION WITH OFFSITE GROUPS

Objective

To verify that the licensee has developed and implemented an adequate program for coordinating emergency planning and response activities with non-licensee groups and persons.

Basis

If onsite aspects of a licensee's emergency response are implemented properly, but not adequately coordinated with offsite groups, the ultimate effectiveness of the response may be adversely affected. Consequently, there is a need for licensee's to coordinate their response activities with key offsite groups before and during an emergency.

The generic groupings of offsite groups that should be coordinated will fall into the following categories:

- Federal government
- State government
- Local government
- Local services support (fire, ambulance/rescue, medical treatment facility, physicians)
- Contractors/vendors (NSSS, fuel, environmental monitoring, etc.)
- Other utilities
- Newsmedia
- General public

The specific groups involved within each category will vary depending upon the site. For example, a site located near a major airport or waterway should coordinate with the FAA and Coast Guard. A site which has a railroad line crossing the owner controlled area or passing nearby should coordinate with the railroad company, especially if trains could block ingress or egress of the site.

Each of the above categories have different coordination needs based on their role. Those which directly support implementation of aspects of the licensee's plan have needs similar to members of the licensee's emergency organization. They should be familiar with the licensee's site, access procedures, their roles, limits on their authorities and the hazards involved in fulfilling their role. The groups normally falling into this category are local services support and contractors.

Other groups need a more general understanding of the licensee's entire plan but a more detailed understanding of the licensee's assessment methods, protective action decision making scheme, communication/notification methods, sources and nature of information that will be available, and accident consequences.

These groups normally include the state and local governmental agencies responsible for accident assessment and implementation of protective actions in behalf of the public.

The newsmedia and general public also have need for coordination of their activities. This is best accomplished before an emergency rather than during. A basic understanding of where information will be provided and general roles and actions are important.

Guidance

Compile a listing of all agencies and groups listed in the Emergency Plan and procedures who are not licensee employees.

Discuss the role of each agency and group with the EPC or other responsible licensee individual.

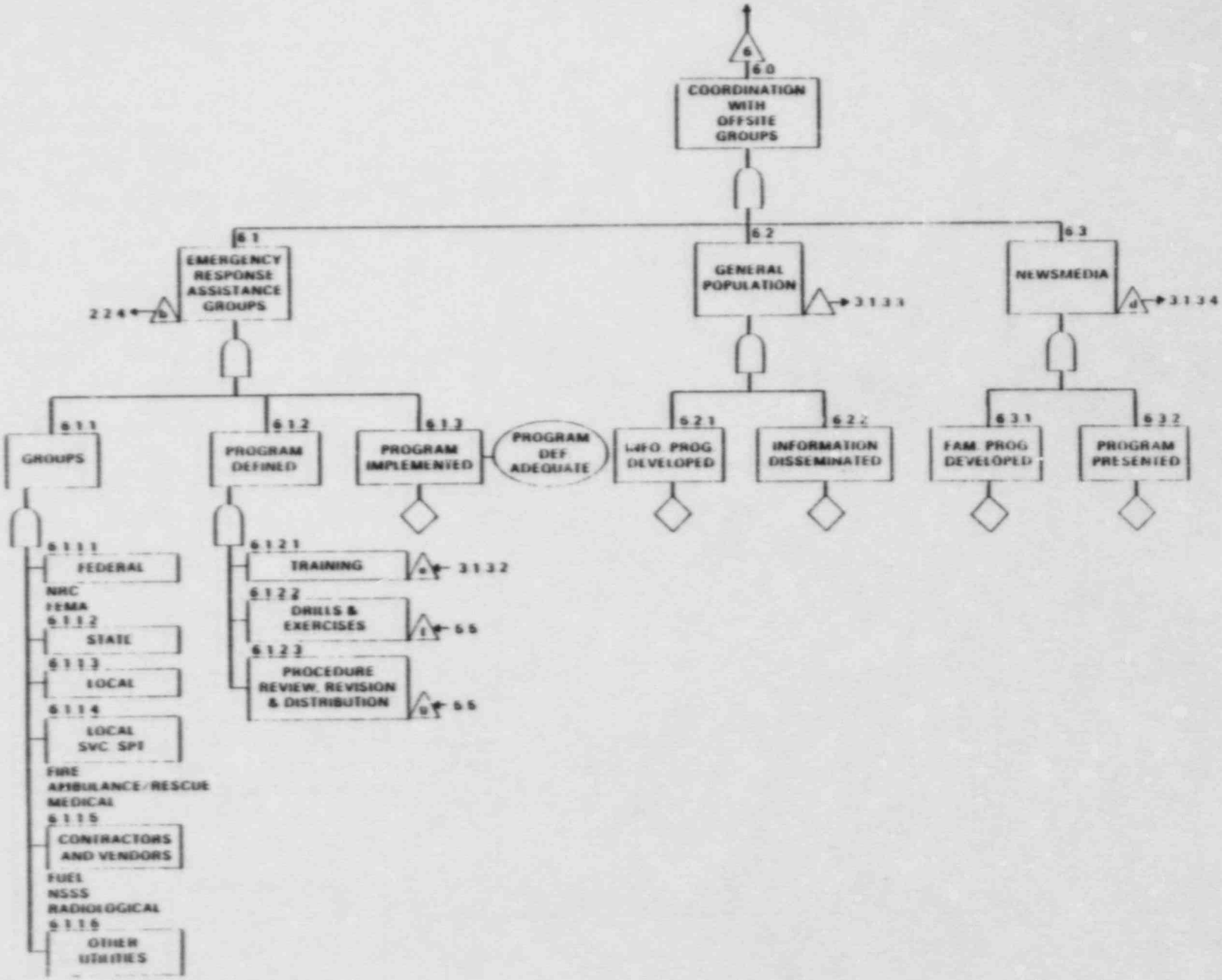
Interview responsible individuals from each agency (in person or by telephone) and verify that training has been provided (See Section 3.0 questions). Also, verify that the licensee has provided the agency with current relevant procedures and training that had been agreed to.

Verify that the plan and procedures of the licensee and offsite agencies mesh and that the agency's understanding of its role matches the licensee expectation as described in the plan and procedures.

If the licensee has provided equipment to the agency which the licensee is responsible for maintaining (e.g., offsite medical treatment facility, voice and data communication systems, portable radiological monitors), inventory the equipment and verify operability.

Verify that the licensee has met all commitments to offsite agencies and groups to their satisfaction.

Verify the agreement/contracts between the licensee and the various offsite groups are current and will be honored by the agencies.


6
6 0
COORDINATION WITH OFFSITE GROUPS
6 1
EMERGENCY RESPONSE ASSISTANCE GROUPS
2 2 4
6 2
GENERAL POPULATION
3 1 3 3
6 3
NEWSMEDIA
3 1 3 4
6 1 1
GROUPS
6 1 2
PROGRAM DEFINED
6 1 3
PROGRAM IMPLEMENTED
PROGRAM DEF ADEQUATE
6 2 1
INFO. PROG. DEVELOPED
6 2 2
INFORMATION DISSEMINATED
6 3 1
FAM. PROG. DEVELOPED
6 3 2
PROGRAM PRESENTED
6 1 1 1
FEDERAL
NRC
FEMA
6 1 1 2
STATE
6 1 1 3
LOCAL
6 1 1 4
LOCAL SVC SPT
FIRE
AMBULANCE/RESCUE
MEDICAL
6 1 1 5
CONTRACTORS AND VENDORS
FUEL
NSSS
RADIOLOGICAL
6 1 1 6
OTHER UTILITIES
6 1 2 1
TRAINING
3 1 3 2
6 1 2 2
DRILLS & EXERCISES
5 5
6 1 2 3
PROCEDURE REVIEW, REVISION & DISTRIBUTION
5 5

IMPLEMENTATION AREA	NUREG 0654 ELEMENT	PLAN REFERENCE	ACCEPT. CRITERIA	COMMENTS
COORDINATION WITH OFFSITE GROUPS				
6.1 Offsite Agencies	A.3 B.9 E.1 E.3 E.4.a-n L.1 L.4		P.J.	
a. Did each agency representative express an understanding of its responsibilities and procedures in response to an emergency at the licensee's facility that was consistent with the agreement and licensee procedures and the expectations of both parties?				
b. Has the licensee contacted these agencies either for the purpose of drills, excercies (See Sections 7.0 and 5.5.2) and training (See Section 3.0)?				
c. Were the agencies having emergency response roles within the EPZ provided with controlled copies of the licensee's plan and procedures in accordance with the plan and procedure distribution list? (See Section 5.5.3)				
d. Did each agency representative interviewed express satisfaction with the coordination efforts of the licensee in relation to: - Notifications; - Frequency and nature of training provided; - Routine planning information exchange?				
e. Are the licensee's protective action recommendations consistent with those of the offsite agencies?				

IMPLEMENTATION AREA	NUREG 0654 ELEMENT	PLAN REFERENCE	ACCEPT. CRITERIA	COMMENTS
f. Had the key offsite agencies reviewed the Emergency Actions to be taken for each emegency class and associated recommendations?				
g. Are the agreements/contracts between the licensee and the various offsite groups current?				
h. Will the groups honor the agreements?				
6.2 General Public	G.1 G.2 G.5		P.J	
a. Does the utility provide for dissemination of emergency planning information to the public within the plume exposure EPZ, including the transient population?				
b. Is emergency action information coordinated with State and local agencies?				
c. Is information updated and disseminated at least annually?				
d. Does the information provided to the public tell how they will be notified and what their actions should be in the event of an emergency?				
e. Does this public information include accurate, understandable information about radiation?				
f. How is this dissemination accomplished? For example, information in the telephone book, information in utility bills, posting in public places, etc.				

IMPLEMENTATION AREA	NUREG 0654 ELEMENT	PLAN REFERENCE	ACCEPT. CRITERIA	COMMENTS
g. Is the information in a form that is likely to be available in a residence during an emergency.				
h. Is the information in a form that is likely to be available and observable in public areas (e.g., recreation areas)?				
i. Does the utility provide a contact for additional information?				
6.3 News Media	G.5			
a. Does the utility have a program for familiarizing the news media with:				
- emergency plans;				
- points of contact for release of public information;				
- space allocated for their use;				
- information about radiation?				
- normal plant operation versus accident operation;				
- accident sequences.				
b. Is the program conducted annually?				
c. Has the program been conducted at least once?				

SECTION 7.0

DRILLS, EXERCISES AND WALK-THROUGH

7.0 DRILLS/EXERCISES AND WALK-THROUGH

Objectives

To verify that the licensee has implemented the drill/exercise program.

To verify that the licensee's emergency organization, using the resources available at the site, is capable of performing the sequence of crucial tasks necessary to detect an emergency, assess the consequences, notify key licensee and non-licensee personnel and groups, make protective action decisions, and take onsite or recommend offsite protective actions.

Basis

As discussed in Section 3.0, the truest test of training adequacy occurs when an individual is under stress in conditions which approximate those anticipated to exist when a certain type performance is expected. Training adequacy is one of several areas to be evaluated through the conduct of drills and exercises. Other areas to be evaluated concurrently include the adequacy of procedures, facilities and equipment. When properly conducted and observed, drills and exercises are an important indicator of the potential effectiveness of a licensee's emergency response program. Certain licensees may conduct drills and exercises which amount to little more than "stage plays." Participants are aware of the date, time, scenario content, and may even be pre-assigned to a specific function well in advance. The drills and exercises may be scheduled to take place at times when the response will be unencumbered by a full daylight compliment of workers, thereby not providing an adequate picture of the accountability provisions. Exercise scenarios may also be written which do not require an emergency response in emergency functional areas which are not addressed or are weak in the licensee's preparedness program. Consequently, when reviewing drills and exercises which have been conducted, the reviewer should be aware that drills and exercises can be structured to avoid the detection of problems. Proper observation of drills and exercises can indicate significant weaknesses. The value of the observations can be seriously questioned, however, if the licensee fails to consider participant comments or to promptly evaluate and correct noted deficiences. The reviewer may face a situation where a licensee claims that drills/exercises constitute training and therefore there is no need for a clearly defined training program. It must be remembered that some training is one of the benefits to be derived from conducting drills and exercises. Members of the emergency organization must be trained in basic skills and knowledge prior to participating in drills. Otherwise, observed problems are too easily attributed to faulty training when, in fact, the problems may have their origin in faulty procedures, equipment, and facilities. The individual's lack of training simply "masks" the root problem.

Although the reviewer's findings based on the first six sections may indicate that all portions of the emergency plan are in place, this alone will not provide adequate assurance that the implementation of the plan will be effective in practice. Consequently, the final phase of the implementation appraisal must involve first-hand observation of individuals actually performing tasks which they would be assigned during an emergency, using procedures and equipment that are available. During these walk-throughs, osbervation of and discussion with the demonstrator will assist in confirming or correcting the reviewers

preliminary findings. Due to the fact that walk-throughs will include frequent questioning of participants by the appraiser, no attempt should be made to "time" the beginning to end sequence. Smaller segments (tasks), however, should be timed to provide the reviewer with a general feel for the relative smoothness and timeliness with which tasks are performed. The appraiser should be aware that his presence may bias an individual's performance both positively and negatively. As a result, using the walk-through method may not permit the reveiwer to accurately evaluate specific time criteria to be met by the licensee's plan. The reviewers must use their best judgement in the determination. The time aspects will be reviewed again during the joint NRC/FEMA exercise observation. The reviewer should limit his findings to the more obvious areas related to adequacy of training, facilities, equipment and procedures and ensure there are no major impediments to effective implementation of critical tasks.

The reviewer must evaluate the individual's performance in comparison with the established response scheme and not limit himself to a subjective impression of the adequacy of the individual's performance. For example, an individual may appear to meet the objective of a task, yet have used methods and equipment entirely different from those prescibed by the plan and procedures. The reasons for his actions must be investigated thoroughly to reveal the cause.

Coordination with plant management is vital prior to conducting these walk-throughs. Management must be informed of the specific scope and nature.

Guidance

Review records of drills conducted to verify that the required types and numbers have been held per the procedure.

Verify that drill identified improvements have been evaluated by management and corrections implemented.

Discuss the drills, with several participants, including representatives of any offsite agency that participated.

Contact plant management and coordinate the scope of the employee's involvement in preparation for walk-throughs.

Select an accident scenario falling into the General Emergency category (use general emergency EALs).

Review the appropriate emergency, alarm response and abnormal occurrence procedures and the EPIPs so that cue events will be in the context of the EALs applicable to the particular plan and procedures.

EMERGENCY PLANNING (WALKTHROUGH GUIDANCE)

Walk-throughs involve first hand observation of selected individuals in selected tasks within the emergency response. Such tasks involve: the handling of equipment, interpretation of instrumentation, application of proper conversion

factors, following procedures, and awareness of information flow patterns related to the specific task.

Walk-throughs should be conducted within the last half of the on-site appraisal and, if possible, should cover all shifts.

Walk-throughs may require simultaneous observation by more than one observer in order to follow the logical causal chain of responses and the resulting flow of information and data relay (e.g., one observer may be located in the control room following EALs, emergency classification aspects, while another may be located in the EOF to observe the actions of off-site monitoring teams or other action that would ensue as a logical consequence from specific emergency response cues.)

EXAMPLE: Pre-requisite - Site's Emergency Plan and Procedures specified that the Shift Supervisor would detect and classify emergencies based on certain EALs and that initial assessment is left to the Health Physics technician on shift.

Procedure - Observer goes to Control Room and requests to talk to Shift Supervisor (SS); advises him that he would like to interview him concerning his emergency response duties; requests him to consider a certain set of conditions, assume certain EALs, and invites him to talk about his actions and go through the motions, but without disturbing the normal operation of the plant. He may emphasize that whatever the outcome of his actions, they will not reflect on his individual abilities and that a feeling for training, procedure adequacy and other interrelated factors are being ascertained. For example, the observer may say that the Main Stack Gaseous Monitor is found to be reading 900 thousand counts per second, and that other monitors indicate that a gaseous release to the environment may have occurred. Once the SS has identified the monitor, he may use the same in conjunction with other indications to classify the type of emergency and that he would turn his attention to plant stabilization as well as notification of certain on-site personnel, such as the health physics technician and that it would be up to him to interpret the data and make an initial dose assessment estimate. At this point, the observer may request the SS to call the health physics technician to come to the Control Room to talk to the observer concerning emergency response. The observer will then explain briefly his intent, and request the technician to describe his actions in the event the monitor mentioned was reading 900 thousand cps. The health physics Technician may or may not know how to convert the data to release rate and to perform adequate dose projections. If he does not, the observer would take note and then will provide him with data and ask what he would do with the data. If he does not know, the observer could suggest that he proceed according to procedure (if in this case, he is supposed to give the data to the SS, the observer then would ask the SS what he would do with the data, who he would notify and when; what other actions he would take; etc. If the following logical action is an off-site survey, the observer may request that the SS explain how he would go about selecting and notifying those who would perform the survey. The observer may select to terminate this part of the walk-through

at this time, or alternatively he may have another observer positioned at the EOF to observe the actions of the monitoring team. (Note: There is no need for timing response at this time. The follow-up action could be observed later during the day.)

Observers could request that certain selected individuals from the Emergency Call List be assigned to the EOF to be interviewed by the appraiser. Once the appraiser briefs the persons involved on what is expected from them and why, he would determine whether they have been trained to perform this task, and their awareness of their functions, their relationships with other points of the emergency organization from whom would they expect to receive directions, where they would take the data, etc.

The appraisers would observe the use of procedures and equipment, means of transportation of the survey team, and logistics related to the performance of the surveys. Finally, he would inquire about where the information would go, as well as records of surveys, etc.

Walk-throughs should be designed in such a manner that normal plant operation and activities are not disturbed. The distinguishing characteristic is a "low key" approach, as contrasted with more formal exercises and drills. The main purpose of the walk-through is to ascertain the response efficiency of selected key emergency personnel using actual equipment and procedures. The individual performance would be taken more as a reflection of training than personal competence or lack of it.

Walk-throughs should be designed and carried out so that they allow simultaneous testing of organizational factors, equipment, procedures, and training.

ORGANIZATIONAL: Verify whether elements of the emergency organization are properly (e.g., consistently) correlated with the expected response to a specific task.

EQUIPMENT AND FACILITIES: Ascertain whether the equipment (e.g., instrumentation) used in relation to the response is adequate to provide the desired output, etc.

PROCEDURES: Determine whether the procedures are clear, coherent, timely and useful and in reality test the same.

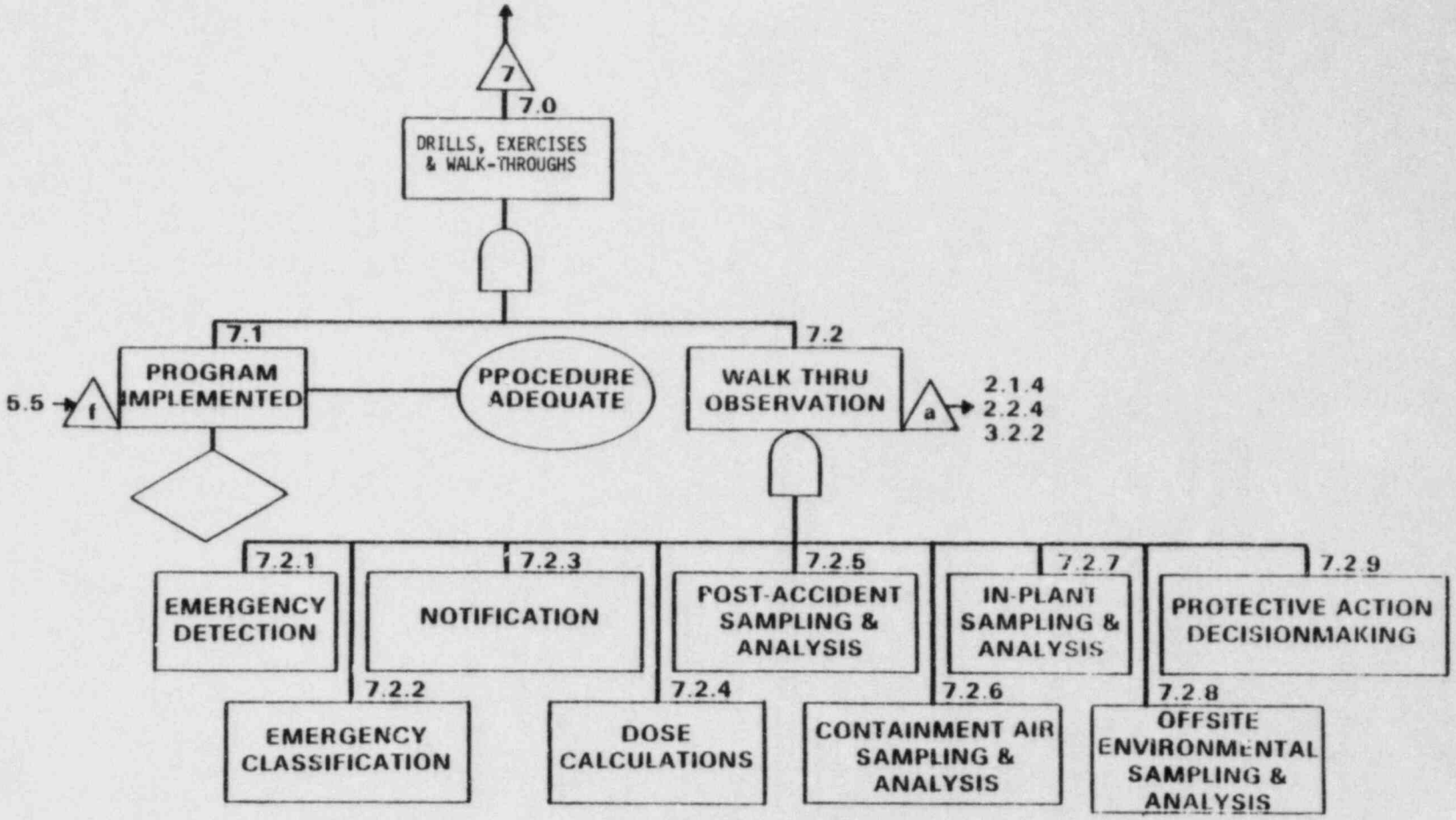
TRAINING: To verify that the individual was adequately trained to perform the specific task demanded by his position in the emergency response organization as related to the task in hand; whether he was aware of what was expected from him; how to do the task expected from him; and whether he knew what information was relevant, in what form (e.g., units) and where this information should be transmitted.

ADDITIONAL: Walk-throughs should consider strategies for multiple-unit sites and augmentation of the emergency organization.

Review the appropriate emergency, alarm response and abnormal occurrence procedures and the EPIPs so that cue events will be in the context of the EALs applicable to the particular plan and procedures.

On the daylight shift and during at least one backshift poeferably both backshifts), walk through the following tasks:

1. Emergency detection (use EALs as cue events).
2. Emergency classification.
3. Notifications (NRC, State, licensee emergency organization).
4. Dose calculations (with monitors operable and inoperable).
5. Assessment actions.
   a. Primary coolant sampling and analysis.
   b. Containment sampling and analysis.
   c. In-plant radioiodine sampling and analysis.
   d. Offsite environmental sampling and analysis.
   e. Potential loss of containment.
6. Protective action decision making.
7. Operation of emergency equipment.


7
7.0
DRILLS, EXERCISES & WALK-THROUGHS
7.1
PROGRAM IMPLEMENTED
5.5
f
PPOCEDURE ADEQUATE
7.2
WALK THRU OBSERVATION
a
2.1.4
2.2.4
3.2.2
7.2.1
EMERGENCY DETECTION
7.2.3
NOTIFICATION
7.2.5
POST-ACCIDENT SAMPLING & ANALYSIS
7.2.7
IN-PLANT SAMPLING & ANALYSIS
7.2.9
PROTECTIVE ACTION DECISIONMAKING
7.2.2
EMERGENCY CLASSIFICATION
7.2.4
DOSE CALCULATIONS
7.2.6
CONTAINMENT AIR SAMPLING & ANALYSIS
7.2.8
OFFSITE ENVIRONMENTAL SAMPLING & ANALYSIS

IMPLEMENTATION AREA	NUREG 0654 ELEMENT	PLAN REFERENCE	ACCEPT. CRITERIA	COMMENTS
DRILLS AND EXERCISES	SECTION "N"		Appendix E SECTION F	
7.1 Program Implementation				
a. Have all drills and exercises required by the plan and procedures been conducted?				
b. Were they conducted in accordance with the established procedure?				
c. Have drill-identified improvement items been resolved?				
d. If not, are they receiving priority attention commensurate with their importance?				
e. Were drills coordinated with offsite agencies and groups to include their participation and comments?				
7.2 Walk-Through Observation			P.J.	
a. Has the capability been demonstrated to notify responsible state and local governmental agencies of the appropriate protective actions within 15 minutes of discovery of the initiating events?				
b. Did the observed individuals demonstrate the basic skills and knowledge necessary to perform the assigned tasks(s)?				
c. Were the equipment and facilities specified in the procedure used to complete the observed tasks?				

IMPLEMENTATION AREA	NUREG 0654 ELEMENT	PLAN REFERENCE	ACCEPT. CRITERIA	COMMENTS

d. Were the equipment and facilities operable and adequate?

e. Were the procedures understandable to the user, up-to-date and complete?

f. Did you observe any impediments to timely and effective performance of the following:

1) Emergency detection; (EAL Recognition)

2) Emergency classification;

3) Notifications;

a) NRC

b) State government

c) Local government

d) Licensee site organization

e) Licensee augmentation organization

4) Dose calculations;

a) Monitors operable

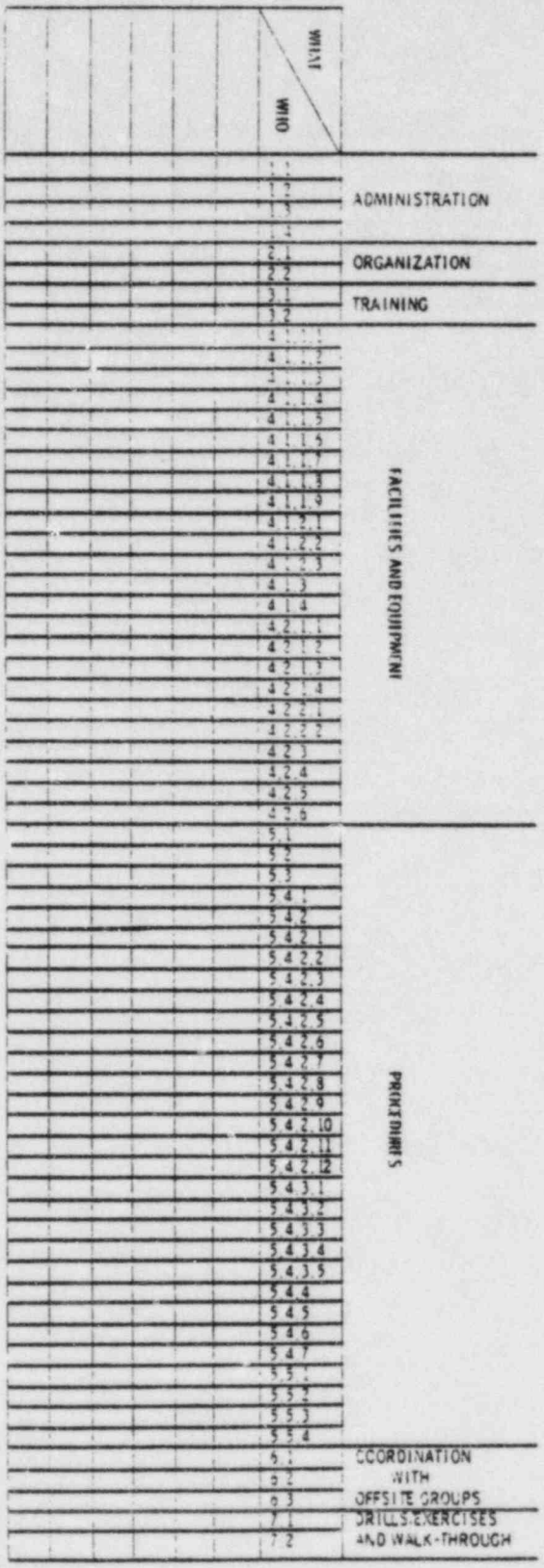
b) Monitors inoperable

c) Field survey results

5) Post Accident coolant sampling and analysis (3 hour standard);

IMPLEMENTATION AREA	NUREG 0654 ELEMENT	PLAN REFERENCE	ACCEPT. CRITERIA	COMMENTS
6) Containment air sampling and analysis (3 hour standard);				
7) Stack effluent sampling and analysis (3 hour standard);				
8) Liquid effluent sampling and analysis (3 hour standard);				
9) In-plant radioiodine sampling and analysis (3 hour standard);				
10) Offsite environmental sampling and analysis;				
a) Noble gas				
b) Radioiodine				
c) Particulate				
d) Contamination				
11) Protective Action decision-making?				

Appendix B
Appraisal Matrix


WHAT
WHO
1.1
1.2
1.3
ADMINISTRATION
2.1
ORGANIZATION
2.2
3.1
TRAINING
3.2
4.1.1.1
4.1.1.2
4.1.1.3
4.1.1.4
4.1.1.5
4.1.1.6
4.1.1.7
4.1.1.8
4.1.1.9
4.1.2.1
4.1.2.2
4.1.2.3
4.1.3
4.1.4
4.2.1.1
4.2.1.2
4.2.1.3
4.2.1.4
4.2.2.1
4.2.2.2
4.2.3
4.2.4
4.2.5
4.2.6
FACILITIES AND EQUIPMENT
5.1
5.2
5.3
5.4.1
5.4.2
5.4.2.1
5.4.2.2
5.4.2.3
5.4.2.4
5.4.2.5
5.4.2.6
5.4.2.7
5.4.2.8
5.4.2.9
5.4.2.10
5.4.2.11
5.4.2.12
5.4.3.1
5.4.3.2
5.4.3.3
5.4.3.4
5.4.3.5
5.4.4
5.4.5
5.4.6
5.4.7
5.5.1
5.5.2
5.5.3
5.5.4
PROCEDURES
6.1
6.2
6.3
COORDINATION WITH OFFSITE GROUPS
7.1
7.2
DRILLS/EXERCISES AND WALK-THROUGH

APPENDIX C

NUREG-0654/APPRAISAL

CROSS-REFERENCE

NUREG-0654/APPRAISAL CROSS-REFERENCE

NUREG-0654 ELEMENT	APPRAISAL SECTION
A.1.a	2.2
A.1.b	2.1, 2.2
A.1.c	2.1, 2.2
A.1.d	2.1
A.1.e	5.4.1
A.2.a	NA
A.2.b	NA
A.3	2.2, 6.1
A.4	2.1
B.1	2.1
B.2	2.1
B.3	2.1
B.4	5.3
B.5	2.1, 2.2, 5.0
B.6	2.1, 2.2, 5.0
B.7	2.2, 5.0
B.8	2.2, 5.0
B.9	2.2, 5.0, 6.1
C.1.a	5.3
C.1.b	NA
C.1.c	NA
C.2.a	NA
C.2.b	2.1, 2.2
C.3	2.2
C.4	2.2
D.1	5.2, 5.3
D.2	5.2, 5.3
D.3	NA
D.4	NA
E.1	5.4.1, 6.1
E.2	5.4.1
E.3	5.4.1, 6.1
E.4 a-n	5.4.1, 6.1
E.5	NA
E.6	5.4.1, 4.3
E.7	5.4.1,

NUREG-0654 ELEMENT	APPRAISAL SECTION
F.1.a	5.4.1, 4.3
F.1.b	4.3
F.1.c	4.3
F.1.d	4.3
F.1.e	5.4.1, 4.3
F.1.f	4.3
F.2	NA
F.3	4.3, 5.5.2
G.1	6.2
G.2	6.2
G.3.a	2.1, 2,2, 4.5
G.3.b	4.5
G.4.a	2.1, 2.2
G.4.b	2.1, 2.2
G.5	3.0, 6.3
H.1	4.6, 4.7
H.2	4.4, 4.5
H.3	NA
H.4	5.3, 5.4.1
H.5	4.0
H.5.a	4.2.2
H.5.b	4.2.1, 4.1
H.5.c	4.2.1
H.5.d	NA
H.6.a	5.2, 5.3
H.6.b	5.2, 5.3
H.6.c	5.2, 5.3
H.7	4.1
H.8	4.2.2
H.9	4.6
H.10	5.5.1
H.11	5.5.1
H.12	4.5, 5.4.2.1
1.1	5.2, 5.3
1.2	5.4.2
1.3 a & b	5.4.2
1.4	5.3, 5.4.2

NUREG-0654 ELEMENT	APPRAISAL SECTION
I.5	4.2.2, 5.4.2
I.6	5.4.2
I.7	5.4.2.1, 5.4.2.2
I.8	2.1, 4.0, 5.0
I.9	4.1
I.10	5.4.2
I.11	NA
J.1 a-d	5.4.1, 5.4.3.2
J.2	4.12.1, 5.4.3.2
J.3	5.4.3.4
J.4	5.4.3.2, 5.4.3.4
J.5	5.4.3.3
J.6	5.4.3.1
J.7	5.4.1, 5.4.2
J.8	NA
J.9	NA
J.10 a-m	NA
J.11	NA
J.12	NA
K.1.a	5.4.3.1, 5.4.3.5
K.1.b	5.4.3.1, 5.4.5
K.1.c	5.4.2.1, 5.4.2.7, 5.4.3.1
K.1.d	5.4.3.1, 5.4.3.5
K.1.e	5.4.3.1, 5.4.3.4
K.1.f	5.4.3.1, 5.4.3.5
K.1.g	5.4.3.1, 5.4.3.5
K.2	5.4.3.1
K.3.a	5.4.3.1
K.3.b	5.4.3.1
K.4	NA
K.5.b	5.4.3.1, 5.4.3.4
K.5.a	5.4.3.4
K.6.a	5.4.3.1
K.6.b	5.4.3.1
K.6.c	5.4.3.1
K.7	5.4.3.4

NUREG-0654 ELEMENT	APPRAISAL SECTION
L.1	2.1, 2.2, 5.4.3.5, 6.1
L.2	4.10, 5.4.3.5
L.3	NA
L.4	2.2, 5.4.3.5, 6.1
M.1	5.4.6
M.2	5.4.6
M.3	5.4.6
M.4	5.4.2
N.1.a	5.5.2, 7.1
N.1.b	5.5.2, 7.1
N.2.a-e	5.5.2, 7.1
N.3.a-f	5.5.2, 7.1
N.4	5.5.2, 7.1
N.5	5.5.2, 7.1
O.1	3.0
O.1.a	3.1.f, 3.1.g
O.1.b	NA
O.2	3.1.m
O.3	3.1.p
O.4 a-j	3.1.c
O.5	3.0
P.1	1.4
P.2	1.1
P.3	1.1
P.4	5.5.3
P.5	5.5.3
P.6	NA
P.7	NA
P.8	NA
P.9	5.5.4
P.10	5.5.3