Energy Harbor Nuclear Corp.
Beaver Valley Power Station
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724-682-5234

June 14, 2021
L-20-295

10 CFR 50.90

ATTN: Document Control Desk
U.S. Nuclear Regulatory Commission
Washington, DC 20555-0001

SUBJECT:
Beaver Valley Power Station, Unit Nos. 1 and 2
Docket No. 50-334, License No. DPR-66
Docket No. 50-412, License No. NPF-73
Emergency Plan Amendment Request

Pursuant to 10 CFR 50.90, Energy Harbor Nuclear Corp. (EHNC) hereby requests an amendment to the Beaver Valley Power Station, Unit Nos. 1 and 2 (BVPS) Emergency Preparedness Plan (EPP). The proposed changes are being submitted to the Nuclear Regulatory Commission (NRC) for approval, prior to implementation, pursuant to 10 CFR 50.54(q)(4).

The proposed changes to the BVPS EPP would reduce the number of on-shift staff positions, extend augmented Emergency Response Organization (ERO) response times, and re-align augmented ERO response positions. EHNC has reviewed the proposed changes against the planning standards in 10 CFR 50.47(b) and requirements of 10 CFR 50, Appendix E and concludes that the standards and requirements will continue to be met.

An evaluation of the proposed amendment is enclosed. The EHNC staff discussed the proposed BVPS EPP changes with the staffs of the Commonwealth of Pennsylvania, State of Ohio, State of West Virginia, Beaver County (Pennsylvania), Hancock County (West Virginia), and Columbiana County (Ohio) (Offsite Response Organizations). The Offsite Response Organizations indicated that the proposed BVPS EPP changes were understood and were satisfied that the proposed changes do not impact their respective radiological emergency preparedness plans.

EHNC is requesting Nuclear Regulatory Commission (NRC) staff approval of the proposed amendment by June 30, 2022. Once approved, the amendment shall be implemented within six (6) months.

There are no regulatory commitments contained in this letter. If there are any questions or if additional information is required, please contact Mr. Phil H. Lashley, Manager - Fleet Licensing, at 330-696-7208.

I declare under penalty of perjury that the foregoing is true and correct. Executed on June 14, 2021.

Sincerely,

Grabnar, John 19072

Grabnar, John 19072
Site Vice President, Beaver Valley
I am approving this document
Jun 14 2021 5:14 PM

DocuSign

John J. Grabnar

Enclosure:
Evaluation of a Request for Licensing Action

cc: NRC Region I Administrator
NRC Region III Administrator
NRC Resident Inspector
NRC Project Manager
Director BRP/DEP
Site BRP/DEP Representative
Executive Director, Ohio Emergency Management Agency,
State of Ohio (NRC Liaison)
Utility Radiological Safety Board
West Virginia Emergency Management Division

Subject: Request for licensing action to revise the Beaver Valley Power Station, Emergency Preparedness Plan to reduce on-shift staff positions, extend augmented Emergency Response Organization (ERO) response times, and re-align augmented ERO response positions.

Attachments:

1. Beaver Valley Power Station EPP Affected Pages (Mark-ups)
2. Beaver Valley Power Station EPP Affected Pages (Clean Copy)
3. Emergency Response Organization (ERO) Change Summary
4. Beaver Valley Power Station EPP Table B-1 Comparison Chart

1.0 SUMMAR DESCRIPTION

This evaluation supports a request to amend Operating License Nos. DPR-66 and NPF-73 for Beaver Valley Power Station, Unit Nos. 1 and 2 (BVPS-1, BVPS-2, or collectively BVPS).

The amendment request proposes revisions to the BVPS Emergency Preparedness Plan (EPP). The proposed EPP changes include:

- Elimination of 30-minute augmented response times
- Extension of the requirement for dispatch of sampling teams and augmented emergency response organization (ERO) positions to 60 and 90 minutes, as applicable
- Addition of 60-minute facility activation criteria for the Technical Support Center (TSC), Operations Support Center (OSC), and Emergency Operations Facility (EOF)
- Reorganization of the transfer of command and control functions in support of 60-minute activation of Emergency Response Facilities (ERFs)
- Extend augmented ERO response times from 30 and 60 minutes to 60 and 90 minutes
- Revision of EPP Table 5.1, Minimum On-Shift Staffing Requirements, to reflect the Nuclear Regulatory Commission (NRC) Revised Table B-1, Emergency Response Organization (ERO) Staffing and Augmentation Plan, content for performance of emergency preparedness (EP) functions for BVPS
- Standardization of facility names, position titles, and responsibilities to align with the Energy Harbor Nuclear Corp. fleet
- Re-assignment of the responsibility for performance of on-shift dose assessment from the on-shift Radiation Protection (RP) Technician to the Shift Engineer/Shift Technical Advisor (SE/STA)
- Reduction of the number of RP Technicians on-shift from three (3) to two (2)
- Revision of the activation of the EOF and staffing of the Joint Information Center (JIC) from the Site Area Emergency or General Emergency classification to the Alert or higher classification level and
- Revision of augmented ERO positions to align with facility activation and command and control functional changes, and elimination of duplicative activities.

Revised figures delineating positions associated with facility activation are included in the proposed BVPS EPP changes. This will allow for the transfer of Classification, State/local Notification, Dose Assessment, Protective Action Recommendation (PAR), and Emergency Exposure functions from the Control Room (CR) in advance of 60 minutes when minimum staff positions are met as defined in the proposed EPP changes.

To support the proposed EPP changes, BVPS completed an on-shift staffing analysis of on-shift responsibilities. Additionally, a functional analysis of the augmented ERO positions based on an extended response time and completion of Major Tasks as outlined in NUREG-0654/FEMA-REP-1, Criteria for Preparation and Evaluation of Radiological Emergency Response Plans and Preparedness in Support of Nuclear Power Plants, (NUREG-0654) Revision 1 (Accession No. ML040420012), and NRC letter to Nuclear Energy Institute (NEI), subject Alternative Guidance for Licensee Emergency Response Organizations, dated June 12, 2018 (NRC Revised Table B-1) (Accession No. ML18022A325) was completed (References 1 and 2). The analyses results supported the determination that the proposed EPP changes could be made while maintaining the site s ability to protect public health and safety.

The changes in staffing numbers and staff augmentation times are considered a reduction in the effectiveness of the BVPS EPP as defined in 10 CFR 50.54(q)(1)(iv). In accordance with 10 CFR 50.54(q)(4), changes to a licensee s emergency plan that reduce the effectiveness of the plan may not be implemented without prior NRC approval and are to be submitted as license amendment requests (LAR) in accordance with 10 CFR 50.90.

2.0 DETAILED DESCRIPTION

2.1 Proposed Changes

Brief descriptions of the proposed BVPS EPP changes are provided below. The justifications for the changes are described in Section 3.2. The specific wording changes are provided in Attachments 1 and 2 as marked-up and clean copy EPP pages, respectively.

a. Section 1, Definitions, Item 1.18, Emergency Coordinators, Item 1.19, Emergency Managers, and Item 1.20, Emergency Director, are being deleted as the positions are described in EPP Section 5 and this reduces duplicity of information within the EPP. The changes are aligned with the proposed changes for ERO staffing at the Alert or higher classification as described in EPP Section 6.2.2.

b. Section 1, Definitions, new Item 1.18, Emergency Director, added definition to reflect position title change to Emergency Coordinator to align with fleet standardization.

c. Section 1, Definitions, new Item 1.19, Emergency Facility, added definition to include TSC, OSC, EOF, and JIC to align with EPP Section 7 description.

d. Section 1, Definitions, Item 1.26, Emergency Recovery Manager, revised to reflect position title change to Emergency Director to align with fleet standardization.

e. Section 1, Definitions, Item 1.28, Essential Personnel, deleted definition as positions necessary for protection of public health related to emergency response are outlined in EPP Section 5, Table 5.1.

f. Section 1, Definitions, new Item 1.30, Facility Activation, added definition to establish criteria based on industry guidance in support of the proposed change.

g. Section 1, Definitions, Item 1.42, Joint Public Information Center, revised to change facility name to Joint Information Center to align with fleet standardization.

h. Section 1, Definitions, Item 1.69, Technical Support Center (TSC), revised reference to Emergency Director to reflect new position name of Emergency Coordinator.

i. Section 1, Definitions, renumbered various definitions due to the aforementioned definition changes.

j. Section 1, Abbreviations, added EC for Emergency Coordinator position, deleted E/RM based on position title change to Emergency Director, and revised JPIC to JIC to align with fleet standardization.

k. Section 3.1, Onsite Emergency Organization, revised titles for the ERO positions associated with command positions in the Control Room, TSC, and EOF and updated reference to staffing of facilities at the Alert or higher classification. Removed reference to EPP Table 3.1, Responsibility Matrix. This information is provided in detail in EPP Section 5 so the table is not required.

l. Section 3.2, Offsite Emergency Organizations, removed reference to EPP Table 3.1, Responsibility Matrix. This information is provided in detail in EPP Section 5, so the table is not required.

m. Section 3.3, Emergency Measures, revised sub-sections 3.3.1, 3.3.2, 3.3.3, 3.3.5, and 3.3.6 to reflect activation of the TSC, OSC, and EOF at an Alert or higher classification added diagram to outline transition of command and control functions from the CR to the TSC and EOF and revised ERO titles.

n. Table 3.1, Responsibility Matrix, is being deleted as this information is duplicative of other figures and tables in the EPP.

o. Section 5.2, BVPS Emergency Organization, revised to reflect activation of the TSC, OSC, and EOF, and staffing of the JIC at an Alert or higher classification ERO position title changes and deleted references to duplicative tables described in detail in the following paragraphs.

p. Section 5.2.1, Emergency Director, revised to reflect new position title of Emergency Coordinator and organizational responsibilities associated with the changes in the command and control structure and communications as outlined in Section 3.3.1 of the EPP.

q. Section 5.2.2, Emergency/Recovery Manager, revised to reflect new position title of Emergency Director and responsibilities in accordance with fleet standardization, as well as, removed references to activation of ERO at a Site Area or General Emergency, and removed references to reporting outside the ERO chain.

r. Section 5.2.3, Assistant to the Emergency Director and Assistant to the Emergency/Recovery Manager, revised to reflect new TSC Manager and EOF Manager position titles.

s. Section 5.2.4, Operations Coordinator, the change removes the position in the CR and EOF and maintains the position in the TSC. The change reflects the TSC facility focus on on-site activities and the EOF focus on offsite activities as noted in Section 3 of the EPP. The proposed change maintains initial communications related to plant conditions as being performed by the Shift Manager and STA and adds augmentation by a Control Room Communicator position.

t. Section 5.2.5, Communications and Records Coordinator, revised to reflect new position title of State/local Communicator and removed generic references to communications assistants as positions responsible for communication functions.

u. Section 5.2.6, Operations Support Center (OSC) Health Physics Coordinator, revised to reflect TSC position title changes to align with fleet standardization.

v. Section 5.2.7, Radiological Controls Coordinator, revised to reflect new position title Radiation Protection Coordinator and removed references to performance of offsite activities. The change reflects the TSC facility focus on onsite activities, while the EOF focuses on offsite activities as noted in Section 3 of the EPP.

w. Section 5.2.8, Environmental Assessment and Dose Projection Coordinator, revised to reflect new position title of Dose Assessment Coordinator and removed the position in the TSC while maintaining the position in the EOF. The change reflects the TSC facility focus on onsite activities and EOF focus on offsite activities as noted in Section 3 of the EPP.

x. Section 5.2.9, Environmental Coordinator, revised to reflect a new position title of Field Monitoring Team (FMT) Coordinator and removed generic references to assignment of Environmental Assessment and Dose Projection (EA DP) assistants as support positions responsible for environmental functions. Also removed references to the Environmental Emergency Response Plan as these actions are based on the site Radiological/Effluent Monitoring Plan (REMP) requirements, which are governed by regulations outside of 10 CFR 50.47(b) and 10 CFR 50, Appendix E.

y. Section 5.2.10, Engineering Coordinator, removed references to the Technical Support Coordinator position and revised position titles with Core Hydraulic, Mechanical, and Electrical Engineers as noted in Section 5.2.11 of the EPP.

z. Section 5.2.11, Technical Support Coordinator, revised to eliminate this position and replace it with the Core Hydraulic, Mechanical, and Electrical Engineers in the TSC. Also, revised to eliminate references to the Ohio Emergency Management Liaison position. This position is being eliminated.

aa. Section 5.2.11.1, Ohio Emergency Management Liaison TSC, revised to eliminate this position in the TSC.

bb. Section 5.2.12, Computer Coordinator, revised to eliminate this position from the ERO as access to computer-based information is now readily available on ERF computers and no longer requires the use of a dedicated resource for retrieval.

cc. Section 5.2.13, Operations Supports Center Coordinator, revised section numbering (new Section 5.2.12) and revised to reflect change in reporting structure. Deleted note in this section that references performance of plant activities by on-shift operations personnel. On-shift staffing is being revised to reflect only those positions performing EP functions in accordance with revised NRC Table B-1 formatting.

dd. Section 5.2.14, Maintenance Coordinator, revised section numbering (new Section 5.2.13) and revised position titles.

ee. Section 5.2.15, Security Coordinator, revised section numbering (new Section 5.2.14) and reflected position reporting change to the TSC Manager.

ff. Section 5.2.16, Chemistry Coordinator, revised to eliminate this position. Staffing is being revised to reflect only those positions performing EP functions in accordance with revised NRC Table B-1 formatting. Activities associated with chemistry sampling continue to be performed in accordance with site technical specifications.

gg. Section 5.2.17, Operations Communicator, revised section numbering (new Section 5.2.15) and revised to reflect title changes and facility activation changes.

hh. Section 5.2.16, ENS Communicator, added new position responsible for communications with the NRC from the TSC.

ii. Section 5.2.18, Support Services Manager, revised to eliminate this position. This is an administrative position that will be maintained in site procedures.

jj. Section 5.2.19, Offsite Agency Liaison, renumbered section (new Section 5.2.17) and revised to reflect activation at an Alert or higher classification, as well as the realignment of reporting structure in the EOF.

kk. Section 5.3, Nuclear Communications, revised to eliminate section title as the JIC positions are included in the emergency organization under EPP Section 5.2.

ll. Section 5.3.1, Chief Company Spokesperson, renumbered to EPP Section 5.2.18 and revised to reflect title change to Company Spokesperson and other position titles in accordance with fleet standardization.

mm. Section 5.3.2, JPIC Manager, renumbered to EPP Section 5.2.19 and revised to reflect title and facility change to JIC and JIC Manager in accordance with fleet standardization.

nn. Section 5.3.3, Media Relations Coordinator, renumbered to EPP Section 5.2.20 and revised to add the responsibility for response to media inquiries as a new task. Details associated with this change are included in Attachment 3.

oo. Section 5.3.3.1, Technical Briefer, eliminated the Technical Briefer position as part of the organizational re-alignment in the JIC. Technical Briefer tasks will be re-assigned to the Company Spokesperson located in the JIC.

pp. Section 5.3.4, Information Manager, renumbered to EPP Section 5.2.21 and revised to reflect position title change to Information Coordinator and consolidate functions with the existing Information Coordinator position. Also replaced Nuclear Communications Organization with JIC in accordance with change to EPP Section 5.3 described above. Details associated with this change are included in Attachment 3.

qq. Section 5.3.4.1, Information Coordinator, revised to eliminate this position as part of the combination of duties with the previously named Information Manager position.

rr. Section 5.3.4.1, Rumor Control Coordinator JPIC, eliminated the position as these duties are being combined with the Media Monitoring position as described below. This change is aligned with the fleet standardization effort.

ss. Section 5.3.4.1, Media Monitor, renumbered to EPP Section 5.2.21.1 and revised to reflect position title change to Media Monitor/Rumor Control, and consolidation of media monitoring and rumor control functions based on the use of new technology such as social media. Details associated with this change are included in Attachment 3.

tt. Section 5.3.4.1, Media Contact, this position is eliminated as social media inputs have replaced phone communications resulting in reduced need for resources in this area. Media inquiry responsibilities are transferred to the Media Relations Coordinator.

uu. Section 5.3.5, Logistics Coordinator (JPIC), renumbered to EPP Section 5.2.22 and revised to reflect the facility name change and removed references to the Emergency Public Information Response Team (PIRT) since JIC staffing is simultaneous with activation of other ERFs, so additional support in advance of JIC staffing is no longer required. Details associated with this change are included in Attachment 3.

vv. Section 5.3.5.1, Engineering Communications Representative, eliminated this position as a result of improvements in technology that eliminated the need for these tasks. Details associated with this change are included in Attachment 3.

ww. Section 5.3.5.2, Administrative Support, eliminated this position. This is a support function not required to implement EP activities. Support activities will be controlled in site procedures. Details associated with this change are included in Attachment 3.

xx. Section 5.3.5.3. Security Coordinator, eliminated this position. Security functions are not required to implement EP activities. Details associated with this change are included in Attachment 3.

yy. Section 5.3.6, JPIC Technical Advisor, renumbered to EPP Section 5.2.23, revised position title to JIC Technical Advisor and incorporated revised facility title and other position titles.

zz. Section 5.3.7, Customer Services, eliminated this position and combined public response functions with Media Monitor/Rumor Control Coordinator position in the JIC. Details associated with this change are included in Attachment 3.

aaa. Section 5.3.8, Nuclear Communications Manager - EOF, revised title to Nuclear Communications Coordinator, renumbered to EPP Section 5.2.24, and consolidated functions with the Nuclear Communications Writer as described in EPP Section 5.3.8.1. Details associated with this change are included in Attachment 3.

bbb. Section 5.3.8.1, Nuclear Communications Writer, eliminated this position and re-assigned writing of news announcements to the Nuclear Communications Coordinator. Details associated with this change are included in Attachment 3.

ccc. Section 5.3.8.2, Nuclear Communications Technical Advisor - EOF, eliminated this position in the EOF as information will be available from the Operations Communicator in the EOF. Details associated with this change are included in Attachment 3.

ddd. Section 5.3.9, EMA Contact Representative, revised to consolidate Emergency Management Agency (EMA) Contact Representative communications with offsite Public Information Officers (PIOs) and relocated to the Logistics Coordinator position as noted in Section 5.3.5, above.

eee. Section 5.4, Emergency Organization Staffing, revised to update references to Figures, renumbered section and subsections to EPP Section 5.3 and Subsections 5.3.xx, and removed references to plant response activities performed by on-shift operations personnel. Also revised reference to Nuclear Communications Emergency Organization to JIC as described in the change to EPP Section 5.2 above.

fff. Section 5.5, Augmentation of the Onsite Emergency Organization, and subsections renumbered as Section 5.4 and Subsections 5.4.xx.

ggg. Section 5.5.5, Local Services Support, renumbered to EPP Section 5.4.5 and removed reference to on-shift operations personnel and plant equipment response.

hhh. Section 5.5.6, Other Support Services, revised to reflect reference specifically to area outside the TSC and renumbered to EPP Section 5.4.6.

iii. Section 5.6, Coordination with Participating Government Agencies, and subsections renumbered to Section 5.5 and Subsections 5.5.xx.

jjj. Section 5.6.1, State and Local Agencies, revised to update references to EPP Table 5.3 and renumbered to EPP Section 5.5.1.

kkk. Table 5.1, Minimum On-Shift Staffing Requirements, revised to identify proposed changes in response times as well as minimum staff positions in the TSC, OSC, and EOF to align with revised NRC Table B-1.

lll. Table 5.2, Minimum BVPS Unit 1 and Unit 2 Crew Composition, deleted as it duplicates information in EPP Table 5.1 and BVPS Technical Specifications.

mmm. Figure 5.1, Beaver Valley Power Station, revised to reflect the current site organization.

nnn. Figure 5.2, Onshift Emergency Organization, revised to reflect position title changes and position eliminations.

ooo. Figure 5.3, Technical Support Center Organization, revised to reflect changes in facility organization and response times.

ppp. Figure 5.4, Operations Support Center Organization, new figure that adds an organizational chart which identifies OSC staffing and response times.

qqq. Figure 5.5, Emergency Operations Facility Organization, revised to reflect changes in facility organization and minimum staff positions and renumbered from EPP Figure 5.4 to Figure 5.5 to reflect inclusion of OSC staffing as EPP Figure 5.4.

rrr. Figure 5.6, Emergency Public Information Response Organization, renumbered from Figure 5.5 to Figure 5.6 to reflect inclusion of OSC staffing as EPP Figure 5.4 renamed to Joint Information Response Organization and revised to reflect changes in facility organization and staffing for the JIC.

sss. Figure 5.7 (no title) revised to reflect position title changes as previously described and renumbered from Figure 5.6 (no title) to Figure 5.7 (no title) to reflect inclusion of OSC staffing as EPP Figure 5.4.

ttt. Figure 5.7 (no title) deleted as the information is duplicative of information in revised EPP Table 5.1.

uuu. Table 5.3 (no title) deleted as this information is duplicative of information included in revised EPP Table 5.1.

vvv. Table 5.4, Offsite Organizations, renumbered as EPP Table 5.3.

www. Section 6.1, Emergency Initiation, revised to reflect updated position titles.

xxx. Section 6.2.1, Activation for Unusual Events, revised to reflect updated position titles.

yyy. Section 6.2.2, Activation for Alert Emergencies, revised section title to reflect applicability to Alert or higher classification levels. Revision also reflects activation of the ERO as a whole rather than citing specific positions and incorporated updated position titles.

zzz. Section 6.2.3, Activation for Site Area Emergency or General Emergency, deleted as part of the change to activate the EOF and staff the JIC at an Alert or higher classification.

aaaa. Section 6.2.4, Activation of the Emergency Facilities, renumbered to EPP Section 6.2.3 and revised to remove references to 30-minute response positions and added 60-minute activation times for the TSC, OSC, and EOF. Additionally, updated titles and the revised organization described above were included.

bbbb. Section 6.3.1, Offsite Emergency Response Groups, revised to reflect updated position titles.

cccc. Section 6.3.2, Corporate Organization, revised to reflect updated position titles.

dddd. Section 6.4, Activation of Offsite Emergency Response Organizations, revised to reflect updated position titles and activation at the Alert or higher classification.

eeee. Section 6.5.1.1, Unusual Event, revised to address response by CR personnel on-shift.

ffff. Section 6.5.1.2, Alert, revised to reflect increased offsite monitoring efforts at an Alert classification.

gggg. Section 6.5.1.3, Site Area Emergency, revised to remove references to offsite monitoring now initiated at the Alert classification as well as references to chemistry sampling that is performed in accordance with site technical specifications.

hhhh. Section 6.5.2, Plant System Status, revised title of Staff Nuclear Advisor to Shift Technical Advisor to align with standard organizational titles.

iiii. Section 6.5.3.5, Initiation and Performance of Dose Projection Functions, revised to reflect updated position titles and activation of facilities at the Alert or higher classification.

jjjj. Section 6.5.4, Field Radiological Monitoring, revised to reflect updated position titles.

kkkk. Section 6.5.4.3, Offsite Radiological Monitoring Gaseous Release, revised to reflect updated position titles and the timing associated with the dispatch of two (2) monitoring teams.

llll. Section 6.5.4.4, Offsite Monitoring Liquid Release, revised to reflect new positions titles.

mmmm. Section 6.5.4.5, Emergency Environmental Monitoring, revised to reflect updated position titles.

nnnn. Section 6.7, Protective Actions, revised to reflect updated position titles and distribution of command and control responsibilities.

oooo. Section 6.7.1.3, Site Assembly, revised to reflect updated position titles.

pppp. Section 6.7.1.4, Site Evacuation, revised to reflect updated position titles.

qqqq. Section 6.7.1.5, Personnel Accountability, revised to reflect updated position titles.

rrrr. Section 6.7.1.6, Contamination Control, revised to reflect updated position titles.

ssss. Section 6.7.1.7, Exposure Control, revised to reflect updated position titles.

tttt. Section 6.7.1.8, Respiratory Protection, revised to reflect updated position titles.

uuuu. Section 6.7.2.1, Protective Actions Within Beaver County, Pennsylvania, revised to reflect updated position titles.

vvvv. Section 6.8.1, Personnel Decontamination, revised to reflect updated position titles.

wwww. Section 6.8.2, First Aid, revised to reflect responsibility of these activities as a function managed in accordance with the Fire Protection Program.

xxxx. Section 6.9, Emergency Public Information, revised to reflect change from JPIC and Emergency Public Information Center to JIC, as well as staffing for the facility.

yyyy. Table 6.1, Summary of Immediate Notification Response, revised to reflect facility staffing at the Alert classification. Also revised to eliminate the First Aid Teams and the Rescue Teams since both activities are addressed by resources managed outside of the EPP.

zzzz. Table 6.3, Emergency Exposure Criteria, revised to reflect updated position titles.

aaaaa. Section 7.1, Emergency Centers, section title revised to Emergency Facilities to align with EPP Section 1 and EPP Section 3 definition and usage.

bbbbb. Section 7.1.3, Emergency Response Facility, revised references to be TSC specific where applicable.

ccccc. Section 7.1.4, Emergency Operation Facility , revised to reflect generic name for the dose assessment area within the EOF.

ddddd. Section 7.1.5, Joint Public Information Center (JPIC), revised to reflect facility name change to JIC in accordance with fleet standardization effort.

eeeee. Section 7.4.5, Post Accident Sampling, deleted section as sampling requirements are managed in accordance with site procedures.

fffff. Section 7.5.3, Remote Assembly Areas, revised to reflect updated position titles.

ggggg. Section 7.6.4, DEP/BRP and NRC Communications, revised to reflect updated position title.

hhhhh. Section 7.6.5, Beaver Valley Power Station Industrial Radio, revised to reflect updated position title.

iiiii. Section 7.7, Onsite First Aid and medical Facilities, deleted section as first aid is addressed by resources managed outside of the EPP.

jjjjj. Section 7.8, Damage Control Equipment, revised to remove reference to Emergency Squad positions, renumbered to EPP Section 7.7, and inserted generic description of CR staff who perform the activities.

kkkkk. Section 9.1, Transition From Response to Termination and/or Recovery, revised to reflect updated position titles.

lllll. Section 9.2, Termination Criteria, revised to reflect updated position titles.

mmmmm. Section 9.4, Recovery, revised to reflect updated position titles.

Additionally, administrative changes have been made throughout the EPP, for example, format changes and page numbering changes, to ensure consistency in the final version of the EPP. These changes will not be further described.

2.2 Reason for the Proposed Changes

The proposed EPP changes formalizes TSC, OSC, and EOF activation times at 60 minutes while extending augmentation response times, eliminating certain on-shift positions, and reducing the number of augmented ERO positions needed to align the BVPS EPP with fleet standardization efforts and address concerns regarding limitations on the number of personnel available to respond to the site in 30 and 60 minutes. Some personnel live far enough away from the plant that they may be precluded from being assigned as augmented ERO responders. Extending augmentation times and realigning augmented ERO positions increases the population of eligible plant personnel available to fill ERO positions and add valuable expertise. The proposed changes will not be applied as permission to delay response to an event.

Changes to on-shift staffing are related to the removal of references to positions not performing emergency plan functions or those positions whose function is governed by other licensing programs such as Chemistry, Fire, and Security. The diverse and redundant nature of the emergency core cooling systems (ECCS) obviates the need for maintenance activities as part of the initial response to an event. As a result, the proposed changes remove the references to performance of maintenance functions from on-shift. Details associated with ECCS are addressed in Section 3.2.5. The proposed change revises the response time for augmentation of the instrument and controls (I C) technician at 30 minutes to 90 minutes, eliminates the 30 minute augmenting electrical maintenance technician, and maintains the 60 minute augmenting mechanical maintenance and electrical maintenance technicians. These changes reflect NRC guidance documents.

The proposed changes add the definition of facility activation as it relates to ERF readiness to accept emergency response functions and standardizes the criteria to better align with NRC guidance. The proposed changes defines activation criteria to clearly identify the positions that must be filled in the TSC, OSC, and EOF so that transfer of command and control functions (Classification, Notification, Protective Action Recommendations, Dose Assessment, Emergency Exposure Authorization) from the CR can be completed and on-shift personnel can be relieved of these duties. For the OSC, activated corresponds to the position required to transfer oversight of in-plant teams from the CR. The term staffed is applied to the JIC, which does not have responsibility for any command and control actions. The proposed changes allow for the transfer of command and control functions from the CR in advance of 60 minutes when minimum staff positions are filled.

The changes in staff augmentation times and the reassignment of multiple responsibilities for multiple ERO positions are considered a reduction in the BVPS EPP effectiveness as defined in 10 CFR 50.54(q)(1)(iv). In accordance with 10 CFR 50.54(q)(4), changes to a licensee s EPP that reduce the effectiveness of the plan may not be implemented without prior NRC approval and are to be submitted as a LAR in accordance with 10 CFR 50.90.

A table summarizing current emergency response positions and functions compared to the proposed changes, and an evaluation of the changes is included as Attachment 3. Attachment 4 provides a comparison chart that shows how the proposed changes reflect the NRC guidance for ERO staffing. The changes identified in the table do not reflect a re-design of the ERO, but only necessary reassignment of responsibilities based on the result of the functional analysis.

Conclusion

Maintaining an appropriate number of on-shift personnel, crediting technological advances available for on-shift responders, extending augmentation response times to 60 and 90 minutes, and re-alignment of ERO positions to emergency plan functions are practical and prudent alternate methods of ensuring effective and timely emergency response augmentation.

Details associated with the on-shift ERO, revised augmented ERO and revised key responsibilities and tasks as identified in NUREG-0654, Revision 1 and NRC Revised Table B-1 are included in Section 3.2.

2.3 BVPS EPP Background

The BVPS EPP was reviewed and approved by the NRC in Issue 8, Revision 1, as documented in NRC Safety Evaluation Report Supplement 5 (SSER 5) dated May 1987. As approved by NRC, the BVPS EPP contained 30-minute and 60-minute augmentation time goals for minimum staffing positions and met the intent of the guidance of NUREG-0654, Revision 1. These time goals were shown in BVPS EPP Table 5.1, Typical Emergency Organization Staffing Requirements for Beaver Valley Power Station. In Issue 8, Revision 1, activation of the TSC occurred at the Alert classification level while activation of the EOF occurred at the Site Area or General Emergency classification.

BVPS has four (4) ERFs augmenting the on-shift staff: the TSC, the OSC, the EOF, and the JPIC. During an emergency, the Shift Manager initially assumes the responsibility as Emergency Director (ED). Emergency response by on-shift staff is directed by the ED from the CR until relieved by an augmenting staff with the subsequent activation of ERFs.

BVPS uses four standard levels of emergency classification as described in NUREG-0654, Revision 1. The current EPP maintains the practice of activating the TSC and OSC at an Alert or higher classification, and activation of the EOF and JPIC at a Site Area or General Emergency classification level.

3.0 TECHNICAL EVALUATION

3.1 Technical Justification

This section describes technical changes in plant systems, dose assessment, procedures, and training that have been performed to better support on-shift functions and ease operator burden. An on-shift analysis utilizing the methodology of NEI 10-05, Assessment of On-Shift Emergency Response Organization Staffing and Capabilities, (Reference 3) was performed and determined that the proposed changes did not result in conflicting duties for on-shift personnel.

3.1.1 Plant Computer System

In the 1980 s, the plant computer systems installed in the BVPS CRs included a combination of plant computers, Safety Parameter Display Systems (SPDSs), and the dose assessment computers. The systems were not integrated, and it was necessary for operators to utilize multiple computers and displays during routine and emergency operations. The SPDS display located in the TSC served both the TSC and EOF.

Since the 1980 s, multiple computer system upgrades have taken place at BVPS. These design changes included replacement of the BVPS-1 In-Plant Computer (IPC) with the integration of SPDS, and the replacement of the BVPS-2 Process Computer System with the integration of SPDS.

The benefits of the current computer systems include:

- Simplified system flow diagrams with status information available on computer workstations,
- Ability to support multiple users,
- Plant data available through graphical displays,
- Plant data available on any desktop computer through the corporate network,
- Alarm monitoring and display of various parameters, and
- Monitoring and display of the six (6) Critical Safety Functions associated with protecting the health and safety of the public.

IPC and Plant Computer System (PCS) can provide information on in-plant process and effluent monitors, which include monitor trending and alarm status in the CR, TSC, and EOF.

3.1.2 Dose Assessment

3.1.2.1 Previous On-Shift Dose Assessment

The dose projection capabilities used by BVPS in 1986 were the Computer Assisted Class-A Model, Computer Assisted Class-B model, Class-A hand calculation methods, and Liquid Release Hand Calculation model. The 1986 capabilities centered around the Atmospheric Radioactivity Effluent Release Assessment System (ARERAS), a data collection system. ARERAS ran the Meteorological Information and Dose Assessment System (MIDAS). MIDAS provided a straight-line trajectory plume model.

3.1.2.2 Current On-Shift Dose Assessment

Currently, BVPS use the Unified RASCAL Interface (URI) dose projection software. The URI software includes the capability to complete multi-unit / multi-source dose projections. This allows dose assessment personnel to complete dose projections for events involving both BVPS Units or multiple release points from the site during an accident scenario. The site computer displays provide effluent radiation monitor indications as well as meteorological data from the Meteorological Tower. These displays also highlight radiation monitors that are in an alarm condition.

3.1.3 Procedure Improvements

3.1.3.1 Emergency Operating Procedures (EOPs)

Since the original EPP approval, the BVPS EOPs have been improved through internal operating experience and industry initiatives. EOPs use a symptom-based approach that demands less assessment and interpretation of plant conditions by the operating crews. The EOPs interface well with the BVPS-1 In-Plant Computer (IPC) and the BVPS-2 PCS. For example, monitoring of critical safety function status trees (CSFSTs) uses the IPC/PCS to graphically display plant conditions relative to limits or required actions. Overall, the improvements made to the EOPs greatly reduces the operator s reliance on the on-shift emergency response organization during the initial phase of the event.

3.1.3.2 Emergency Action Levels (EALs)

In 2017, BVPS updated the event classification methodology to NEI 99-01, Development of Emergency Action Levels for Non-Passive Reactors, Revision 6. BVPS EALs now incorporate guidance that has simplified the classification process, including the use of overview matrix wall charts containing EAL initiating conditions and threshold values that streamline the process of evaluating EALs against plant conditions allowing the on-shift operators to focus on event mitigating actions without the aid of the emergency response organization during the initial phase of any event.

3.1.4 Training Improvements

3.1.4.1 Operations Training

Operations Training is administered through the application of the systematic approach to training (SAT) to ensure that training is conducted to the industry-accepted standards required to achieve and maintain accreditation by the National Academy of Nuclear Training.

A dynamic reference plant simulator is used during operations training to provide hands on experience and practice in the operation of the plant in the CR during normal, abnormal, and emergency plant conditions in accordance with ACAD 07-002, Guidelines for Simulator Training. Out of the box simulator performance evaluations are an integral component of the requalification training cycle. The Energy Harbor Nuclear Corp. fleet training procedures describe the conduct of crew specific simulator training. Evaluation scenarios are designed to be realistic and provide an opportunity for performance evaluation during a wide range of plant operating conditions, including emergency conditions that require implementation of the plant s EOPs. The simulator training scenarios can vary in both length and complexity.

3.1.4.2 Shift Technical Advisor (STA) Training

Shift Technical Advisor (STA) training was developed to train the STA as an advisor to the CR team in accordance with the guidelines of NUREG-0737, Clarification of TMI Action Plan Requirements. In 1990, the Institute of Nuclear Power Operations (INPO) developed additional training guidelines as detailed in INPO 90-003, Guidelines for Training and ualifications of Shift Technical Advisors. The INPO guidelines describe the role of the STA. The INPO 90-003 guidelines were replaced by ACAD 14-002, Guidelines for the Training and ualification of Shift Technical Advisors. The STA training and qualification program adheres to the requirements of ACAD 14-002 and is implemented at BVPS by training program procedures. The STA performs independent assessments of plant parameters, monitors status trees, provides recommendations on appropriate corrective actions to restore plant parameters to acceptable values and assesses whether core damage has occurred or appears imminent. The STA also assists the Shift Manager with operability concerns and EAL classification.

3.1.5 Improvement Summary

Improvements to equipment, procedures, and training that have occurred since initial approval of the BVPS EPP have resulted in a significant increase in the on-shift capabilities and knowledge. Based on these improvements, BVPS concluded that there would be no significant degradation or loss of any functional capability as a result of the proposed changes in on-shift staff, augmentation times, facility activation criteria or re-alignment of augmented positions.

3.2 Functional Analysis

This analysis evaluates the impact of extending augmentation times, implementation of facility activation changes, and re-alignment of augmented ERO positions on the ability of the on-shift staff to perform the Major Tasks for the Major Functional Areas of the BVPS EPP. The analysis demonstrates that no degradation or loss of function would occur as a result of the proposed change.

This analysis was performed for the areas as described in NUREG-0654, Revision 1, Table B-1 as well as the NRC Revised Table B-1. In general, the analysis was organized to provide details for each functional area for (a) BVPS EPP Issue 8, Rev. 1, (b) the current BVPS EPP, and (c) the proposed BVPS EPP.

3.2.1 Plant Operations and Assessment of Operational Aspects Major Functional Area

NUREG-0654, Revision 1 assumes the on-shift staff will perform the Plant Operations and Assessment of Operational Aspects functions throughout the emergency. NRC

Revised Table B-1 replaced Plant Operations and Assessment of Operational Aspects with the Command and Control and Emergency Classifications functions. The revised table placed greater focus on EP functions performed by plant operations personnel.

In the proposed change, staffing levels associated with plant operations are revised to reflect only those positions performing EP functions of classification, notification, protective actions/dose assessment, core damage assessment, and oversight of on-shift ERO in order to better align the plan with NRC Revised Table B-1.

The proposed change was evaluated in accordance with 10 CFR 50, Appendix E.IV.A.9. The evaluation did not reveal any conflicting duties for on-shift personnel as a result of the proposed change and continues to meet NRC guidance. This change is acceptable in that it reflects NRC Revised Table B-1 content for performance of EP functions at BVPS.

3.2.2 Emergency Direction and Control Major Functional Area

NUREG-0654, Revision 1 guidance indicates that the Shift Supervisor or STA assumes this function as a collateral duty, where responsibility for overall direction of facility response may be transferred when ERFs are fully staffed. NRC Revised Table B-1 (Command and Control and Emergency Classification functions) identifies a position responsible for overall command and control of the ERO, Emergency Action Level (EAL) approval, and authorization of personnel dose extensions, as well as a position responsible for evaluation of plant conditions and classification recommendations as an ancillary duty.

a. In EPP Issue 8, Revision 1 of the BVPS EPP, the Shift Supervisor would assume the duties of Emergency Director (ED) and would be responsible for emergency response efforts until relieved by another ED at an Alert or higher classification. There were no response time requirements established with the relief process. The BVPS EPP identified an Emergency/Recovery Manager (ERM) position in the EOF, who was responsible for overall coordination of the response for Site Area or General Emergency classifications. There was no time requirement associated with activation of the EOF.

b. The current revision of the BVPS EPP maintains the commitments for the Shift Manager the Shift Supervisor (historical position title) is currently titled Shift Manager assuming the ED responsibilities until relived and the Emergency/Recovery Manager position responsibilities in the EOF.

c. In the proposed change, activation of both the TSC and EOF would occur within 60-minutes of an Alert or higher classification. The functions of classification, NRC notification, and emergency exposure authorization would be transferred to the Emergency Coordinator (EC) in the TSC while state and local notification, dose assessment, and protective action recommendation (PAR) development functions would transition to the ED in the EOF.

The proposed revision to BVPS EPP defines a facility as activated by its respective manager once minimum required staffing has been achieved such that the facility is capable of performing its assigned functions. The time from emergency declaration of a classification of Alert or higher to the time the facility is activated is the augmentation time for emergency responders.

The proposed revision to BVPS EPP, Figure 5.3 identifies minimum staff positions in the TSC, Figure 5.4 identifies minimum staffing in the OSC, and Figure 5.5 identifies the minimum staff positions in the EOF, which support activation of the facilities within 60 minutes of an Alert classification:

- Emergency Coordinator (TSC)
- Core Hydraulic Engineer (TSC)
- ENS Communicator (TSC)
- Radiation Protection Coordinator (TSC)
- OSC Coordinator (OSC)Emergency Director (EOF)
- Dose Assessment Coordinator (EOF)
- State/local Communicator (EOF)

The proposed change does not extend the amount of time that the Shift Manager/EC maintains responsibility for Emergency Direction and Control as the 60-minute TSC, OSC, and EOF activation criteria would ensure continued relief for on-shift personnel within the existing timeframe.

The proposed change identifies minimum staffing positions in the TSC, OSC, and EOF, which enable transfer of the command and control functions in advance of the 60-minute activation requirement.

The proposed change was evaluated in accordance with 10 CFR 50, Appendix E.IV.A.9. The evaluation did not reveal any conflicting duties for on-shift personnel as a result of the proposed change continues to meet the NUREG-0654, Revision 1, Table B-1 guidance.

3.2.3 Notification/Communication Major Functional Area

In accordance with NUREG-0654, Revision 1, the Notification/Communication Major Functional Area includes the major tasks to notify licensee, state, local and federal personnel and maintain communications. NRC Revised Table B-1 maintains the function as described in NUREG-0654, Revision. 1.

Licensee Notification Major Task

a. EPP Issue 8, Revision 1 identified the on-shift ED as being responsible for ensuring the notification of licensee off-duty personnel. This notification was completed at an Alert or higher classification for personnel assigned to respond to

the TSC. The ED in the TSC performed initial notification of the ERM in the EOF for activation of that facility if the event escalated to a Site Area or General Emergency classification level.

b. The current Plan maintains the Issue 8, Revision 1 commitment for notification of off-duty TSC positions by on-shift personnel at an Alert or higher classification. EOF activation at the Site Area or General Emergency classification is also maintained.

c. The proposed Plan expands the notification process for the augmented ERO in that personnel are notified to respond to the TSC, OSC, EOF, and JIC at an Alert or higher classification.

State, Local and Federal Notification Major Task

a. Issue 8, Revision 1 of the BVPS EPP, identified notification of state and local personnel as well as the NRC was the responsibility of the ED on-shift. This function transitioned to the Communication and Records Coordinator position in the TSC which was augmented at 30 minutes. Two (2) additional positions were augmented at 60 minutes in support of the notification function.

b. The current BVPS EPP maintains the Issue 8, Revision1 on-shift and augmented organization for the state, local, and federal notification functions.

c. The proposed change maintains an on-shift resource for performance of the state/local and federal notification functions, eliminates the 30-minute augmented response position, and provides for augmented staffing by two (2) responders at 60 minutes. This change supports the transition of the federal notification function to the TSC, and the state/local notification function to the EOF at 60 minutes.

The on-shift staffing analysis demonstrated that the on-shift communicator was able to perform the notification task for an additional 30 minutes without conflicts in accordance with the proposed change. This change is consistent with NRC Revised Table B-1 guidance.

3.2.4 Radiological Accident Assessment and Support of Operational Accident Assessment Major Functional Area

In accordance with NUREG-0654, Revision 1, the Radiological Accident Assessment and Operational Accident Assessment Major Functional Area includes establishing the EOF Director, Offsite Dose Assessment, Offsite and On-site (out-of-plant) surveys, In-plant surveys, and Chemistry/Radiochemistry major tasks. NRC Revised Table B-1 revised the functions to address the radiological aspects only.

Emergency Operations Facility (EOF) Director Major Task

Issue 8, Revision 1 of the BVPS EPP identified the TSC as the initial response facility. Accident assessment, evaluation, and recovery functions were initially transitioned from the Shift Supervisor/ED in the Control Room to the ED in the TSC rather than to an EOF position noted in NUREG-0654, Revision 1. Details regarding Direction and Control of Emergencies are discussed in Section 3.2.2.

Offsite Dose Assessment Major Task

a. In Issue 8, Revision 1 of the BVPS EPP, performance of dose assessment on-shift was completed using the Computer Assisted Class-A Model. Hand calculation methods were available as a back-up means of performing this function. The EPP indicated that on-shift personnel initially performed the function, the EA DP Coordinator was included as a 30-minute augmented responder in the TSC associated with this function. In Revision 27, the EPP was revised to identify the on-shift RP Technician as responsible for performance of the on-shift dose assessment function.

b. The current BVPS EPP maintains the Revision 27 requirement for the completion of on-shift dose assessment by an RP Technician as well as augmentation within 30 minutes by the EA DP Coordinator.

c. In the proposed change, responsibility for performance of dose assessment is reassigned to the on-shift STA and the on-shift RP Technician currently responsible for performance of this function would be added to the augmented response pool for the site. Additionally, the augmentation time for the EA DP Coordinator is extended from 30 minutes to 60 minutes and renamed the Dose Assessment Coordinator. This would result in the performance of the dose assessment function by the on-shift STA for a total of 60 minutes.

Performance of the core damage and dose assessment functions is supported by improvements made to plant computer systems as discussed in Section 3.1.1, as well as improvements in the dose assessment software noted in Section 3.1.2.2, resulting in the performance of these two activities by a single position improving the efficiency for performance of these tasks.

Offsite Surveys Major Task

a. In Issue 8, Revision 1 of the BVPS EPP, offsite radiation monitoring was initiated at a Site Area Emergency or higher classification by radcon personnel RP Technicians augmenting at 30 and 60 minutes. Monitoring teams were normally comprised of one (1) radcon technician RP Technician and another individual.

b. The current BVPS EPP maintains the requirement for augmentation of radiological monitoring teams within 30 minutes and 60 minutes respectively, at the declaration of a Site Area Emergency.

c. In the proposed EPP, the dispatch of offsite Field Monitoring Teams (FMT) would occur at the Alert rather than at the Site Area Emergency classification level. The FMT activities will be coordinated by the FMT Coordinator located in the EOF. Additionally, augmentation would be extended such that the first team would be dispatched at 60 minutes and the second team dispatched at 90 minutes rather than 30 and 60 minutes, respectively.

Review of FMT functions shows that the use of in-plant and effluent monitors effectively supports event classification as well as onsite and offsite protective actions such that performance of this major task at 60 minutes does not adversely impact site response. Initial FMT response involves environmental radiation and contamination assessments and plume tracking using dose assessment instrumentation. Actions include driving to and from field positions, reading dose rate and air sampling instrumentation, and communicating results to the EOF. The first team, dispatched at 60 minutes, can effectively track any potential plume and cover the necessary area to identify whether plume exists during the early stages of an event. The second team, dispatched at 90 minutes, will support continued plume tracking capability, as well as sampling activities. Oversight and direction for FMT s is provided by the FMT Coordinator in the EOF. This position maintains responsibility for the radiological safety of the FMTs.

Initiation of offsite radiological sampling at the lower classification level will continue to support timely performance of the function even with the extended dispatch time therefore, this change does not adversely impact performance of the offsite survey major task.

Onsite (out of plant) and In-Plant Survey Major Tasks

a. Issue 8, Revision 1 of the BVPS EPP required the dispatch of an onsite monitoring team in the event a radiological release was determined or estimated to be 100 times Technical Specification values. Onsite monitoring was performed by a team comprised of one (1) radcon technician RP Technician and one (1) other individual. The team was supported by personnel augmented at 30 minutes and 60 minutes. Additionally, the EPP identified the on-shift team was also responsible for conduct of in-plant monitoring. This activity was augmented by additional resources at 30 minutes and at 60 minutes. In Revision 27, the EPP was revised to include the one (1) on-shift RP Technician as being responsible for the performance of onsite (out of plant) surveys and one (1) on-shift RP Technician as being responsible for in-plant surveys. Both positions were augmented at 30 and 60 minutes.

b. The current BVPS EPP revision maintains the Issue 8 Revision 1 requirement for performance of in-plant surveys by on-shift and augmented resources, including the Revision 27 requirement to initiate onsite (out of plant) monitoring by on-shift personnel should a release occur, as well as the augmented response at 30 and 60 minutes.

c. The proposed changes combine performance of in-plant and onsite (out of plant) monitoring by an on-shift RP Technician and extends the response time of augmented personnel from 30 and 60 minutes to 60 and 90 minutes, respectively. Additionally, the EPP changes include revising the timeframe for augmented response such that augmentation occurs at the Alert or higher classification rather than at the Site Area or General Emergency classification.

The BVPS radiation monitoring systems consist of area, process, effluent, and airborne monitors. Area radiation monitors (ARMs) provide continuous surveillance of the radiation levels in selected plant areas. These areas include locations where personnel may be present and where significant radiation levels may occur. The alarm set point for each ARM is at a level to provide sufficient warning of high radiation levels to operating personnel. Process and effluent monitors determine concentrations of radioactive material in plant systems and discharged to the environment, and include gas, particulates, and liquids in off-line and in-line systems. These monitors are designed to enable plant operators to diagnose and follow the course of abnormal occurrences. Airborne monitors provide site personnel information relative to airborne concentrations of radioactive gases and particulate radioactivity at various locations in the plant. These instruments ensure a continuous flow of information concerning the airborne radioactivity levels in selected plant areas and ventilation effluent streams. Readouts from the aformentioned monitors are available to RP Technicians and may be used to remotely assess changing plant conditions.

The BVPS computer capabilities described in Section 3.1.1, included radiation monitoring capability. Radiation monitoring data can be displayed on plant desktop computers. As a result, on-shift RP Technicians can quickly determine plant radiological conditions. This data can then be used to brief on-shift operators and response teams on area conditions. It can also be used to determine areas that may require follow-up RP surveys.

The proposed changes recognize that the onsite area is small enough to allow for monitoring by a single individual and does not require the use of a vehicle for performance of this task. As a result, the onsite (out of plant) surveys may be completed by personnel dispatched in the same manner as in-plant surveys.

Improved availability of real time radiological conditions in the plant allows RP Technicians to provide required information to the Shift Manager/EC in less time than performance of discrete area surveys while providing the same or better radiological protection capability for site personnel. The result of improved use of technology is the reduction in on-shift burden for RP Technicians such that extension of augmented response times does not adversely impact performance of these functions.

Chemistry/Radiochemistry Major Task

a. Issue 8, Revision 1 of the BVPS EPP identified an on-shift Chemistry Technician augmented by a 60-minute responder.

b. The current Plan maintains the EPP Issue 8, Revision 1 commitment for on-shift and augmented Chemistry Technicians.

c. The proposed EPP revision eliminates the requirement for performance of the chemistry/radiochemistry function on-shift, as well as augmented staffing for performance of this function.

Performance of chemistry/radiochemistry is being removed from the BVPS EPP and will be maintained in accordance with site technical specifications. This change is also aligned with NRC Revised Table B-1.

3.2.5 Plant System Engineering, Repair and Corrective Actions Major Functional Area

In accordance with NUREG-0654, Revision 1, the Plant System Engineering, Repair and Corrective Actions Major Functional Area includes Technical Support, and Repair and Corrective Actions Major Tasks. NUREG-0654, Revision 1, Table B-1 notes that mechanical maintenance, radwaste operator, electrical maintenance, and instrument and control technician (I C) expertise may be provided by shift personnel assigned other functions or by augmenting personnel. NRC Revised Table B-1 identifies the Engineering function as an evaluation of reactor conditions on-shift and the Repair Team Activities as activities performed by augmented resources for restoration of ECCS equipment, as needed.

Technical Support Major Task

a. Issue 8, Revision 1 of the BVPS EPP included a STA on-shift position that was responsible for performance of various engineering activities, including analyzing thermohydraulic and thermodynamic problems and developing resolution. Additional resources to perform engineering tasks, including thermohydraulic and thermodynamic activities, will augment at 60 minutes.

   In Revision 8 of the BVPS EPP, the augmented core thermodynamic position was revised to reflect a 30-minute response time. This change aligned the BVPS EPP with NUREG-0654, Table B-1 guidance. The mechanical and electrical engineers remain augmenting at 60 minutes.

b. The current EPP maintains the commitments that the on-shift STA position remains responsible for core thermal hydraulics, the mechanical and electrical engineers augment at 60 minutes, and the core hydraulic engineer augments at 30 minutes.

c. The proposed change maintains the 60-minute response time for the augmented mechanical and electrical engineering positions and extends the response time for the core hydraulic engineer responsible for performance of the core thermal/hydraulic function from 30 minutes to 60 minutes.

Initial reactor core stabilization activities are performed by the operations crew under the direction of the senior reactor operator or STA. Additionally, improvements in plant computer systems, discussed in Section 3.1.1, provide for a reduction in burden for the performance of STA related activities on-shift. User friendly displays and interfaces have been developed to view plant parameters, which can be accessed either through the unit s plant computer system or the business network. These plant parameter displays also included real time data updates. Added programming capability graphical displays have also contributed to the STA s improved ability to monitor plant functions.

The BVPS core damage assessment process uses a combination of core exit thermocouples and containment radiation readings to determine core status. This data is readily available for viewing and trending in the CR to assist in rapidly assessing core conditions. The BVPS dose assessment software uses this input in the development of dose assessment and dose projections activities. Use of identical data sources for performance of both dose and core damage assessment provides for efficient response to an event by the STA for 60 minutes.

Evaluation of the on-shift activities in accordance with 10 CFR 50, Appendix E.IV.A.9 showed that on-shift operations personnel were able to complete required tasks without conflicts. Extending the response time for the Core Hydraulic Engineer to 60 minutes does not adversely impact the Technical Support Major Task.

Repair and Corrective Actions Major Task

a. In Issue 8, Revision 1 of the BVPS EPP, on-shift plant stabilizing functions are completed by two (2) operations personnel. Augmented staff to address repair and corrective actions was implemented through activation, within 30 minutes, by one (1) electrical maintenance technician and one (1) I C technician and one (1) mechanical maintenance technician, one (1) radwaste operator, and one (1) maintenance coordinator by 60 minutes.

b. The current EPP response requirements for the Repair and Corrective Actions Major Task are one (1) mechanical maintenance technician, one (1) electrical maintenance technician, and one (1) I C technician on-shift. At 30 minutes, one (1) electrical maintenance technician and one (1) I C technician augments the on-shift staff. Further augmentation occurs at 60 minutes, by one (1) mechanical maintenance technician and one (1) electrical maintenance technician, and one (1) radwaste operator. The current EPP maintains the intent of EPP Issue 8, Revision 1 in that augmentation by two (2) individuals at 30 minutes and three (3) individuals at 60 minutes occurs.

c. The proposed change eliminates reference to performance of maintenance activities on-shift, reduces the number of electrical maintenance technicians from two (2) to one (1) extends the response time for the 30-minute I C technician to 90 minutes and maintains a mechanical maintenance and an electrical maintenance technician responding at 60 minutes. The proposed change also incorporates a Mechanical Maintenance Coordinator an Electrical Maintenance Coordinator, and an I C Maintenance Coordinator each responding to the OSC at 90 minutes. The coordinator responsibilities include oversight of troubleshooting and maintenance corrective action work in the plant for their respective specialty.

The BVPS-1 Updated Final Safety Analysis Report (UFSAR), Section 1.3 states that BVPS-1 was designed and constructed to comply with the Atomic Energy Commission (AEC) General Design Criteria for Nuclear Power Plant Construction published in July 1967. With respect to the BVPS-1 ECCS design, UFSAR Section 1A.35 states that the ECCS design conforms with the intent of General Design Criteria (GDC) 35, Emergency Core Cooling, as described in AEC GDC published as Appendix A to 10 CFR 50 in July 1971.

The BVPS-2 UFSAR, Section 3.1 states that BVPS-2 conforms with the NRC GDC, Appendix A of 10 CFR 50, as amended through October 27, 1978. This includes conformance with GDC 35. 10 CFR 50, Appendix A as published in July 1971 and as amended through October 27, 1978 provided the following ECCS design requirements for GDC 35.

> A system to provide abundant emergency core cooling shall be provided. The system safety function shall be to transfer heat from the reactor core following any loss of reactor coolant at a rate such that (1) fuel and clad damage that could interfere with continued effective core cooling is prevented and (2) clad metal-water reaction is limited to negligible amounts. Suitable redundancy in components and features, and suitable interconnections, leak detection, isolation, and containment capabilities shall be provided to assure that for onsite electric power system operation (assuming offsite power is not available) and for offsite electric power system operation (assuming onsite power is not available) the system safety function can be accomplished, assuming a single failure.

To support the objective of the single failure criteria the BVPS-1 and BVPS-2 ECCS incorporates a diverse and redundant system design. The design of the BVPS-1 ECCS includes an accumulator on each of the three (3) reactor coolant system (RCS) cold legs, redundant safety injection charging pumps, a refueling water storage tank (RWST), a boron injection tank, and redundant low head safety injection pumps. The design of the BVPS-2 ECCS includes an accumulator on each of the three (3) RCS cold legs, redundant high head safety injection charging pumps, a RWST, redundant recirculation spray pumps, and redundant low head safety injection pumps. The ECCS trains of both units are separated electrically and mechanically to ensure no single failure on anyone one (1) train would preclude the other train from fulfilling the required safety function.

Normal operating status and deviations from this status is controlled by the BVPS-1 and BVPS-2 Technical Specifications.

System performance is tracked and trended by the site and demonstrates a high degree of reliability. System health requirements are maintained, based on NRC Performance Indicators for system availability and functional failures, which are an integral part of the Reactor Oversight Process. Additionally, reliability is driven by Maintenance Rule performance criteria.

Crediting the robust ECCS capability and protection against single point failures provides the basis for removal of references to maintenance activities from on-shift as well as the elimination of one (1) augmenting electrical maintenance technician, and the extension of augmentation response times for the I C technician to 90 minutes.

The OSA noted that there were no actions requiring response by the Radwaste Operator for the first 90 minutes after event classification. Radiological waste processing would be performed by an auxiliary operator as part of their normal duties during the recovery phase of the event. The Radwaste Operator is not required to operate or support maintenance of radwaste equipment in the BVPS EOPs, Abnormal Operating Procedures (AOPs), Emergency Plan Implementing Procedures (EPIPs), or Severe Accident Management Guidelines (SAMGs). As a result, the proposed change to eliminate the Radwaste Operator from EPP Table 5.1 will not result in a reduction in event response capability.

3.2.6 Protective Actions (In-Plant) Major Functional Area

In accordance with NUREG-0654, Revision 1, the Protective Actions (In-Plant) Major Functional Area includes the Radiation Protection Major Task, specifically access control health physics coverage for repair and corrective actions, search and rescue, first aid, and firefighting and personnel monitoring and dosimetry. NUREG-0654, Revision 1, Table B-1 notes that health physics technician RP technician expertise may be provided by shift personnel assigned other functions. NRC Revised Table B-1 combines this function with the Radiation Protection Function.

a. Issue 8, Revision 1 of the BVPS EPP provided for one (1) radcon technician RP technician with two (2) additional individuals on-shift. The on-shift personnel are augmented by four (4) responders within 60 minutes.

b. The current EPP has two (2) on-shift RP Technicians, with two (2) individuals augmenting within 30 minutes and two (2) additional responders augmenting at 60 minutes. Though the on-shift staffing numbers are different, the current EPP maintains the intent of EPP Issue 8, Revision 1 in that augmentation by four (4) individuals will still occur by 60 minutes.

c. The proposed change assigns an on-shift RP Technician responsibility for Protective Actions (In-Plant) and extends the augmentation time for additional radiation protection responders from 30 and 60 minutes to 60 and 90 minutes, respectively. These positions will continue to perform activities related to:

- Access control/dosimetry,
- Job coverage for repair and corrective actions, and
- Personnel monitoring.

The performance of access control and dosimetry activities is primarily completed through the use of electronic alarming dosimetry (EAD), which is obtained prior to entry into radiologically controlled areas (RCA). The EAD is also used as a key to unlock turnstiles to gain access to the RCA. Radiation work permits (RWPs) establish the necessary preset warnings/alarms associated with the EAD. Specific emergency RWPs have been developed for use during a declared emergency, which automatically provide the EAD with emergency dose and dose rate alarms. This assures that the teams dispatched to the in-plant areas to perform any function during a declared emergency will be afforded ample warning/alarm prior to exceeding their allowed dose or dose rate.

An automated access control system is provided at the RCA access point, which verifies conditions for the RWP, such as training, issuance of equipment and any required testing are met prior to completing the RWP sign-in process. The system also provides electronic alerts to RP personnel if RCA access is denied or when dosimeters alarm.

Use of the EAD and RWP process has reduced the need for access control/dosimetry oversight by an RP Technician for the initial response actions to an event. Improvements in plant computer systems as described in Section 3.2.4, allow information on plant radiological conditions to be readily available to RP Technicians. Plant ARM and ventilation data are readily available at the access control point, which allows the protective action RP technician to monitor changes in plant status and provide updates to plant personnel in a timely manner. These improvements in technology continue to enable the on-shift staff to assess plant conditions quickly and efficiently, and with fewer distractions.

Performance of habitability activities are associated with the TSC, OSC, and EOF after they are staffed by the augmented personnel. As augmentation of ERF staffing and RP technicians occurs simultaneously under the proposed change, performance of this function is not adversely impacted.

Implemented improvements in technology in the areas of dosimetry, access control, and plant monitoring at BVPS have reduced burden for on-shift RP resources and so serves as the basis for extension of response times for augmented resources. The proposed changes to RP response times are aligned with NRC Revised Table B-1 guidance.

3.2.7 Firefighting Function Major Functional Area

In accordance with NUREG-0654, Revision 1, the Firefighting Major Functional Area is addressed by use of a Fire Brigade and managed in accordance with site technical specifications. NRC Revised Table B-1 does not address the firefighting function as this is performed under the Fire Protection Plan.

a. In Issue 8, Revision 1, of the BVPS EPP, the Firefighting response was provided by on-shift personnel and augmented by the mutual aid Fire Plan.

b. The current EPP maintains the Firefighting function through the use of on-shift Fire Brigade members and augmented by the mutual aid Fire Plan.

c. The proposed EPP removes the reference to Firefighting from EPP Table 5.1.

The Firefighting function will continue to be maintained as a part of the BVPS Fire Protection Program. This change aligns with the NRC Revised Table B-1 guidance.

3.2.8 Rescue Operations and First-Aid Function Major Functional Area

NUREG-0654, Revision 1, Table B-1 notes that this functional area may be provided by on-shift personnel assigned other functions. NRC Revised Table B-1 does not address rescue operations and first-aid as these tasks are outside the purview of the emergency plan.

a. BVPS EPP, Issue 8, Revision 1, provided for rescue operations and first-aid by on-shift personnel. Augmentation was provided by use of local support.

b. The current EPP maintains this function through the use of the on-shift Fire Brigade. Augmentation is provided through the use of local support.

c. The proposed EPP removes the reference to Rescue Operations and First-Aid from Table 5.1.

The Rescue Operations and First-Aid function will continue to be performed as an ancillary duty by the site Fire Brigade in accordance with the BVPS Fire Protection Procedure. This change is consistent with the NRC Revised Table B-1 guidance.

3.2.9 Site Access Control and Personnel Accountability Major Functional Area

In accordance with NUREG-0654, Revision 1, the Site Access Control and Personnel Accountability Major Functional Area is addressed by security personnel pursuant to the site security plan. NRC Revised Table B-1 does not explicitly address site access control and personnel accountability as this function is under the purview of the site security plan.

a. In BVPS EPP, Issue 8, Revision 1, site access control and accountability are identified as a function of the on-shift security personnel and supervision with augmentation resources in accordance with the Site Security Plan. In Revision 27, a Security Shift Supervisor position was added to Table 5.1 in accordance with existing Security Plan requirements.

b. The current EPP maintains the EPP, Revision 27 requirements for this major functional area.

c. The proposed change eliminates the reference to Site Access Control and Personnel Accountability functions yet retains a TSC Security Coordinator as a 90-minute responder.

The Site Access Control and Personnel Accountability functions will continue to be implemented as part of the BVPS Site Security Procedures. This change meets the intent of the NRC Revised Table B-1 guidance.

3.3 Conclusions

The proposed changes continue to support the functional areas of the BVPS EPP, continue to ensure the protection of the health and safety of the public and site personnel, and will not present a significant burden to the on-shift personnel. Elimination of references to on-shift maintenance functions, given the diverse and redundant capabilities of plant systems, does not adversely affect the site s ability to respond to an event.

Elimination of one (1) RP Technician from the on-shift staff and the extension of RP Technician augmented response times does not adversely affect performance of radiological assessment or protective actions functions associated with event response. BVPS has incorporated new technologies in access control and dosimetry, installed remote in-plant monitoring capability, and will transition the on-shift dose assessment function from RP to the STA such that the emergency response functions identified in the BVPS EPP will continue to be performed and will not result in a reduction of the capability of the ERO to effectively respond to the emergency. Similarly, the proposed changes extend the times at which the initial and secondary field monitoring teams are dispatched by 30 minutes each however, field monitoring teams will be utilized at an Alert or higher classification rather than at a Site Area Emergency or General Area Emergency. Initiation of environmental sampling at a lower classification will continue to support timely performance of the function even with the extended dispatch time.

The proposed changes to the BVPS EPP provide for staffing of the required functions within the 60 and 90 minutes of an Alert or higher classification to relieve and support the on-shift ERO and effectively implement the EPP. The proposed EPP changes also provides for facility activation based a minimum subset of facility staff required to assume the command and control functions thereby relieving the on-shift ERO of the command and control duties as soon as this staffing is met. The facility activation definition used in the proposed plan specifically applies to positions responsible for

performance of the command and control functions of Classification, Notification, Dose Assessment/Protective Action Recommendations (PARs), and Emergency Exposure Authorization as noted in Section 3.2.2. The Emergency Coordinator, Core Hydraulic Engineer, Radiation Protection Coordinator, and ENS Communicator positions in the TSC will relieve the control room staff of classification, NRC notification, core damage assessment, and emergency exposure authorization responsibilities. The OSC Coordinator will relieve the control room of responsibility for oversight of repair and corrective actions. The Emergency Director, Dose Assessment Coordinator, and State/local Communicator in the EOF will relieve the control room of responsibility for dose assessment, PARs, State/local notifications, and offsite response coordination. By establishing this minimum command and control staff needed for facility activation, the potential for relief of the control room personnel of these responsibilities could occur sooner than the 60-minute augmented response time thus reducing control room burden. The number of ERO personnel and discipline specific capabilities provided by the minimum facility activation staff is sufficient to assume responsibility for the command and control functions from the minimum on-shift control room staff. The activation of the facility prior to 60 minutes does not preclude the remainder of the required functions being staffed within their specified response times.

Defining facility activation based on the minimum staff needed for command and control staff while also providing for staffing the remainder of the required functions within their specified time frames is consistent with NRC IP 71114.03, Emergency Response Organization Staffing and Augmentation System, Section 03.01, which states that ERO augmentation staffing and ERF activation criteria are defined in the licensee s emergency plan commitments. The inspection procedure recognizes ERO augmentation staffing and facility activation criteria may be separate and distinct areas for performance evaluation based on licensee specific commitments. This approach is also consistent with NSIR/DPR-ISG-01, Interim Staff Guidance Emergency Planning for Nuclear Power Plants, Section IV.I, Subsection 4.1, describes the facility staffing and activation capabilities within time frames and at emergency classification levels defined in the licensee emergency plan. Additionally, the proposed BVPS EPP changes are similar to changes approved by other licensees as referenced in Section 4.2.

The minimum staff positions required to activate the facilities are those positions assigned responsibility for command and control functions. As described in NSIR/DPR-ISG-01, Section IV.G these are key skills they are evaluated as part of the licensee s drill and exercise program. The Emergency Coordinator, Core Hydraulic Engineer, Radiation Protection Coordinator, ENS Communicator, OSC Coordinator, Emergency Director, Dose Assessment Coordinator, and State/local Communicator positions are already performing the command and control functions in the current BVPS EPP and have demonstrated their ability to perform these responsibilities as part of the BVPS drill and exercise program.

Although on-shift staffing is being reduced and the ERO staffing augmentation response time is being extended, the emergency response functions identified in the BVPS EPP will continue to be performed by the on-shift staff until relieved by augmented ERO responders and will not result in a reduction of the capability of the ERO to effectively

respond to the emergency. Therefore, the proposed changes will continue to ensure the BVPS EPP will meet the requirements of 10 CFR 50, Appendix E and the planning standards of 10 CFR 50.47(b).

4.0 REGULATOR EVALUATION

4.1 Applicable Regulatory Requirements/Criteria

4.1.1 10 CFR 50.47(b)(1) and (2)

The regulation states the following:

> (b) The onsite and, except as provided in paragraph (d) of this section, offsite emergency response plans for nuclear power reactors must meet the following standards:
>
> (1) Primary responsibilities for emergency response by the nuclear facility licensee and by State and local organizations within the Emergency Planning ones have been assigned, the emergency responsibilities of the various supporting organizations have been specifically established, and each principal response organization has staff to respond and to augment its initial response on a continuous basis.
>
> (2) On-shift facility licensee responsibilities for emergency response are unambiguously defined, adequate staffing to provide initial facility accident response in key functional areas is maintained at all times, timely augmentation of response capabilities is available and the interfaces among various onsite response activities and offsite support and response activities are specified.

The existing BVPS EPP includes onsite and offsite emergency response activities that meet the requirements stated above. This LAR proposes to reduce the current ERO staffing numbers and extend the current staff augmentation response times from 30 minutes to 60 minutes and, in some cases, extend 60-minute response times to 90 minutes, among other changes described in Section 2.1. The proposed BVPS EPP will continue to satisfy the requirements of 10 CFR 50.47(b).

4.1.2 10 CFR 50, Appendix E.IV.A.9

The regulation states, in part, the following:

> A. Organization
>
> The organization for coping with radiological emergencies shall be described, including definition of authorities, responsibilities, and duties

of individuals assigned to the licensee s emergency organization and the means for notification of such individuals in the event of an emergency. Specifically, the following shall be included:

A.9. By December 24, 2012, for nuclear power reactor licensees, a detailed analysis demonstrating that on-shift personnel assigned emergency plan implementation functions are not assigned responsibilities that would prevent the timely performance of their assigned functions as specified in the emergency plan.

The current BVPS EPP includes a description of the organization, including definition of authorities, responsibilities, and duties of individuals. As such, the current BVPS EPP satisfies the requirements of 10 CFR 50, Appendix E.IV.A.9. The proposed EPP revision includes, but is not limited to, the following changes: reduce the number of RP Technicians on-shift extend augmentation times for certain ERO positions re-assign off-site dose assessment to the Shift Engineer/STA require activation/staffing of the EOF and the Joint Public Information Center (renamed the Joint Information Center) at an Alert or higher classification standardize facility names, position titles, and responsibilities realign command and control functions between the EOF and TSC and reassign augmented ERO positions to meet new command and control structure requirements. An on-shift staffing analysis and a functional analysis have been performed to demonstrate that the proposed EPP changes will continue to satisfy the requirements of 10 CFR 50, Appendix E.IV.A.9.

4.1.3 10 CFR 50.54(q)

The regulation states, in part, the following:

(1)(iv) *Reduction in effectiveness* means a change in an emergency plan that results in reducing the licensee s capability to perform an emergency planning function in the event of a radiological emergency.

(2) A holder of a license under this part, or a combined license under part 52 of this chapter after the Commission makes the finding under 52.103(g) of this chapter, shall follow and maintain the effectiveness of an EPP that meets the requirements in appendix E to this part and, for nuclear power reactor licensees, the planning standards of 50.47(b).

(4) The changes to a licensee s emergency plan that reduce the effectiveness of the plan as defined in paragraph (q)(1)(iv) of this section may not be implemented without prior approval by the NRC. A licensee desiring to make such a change after February 21, 2012, shall submit an application for an amendment to its license. In addition to the filing requirements of 50.90 and 50.91, the request must include all emergency plan pages affected by that change and must be accompanied by a forwarding letter identifying the change, the reason

> for the change, and the basis for concluding that the licensee s emergency plan, as revised, will continue to meet the requirements in appendix E to this part and, for nuclear power reactor licensees, the planning standards of 50.47(b).

The existing BVPS EPP meets the planning standards of 10 CFR 50.47(b) and 10 CFR 50, Appendix E as required by 10 CFR 50.54(q)(2). This LAR proposes to extend the current staff augmentation response times from 30 minutes to 60 minutes and, in certain cases, from 60 minutes to 90 minutes. These proposed changes are considered a reduction in effectiveness as defined in 10 CFR 50.54(q)(1)(iv) and requires submittal based on 10 CFR 50.54(q)(4). Therefore, Energy Harbor Nuclear Corp. is submitting this LAR pursuant to 10 CFR 50.90.

The BVPS EPP will continue to meet the requirements of 10 CFR 50.54(q)(2) by maintaining the effectiveness of the EPP such that it meets the requirements of 10 CFR 50, Appendix E, and the planning standards of 10 CFR 50.47(b).

4.1.4 NUREG-0654/FEMA-REP-1, Revision 1

NUREG-0654/FEMA-REP-1, Revision 1, Section II.B.5 states, in part:

> Each licensee shall specify the positions or title and major tasks to be performed by the persons to be assigned to the functional areas of emergency activity. For emergency situations, specific assignments shall be made for all shifts and for plant staff members, both onsite and away from the site. These assignments shall cover the emergency functions in Table B-1 entitled, Minimum Staffing Requirements for Nuclear Power Plant Emergencies. The minimum on-shift staffing levels shall be as indicated in Table B-1. The licensee must be able to augment on-shift capabilities within a short period after declaration of an emergency. This capability shall be as indicated in Table B-1.

NUREG-0654, Revision 1 provides general guidance concerning the onsite emergency organization to allow licensees some flexibility in the number of on-shift staff required by emergency plans for response to emergency events. The NUREG-0654 guidance recommends that there be, in addition to on-shift personnel, 30-minute and 60-minute responders. The augmented ERO responders assume many managerial, engineering, and administrative duties from the on-shift personnel, allowing them to focus more fully on plant operations. NUREG-0654, Revision 1 also provides the guidance that augmentation time be measured from the declaration of the emergency. The current BVPS EPP staffing in Table 5.1 meets the intent of NUREG-0654, Revision 1, Table B-1. This LAR proposes to reduce on-shift staffing, extend the current staff augmentation response times from 30 minutes to 60 minutes and in some cases, from 60 minute to 90 minutes and eliminate

the Radwaste Operator position. The proposed changes have been evaluated in an on-shift staffing analysis and a functional analysis performed to meet 10 CFR 50, Appendix E.IV.A.9 requirements. The proposed changes to the BVPS EPP meet the intent of NRC Revised Table B-1. This change is in alignment with NUREG-0654, Revision 1, Section II.B.5.

4.2 Precedent

The proposed BVPS EPP changes are similar to changes approved for other licensees, including South Texas Project (Accession No. ML18159A212), Sequoyah (Accession No. ML18159A461), Diablo Canyon (Accession No. ML19196A309) and Browns Ferry (Accession No. ML20085G896). Furthermore, the proposed BVPS EPP changes and evaluation documented in this submittal continue to meet the standards of 10 CFR 50.47 (b) and the requirements of 10 CFR 50, Appendix E.

4.3 No Significant Hazards Consideration

Energy Harbor Nuclear Corp. proposes to revise the Beaver Valley Power Station, Unit Nos. 1 and 2 (BVPS) Emergency Preparedness Plan (EPP). The proposed EPP revision includes, but is not limited to, the following changes: reduce the number of Radiation Protection (RP) Technicians on-shift extend augmentation times for certain Emergency Response Organization (ERO) positions re-assign off-site dose assessment to the Shift Engineer/Shift Technical Advisor require activation/staffing of the Emergency Operations Facility (EOF) and the Joint Public Information Center renamed the Joint Information Center (JIC) at an Alert or higher classification standardize facility names, position titles, and responsibilities realign command and control functions between the EOF and Technical Support Center (TSC) and reassign augmented ERO positions to meet new command and control structure requirements.

Energy Harbor Nuclear Corp. has evaluated whether or not a significant hazards consideration is involved with the proposed amendment by focusing on the three standards set forth in 10 CFR 50.92, Issuance of amendment, and has determined that the operation of BVPS in accordance with the proposed amendment presents no significant hazards. The Energy Harbor Nuclear Corp. evaluation against each of the criteria in 10 CFR 50.92 follows.

1. Does the proposed amendment involve a significant increase in the probability or consequences of an accident previously evaluated

Response: No.

The proposed changes have no effect on normal plant operation or on any accident initiator or precursors, and does not impact the function of plant structures, systems, or components (SCCs). The proposed changes do not alter or prevent the ability of the ERO to perform their intended functions to mitigate the consequences of an accident or

event. The ability of the emergency response organization to respond adequately to radiological emergencies has been evaluated and demonstrated as acceptable through an on-shift staffing analysis and a functional analysis.

Therefore, the proposed BVPS EPP changes do not involve a significant increase in the probability or consequences of an accident previously evaluated.

2. Does the proposed amendment create the possibility of a new or different kind of accident from any accident previously evaluated

Response: No.

The proposed EPP changes do not impact the Beaver Valley Power Station, Unit Nos. 1 and 2 accident analyses. The changes do not involve a physical alteration of the plant (no new or different type of equipment will be installed), a change in the method of plant operation, or new plant operator actions. The proposed changes do not introduce failure modes that could result in a new accident, and the changes do not alter assumptions made in the safety analyses. Therefore, the proposed changes do not create the possibility of a new or different kind of accident from any accident previously evaluated.

3. Does the proposed amendment involve a significant reduction in a margin of safety

Response: No.

Margin of safety is associated with the confidence in the ability of the fission product barriers (that is, fuel cladding, reactor coolant system pressure boundary, and containment structure) to limit the level of radiation dose to the public. The proposed BVPS EPP changes do not impact operation of the plant or its response to transients or accidents. The proposed changes do not affect the technical specifications. The proposed changes do not involve a change in the method of plant operation, and no accident analyses will be affected. Safety analyses acceptance criteria are not affected by the proposed changes.

Therefore, the proposed amendment does not involve a significant reduction in a margin of safety.

Based on the above, Energy Harbor Nuclear Corp. concludes that the proposed amendment does not involve a significant hazards consideration under the standards set forth in 10 CFR 50.92(c), and, accordingly, a finding of no significant hazards consideration is justified.

4.4 Conclusions

Energy Harbor Nuclear Corp. has evaluated the proposed change against the applicable regulatory requirements and acceptance criteria. The proposed BVPS EPP changes continue to assure that regulatory requirements and emergency planning standards associated with emergency response are met. Based on the above

evaluation, the Energy Harbor Nuclear Corp. has determined that operation of the facility in accordance with the proposed changes do not involve a significant hazards consideration as defined in 10 CFR 50.92(c), in that they do not: (1) involve a significant increase in the probability or consequences of an accident previously evaluated (2) create the possibility of a new or different kind of accident from any accident previously evaluated or (3) involve a significant reduction in a margin of safety.

5.0 ENVIRONMENTAL CONSIDERATION

The proposed amendment would change recordkeeping, reporting, or administrative procedures or requirements. However, the proposed amendment does not involve (i) a significant hazards consideration, (ii) a significant change in the types or a significant increase in the amounts of any effluents that may be released offsite, or (iii) a significant increase in individual or cumulative occupational radiation exposure. Accordingly, the proposed amendment meets the eligibility criterion for categorical exclusion set forth in 10 CFR 51.22(c)(10). Therefore, pursuant to 10 CFR 51.22(b), no environmental impact statement or environmental assessment need be prepared in connection with the proposed amendment.

6.0 REFERENCES

1. NUREG-0654/FEMA-REP-1, Criteria for Preparation and Evaluation of Radiological Emergency Response Plans and Preparedness in Support of Nuclear Power Plants, Revision 1, U.S. Nuclear Regulatory Commission and Federal Emergency Management Agency, November 1980 (Accession No. ML040420012).

2. Letter from Robert E. ahler (NRC) to Susan Perkins-Grew (NEI), subject Alternative Guidance for Licensee Emergency Response Organizations, dated June 12, 2018 (Accession No. ML18022A325).

3. NEI 10-05, Assessment of On-Shift Emergency Response Organization Staffing and Capabilities,

Attachment 1
BVPS EPP
Affected Pages (Mark-ups)
(186 pages follow)

SECTION 1 C61

DEFINITIONS

Section 1

DEFINITIONS

Table of Contents

1. DEFINITIONS

The terms defined in this section are those which are used in special context in this document and/or are unique to the Beaver Valley Power Station (BVPS).

1.1. **ACCOUNTABILITY** -- Process to ascertain the whereabouts of all personnel within the plant PROTECTED AREA fence. Process is completed through the use of a computerized access security system.

1.2. **AFFECTING SAFE SHUTDOWN** -- Event in progress has adversely affected functions that are necessary to bring the plant to and maintain it in the applicable Hot or Cold Shutdown condition. Plant condition applicability is determined by Technical Specification LCOs in effect.

Example 1: Event causes damage that results in entry into an LCO that requires the plant to be placed in Hot Shutdown. Hot Shutdown is achievable, but Cold Shutdown is not. This event is not "AFFECTING SAFE SHUTDOWN."

Example 2: Event causes damage that results in entry into an LCO that requires the plant to be placed in Cold Shutdown. Hot Shutdown is achievable, but Cold Shutdown is not. This event is "AFFECTING SAFE SHUTDOWN."

1.3. **ALERT** -- See definition for EMERGENCY CLASSIFICATION LEVEL.

1.4. **ASSESSMENT ACTIONS** -- Those actions taken during or after an accident to obtain and process information that is necessary to make decisions to implement specific emergency measures.

1.5. **ASSESSMENT FACILITY** -- A facility for evaluation of information, including instrument data, to assess the severity and scope of an emergency condition.

1.6. **BEAVER VALLEY EMERGENCY RESPONSE SYSTEM** -- The BEAVER VALLEY EMERGENCY RESPONSE SYSTEM (BVERS) is a computer aided Voice Mail System to be utilized for ERO activation.

1.7. **BEAVER VALLEY SITE** -- The entire OWNER CONTROLLED AREA. Includes the BVPS Unit 1, BVPS Unit 2 and the EMERGENCY RESPONSE FACILITY.

1.8. **COMPENSATORY INDICATIONS** -- Computer points, In-Plant Computer - IPC (U1), Inadequate Core Cooling Monitor - ICCM (U1) , Sequence of Events Recorder - SER (U1), Plant Computer System - PCS (U2), Plant Safety Monitoring System - PSMS (U2) and PI Data (ProcessBook®).

1.9. **CONFINEMENT BOUNDARY** – The barrier(s) between spent fuel and the environment once the spent fuel is processed for dry storage. For BVPS the CONFINEMENT BOUNDARY is the Dry Shielded Canister (DSC).

1.10. **CONTAINMENT CLOSURE** -- The procedurally defined conditions or actions taken to secure containment and its associated structures, systems, and components as a functional barrier to fission product release under shutdown conditions.

1.11. **CONTROL ROOM** -- Area from which plant systems are operated and monitored.

1.12. **CORRECTIVE ACTIONS** -- Those emergency measures taken to terminate an emergency situation at or near the source of the problem.

1.13. **DOSE PROJECTION** -- A calculated estimate of the potential dose to individuals at a given location, normally OFFSITE; as determined from the quantity of radioactive material released and the appropriate meteorological transport and diffusion parameters.

1.14. **DRILL** -- A pre-planned training activity in which the participants are "walked" or "talked" through one or more procedures, or aspects of the Emergency Preparedness Plan.

1.15. **EMERGENCY ACTIONS** -- A collective term encompassing the Assessment, Corrective, and PROTECTIVE ACTIONS taken during the course of an emergency.

1.16. **EMERGENCY ACTION LEVEL (EAL) --** A pre-determined, site specific, observable threshold for a plant Initiating Condition that, when met or exceeded, places the plant in a given EMERGENCY CLASSIFICATION LEVEL.

1.17. **EMERGENCY CLASSIFICATION LEVEL (ECL)** -- One of a set of names or titles established by the NRC for grouping off-normal events or conditions according to (1) potential or actual effects or consequences, and (2) resulting ONSITE and OFFSITE response actions. The EMERGENCY CLASSIFICATION LEVELS, in ascending order of severity, are:

- **UNUSUAL EVENT** -- Events are in progress or have occurred which indicate a potential degradation of the level of safety of the plant or indicate a security threat to facility protection has been initiated. No releases of radioactive material requiring OFFSITE response or monitoring are expected unless further degradation of SAFETY SYSTEMS occurs. [C46]

- **ALERT** -- Events are in progress or have occurred which involve an actual or potential substantial degradation of the level of safety of the plant or a security event that involves probable life threatening risk to site personnel or damage to site equipment because of HOSTILE ACTION. Any releases are expected to be limited to small fractions of the EPA Protective Action Guide exposure levels. [C46]

- **SITE AREA EMERGENCY** -- Events are in progress or have occurred which involve actual or likely major failures of plant functions needed for protection of the public or HOSTILE ACTION that results in intentional damage or malicious acts; 1) toward site personnel or equipment that could lead to the likely failure of or; 2) that prevent effective access to, equipment needed for the protection of the public. Any releases are not expected to result in exposure levels which exceed EPA Protective Action Guide exposure levels beyond the site boundary. [C46]

- **GENERAL EMERGENCY** -- Events are in progress or have occurred which involve actual or IMMINENT substantial core degradation or melting with potential for loss of containment integrity or HOSTILE ACTION that results in an actual loss of physical control of the facility. Releases can be reasonably expected to exceed EPA Protective Action Guide exposure levels OFFSITE for more than the immediate site area. [C46]

~~1.18. **EMERGENCY COORDINATORS** -- Designated BVPS staff members responsible for coordinating specific emergency organization functions. These coordinating positions are:~~

- ~~(CONTROL ROOM) Operations Coordinator~~
- ~~TSC Operations Coordinator~~
- ~~EOF Operations Coordinator~~
- ~~Communications and Records Coordinator~~
- ~~Technical Support Coordinator~~
- ~~OPERATIONS SUPPORT CENTER Coordinator~~
- ~~Radiological Controls Coordinator~~
- ~~Maintenance Coordinator~~
- ~~Environmental Assessment and DOSE PROJECTION Coordinator~~
- ~~Engineering Coordinator~~
- ~~Security Coordinator~~
- ~~Chemistry Coordinator~~
- ~~Environmental Coordinator~~

- ~~Computer Coordinator~~
- ~~OPERATIONS SUPPORT CENTER Health Physics Coordinator~~[C15]
- ~~Nuclear Communications/Onsite Coordinator~~

~~1.19. **EMERGENCY MANAGERS** -- Designated BVPS staff members responsible for coordinating specific emergency organization functions. These positions, primarily located in the EOF, are activated upon classification of a SITE AREA or GENERAL EMERGENCY and include:~~

- ~~EMERGENCY/RECOVERY MANAGER~~
- ~~Support Services Manager~~
- ~~Nuclear Communications Manager~~
- ~~Offsite Agency Liaison~~

1.18. **EMERGENCY COORDINATOR~~DIRECTOR~~** -- The BVPS individual responsible for direction of ONSITE activities during any emergency at BVPS~~, and both ONSITE and OFFSITE activities during UNUSUAL EVENTS and ALERT Emergencies.~~ The EMERGENCY COORDINATOR~~DIRECTOR~~ is ~~the only individual~~ authorized to declare an emergency condition, authorize emergency personnel radiation exposures greater than 10 CFR 20; and/or direct the issuance of KI.

~~1.20.~~1.19. **EMERGENCY FACILITY** – Facilities, as described in Section 7, that provide for assessment and communications capability in response to an emergency event. They include the Technical Support Center (TSC), Operations Support Center (OSC), Emergency Operations Facility (EOF) and Joint Information Center (JIC).

~~1.21.~~1.20. **EMERGENCY IMPLEMENTING PROCEDURES** -- The detailed procedures which carry out the guidance of this Plan.

~~1.22.~~1.21. **EMERGENCY OPERATING PROCEDURES (EOP)** -- Those procedures utilized by the station operations staff in responding to CONTROL ROOM instrumentation alarms or indications (i.e., assessment and CORRECTIVE ACTIONS).

~~1.23.~~1.22. **EMERGENCY OPERATIONS CENTER (EOC)** -- Designated Federal, State, and County (i.e., Emergency or disaster services/management agencies) headquarters/facilities, especially designed and equipped for the purpose of exercising effective coordination and control for disaster operations carried out within their jurisdiction.

~~1.24.~~1.23. **EMERGENCY OPERATIONS FACILITY (EOF)** -- The facility designated for providing overall coordination of the utility's emergency response and coordination with offsite response agencies of the various jurisdictions for the protection of the general public. Space is provided for Federal, State, and local liaison officials. C61

~~1.25.~~1.24. **EMERGENCY PLANNING ZONE** -- There are two EMERGENCY PLANNING ZONES (EPZ). The first is an area approximately 10 miles in radius around BVPS, for which emergency planning consideration of the plume exposure pathway has been given in order to ensure that prompt and effective actions can and will be taken to protect the public in the event of an accident. The second is an area approximately 50 miles in radius around BVPS for which emergency planning consideration of the ingestion pathway has been given.

~~1.26.~~1.25. **EMERGENCY DIRECTOR~~/RECOVERY MANAGER~~** -- Upon classification of an ALERT or higher ~~SITE AREA or GENERAL EMERGENCY~~, the EMERGENCY DIRECTOR~~/RECOVERY MANAGER~~ assumes responsibility and authority for overall direction and coordination of the BVPS emergency response, with primary responsibility for coordination of OFFSITE activities (monitoring, logistics, interagency liaison). ~~When activated, t~~The EMERGENCY DIRECTOR~~/RECOVERY MANAGER~~ is ~~the only individual~~ authorized to make recommendations of OFFSITE PROTECTIVE ACTIONS to OFFSITE response agencies.

~~1.27.~~1.26. **EMERGENCY RESPONSE FACILITY (ERF)** -- The near-site facility provided by BVPS. Incorporates the TECHNICAL SUPPORT CENTER, the Dosimetry Area, Counting Room and other facilities. C68

~~1.28. **ESSENTIAL PERSONNEL** -- Those personnel deemed necessary to the protection of the health and safety of the general public. The personnel from the following groups, and any others deemed necessary, are considered to be ESSENTIAL PERSONNEL:~~

- ~~Operations~~
- ~~Radiation Protection~~
- ~~Chemistry~~
- ~~Security~~
- ~~Emergency Response Organization personnel (including Primary, Secondary, Call-out and On-Shift personnel C44)~~

~~1.38.~~1.27. **EXERCISE** -- A realistic, pre-planned simulation of an accident, designed and coordinated in such a manner that the response of the emergency organization and other station personnel closely approximates the response to an actual incident. An EXERCISE may involve participation of OFFSITE organizations.

~~1.39.~~1.28. **EXPLOSION** -- A rapid, violent, and catastrophic failure of a piece of equipment due to combustion, chemical reaction or overpressurization. A release of steam (from high energy lines or components) or an electrical component failure (caused by short circuits, grounding, arcing, etc.) should not automatically be considered an explosion. Such events may require a post-event inspection to determine if the attributes of an explosion are present.

~~1.40.~~1.29. **EXTORTION** -- An attempt to cause an action at the station by threat of force.

~~1.41.~~1.30. **FACILITY ACTIVATION** – An Emergency Facility is activated when the minimum staff per Figure 5.3, 5.4, or 5.5 is available and the facility is ready to assume its assigned Emergency Plan functions.

~~1.42.~~1.31. **FAULTED** -- The term applied to a steam generator that has a steam leak on the secondary side of sufficient size to cause an uncontrolled drop in steam generator pressure or the steam generator being completely depressurized.

~~1.43.~~1.32. **FIRE** -- Combustion characterized by heat and light. Sources of smoke such as slipping drive belts or overheated electrical equipment do not constitute FIRES.- Observation of flame is preferred but is NOT required if large quantities of smoke and heat are observed.

~~1.44.~~1.33. **FISSION PRODUCT BARRIER THRESHOLD** -- A pre-determined, site-specific, observable threshold indicating the loss or potential loss of a fission product barrier.

~~1.45.~~1.34. **GENERAL EMERGENCY** -- See definition for EMERGENCY CLASSIFICATION LEVEL.

~~1.46.~~1.35. **GROUND RELEASE** -- Release of radioactive effluents from the facility via the Reactor Building and supplementary leak collection system vent (located on top of the Reactor Building), the ventilation vent (located on top of the Auxiliary Building), the PROCESS VENT (located on the Cooling Tower), or any other release pathway.

~~1.47.~~1.36. **HOSTAGE** -- A person(s) held as leverage against the station to ensure that demands will be met by the station.

~~1.39.~~1.37. **HOSTILE ACTION** -- An act toward a nuclear power plant or its personnel that includes the use of violent force to destroy equipment, take HOSTAGES, and/or intimidate the licensee to achieve an end. This includes attack by air, land, or water using guns, explosives, PROJECTILES, vehicles, or other devices used to deliver destructive force. Other acts that satisfy the overall intent may be included. HOSTILE ACTION should not be construed to include acts of civil disobedience or felonious acts that are not part of a concerted attack on the nuclear power plant. Non-terrorism-based EALs should be used to address such activities (i.e., violent acts between individuals in the OWNER CONTROLLED AREA).

~~1.40.~~1.38. **HOSTILE FORCE** – One or more individuals, who are engaged in a determined assault, overtly or by stealth and deception, equipped with suitable weapons capable of killing, maiming, or causing destruction. [C46]

~~1.41.~~1.39. **IMMINENT** -- The trajectory of events or conditions is such that an EAL will be met within a relatively short period of time regardless of mitigation or corrective actions.

~~1.42.~~1.40. **INDEPENDENT SPENT FUEL STORAGE INSTALLATION (ISFSI)** -- A complex that is designed and constructed for the interim storage of spent nuclear fuel and other radioactive materials associated with spent fuel storage.

~~1.43.~~1.41. **INTIATING CONDITION (IC)** – An event or condition that aligns with the definition of one of the four emergency classification levels by virtue of the potential or actual effects of consequences.~~.~~

~~1.44.~~1.42. **JOINT ~~PUBLIC~~ INFORMATION CENTER (J~~P~~IC)** -- The designated location from which news releases, press conferences, and other media interfacing can be provided.

~~1.45.~~1.43. **LARGE AIRCRAFT**– Any size or type of aircraft with the potential for causing significant damage to the plant (refer to the Security Plan for a more detailed definition).

~~1.46.~~1.44. **LOCAL AREA EVACUATION** -- Evacuation of personnel from localized affected areas within the station.

~~1.47.~~1.45. **NON-ESSENTIAL PERSONNEL** – Those personnel not determined to be ESSENTIAL PERSONNEL.

~~1.48.~~1.46. **NORMAL PLANT OPERATIONS** -- Activities at the plant site associated with routine testing, maintenance, or equipment operations, in accordance with normal operating or administrative procedures. Entry into abnormal or EMERGENCY OPERATING PROCEDURES, or deviation from normal security or radiological controls posture, is a departure from NORMAL PLANT OPERATIONS.

~~1.49.~~1.47. **OFFSITE** -- Any area outside of the BVPS property boundary surrounding the BEAVER VALLEY SITE.

~~1.50.~~1.48. **ONSITE** -- See Definition for BEAVER VALLEY SITE.

~~1.51.~~1.49. **OPERATIONS SUPPORT CENTER (OSC)** -- The designated location for assembly of on-duty and relief operations, health physics and maintenance support personnel.[C15]

~~1.52.~~1.50. **OWNER CONTROLLED AREA** – The property associated with the station and owned by the company. Access is normally limited to persons entering for official business.

~~1.53.~~1.51. **PRIMARY ASSEMBLY AREA** -- An area designated for the assembly of specific groups of individuals for ACCOUNTABILITY and/or in preparation for a plant evacuation within the PROTECTED AREA fence.

~~1.54.~~1.52. **PROCESS VENT** -- The effluent release path by which gaseous radioactive wastes are released following processing. The release point is located at the top of the cooling tower. In DOSE PROJECTION and accident analyses, this release pathway is considered a GROUND RELEASE.

~~1.55.~~1.53. **PROJECTILE** -- An object directed toward a NPP that could cause concern for its continued operability, reliability, or personnel safety.

~~1.56.~~1.54. **PROTECTED AREA** – Means an area encompassed by physical security barriers that is monitored by an intrusion detection system to which access is controlled. Access to the PROTECTED AREA requires proper security clearance and is controlled at the Site Security Alarm Stations.

~~1.57.~~1.55. **PROTECTIVE ACTIONS** -- Those emergency measures taken after an uncontrolled release of radioactive material, for the purpose of preventing or minimizing radiological exposures.

~~1.58.~~1.56. **PROTECTIVE ACTION GUIDES (PAG)** -- Projected radiological dose rate or dose commitment values to individuals in the general population that warrant protective action following a release of radioactive material.

~~1.59.~~1.57. **RADIOLOGICAL EMERGENCY RESPONSE PLAN (RERP)** -- Detailed incident response plans developed by the State of Pennsylvania and its agencies and County and Municipal Emergency Management agencies in coordination with the Pennsylvania Emergency Management Agency (PEMA) and the fixed nuclear facility.

~~1.60.~~1.58. **RECOVERY ACTIONS** -- Those actions taken after the emergency to restore the station as nearly as possible to its pre-emergency conditions.

~~1.61.~~1.59. **REFUELING PATHWAY** – The reactor refueling cavity, spent fuel pool and fuel transfer canal comprise the refueling pathway.

~~1.62.~~1.60. **REMOTE ASSEMBLY AREA** -- A designated area (or areas), outside the site, for the assembly of evacuated plant personnel during a SITE EVACUATION.

~~1.63.~~1.61. **RUPTURE(D)** -- The condition of a steam generator in which primary-to-secondary leakage is of sufficient magnitude to require a safety injection.

~~1.64.~~1.62. **SABOTAGE** -- Deliberate damage, mis-alignment, or mis-operation of plant equipment with the intent to render the equipment inoperable. Equipment found tampered with or damaged due to malicious mischief may not meet the definition of SABOTAGE until this determination is made by security supervision.

~~1.65.~~1.63. **SAFETY SYSTEM:** A system required for safe plant operation, cooling down the plant and/or placing it in the cold shutdown condition, including the ECCS. These are typically systems classified as safety-related (as defined in 10 CFR 50.2):

Those structures, systems and components that are relied upon to remain functional during and following design basis events to assure:

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

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

(3) The capability to prevent or mitigate the consequences of accidents which could result in potential offsite exposures.

~~1.66.~~1.64. **SECURITY CONDITION** -- Any Security Event as listed in the approved security contingency plan that constitutes a threat/compromise to site security, threat/risk to site personnel, or a potential degradation to the level of safety of the plant. A SECURITY CONDITION does not involve a HOSTILE ACTION.

~~1.67.~~1.65. **SITE ASSEMBLY** -- Process of gathering all personnel from areas within the PROTECTED AREA to PRIMARY ASSEMBLY AREAS.

~~1.68.~~1.66. **SITE AREA EMERGENCY** -- See definition for EMERGENCY CLASSIFICATION LEVEL.

~~1.69.~~1.67. **SITE EVACUATION** -- Evacuation of all NON-ESSENTIAL PERSONNEL within the BEAVER VALLEY SITE.

~~1.70.~~1.68. **STRIKE ACTION** -- A work stoppage within the PROTECTED AREA by a body of workers to enforce compliance with demands made on management. The STRIKE ACTION must threaten to interrupt NORMAL PLANT OPERATIONS.

~~1.71.~~1.69. **TECHNICAL SUPPORT CENTER (TSC)** -- A designated location where plant management coordination of emergency response is performed and where various Licensee, Federal, and vendor engineering disciplines can analyze the conditions within the reactor core during and after an accident to provide technical assessment of the accident and corrective action recommendations to the EMERGENCY COORDINATOR~~DIRECTOR~~.

~~1.72.~~1.70. **UNAFFECTED AREA** -- Any area or location which is known to be not significantly affected by radiation levels or other hazardous conditions.

~~1.73.~~1.71. **UNISOLABLE** -- An open or breached system line that cannot be isolated, remotely or locally.

~~1.74.~~1.72. **UNPLANNED** -- A parameter change or an event that is not 1) the result of an intended evolution or 2) an expected plant response to a transient. The cause of the parameter change or event may be known or unknown.

~~1.75.~~1.73. **UNUSUAL EVENT** -- See definition for EMERGENCY CLASSIFICATION LEVEL.

~~1.76.~~1.74. **VALID** -- An indication, report, or condition, is considered to be VALID when it is verified by (1) an instrument channel check, (2) indications on related or redundant indicators, or (3) by direct observation by plant personnel, such that doubt related to the indicator's operability, the condition's existence, or the report's accuracy is removed. Implicit in this definition is the need for timely assessment.

~~1.77.~~1.75. **VISIBLE DAMAGE** -- Damage to a SAFETY SYSTEM train that is readily observable without measurements, testing, or analysis. The visual impact of the damage is sufficient to cause concern regarding the operability or reliability of the affected SAFETY SYSTEM train.

~~1.78.~~1.76. **VITAL AREA** -- Means any area that contains VITAL EQUIPMENT.

~~1.79.~~1.77. **VITAL EQUIPMENT** -- Means any equipment, system, device, or material, the failure, destruction, or release of which could directly or indirectly endanger the public health and safety by exposure to radiation. Equipment or systems which would be required to function to protect public health and safety following such failure, destruction, or release are also considered to be vital.

2. ABBREVIATIONS

AC ..... Alternating Current

AFW ..... Auxiliary Feed Water

AOP ..... Abnormal Operating Procedure

ATWS ..... Anticipated Transient Without Scram

B&W ..... Babcock and Wilcox

BCEMA ..... Beaver County Emergency Management Agency

BVERS ..... BEAVER VALLEY EMERGENCY RESPONSE SYSTEM

BVPS ..... Beaver Valley Power Station

BWST ..... Borated Water Storage Tank

CCEMA ..... Columbiana County Emergency Management Agency

CCW ..... Component Cooling Water

CDE ..... Committed Dose Equivalent

CE ..... Combustion Engineering

CFR ..... Code of Federal Regulations

CR ..... CONTROL ROOM

CSF ..... Critical Safety Function

CSFST ..... Critical Safety Function Status Tree

CVCS ..... Chemical and Volume Control System

DBA ..... Design Basis Accident

DC ..... Direct Current

DEP/BRP ..... Dept of Environmental Protection/Bureau of Radiation Protection (Pennsylvania)

DHR ..... Decay Heat Removal

DOE ..... Department of Energy (US)

DOT ..... Department of Transportation

EAL.....EMERGENCY ACTION LEVEL

EC .....EMERGENCY COORDINATOR

ECCS.....Emergency Core Cooling System

ECL .....EMERGENCY CLASSIFICATION LEVEL

ED .....EMERGENCY DIRECTOR

EOC..... EMERGENCY OPERATIONS CENTER

EOF .....EMERGENCY OPERATIONS FACILITY

EOP ..... EMERGENCY OPERATING PROCEDURE

EPA .....Environmental Protection Agency

EPG ..... Emergency Procedure Guideline

EPIP .....Emergency Plan Implementing Procedure

EPRI.....Electric Power Research Institute

EPZ .....EMERGENCY PLANNING ZONE

ERDS .....Emergency Response Data System

ERF ..... EMERGENCY RESPONSE FACILITY

ERG..... Emergency Response Guideline

~~E/RM.....EMERGENCY/RECOVERY MANAGER~~

ESF..... Engineered Safety Feature

ESW .....Emergency Service Water

FAA..... Federal Aviation Administration

FBI .....Federal Bureau of Investigation

FEMA .....Federal Emergency Management Agency

FPB ..... Fission Product Barrier

FRMAP .....Federal Radiation Monitoring and Assessment Plan

FSAR..... Final Safety Analysis Report

GE ..... GENERAL EMERGENCY

HCOEM ..... Hancock County Office of Emergency Management [C47]

IC ..... Initiating Condition

INPO ..... Institute for Nuclear Power Operations

IPC ..... Inplant Process Computer

IPEEE ..... Individual Plant Examination of External Events (Generic Letter 88-20)

ISFSI ..... INDEPENDENT SPENT FUEL STORAGE INSTALLATION

ITS ..... Improved Technical Specifications

J~~P~~IC ..... JOINT ~~PUBLIC~~ INFORMATION CENTER

Keff ..... Effective Neutron Multiplication Factor

LEARN ..... Law Enforcement Activity Radio Network

LER ..... Licensee Event Report

LCO ..... Limiting Condition for Operations

LOCA ..... Loss of Coolant Accident

LRM ..... Licensing Requirements Manual

LWR ..... Light Water Reactor

MFW ..... Main Feed Water

mR ..... milliRoentgen

MSIV ..... Main Steam Isolation Valve

MSL ..... Main Steam Line

MSSV ..... Main Steam Safety Valve

MW ..... Megawatt

NAWAS ..... National Warning System

NEI ..... Nuclear Energy Institute

NESP ..... National Environmental Studies Project

NORAD ..... North American Aerospace Defense Command

NPP ..... Nuclear Power Plant

NRC ..... Nuclear Regulatory Commission (US)

NSSS ..... Nuclear Steam Supply System

NUMARC ..... Nuclear Management and Resources Council

OBE ..... Operating Basis Earthquake

OCA ..... OWNER CONTROLLED AREA

ODCM/ODAM ..... Offsite Dose Calculation (Assessment) Manual

OEMA ..... Ohio Emergency Management Agency

ORC ..... Offsite Review Committee

ORO ..... Offsite Response Organization

OSC ..... OPERATIONS SUPPORT CENTER, or Onsite Safety Committee

PA ..... PROTECTED AREA

PEMA ..... Pennsylvania Emergency Management Agency

POAH ..... Point of Adding Heat

PORV ..... Power Operated Relief Valve

PRA/PSA ..... Probabilistic Risk Assessment / Probabilistic Safety Assessment

PSIG ..... Pounds per Square Inch Gauge

PWR ..... Pressurized Water Reactor

R ..... Roentgen

RCC ..... Reactor Control Console

RCCA ..... Rod Cluster Control Assembly

RCDT ..... Reactor Coolant Drain Tank

RCP ..... Reactor Coolant Pump

RCS ..... Reactor Coolant System

REM ..... Roentgen Equivalent Man

RPS ..... Reactor Protection System

RPV ..... Reactor Pressure Vessel

RVLIS ..... Reactor Vessel Level Indicating System

SBO ..... Station Blackout

SCBA ..... Self-Contained Breathing Apparatus

SG ..... Steam Generator

SI ..... Safety Injection

SLCRS ..... Supplemental Leak Collection and Release System

SPDS ..... Safety Parameter Display System

SPING ..... Special Particulate, Iodine, Noble Gas Monitoring System (Unit 1)

SRO ..... Senior Reactor Operator

SSE ..... Safe Shutdown Earthquake

TEDE ..... Total Effective Dose Equivalent

TOAF ..... Top of Active Fuel

TOP ..... Temporary Operating Procedure

T/S ..... Technical Specification

TID ..... Technical Information Document

TSC ..... TECHNICAL SUPPORT CENTER

UE ..... UNUSUAL EVENT

URI ..... Unified RASCAL Interface (Site Dose Assessment Software)

WE ..... Westinghouse Electric

WOG ..... Westinghouse Owners Group

WRGM ..... Wide Range Gas Monitor (Unit 2)

WVDHS/EM ..... West Virginia Division of Homeland Security and Emergency Management [C47]

SECTION 3

SUMMARY

Section 3

SUMMARY OF EMERGENCY PREPAREDNESS PLAN

Table of Contents

Page No.

3.0 SUMMARY OF EMERGENCY PREPAREDNESS PLAN

This Beaver Valley Power Station Emergency Preparedness Plan describes the total preparedness program established, implemented, and coordinated to ensure the capability and readiness for coping with and mitigating both onsite and offsite consequences of radiological emergencies. The Plan covers the spectrum of emergencies from minor localized incidents to major emergencies involving protective measures by offsite response organizations. Included are guidelines for immediate response, assessment of emergency situations, defined action criteria, and delineation of support functions. Emergency Implementing Procedures provide detailed information for individuals who may be involved with specific emergency response functions. The Emergency Preparedness Plan and Implementing Procedures shall be reviewed annually.

This Emergency Preparedness Plan provides for a graded scale of response for distinct classifications of emergency conditions, action within those classifications, and criteria for escalation to a more severe classification. This classification system is compatible with the classification scheme used by the emergency response agencies in all three risk Counties and risk States. This Plan uses four categories; Unusual Event, Alert, Site Area Emergency and General Emergency. The categories and the initiating events within each category are described in detail in Section 4 of this Plan.

3.1 ONSITE EMERGENCY ORGANIZATION

The organization for control of emergencies begins with on-shift Site organization and contains provisions for augmentation and extension to include other Site personnel, corporate personnel, and outside emergency response organizations.

The BVPS Emergency Coordinator~~Director~~ (initially the on-duty Shift Manager, and ultimately designated personnel with Operations background), ~~assisted by designated emergency coordinators,~~ provides control and direction for the response of utility personnel to the emergency. The Emergency Coordinator~~Director~~, as a member of the normal corporate structure, receives guidance and support from the Licensee's Management.

The BVPS emergency organization is augmented by personnel from the Licensee's nuclear and corporate divisions at the Emergency Operations Facility for Alert, Site Area Emergency or General Emergency declarations. BVPS personnel and support personnel are responsible for onsite emergency actions and limited offsite activities, such as offsite radiological surveillance. The Joint ~~Public~~ Information Center (J~~P~~IC) is also~~begins activation~~ staffed at the Alert classification level~~. and may be activated, if necessary.~~ The relationship of the BVPS organization to the overall emergency response effort is ~~illustrated in Table 3.1, and~~ explained in more detail in Section 5.

3.2 OFFSITE EMERGENCY ORGANIZATIONS

The total emergency program includes the support of County, State and Federal emergency organizations. Detailed provisions are made for implementing protective measures against direct radiation and inhalation of radioactive material for members of the public within a radius of at least 10 miles from BVPS. Additional preventive measures may be implemented beyond that distance to preclude ingestion pathway exposures. The relationship of each organization to the whole emergency response effort is ~~illustrated in Table 3.1 and~~ explained in more detail in Section 5 of the Plan.

Specific arrangements and agreements are made with local offsite support organizations to provide onsite services including:

- Fire and rescue
- Emergency medical transportation
- Hospital medical treatment

County, State and Federal agencies having lead responsibilities specifically related to this Plan are:

.1 Beaver County Emergency Management Agency (BCEMA) -- the lead emergency response coordinating agency within Beaver County, responsible for implementing offsite action upon either direct notification from BVPS or from the Pennsylvania Emergency Management Agency.

.2 Columbiana County Emergency Management Agency (CCEMA) -- the agency having the same emergency response capabilities and responsibilities within Columbiana County, Ohio, as BCEMA does within Beaver County.

.3 Hancock County Office of Emergency Management (HCOEM) -- the agency having the same emergency response capabilities and responsibilities within Hancock County, West Virginia, as BCEMA does within Beaver County. C47

.4 Pennsylvania Emergency Management Agency (PEMA) -- the lead State-level agency responsible for ensuring availability of Commonwealth government emergency services, personnel and equipment. Responsible for ingestion pathway protective measures in the Pennsylvania portion of the ingestion pathway planning zone.

.5 Department of Environmental Protection/Bureau of Radiation Protection (DEP/BRP) -- the State-level agency responsible to provide guidance and recommendations for specific offsite protective measures in Pennsylvania. DEP/BRP interfaces with corresponding agencies in Ohio and West Virginia.

.6 Ohio Emergency Management Agency (OEMA) -- the lead State-level agency responsible for ensuring availability of Ohio state government emergency services, personnel, and equipment. Responsible for ingestion pathway protective measures in the Ohio portion of the ingestion pathway planning zone.

.7 West Virginia Division of Homeland Security and Emergency Management (WVDHS/EM) -- The lead State-level agency responsible for ensuring availability of West Virginia state government emergency services, personnel, and equipment. Responsible for ingestion pathway protective measures in the West Virginia portion of the ingestion pathway planning zone. [C47]

.8 US Nuclear Regulatory Commission (NRC) -- the Federal agency responsible for verifying that appropriate utility emergency plans have been implemented and for conducting investigative activities associated with a radiological emergency.

.9 US Department of Energy (DOE) -- the Federal agency responsible to provide assistance to State and local governments in emergency action essential for the control of immediate hazards to public health and safety. DOE is lead coordinating agency for the Federal Radiation Monitoring and Assessment Plan (FRMAP), which provides the framework through which participating Federal agencies coordinate their emergency radiological monitoring and assessment activities with those of the State and local governments.

.10 Federal Emergency Management Agency (FEMA) -- the Federal agency responsible for reviewing State and local emergency plans and making recommendations to the Nuclear Regulatory Commission.

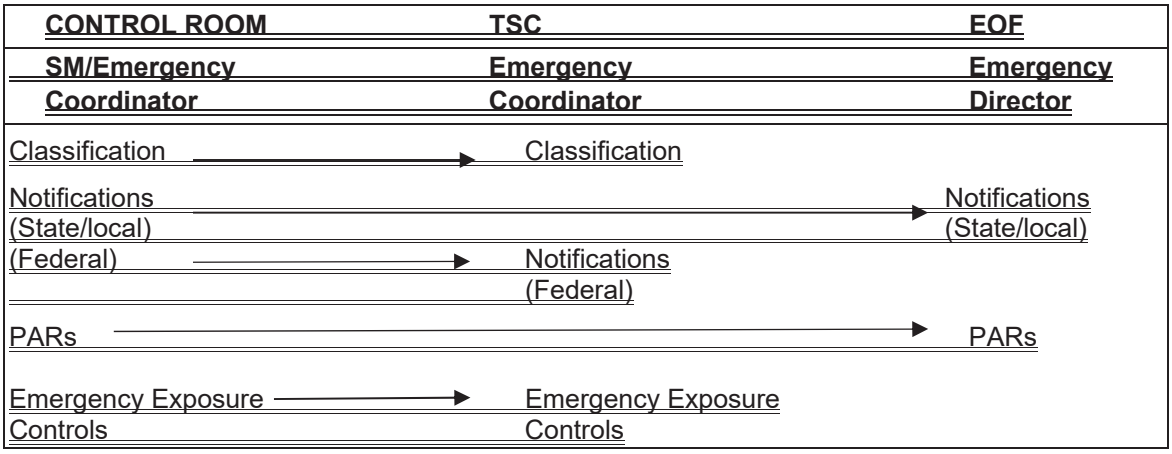
3.3 EMERGENCY MEASURES

The mechanisms through which this Plan provides for the proper response to emergency conditions at BVPS are described below.

3.3.1 Initiation

The first Site individual who becomes aware of an emergency condition ensures that notification is made and details are provided to the appropriate Control Room. This recognition and the initiation of emergency response may also be from Control Room instrumentation. Appropriate initial action is taken in accordance with Emergency Operations Procedures and/or other station operating procedures (such as shutting down or operating certain plant equipment or systems). The Shift Manager assumes the role of BVPS Emergency Coordinator~~Director,~~ and continues in that capacity until relieved by a designated alternate. The Unit Supervisor assumes responsibility for plant control functions while the Shift Manager is acting as Emergency Coordinator~~Director~~.

At the declaration of an Alert or at the discretion of the On-shift Emergency ~~Director~~Coordinator, the Technical Support Center (TSC), Operations Support Center (OSC) and Emergency Operations Facility (EOF) will be activated. The Emergency Coordinator~~Director~~ responsibilities are then transferred to the TSC~~echnical Support Center~~ Emergency Coordinator and EOF Emergency Director as depicted in the figure below.



Transition of Command and Control Functions

~~If the emergency is classified as either a Site Area Emergency or General Emergency, the Emergency Operations Facility (EOF) will be activated. When activated, the responsibility and authority of the Emergency Director is vested in the Emergency/Recovery Manager, who is located at the EOF.~~ Although the Emergency Director~~/Recovery Manager~~ has responsibility and authority for the

direction and coordination of the overall BVPS response, the functions performed by the Emergency Director~~/Recovery Manager~~ are primarily related to offsite activities, while the Emergency Coordinator~~Director~~ is primarily concerned with onsite activities.

3.3.2 Assessment

The BVPS Emergency Coordinator~~Director~~ performs assessment action relative to the situation in accordance with Section 6 of this Plan and the Emergency Implementing Procedures listed in Appendix C. This assessment and concurrent classification of the emergency are based on available information such as the initial verbal communication, Control Room instrumentation, dose projection data, and follow-up monitoring or other supportive information. The assessment is updated as new information becomes available, with appropriate change in the emergency classification as may be warranted.

3.3.3 Notification

The BVPS Emergency Coordinator~~Director~~ ensures the initial activation and alerting of both onsite and offsite emergency personnel and organizations. Offsite notification methods for various emergency conditions are discussed in Section 6, and are summarized as follows:

- Requests for assistance, such as fire fighting and medical transportation, from local offsite support groups should be made by telephone through the Beaver County Emergency Services Center.

- Notification to offsite authorities of an Unusual Event is primarily to ensure that those agencies are cognizant of the details of events, which may arouse public concern. The authorities will be informed on an immediate emergency basis. These notifications will be made to BCEMA, HCOEM, CCEMA, OEMA, PEMA, WVDHS/EM within 15 minutes and to the NRC within one hour. C47

- Notification to the above listed offsite authorities shall commence immediately upon the declaration of an Unusual Event, an Alert, a Site Area Emergency or a General Emergency. Section 4 describes the time limitations between the first indication of an event and declaration of the applicable emergency condition. Notifications to BCEMA, PEMA, CCEMA, OEMA, HCOEM and WVDHS/EM are made via regular commercial[C72] telephone serving as the primary method of communications. Radio communication links to each of the risk counties provides an alternate method to the telephone connections. Immediate notifications to the NRC are made via the **E**mergency **T**elephone **S**ystem (ETS). C47

3.3.4 Corrective Actions

Onsite corrective actions may proceed concurrently with assessment, and are described in detail for situations within each emergency classification in the emergency Implementing Procedures listed in Appendix C and in applicable Emergency Operating Procedures.

3.3.5 Onsite Protective Actions

Onsite protective actions, including criteria and methods, are described in Section 6. The primary protective action is evacuation of non-essential personnel and the use of protective equipment and clothing for those personnel who are required to perform emergency activities. Provision is made for increasingly larger areas of evacuation commensurate with existing conditions, summarized as follows:

- A Local Evacuation is the immediate response of individuals in an area where a local area radiation monitor and/or continuous air monitor alarms, toxic/flammable gas, or other similar condition exists.

- A Site Assembly may be implemented by the BVPS Emergency Coordinator~~Director~~ if the affected area is larger than appropriate for a Local Evacuation, and up to the entire Protected Area.

- A Site Evacuation, when implemented by the BVPS Emergency Coordinator~~Director~~, encompasses the entire Beaver Valley site.

Other onsite protective actions include the use of respiratory protection equipment, anti-contamination clothing, thyroid prophylaxis, and the administration of an effective radiological controls program.

3.3.6 Offsite Protective Actions

Offsite protective actions are addressed in Section 6. Such actions are primarily the responsibility of State and local emergency organizations, but may be based on recommendations by the BVPS Emergency Coordinator or Emergency Director ~~(Emergency Recovery Manager for Site Area Emergency or General Emergency)~~. These offsite organizations may invoke any emergency actions which they deem appropriate, according to assessment of the individual situation, and at any level of radioactive material release or projected offsite dose. The key element which ensures compatibility of this Plan and offsite emergency plans is the provision for initial notification and continuing status reports to the State and local agencies, conveying current release and dose projection information. A description of the communications systems which ensure the capability of prompt notification and continuing transmittal of vital information is contained in Section 7.

3.3.7 Recovery

Provisions are made for establishing a recovery organization which is commensurate with the scope and magnitude of an emergency condition. These provisions include the assignment of qualified individuals to fill recovery organization positions as may be appropriate. Termination from a severe emergency involving offsite consequences will be through joint evaluation of the utility, the three States involved and the NRC.

3.4 EMERGENCY FACILITIES

Appropriate emergency facilities and equipment are provided to facilitate implementation of this Plan. These facilities and equipment are described in Section 7, and include, assessment capability, communications capability, provision for a Technical Support Center, Operations Support Center and an Emergency Operations Facility.

3.5 MAINTAINING EMERGENCY PREPAREDNESS

A concept of in-depth preparedness is employed regarding this Plan. This concept is emphasized in the training program and in preparedness drills and exercises. Site personnel are trained to provide an in-depth response capability for required actions in an emergency situation. Similarly, members of the population within the Emergency Planning Zone are informed of their response to an emergency at Beaver Valley. Also, emergency equipment is routinely inspected and inventoried to ensure operability and availability in the event of an emergency. Section 8 describes the provisions to maintain preparedness.

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TABLE 3.1
RESPONSIBILITY MATRIX

	RECO. OF EMER.	INIT. ASSCS	CLASS EMER.	NOT. OFF. AUTH.	NOT. STAT. PER.	NOT. CORP. SUPP.	ACT. ONSTE ERO	NOT. AGEN. PER.	ACT OFF. ERO	NOT PUB	PROV D PUB INST.	CONT. ASSCS	DOSE PROJ.	INST. OFF MONT	ONSTE MONT.	CONT OFF MONT	ONSTE CORR ACTS	ONSTE PROT ACTS	RECM OFF PROT ACTS	IMPL OFF PROT ACTS	CONT DISEM DATA TO PUB	CONT DISEM IN AGNY	COORD FED OFF RESP	REL ONSTE DATA TO PUB	REL OFF DATA TO MED	OFF SEC & TRAF CPNT	CONT OFF RE ENT
FACILITY	P	P	P	P	P	P	P					P	P	P	P	S	P	P	P		P			S			
CORPORATE						S	S					S					S				S			P			
PEMA								P	P	S	S	V	V			P			P	S		P			P	S	S
BCEMA								P	P	P	P					S				P		P			P	P	P
WVDHS/EM [C47]								P	P	S	S	V	V			P			P	S		P			P	S	S
HCOEM [C47]								P	P	P	P					S				P		P			P	P	P
OEMA								P	P	S	S	V	V			P			P	S		P			P	S	S
CCEMA								P	P	P	P					S				P		P			P	P	P
FEMA								P	P											S		P	P		S	S	S
USNRC								P	P			V	V			S			S		S	P	S	S	S		
FRMAP								P	P				S			S			S		S	P	S		S		
LOCAL SERV.																	S	S									

P = PRIMARY RESPONSIBILITY
S = SUPPORT
V = INDEPENDENT VERIFICATION

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SECTION 5

EMERGENCY ORGANIZATION

Section 5

EMERGENCY ORGANIZATION

Table of Contents

PAGE

Section 5

EMERGENCY ORGANIZATION

Table of Contents

PAGE

Section 5

EMERGENCY ORGANIZATION

Table of Contents

PAGE

5.0 EMERGENCY ORGANIZATION

The Licensee's emergency organization for the Beaver Valley Power Station is discussed in this section. Included are the authorities and responsibilities of key individuals and groups and the communication links for notifying, alerting, and mobilizing emergency personnel. The emergency organization described in this section, which encompasses both the operating elements and support elements of the Beaver Valley Power Station [C16], provides for a timely, staged response consistent with the emergency classification. The emergency organization will remain in effect until such a time as conditions have been stabilized at the Beaver Valley Power Station and normal operations have resumed or, if necessary, recovery operations are ready to begin.

The Beaver Valley Power Station (BVPS) Emergency Response Organization is supplemented by the emergency organizations of the various governmental agencies having an emergency response role within the Beaver Valley Power Station emergency planning zones. These offsite organizations are discussed in Section 5.6.

5.1 NORMAL OPERATING ORGANIZATION

The Beaver Valley Power Station [C16] organization for normal operations is shown in Figure 5.1. The organization integrates the major elements and disciplines necessary for the safe operation of the facilities into Figure 5.1.[C62] The organization reports to a Vice President and operates from facilities located on the BVPS site.

The Beaver Valley Power Station[C16] on-shift emergency organization for normal conditions is shown in Figure 5.2 [c8]. This organization is applicable to the operation of both Units. This figure shows the levels of responsibility within the station and indicates the typical categories of personnel present onsite.

5.2 BVPS EMERGENCY ORGANIZATION

For Unusual Event emergencies, the Beaver Valley Power Station emergency organization is initially comprised of the on-duty shift with the Shift Manager serving as Emergency Coordinator~~Director~~. BVPS Unit 1 and Unit 2 minimum onshift crew compositions are identified in Table 5.1. ~~and~~ [C62] ~~Table 5.2.~~ Figure 5.2 illustrates the on-shift Emergency Organization shown in all capitals. For ~~most~~ initiating events within the Unusual Event category, this organization would be capable of adequately providing necessary assessment and corrective actions without augmentation. However, the Emergency Coordinator~~Director~~, based on his evaluation of the situation, may activate part or all of the emergency organization described below. Table 5.1 identifies the staffing requirements and capabilities for additions of the Emergency Response Organization.

Personnel assigned to the various positions in the BVPS Emergency Organization are detailed in the bi-monthly issue of the Emergency Response Organization Call List. This list provides names and phone numbers for personnel assigned to each emergency position.

The Beaver Valley Power Station onsite and offsite emergency organization ~~for Alert emergencies~~ is illustrated in Figure 5.3, 5.4, 5.5 and 5.6. The TSC, OSC and EOF~~is~~ organizations would be activated and the JIC would be staffed for ~~all~~ Alert or higher emergencies or, at the discretion of the Emergency Coordinator~~Director~~, for Unusual Events. ~~When completely activated, this organization would operate from the Technical Support Center (TSC), except where noted.~~

~~For emergencies classified as Site Area or General Emergencies, the emergency organization would be expanded (as illustrated in Figure 5.4) to provide for the more extensive emergency operations that would be necessary to respond to these higher classification emergencies.~~ The TSC is responsible for onsite implementation of assessment, classification, Federal notification, corrective and damage control actions and emergency exposure controls. ~~additional personnel assigned to the organization would staff t~~The ~~Emergency Operations Facility (~~EOF~~),~~ is ~~and would be~~ responsible for direction and coordination of the overall response with primary emphasis on the offsite aspects of State/local notification~~(monitoring~~, dose projection and~~,~~ recommendation of offsite protection actions.~~, etc.) of that response thus allowing the Technical Support Center to concentrate on the onsite implementation of assessment, corrective, and damage control actions.~~

Regardless of the emergency classification, time of day, or status of emergency organization activation, the authorities and responsibilities for implementation of the Beaver Valley Power Station Emergency Preparedness Plan are unambiguously vested in a designated individual. Section 6.2 describes the activation of the emergency organization.

This section describes the positions, functions and responsibilities of the BVPS emergency organization. ~~In addition to the individuals and alternates designated in the following sections for key positions, t~~The Emergency Coordinator and Emergency Director~~Vice President and/or the Site Directors~~ may designate ~~other~~ individuals, based on personnel availability, to fill Emergency Response Organization (ERO) positions.~~make the most advantageous use of personnel qualifications.~~ Section 8 of the Plan describes the training of the BVPS emergency organization personnel.

For a longer-term emergency condition, a duty rotation system will be established using the designated alternates and/or other appropriately qualified personnel from the BVPS staff. C16

5.2.1 Emergency Coordinator~~Director~~

The Shift Manager shall assume the role of the Beaver Valley Power Station Emergency Coordinator~~Director until such time as he is relieved of that responsibility by a designated alternate.~~

~~The Shift Manager shall ensure that the designated alternate is promptly notified of an emergency condition. The designated alternate will receive a turnover from the SM and report to the Technical Support Center (conditions permitting).~~

~~The Beaver Valley Power Station Emergency Director shall~~ and assumes full responsibility and authority for the implementation and administration of the BVPS Emergency Preparedness Plan, as set forth in 10CFR50 Appendix E and this section, until relieved of this responsibility by the TSC Emergency Coordinator ~~and a more senior alternate; or by the designated~~ Emergency Director~~/Recovery Manager~~ upon activation of the TSC and EOF.~~Emergency Operations Facility.~~

Functional responsibilities of the Emergency Coordinator~~Director~~ include:

.1 Immediately upon notification of an existing or potential emergency, contact the Control Room and initiate assessment activities, including classification of the emergency, implementation of protective and corrective actions, and projection of offsite doses, as appropriate to the emergency condition.

.2 Initiate appropriate notifications and recommendations to offsite organizations and ERO~~(until EOF is activated)~~. When the TSC and EOF are activated responsibility for classification, NRC notification and emergency exposure authorization are transferred to the TSC Emergency Coordinator and responsibility for ~~EOF is activated, the Emergency/Recovery Manager assumes the responsibility for~~ offsite protective actions and State/local notifications are transferred to the EOF Emergency Director.~~ and should be consulted when Initial and Follow-up Notification Forms are being completed.~~

.3 Appoint emergency coordinators from qualified personnel on-shift, for assistance with current and continuing emergency control; but assume those responsibilities until the positions are filled.

.4 Augment the BVPS emergency organization with emergency call-list personnel and other available staff members, as appropriate.

~~.5 Continue assessment of emergency status and make appropriate recommendations to offsite organizations (until EOF is activated).~~

.5~~6~~ Ensure that information to be released is accurate and released through the proper channels.

.67 Request assistance from Federal agencies, if applicable.

.78 Activate other emergency facilities as described in Section 6.2, as appropriate.

.89 Remain alert to radiological conditions and other hazards having the potential for significant effect on the health and/or safety of onsite BVPS personnel and other individuals having emergency assignments onsite ~~(OSC[C15], CR, emergency squads, etc.)~~ and, where necessary, implement appropriate protective measures including emergency exposure limits and/or thyroid prophylaxis.

~~.10 Until such time as the Emergency Operations Facility is activated, assume the responsibilities and authorities of the Emergency/Recovery Manager set forth in Section 5.2.2.~~

.911 ~~When the Emergency Operations Facility is activated, p~~Provide technical updates to the TSC Emergency Coordinator and the Emergency Director~~/Recovery Manager~~ on plant systems status~~,~~ and radiological effluent assessment activities~~., and implementation of onsite protective and corrective actions and, when appropriate, make recommendations on possible offsite protective actions based on plant status to the Emergency/Recovery Manager.~~

.102 ~~When the Emergency Operations Facility is activated and, as necessary, r~~Request additional technical, engineering, material, or manpower assistance from the Emergency Director~~/Recovery Manager~~ to supplement the resources of the onsite organization.

.113 Upon implementation of the Severe Accident Management Guidelines (SAMGs), the Emergency Coordinator~~Director~~ assumes the role and responsibilities of the Decision Maker in addition to his/her Emergency Preparedness duties. The Emergency Coordinator~~Director~~ should base his/her decision upon information received from the TSC ~~OPS~~ Operations Coordinator and/or the Engineering Coordinator.

The BVPS Emergency Coordinator~~Director~~ may delegate some of his assigned functional responsibilities to appropriately qualified Licensee personnel. However, the BVPS Emergency Coordinator~~Director~~ is the only individual authorized to declare an emergency condition, authorize emergency personnel radiation exposures greater than 10 CFR 20; and/or direct the issuance of thyroid prophylaxis, pursuant to Section 6.7.1.8. ~~Until the Emergency Operations Facility is activated, the Emergency Director is the only individual authorized to recommend offsite protective actions to state, local, and county governmental authorities on behalf of the Licensee and shall retain overall responsibility for the implementation and administration of the Emergency Preparedness Plan.~~

~~For Unusual Event and Alert emergencies, the Emergency Director reports to the Vice President. All designated emergency coordinators report directly to the Emergency Director. All other BVPS personnel report to the Emergency Director via the appropriate Emergency Coordinator who is responsible for the functions to which those personnel are assigned.~~

5.2.2 Emergency Director~~/Recovery Manager~~

~~Upon classification of abnormal condition as a Site Area or General Emergency, the Emergency Operations Facility will be activated and manned. For Site Area or General Emergencies, the Emergency Director shall ensure that the Emergency/Recovery Manager or a designated alternate is available.~~

When the Emergency Operations Facility is activated ~~and staffed,~~ the responsibilities and authorities ~~of the Emergency Director,~~ related to overall coordination of the BVPS response and to offsite response activities, are assumed by the Emergency Director~~/Recovery Manager~~.

The functional responsibilities of the Emergency Director~~/Recovery Manager~~ include:

~~.1 Immediately upon notification of an existing or potential emergency condition classified as a Site Area or General Emergency, report to the Emergency Operations Facility; relieve the Emergency Director located in the TSC; and assume primary responsibility for offsite emergency response activities by Licensee personnel.~~

.1~~2~~ Appoint interim emergency managers/coordinators from available qualified personnel, for assistance with current and continuing emergency control until such time as the designated managers/coordinators are available; but assume these responsibilities until the positions are filled.

.2~~3~~ Direct and coordinate the activities of the designated emergency managers, the Emergency Coordinator~~Director, the emergency coordinators,~~ and other BVPS personnel in the assessment of ~~plant status and~~ radiological effluent releases, ~~implementation of protective and corrective actions onsite,~~ assessment, monitoring, or projection of offsite radiological conditions, the recommendation of offsite protective actions, and the exchange of technical and operational information ~~within the Licensee emergency organizations and~~ with offsite emergency response organizations.

NOTE

When the EOF is activated, the Emergency Director~~/Recovery Manager~~ is the only BVPS individual authorized to make recommendations of offsite protective actions to offsite response agencies. ~~For instantaneous General Emergencies, the Emergency Director has the authority to recommend offsite protective actions to offsite response agencies.~~

.3~~4~~ Respond to requests for assistance from the Emergency Coordinator~~Director~~, with additional technical, engineering, material, or manpower resources as necessary; arrange for this assistance from outside sources if such requests cannot be met with the resources of the Beaver Valley Power Station. [C16]

.4~~5~~ Remain alert via the Emergency Coordinator~~Director~~, of radiological conditions or other hazards having the potential for significant effect on the health and/or safety of personnel and other individuals assigned to BVPS emergency response facilities.~~; and, where necessary, coordinate with the Emergency Director appropriate protective measures including emergency exposure limits and/or thyroid prophylaxis for Emergency Operations Facility and other offsite Licensee personnel.~~

.5~~6~~ Request assistance from Federal agencies should the situation warrant.

.6~~7~~ Through the Offsite Agency Liaison, coordinate the response of the BVPS Emergency Response Organization with that of the local, county, state, and Federal response organizations located at the Site.

.7~~8~~ When appropriate and necessary, implement the recovery organization as provided in Section 9 of this Plan.

~~For a Site Area or General Emergency, the Emergency/Recovery Manager reports directly to the Vice President. The designated Emergency Managers, including the Emergency Director, report directly to the Emergency/Recovery Manager. All other personnel report to the Emergency/Recovery Manager via the Emergency Director (TSC) or the Emergency Manager/Coordinator (EOF) responsible for the functions to which they are assigned.~~

5.2.3 TSC Manager and EOF Manager~~Assistant to the Emergency Director and Assistant to the Emergency/Recovery Manager~~

These positions are filled by individuals who are cognizant of the Emergency Plan and Procedures. The primary responsibility of the TSC Manager~~Assistant to the Emergency Director~~ is to assist the Emergency Coordinator~~Director~~ in the performance of his activities and, in particular, to advise him with regard to the provisions of this plan and the supporting implementing procedures. This individual is assigned to the Technical Support Center. The EOF Manager~~Assistant to the Emergency/Recovery Manager~~ is located in the Emergency Operations Facility upon activation and reports to the Emergency Director~~/Recovery Manager~~ performing similar functions as the TSC Manager~~Assistant to the Emergency Director~~.

The TSC Manager~~Assistant to the Emergency Director~~ and EOF Manager~~Assistant to the Emergency Recovery Manager~~ have similar experience/backgrounds and receive the same training as the Emergency Coordinator~~Director~~ and Emergency Director~~Recovery Manager~~, respectively. Therefore, the respective facility manager~~Assistant~~ may assume the functional responsibilities of the Emergency Coordinator~~Director~~ or Emergency Director~~Recovery Manager~~.[C23]

5.2.4 Operations Coordinator

This ERO position is located in the ~~Control Room,~~ TSC~~ and the EOF. Initially, the Control Room position is filled by an opposite unit Senior Reactor Operator, as available.~~ At the Alert or greater stage, it will be filled by designated emergency response organization personnel.

Primary responsibilities of the Operations Coordinator are:

~~.1 In the Control Room, remains cognizant of Control Room and in-plant activities through the on-duty shift supervision and provide operational information to the TSC.~~

.1~~2~~ In the TSC~~/EOF~~, report to, and advise the Emergency Coordinator~~Director and/or Emergency/Recovery Manager~~ on matters concerning plant operations.

.2~~3~~ Upon implementation of the Severe Accident Management Guidelines (SAMGs), the ~~TSC OPS~~Operations Coordinator assumes the role and responsibilities of an Evaluator in addition to his/her Emergency Preparedness duties. Appropriate ERO personnel should aid the TSC OPS Coordinator in this evaluation process. The ~~TSC OPS~~Operations Coordinator shall provide the evaluation results to the Emergency Coordinator~~Director~~.

The ~~Control Room and TSC~~ Operations Coordinator reports directly to the Emergency Coordinator. ~~Director. The EOF Operations Coordinator reports directly to the Emergency/Recovery Manager. The operating personnel report to the Control Room Operations Coordinator through the on-duty Shift Manager (SM).~~ The ~~TSC~~ Operations Communicator reports to the ~~TSC~~ Operations Coordinator.

5.2.5 State/local Communicator~~Communication and Records Coordinator~~

A designated qualified communicator will fill this position for Unusual Event emergencies or until the EOF~~TSC~~ is activated. For an Alert or higher emergency, this position will be filled by a designated emergency response organization member.

Responsibilities of the State/local Communicator~~Communication and Records Coordinator~~ include:

.1 Coordinate and ensure proper notification ~~to key Emergency Coordinators and~~ of offsite organizations.

.2 Function as liaison for emergency-related communications between the Emergency Director and ~~onsite and~~ offsite emergency groups.

.3 Maintain records concerning the emergency.

The State/local Communicator~~Communication and Records Coordinator~~ reports ~~directly~~ to the EOF Manager~~Emergency Director~~. ~~The communications assistants report to the Communications and Records Coordinator.~~ Appropriate emergency response personnel will assist communications personnel with obtaining appropriate information for off-site agencies notifications.

5.2.6 Operations Support Center (OSC) Health Physics Coordinator

The OSC H.P. Coordinator will be located at the Operations Support Center and will interface with~~report directly to~~ the Radiological Protection~~Controls~~ Coordinator in the TSC. This position will be filled by designated emergency response organization personnel. Responsibilities to be assumed by the OSC~~perations Support Center~~ H.P. Coordinator are[C15]:

.1 Maintain appropriate in-plant radiation control.

.2 Provide onsite radiation control personnel for in-plant, onsite and offsite monitoring teams.

.3 Coordinate radiological habitability surveys for assembly areas and response facilities.

.4 Maintain accountability of personnel in the OSC and those personnel deployed in monitoring teams.

5.2.7 Radiological Protection~~Controls~~ Coordinator

The Radiation Technician or Health Physics Supervisor, when available, will fill this position for the Unusual Event or until the TSC is activated. This TSC position will be filled by the Manager of Health Physics or designee. Alternates for the position of Radiological Protection~~Controls~~ Coordinator are designated emergency response organization personnel. Responsibilities to be assumed by the Radiological Protection ~~Controls~~ Coordinator are primarily related to in-plant radiation control and include:

.1 Provide onsite radiation control personnel for monitoring teams~~, as requested by the Environmental Assessment and Dose Projection Coordinator,~~ consistent with maintaining appropriate radiation controls in-plant.

.2 Relay technical data to the Emergency Coordinator~~Director~~ and/or the Operations Coordinator on radiological aspects of onsite emergency activities.

.3 Provides radiation control personnel and other radiological coverage for emergency team efforts.

.4 Coordinate and direct personnel decontamination efforts, as necessary.

.5 Oversee the operation of the personnel dosimetry program for on-site personnel and personnel assigned to the BVPS emergency response facilities.

.6 Provide onsite bioassay services such as whole body counting for designated personnel.

.7 Ensure access is restricted or controlled to areas where radiological hazards exist.

The Radiological Protection~~Controls~~ Coordinator reports ~~directly~~ to the Emergency Coordinator~~Director~~ and is responsible for ~~interfaces~~ onsite ~~and offsite~~ radiological activities~~. with the Environmental Assessment and Dose Projection Coordinator.~~ Radiological Controls personnel ~~(~~not assigned to offsite monitoring activities~~)~~ report to the Radiological Protection~~Controls~~ Coordinator through the normal radiological controls supervision. Radiological conditions permitting, the Radiological Protection~~Controls~~ Coordinator will normally operate from the Technical Support Center.

5.2.8 Dose~~Environmental~~ Assessment ~~and Dose Projection~~ Coordinator

During the early stages of an accident, where environmental and/or radiological situations warrant, radiological dose projections will be performed under the cognizance of the Shift Technical Advisor (STA)~~onshift Radiological Controls Coordinator~~. The Dose Assessment~~EA & DP~~ Coordinator position will be ~~officially activated~~available for performance of the dose assessment function at the Alert level or upon activation of the EOF~~TSC~~.

Upon activation of the Emergency Organization, this ~~TSC/~~EOF position will be filled by designated emergency response organization personnel.

~~Once this position has been filled, an assistant is assigned from the available alternates or from the Health Physics Support Group.~~

Responsibilities of the Dose~~Environmental~~ Assessment ~~and Dose Projection~~ Coordinator are as follows:

.1 Direct the activities of the offsite radiation monitoring teams.

.2 Coordinate offsite monitoring activities and the exchange of results and other technical data with Federal and State agencies.

.3 Provide the Emergency Director ~~(Emergency/Recovery Manager)~~ with dose projections and evaluations.

.4 Provide technical advice to the Emergency Director ~~(Emergency/Recovery Manager)~~ concerning radiological assessment and recommendations for offsite protective actions.

.5 Coordinate environmental sampling and analyses, and evaluation of results.

~~The EA & DP Coordinator reports to the Emergency Director for Unusual Events (if deemed necessary) and Alert Emergencies, and subsequently to the Emergency/Recovery Manager for Site Area or General Emergencies.~~ Assigned Environmental and Radiological monitoring personnel will report to the Dose Assessment~~EA & DP~~ Coordinator.

5.2.9 ~~Environmental~~Field Monitoring Team (FMT) Coordinator

This ERO position is filled by designated emergency response organization personnel. Responsibilities to be assumed by the ~~Environmental~~FMT Coordinator include:

.1 Adapt the existing environmental monitoring procedures to emergency environmental monitoring.

.2 Determine the locations and type of sample media based on the type of activity released and the wind direction.

.3 Direct personnel in any additional sampling, other than those in the ongoing program.

.4 Review and evaluate sample results received from a designated low-level laboratory and forward result to proper personnel.

~~.5 Assignment of EA & DP Assistants to specific tasks as required.~~

~~.6 Act as the single point of contact for emergencies that cause entry into both the Emergency Preparedness Plan and the Environmental Emergency Response Plan for the site.~~

The ~~Environmental~~FMT Coordinator reports to the ~~Environmental Assessment and~~ Dose Assessment ~~Projections~~ Coordinator during emergency situations. ~~Upon entry into the Environmental Emergency Response Plan for BVPS, is responsible for ensuring that Environmental Reportability Determination notifications are made to appropriate Offsite Agencies~~

5.2.10 Engineering Coordinator

This TSC position is activated at an Alert and is filled by designated emergency response organization personnel. Responsibilities to be assumed by the Engineering Coordinator include:

.1 Direct and coordinate engineering efforts related to the emergency response.

.2 Advise the Emergency Coordinator~~Director~~ on matters related to the engineering of short-term modifications to plant systems necessary to mitigate the consequences of the accident and/or recover the plant.

.3 Supervise the Core Hydraulic, Mechanical and Electrical Engineers.~~Technical Support Coordinator and those ERO personnel directly reporting to the TS Coordinator.~~

.4 Upon implementation of the Severe Accident Management Guidelines (SAMGs), the Engineering Coordinator assumes the role and responsibilities of an Evaluator in addition to his/her Emergency Preparedness duties. Appropriate ERO personnel should aid the Engineering Coordinator in this evaluation process. The Engineering Coordinator shall provide the evaluation results to the Emergency Coordinator.~~Director.~~

The Engineering Coordinator reports ~~directly~~ to the TSC Manager~~Emergency Director~~.

5.2.11 Core Hydraulic, Mechanical, Electrical Engineering Support~~Technical Support Coordinator~~

The Core Hydraulic Engineer~~is~~ position is initially filled by the Shift Technical Advisor [C62]. This individual, or his relief, will remain in the Control Room throughout the emergency. For Alert and higher emergencies, the onsite Technical Support Center (TSC) will be activated and the position of Core Hydraulic Engineer~~Technical Support Coordinator~~ will be filled by designated emergency response organization personnel.

~~The Technical Support Coordinator reports to the Engineering Coordinator and is responsible for the coordination and direction of engineering personnel in the Technical Support Center. The Technical Support Coordinator may assign technical support personnel, as appropriate, to activities such as~~The Core Hydraulic, Mechanical and Electrical Engineers are responsible for:

.1 Analyzing mechanical, electrical, instrument and control, effluent control, and radiation dose rate problems; determining alternate solutions, design and coordination of short-term modifications installation.

.2 Analyzing thermohydraulic and thermodynamic problems and developing resolutions.

.3 Assisting in the development of Emergency Operating Procedures or other procedures, as necessary, for conducting emergency operations.

.4 Analyzing conditions and developing guidance for the Emergency Coordinator~~Director~~ and operations personnel.

~~Reporting to the Technical Support Coordinator is the position of Ohio Emergency Management Agency (OEMA) Liaison in the Technical Support Center. Engineering personnel are available to retrieve and revise requested documents to aid in the emergency response as needed.~~

~~The Technical Support Coordinator reports directly to the Engineering Coordinator. All technical and engineering personnel assigned to the Technical Support Center report to the Engineering Coordinator through the Technical Support Coordinator.~~

~~5.2.11.1 Ohio Emergency Management Liaison – TSC~~

~~The role and responsibilities of the OEMA Liaison – TSC have been defined as follows:~~

~~.1 Ability to transfer technical information to the state via the Licensee OEMA representative.~~

~~.2 Be able to respond to questions from the Licensee OEMA representative located at OEMA that are not able to be answered by Emergency Operations Facility personnel (if activated) through the Offsite Agency Liaison.~~

~~.3 These questions will primarily focus on information received via the Initial Notification Form concerning the validity of radioactive release data / information and operational status of the plant Systems / Structures / Components (SSC's).~~

~~.4 Other information could be requested such as general mitigative actions that are in progress or pending.~~

~~5.2.12 Computer Coordinator~~

~~The Computer Coordinator will be located in the TSC and will supervise the operation of the Inplant Process Computer, Safety Parameter Display System and the NRC Emergency Response Data System computer equipment. This position will be filled by designated emergency response organization personnel.~~

~~Responsibilities of the Computer Coordinator will include:~~

~~.1 Completion of specific tasks as requested by the TSC Operations Coordinator.~~

~~.2 Alert the TSC Operations Coordinator and other emergency personnel to changing conditions as indicated by the computer system.~~

~~.3 At an Alert or higher Emergency, activate the Emergency Response Data System (ERDS) within 1 (one) hour of the declaration of the emergency.~~

~~.4 Assist the TSC Operations Coordinator and other coordinators in interpreting plant data supplied by the computer systems.~~

~~.5 Obtaining the required historical data (HDSR).~~

~~.6 Upon termination, restoring the computer systems to normal operating modes.~~

~~.7 Direction as necessary to Computer Maintenance personnel in corrective actions to non-functioning equipment.~~

~~.8 Assign Computer Operator personnel to support EOF functions.~~

~~The Computer Coordinator reports to the TSC Operations Coordinator.~~

5.2.12~~3~~ Operations Support Center Coordinator

This OSC position will be filled by designated emergency response organization personnel. Responsibilities to be assumed by the Operations Support Center Coordinator are: C35

.1 Direct the activities of in-plant supplemental emergency team(s).

~~NOTE~~

~~The on-shift Emergency Squad has an Emergency Squad Chief who actually directs the efforts of the Emergency Squad in accordance with the Beaver Valley Fire Protection Plan, Emergency Implementing Procedures, and other applicable station procedures. In a long-term emergency, additional emergency teams may be activated, as appropriate, to supplement the on-shift Emergency Squad. The coordination of the various additional emergency teams will be the responsibility of the Operations Support Center Coordinator.~~

.2 Coordinate the assignment of personnel from the onsite pool of available persons in response to requests from the Maintenance Coordinator.

.3 Maintain accountability of personnel in the Operations Support Center (OSC) and those personnel deployed in emergency teams.

.4 Provide direction to Operations Support Center assistants in completing the facility functions.

The Operations Support Center Coordinator (located in the OSC) reports to the ~~Emergency Director, via the~~ Maintenance Coordinator ~~(located~~ in the TSC~~)~~. All personnel assigned to or directed to the OSC will report to the OSC Coordinator. ~~except the Emergency Squad, which reports directly to the Shift Manager.~~

- Mechanical Maintenance Coordinator

  The Mechanical Maintenance Coordinator will be located in the OSC. The position is responsible for oversight of mechanical maintenance troubleshooting and corrective actions work in the plant.

- Electrical Maintenance Coordinator

  The Electrical Maintenance Coordinator will be located in the OSC. The position is responsible for oversight of electrical maintenance troubleshooting and corrective actions work in the plant.

- Instrumentation and Controls (I&C) Maintenance Coordinator

  The I&C Maintenance Coordinator will be located in the OSC. The position is responsible for oversight of I&C maintenance troubleshooting and corrective actions work in the plant.

5.2.134 Maintenance Coordinator

This TSC position is filled by designated emergency response organization personnel. Responsibilities to be assumed by the Maintenance Coordinator are:

.1 Direct and coordinate the activities of mechanical, electrical, and instrumentation personnel in the performance of emergency corrective actions, and or damage control activities.

.2 Advise the Emergency Coordinator~~Director~~ on the status of plant systems.

.3 Direct and coordinate the installation of short-term emergency systems modifications.

The Maintenance Coordinator reports ~~directly~~ to the TSC Manager~~Emergency Director~~. All station maintenance forces (electrical, mechanical, and instrumentation) will report to the Maintenance Coordinator via the OSC Coordinator, through their normal supervisory chain.

5.2.1~~4~~5 Security Coordinator

The Security Coordinator position is initially filled by the Supervisor, Nuclear Shift Security. This position is located in the Central Alarm Station (CAS) and will be relieved by the senior member of the security organization who may be located in the TSC.

Responsibilities to be assumed by the Security Coordinator include:

.1 Maintain an appropriate plant security posture and institute appropriate contingency measures as necessary.

.2 For Site Assemblies/Accountabilities and/or Site Evacuations, receive reports from assembly areas; determine the identity of unaccounted personnel; advise Emergency Coordinator~~Director~~ of personnel accountability status; and maintain accountability of onsite personnel during an emergency.

.3 Expeditiously provide Site access for emergency response personnel who do not have current security badging at BVPS.

.4 Ensure Security personnel are changed-out consistent with any exposure received depending upon the severity of the accident.

.5 Oversee the Security portion of the ERF access sign-in.

.6 Interface with the Emergency Coordinator~~Director~~ and the TSC staff concerning Security support.

.7 Relay Assembly/Accountability instructions from the TSC and CAS and the status of Accountability or Search and Rescue from the CAS to the TSC.

All Site Security personnel will report to the Security Coordinator.

The Security Coordinator reports ~~directly~~ to the TSC Manager~~Emergency Director~~.[C12]

~~5.2.16 Chemistry Coordinator~~

~~This TSC position will be filled by designated emergency response organization personnel.~~

~~Responsibilities to be assumed by the Chemistry Coordinator include:~~

~~.1 Provide technical information to the Emergency Director and other key Emergency Coordinators concerning chemistry.~~

~~.2 Provide chemistry personnel for analysis of onsite/offsite environmental samples.~~

~~.3 Coordinate chemistry personnel for in-plant chemistry sampling and analysis.~~

~~The Chemistry Coordinator will report directly to the Emergency Director. Chemistry technicians will report to the Chemistry Coordinator.~~

5.2.1~~5~~7 Operations Communicators

These~~is Control Room and TSC~~ positions will be filled by designated emergency response organization personnel. ~~Although this individual may be physically located in the Control Room, the Operations Communicator is part of the TSC staff.~~ Responsibilities to be assumed by the Operations Communicators:

.1 Serve as liaison between operations personnel and personnel in other Emergency Centers (CR-TSC-EOF ~~CAS and OSC~~[C15]). The Operations Communicators will report to the Control Room, ~~and~~ TSC and EOF upon activation of the Alert emergency response organization.

~~.2 Assist the appropriate Operations Coordinator in communications to other response centers.~~

.2~~3~~ Alert their immediate supervisor of vital data relayed over the Operations Circuit. The CR and TSC Operations Communicators report~~s~~ to the TSC Operations Coordinator. The EOF Operations Communicator reports to the EOF Manager.

.3~~4~~ Maintain a log of information pertaining to the Operations Circuit communications.

.4~~5~~ Serve as a back-up to the IPC and -SPDS for retrieval of control board data.

~~.6 Serve as the primary communicator for the NRC ENS phone upon activation of the Alert Emergency Response Organization. This position will be manned regardless of the operability of the Emergency Response Data System (ERDS).~~

5.2.16 ENS Communicator

This TSC position is filled by designated emergency response organization personnel.

Responsibilities assumed by the ENS Communicator include:

1. Serve as the primary communicator for the NRC ENS phone upon activation of the ERO at an Alert or higher classification.

2. Verify operability of the Emergency Response Data System (ERDS)

The ENS Communicator reports to the TSC Operations Coordinator.

~~5.2.18 Support Services Manager~~

~~This EOF position is staffed at the Alert and activated at Site Area or General Emergency classification, and is filled by designated Emergency Response Organization personnel.~~

~~Responsibilities to be assumed by the Support Services Manager include:~~

~~.1 Coordinate personnel and work schedules for shift relief emergency personnel.~~

~~.2 Coordinate with outside groups in procuring and purchasing additional resources such as manpower, equipment, supplies and transportation.~~

~~.3 Coordinate provisions for transportation, food and other logistical support for emergency personnel.~~

~~.4 Coordinate with Nuclear Training for plant specific training for outside emergency support groups during an emergency condition, as appropriate.~~

~~.5 Provide clerical support to the Emergency Response Organization, as necessary.~~

~~.6 Serve as interface with the Licensee Supply Chain for augmentation of onsite material and personnel resources.~~

~~The Support Services Manager reports directly to the Emergency/Recovery Manager. Assistants reporting to the Support Services Manager should include a Procurement Coordinator, Purchasing Coordinator and an Administrative Services Coordinator. These coordinators may have additional assistants.~~

5.2.1~~7~~9 Offsite Agency Liaison

This EOF position is staffed at the Alert or higher classification and ~~activated for Site Area or General Emergencies and~~ will be filled by designated emergency response organization personnel. Responsibilities to be assumed by the Offsite Agency Liaison are:

.1 Resolving questions concerning Operating License requirements with Nuclear Regulatory Commission representatives.

.2 Serving as liaison between representatives of the state and local governments present in the Emergency Operations Facility and the Beaver Valley Power Station emergency organization. This liaison is primarily for the exchange of operational information (less radiological assessment) and coordination of offsite activities with those of the Beaver Valley Power Station. The Offsite Agency Liaison reports directly to the EOF Manager~~Emergency/Recovery Manager~~.

~~5.3 NUCLEAR COMMUNICATIONS~~

5.2.18~~3.1~~ ~~Chief~~ Company Spokesperson

The ~~Chief~~ Company Spokesperson is responsible for establishing corporate credibility and is designated by Senior Management.[C36] Makes announcements to the media regarding significant changes in plant conditions and on-site status of the power station. Consults with both the Manager-Joint ~~Public~~ Information Center and the Emergency Director~~Recovery Manager~~ to assure consistent and timely response on behalf of the Company. ~~Chief~~ Company Spokesperson, or designee, reviews all news announcements prior to issuance to the news media.

5.2.19~~3.2~~ JPIC Manager

The JPIC Manager is responsible for the activation and overall operation of the Joint ~~Public~~ Information Center. The JPIC Manager presides over news briefings at the JPIC. The JPIC Manager will introduce spokespersons and oversee the conduct of the briefings and may review news announcements in the absence of the ~~Chief~~ Company Spokesperson. The JPIC Manager will compile a list of follow-up items from briefings and coordinate information between Licensee and off-site agencies spokespersons.

5.2.20~~3.3~~ Media Relations Coordinator

The Media Relations Coordinator is the liaison between the Licensee and the Media. When the J~~P~~IC Manager is unavailable, the Media Relations Coordinator will introduce spokespersons and oversee the conduct of the briefings. In addition, the Media Relations Coordinator will work with the news media to meet special requests such as arranging interviews of company officials and directing media photographers and camera crews to designated locations to obtain requested photos and film footage and responds to media inquiries. The Media Relations Coordinator ensures operability of the media briefing area and provides biographies of spokespersons upon request.

~~5.3.3.1 Technical Briefer~~

~~Under the general supervision of the Media Relations Coordinator, is responsible for providing, interpreting and clarifying as requested by the media, all generic technical information concerning the operation of plant systems. Attends all news briefings, assists the Chief Company Spokesperson during news briefings to explain events as requested, answers media questions between news briefings concerning descriptions of plant systems and operating characteristics of these systems using plant pictures and schematics as available and appropriate, and serves as a technical advisor to all JPIC staff on any technical matter.~~

5.2.21~~3.4~~ Information Coordinator~~Manager~~

The Information Coordinator~~Manger~~ is responsible for managing and coordinating the flow of verbal and written information for the JIC~~nuclear communications organization~~. The Information Coordinator~~Manager~~ is located at the Joint ~~Public~~ Information Center (J~~P~~IC). Once~~While~~ the J~~P~~IC is staffed~~in operation~~, this individual participates in the telephone discussions between the technical advisors at the EOF and J~~P~~IC, and the ~~Chief~~ Company Spokesperson to ensure that verbal and written information issued from the organization is accurate and timely. The Information Coordinator~~Manager~~ may also review news releases if the J~~P~~IC Manager or ~~Chief~~ Company Spokesperson is unavailable. This individual also works closely with State and County Public Information Officers.

5.2.21.1~~3.4.1~~ ~~Information Coordinator~~

~~Under the general supervision of the Information Manager at the Joint Public Information Center, is responsible for notifying the JPIC staff of the emergency situation, coordinating the activities of the staff, directing rumor control activities and ensuring the distribution of news announcements. The Information Coordinator~~

~~maintains continual communications with Corporate and EOF staffs and informs them of current updates to the emergency situation. The Information Coordinator continually consults with the Information Manager and fulfills requests as needed.~~

- ~~Rumor Control Coordinator JPIC~~

  ~~Under the general supervision of the Information Coordinator - JPIC. Rumor Control Coordinator JPIC is responsible for establishing and maintaining telephone communications with Customer Account Services Department for the purpose of coordinating rumor information.~~

- Media Monitor/Rumor Control

  Under the general supervision of the Information Coordinator - J~~P~~IC. Responsible for monitoring local ~~radio and~~ TV broadcasts and online resources to ensure accuracy of information reported, establishing and maintaining telephone communications for coordination of rumor information.

- ~~Media Contact~~

~~Under the general supervision of the Information Coordinator - JPIC. Responsible for answering telephone inquiries received at the Joint Public Information Center from members of the news media.~~

5.2.22~~3.5~~ Logistics Coordinator (J~~P~~IC)

Under the general supervision of the J~~P~~IC Manager, is responsible for ~~supervising and directing the activities associated with fulfilling the Emergency Public Information Response Team's equipment, and other~~ addressing logistical needs. Serves as the primary source for locating, acquiring and ensuring the timely acquisition and set-up of all equipment to be used at the J~~P~~IC to carry out the emergency response and coordinates response to PIO requests.

~~5.3.5.1 Engineering Communications Representative~~

~~Under the general supervision of the Logistics Coordinator, is responsible for providing the technical expertise required for the set-up and maintenance of all communications equipment needed to support emergency response operations. Serves as the primary source for resolving telecommunications problems.~~

~~5.3.5.2 Administrative Support~~

~~Under the general supervision of the Logistics Coordinator, is responsible for coordinating all administrative activities associated with the reproduction and facsimile equipment located in the Joint Public Information Center. Serves as the primary Emergency Public Information Response Team contact with BVPS in obtaining necessary administrative support for emergency response operations at the JPIC office.~~

~~5.3.5.3 Security Coordinator~~

~~Under the general supervision of the Logistics Coordinator, is responsible for establishing and implementing the security system at the Joint Public Information Center. Serves as the primary liaison between the Emergency Public Information Response Team and security personnel.~~

5.2.23~~3.6~~ J~~P~~IC Technical Advisor

Under the general supervision of the JIC~~Information~~ Manager, is responsible for maintaining frequent contact with the EOF Operations Communicator~~Technical Advisor~~ to obtain up-to-the-minute information on plant status. This information is relayed to the ~~Chief~~ Company Spokesperson, the J~~P~~IC Manager and the Information Coordinator~~Manager~~. This position also consults with the J~~P~~IC staff in the interpretation and clarification of plant status and actions being taken to achieve plant stability and recovery.[c8]

~~5.3.7 Customer Services~~

~~Under the general supervision of the Information Manager, the Customer Services Department is responsible for addressing incoming phone calls to the Company Services Board regarding an emergency condition at BVPS. The Department assures that there is adequate staffing and directs callers to the appropriate organization (i.e., JPIC, Local Emergency Management Agency Public Information, etc.).~~

5.2.24~~3.8~~ Nuclear Communications Coordinator ~~Manager - EOF~~

~~Under the general supervision of the Emergency Recovery Manager, C36 is responsible for supervising and directing the activities of the Emergency Public Information Response Team assigned to the EOF.~~ Ensures a continuous flow of essential information for developing news announcements regarding plant conditions and serves as the J~~P~~IC's primary information resource. Responsibilities for developing and writing all news announcements are in accordance with news announcement guidelines.

~~5.3.8.1 Nuclear Communications Writer~~

~~Under the general supervision of the EOF Nuclear Communications Manager, and in consultation with the Nuclear Communications Technical Advisor is responsible for developing and writing all news announcements in accordance with news announcement guidelines.~~

~~5.3.8.2 Nuclear Communications Technical Advisor - EOF~~

~~Under the general supervision of the EOF Nuclear Communications Manager, is responsible for providing, interpreting and clarifying, as requested, all technical information for EOF Nuclear Communications Writer. Also provides verbal information to the JPIC Technical Advisor for news briefings.~~

~~5.3.9 EMA Contact Representative~~

~~Under the general supervision of the Information Manager, is the liaison between the Public Information Officers for the three States in the EPZ and Nuclear Communications at the JPIC.~~

5.34 EMERGENCY ORGANIZATION STAFFING

This section describes the on-shift and augmented staffing for ~~of the Emergency Squad~~initial event response, radiological monitoring, other emergency teams, and the emergency centers. Specific personnel assignments to these teams and centers are made by title or job classification in an Emergency Organization Call-Out List. Section 8 describes the training requirements for these personnel.

.1 The BVPS on-shift~~normal~~ operations organization provides ~~for an Emergency Squad comprised of on-duty shift personnel. This Emergency Squad provides for rapid~~initial response to emergency conditions~~. at all times. This response includes fire fighting, first aid, search and rescue, and damage control.~~ The on-shift ~~Emergency O~~organization is illustrated in Figure 5.2 in capital letters [C62].

.2 The on-shift staff~~Emergency Squad~~ may be supplemented by emergency teams comprised of other off-duty personnel onsite, or personnel called in during off-hours. Functions assigned to these emergency teams may include ~~fire fighting,~~ onsite radiological monitoring, offsite radiological monitoring, ~~first aid, search and rescue, personnel decontamination,~~ and/or damage control, as appropriate to the emergency.

.3 Table 5.1 describes the on-shift minimum staffing~~typical availability of station personnel~~ for emergency activity assignments.

.4 The TSC, OSC[C15], and the EOF, when activated, will be staffed with personnel from the BVPS emergency response organization, personnel from other Licensee organizations, vendor/contractor personnel, and Federal, State and county agency personnel, depending on the severity of the emergency condition. The TSC, OSC, EOF, and JIC~~Nuclear Communications Emergency Organization~~ staffing is illustrated in Figure 5.3, Figure 5.4, Figure 5.54, and Figure 5.6~~5~~, respectively.

.5 The on-duty Shift Technical Advisor[C62] will continue to serve in an advisory role to the operating personnel from the Control Room. The Emergency ~~Operations~~ Coordinator will serve as the Control Room contact for the Technical Support Center, relaying questions and responses between operations personnel and the Technical Support Center.

5.34.1 Relationship Between Normal and Emergency Organizations

In the event of an Alert or more severe emergency, personnel in the normal Beaver Valley Power Station[C16] organization will assume their assigned positions within the Beaver Valley Power Station emergency organization. This emergency organization is operational in nature. Administrative reporting will continue as established in the normal Group and Station organization as described in the administration manuals, to the extent it does not conflict with timely emergency response in accordance with this Emergency Preparedness Plan and the Emergency Implementing Procedures. All other non-assigned personnel are available as a resource pool to support the activities of the various emergency coordinators.

Regulatory, Corporate, and other Station supervisory personnel without a specific supervisory assignment pursuant to this Plan shall not provide directions or instructions directly to plant personnel. All such directions and instructions shall be made to the designated emergency coordinators responsible for the activity in question.

In the course of the emergency, it may become necessary for Technical Support Center personnel to recommend a course of action that conflicts with approved procedures. [C62] Normal procedure change approval requirements should be met, consistent with timely implementation of the required action. However, in the event of an emergency or casualty not covered by an approved procedure, operating personnel have the responsibility and authority to take whatever action they consider required to prevent injury to personnel or damage to the plant or to equipment and to place the plant and equipment in a safe condition.

5.45 AUGMENTATION OF THE ONSITE EMERGENCY ORGANIZATION

5.45.1 Corporate Level Support

The Beaver Valley Power Station[C16] is comprised of the major elements and disciplines necessary to adequately respond to emergency situations. For this reason, a distinct Corporate emergency response organization is not defined. Legal, Financial and Security support shall be provided by Corporate personnel as requested by various BVPS Emergency Response Coordinators/Managers.

Personnel may be drawn from the following corporate groups:

- Legal and Public Affairs
- Corporate Services
- Finance
- Customer Operations
- Generation Group

Personnel from these groups can be activated from call-lists developed by onsite response personnel.

5.4~~5~~.2 Institute for Nuclear Power Operations (INPO) Support

The Institute for Nuclear Power Operation's (INPO) will be a clearinghouse organization for maintaining a roster of individuals and skills available to each utility for augmenting onsite and corporate emergency organizations in the event of an emergency. INPO will also serve as a clearinghouse for maintaining an inventory of material, equipment, and services, which may be used to supplement onsite resources. The Licensee participates in the INPO program. The Licensee INPO Administrative Point of Contact is the liaison with INPO during normal operations [C36]. In an emergency, this individual will coordinate all requests for assistance from INPO and will coordinate INPO activities in response to these requests, as appropriate to the nature and severity of the emergency.

5.4~~5~~.3 NSSS Support

The Westinghouse Water Reactor Division, designer of the BVPS Nuclear Steam Supply System (NSSS), has developed an emergency response plan which provides for emergency engineering assistance to facilities having a NSSS designed by Westinghouse. This assistance is available on a 24-hour/day, 7-day/week basis. Section 6.3.3 describes activation of this organization. The Westinghouse WRD can supply a site response team if deemed appropriate. These personnel, if activated, could be directed to the Technical Support Center.

5.4~~5~~.4 Industry Support

The Beaver Valley Power Station is operated by the Licensee. The Licensee also operates the Perry Nuclear Power Plant and the Davis Besse Nuclear Power Plant which may be a source of assistance in the event of an emergency at Beaver Valley Power Station.[c8] Assistance from other nuclear facilities may be accessed through the Institute of Nuclear Power Operations, as described in Section 5.4~~5~~.2.

5.~~4~~5.5 Local Services Support

The nature of an emergency may require augmenting onsite response groups with local services, personnel and equipment. These local agencies may be contacted for support in response to specific emergency conditions. The expected response of the medical treatment and transportation agencies is described in Section 6.8. The response of the fire organizations is described in detail in the Mutual Aid Fire Plan and in the BVPS Operating Manual. Support may be obtained as necessary from the following local organizations: C66

- Heritage Valley Beaver and University of Pittsburgh Medical Center (UPMC) Presbyterian hospitals - provide hospital treatment for victims of radiological accidents, including contaminated and injured individuals from BVPS as requested by BVPS via the Beaver County 911 Center and transported by local emergency medical services ambulance.
- Shippingport, Midland, Hookstown, Industry, Raccoon and Ohioville Volunteer Fire Departments – provide fire response, fire apparatus, firefighting equipment and firefighters as requested by BVPS via the Beaver County 911 Center and implemented using the Incident Command System (ICS).
- Medic Rescue – provide emergency medical services, and ambulances for transport of victims to hospital facilities as requested by BVPS via the Beaver County 911 Center and implemented using ICS.
- Shippingport Police Department, Pennsylvania State Police and Beaver County District Attorney's Office Emergency Service Unit (ESU) – provide tactical support, off-site logistics, traffic controls and other law enforcement resources as described in the BVPS Security Plan as requested by BVPS via the Beaver County 911 Center and implemented using ICS.

Specific methods for notifying these organizations and their expected assistance are described in Emergency Implementing Procedures and are summarized in Section 6 of this Plan. Letters of Agreement from each organization to provide their respective emergency assistance to the Beaver Valley Power Station are on file in the Emergency Response Section. Local fire services personnel performing emergency measures onsite shall coordinate activities onsite ~~with the Emergency Squad Chief or other designated station supervisory personnel since each of these agencies possess specific capabilities~~ as described in the Mutual Aid Fire Plan. Police functions to be performed by the law enforcement agencies in support of BVPS are contained within the BVPS Security Plan.

Should additional resources be required to respond to the site for an emergency including a hostile action event, these resources may be obtained by way of request through the Beaver County Emergency Management Agency (BCEMA) under the Pennsylvania Intrastate Mutual Aid System, the Beaver County Fire Mutual Aid Agreement, and the PA Region 13 Counter-terrorism Task Force. C66

5.4~~5~~.6 Other Support Services

Emergency conditions may require long-term or extensive support from organizations such as contractors, other utilities, support agencies or Federal and State agencies. Space is available, near the TSC~~Emergency Response Facility~~, for trailers or other temporary facilities. Various facilities may be established for the following activities: security, training, instrument repair and calibration, food preparation, etc. If necessary, these functions would be considered an extension of the Emergency Response Organization.

5.5~~6~~ COORDINATION WITH PARTICIPATING GOVERNMENT AGENCIES

5.5~~6~~.1 State and Local Agencies

This section identifies the principal State and local governmental agencies in Pennsylvania, Ohio, and West Virginia having action responsibilities for radiological emergencies in the vicinity of the Beaver Valley Power Station. The radiological emergency response plans of these agencies describe their respective responsibilities, authorities, capabilities and emergency functions; and although not included as part of this Plan, are intrinsic parts of the emergency planning for the Beaver Valley Power Station. The emergency organizational interfacing between BVPS, local and state agencies and Federal government groups is outlined in Figure 5.6. The following sections provide a summary of the provisions for preparedness and response to radiological emergencies by each organization, as well as the primary and alternate methods of emergency notification. Table 5.3~~4~~ identifies the governmental agencies, their mailing address and the individual (by position) accountable for planning, ordering and controlling emergency actions.[c9]

The Beaver Valley Power Station has made available in the near-site Emergency Operations Facility space for liaison personnel from each of the jurisdictions within the BVPS Emergency Planning Zone. The Offsite Agency Liaison will be assigned to this location to serve as an interface between the Licensee and the governmental groups. Liaison personnel at the EOF will serve to provide for coordination among the Federal agencies, primary State and local agencies within the EPZ, and BVPS. Upon request, BVPS will provide liaison personnel to the primary governmental Emergency Operations Centers (EOC).

.1 Beaver County Emergency Management Agency (BCEMA) -- is the lead governmental agency for offsite coordination and response in Beaver County. The BCEMA emergency plan is entitled "Beaver County Emergency Operations Plan Annex "E" Beaver Valley Power Station", and the plan includes provisions for:

- Planning and coordination with local and State authorities
- Initial response to notification by Beaver Valley Power Station
- Alert and warning of local populations

- Evacuation and other protective measures for local populations
- Emergency services

The primary method of notification to BCEMA is the commercial phone system. The alternate method is radio. A copy of the agreement letter from the BCEMA is on file in the Emergency Response Section.

.2 Pennsylvania Emergency Management Agency (PEMA) -- is the lead governmental agency for coordination and response of emergency activities at the State level. The PEMA emergency plan is entitled "Commonwealth of Pennsylvania Emergency Operations Plan Annex "E" Radiological Emergency Response to Nuclear Power Plant Incidents". The PEMA plan includes provisions for:

- Issuance of planning guidance
- Coordination of State and Federal response to nuclear incidents
- Establishment of an emergency operations center
- Provision for emergency public information
- Coordination of State agencies and departments
- Notification and provision of technical information to affected contiguous states

The primary method of notification to PEMA is the commercial phone system. The alternate method is radio via BCEMA. A copy of the agreement letter from PEMA is on file in the Emergency Response Section.

.3 Department of Environmental Protection/Bureau of Radiation Protection (DEP/BRP) -- is the lead governmental agency for providing technical advice and consultation to State and local organizations in evaluation of appropriate offsite preventive and protective measures. The DEP/BRP emergency plan is incorporated into the PEMA response plan. The DEP/BRP plan provides for:

- Technical consultation
- Accident assessment
- Recommendations for protective actions
- Recommendations for protection of potable water and food
- Recommendations for recovery and re-entry (off-site)

The initial notification to DEP/BRP will be made by PEMA. Direct telephone "hot-lines" have been installed between the Beaver Valley Power Station and DEP/BRP for transmitting radiological information.

.4 Columbiana County Emergency Management Agency (CCEMA) -- is the lead governmental agency for offsite coordination and response in Columbiana County, Ohio. The CCEMA emergency plan is entitled

"Columbiana County Radiological Emergency Response Plan for Beaver Valley Power Station".

The CCEMA plan includes provisions for:

- Planning and coordination with local and State authorities
- Initial response to notification by Beaver Valley Power Station
- Alert and warning of local populations
- Evacuation and other protective measures for local populations
- Emergency Services

The CCEMA plan also contains emergency procedures for the local organizations, which are assigned action and/or support responsibilities under that plan.

The primary method of notification to CCEMA is the commercial phone system. The alternate method is radio. A copy of the agreement letter from the CCEMA is on file in the Emergency Response Section. CCEMA will not be requested to provide onsite local support, such as fire fighting.

.5 Ohio Emergency Management Agency (OEMA) -- is the lead governmental agency for coordination and response of emergency activities at the State level. The OEMA emergency plan is entitled "The Ohio Plan for Response to Radiation Emergencies at Licensed Nuclear Facilities". The OEMA plan includes provisions for:

- Issuance of planning guidance
- Coordination of State response to nuclear incidents
- Accident Assessment
- Recommendations for protective actions
- Recommendations for recovery and re-entry (offsite)
- Operation of the emergency operations center
- Provision for emergency public information
- Coordination of response with Federal agencies and applicable agencies in the contiguous states.

The primary method of notification to OEMA is the commercial phone system. The alternate method is radio via CCEMA. Additionally, backup notification of OEMA can be made by PEMA via the commercial phone system, or as an alternate the National Warning Systems (NAWAS) interconnection. A copy of the Letter of Agreement with OEMA is on file in the Emergency Response Section.

.6 Hancock County Office of Emergency Management (HCOEM) [C47] -- is the lead governmental agency for offsite coordination and response in Hancock County, West Virginia. The HCOEM emergency plan is entitled "Hancock

County Radiological Emergency Response Plan Beaver Valley Power Station". [C47]

The HCOEM plan includes provisions for: [C47]

- Planning and coordination with local and State authorities
- Initial response to notification by Beaver Valley Power Station
- Alert and warning of local populations
- Evacuation and other protective measures for local populations
- Emergency services

The HCOEM plan also contains emergency procedures for local organizations, which are assigned action and/or support responsibilities under that plan. [C47]

The primary method of notification to HCOEM is the commercial phone system. The alternate method is radio. A copy of the agreement letter from the HCOEM is on file in the Emergency Response Section. HCOEM will not be requested to provide onsite local support, such as fire fighting. [C47]

.7 West Virginia Division of Homeland Security and Emergency Management (WVDHS/EM) -- is the lead governmental agency for coordination and response of emergency activities at the State level. The WVDHS/EM emergency plan is entitled "West Virginia Emergency/Disaster Plan Volume Four Response/Radiological Beaver Valley Power Station". The WVDHS/EM plan includes provisions for: [C47]

- Issuance of planning guidance
- Coordination of State response to nuclear incidents
- Accident Assessment
- Recommendations for protective actions
- Recommendations for protection of potable water and food
- Recommendations for recovery and re-entry (offsite)
- Operation of the Emergency Operations Center
- Provision for emergency public information
- Coordination of response with Federal Agencies, and with applicable agencies in the contiguous States

The primary method of notification to WVDHS/EM is the commercial phone system. The alternate method is radio via HCOEM. Additionally, backup notification of WVDHS/EM can be made by PEMA via the commercial phone system, or as an alternate, the National Warning System (NAWAS) interconnection. Copies of the agreement letters between WVDHS/EM and Beaver Valley Power Station are on file in the Emergency Response Section. [C47]

5.5~~6~~.2 Federal Agencies

The principal Federal government agencies having emergency responsibilities relative to the Beaver Valley Power Station, and a summary of those responsibilities are:

.1 US Nuclear Regulatory Commission (NRC), -- is responsible for conducting investigative activities associated with a radiological emergency, and verifying that emergency plans have been implemented and the proper agencies notified. The NRC and the Federal Emergency Management Agency (FEMA) share responsibility for coordinating Federal response to emergencies. Specific responsibilities assigned to the NRC include:

- Notification of FEMA whenever a radiological event occurs or whenever there is high potential for such an event.
- Monitoring operational data and assuring that adequate information and recommendations are being provided to offsite agencies.
- As a back-up to the licensee, providing a technical assessment of onsite radiological and plant conditions to FEMA and other Federal agencies and keeping offsite agencies apprised of any operational decisions that may effect offsite protective actions.
- Dissemination of onsite data to FEMA and Federal agencies, the news media, and the general public.

.2 US Department of Energy (DOE), Brookhaven Area Office -- will respond to requests from the Beaver Valley Power Station and provide offsite assistance which is limited to advice and emergency action essential for the control of the immediate hazards to public health and safety.

DOE coordinates the activities of the Federal Radiological Monitoring and Assessment Plan (FRMAP). The FRMAP plan provides the framework through which the Federal agencies participating in the FRMAP program will coordinate their emergency radiological monitoring and assessment activities with those of State and local governments. The Beaver Valley Power Station will perform necessary onsite and in-plant radiological monitoring with Station personnel, augmented as necessary with personnel

from other nuclear utilities, and from contractor organizations. FRMAP personnel will not be used for onsite or in-plant monitoring at Beaver Valley. Since FRMAP resources are to be used for offsite response, the emergency plans of Pennsylvania, West Virginia, and Ohio have made provisions for the use of FRMAP resources. To provide means for FRMAP access to plant release and meteorological data, space will be made available for a liaison from FRMAP in the Emergency Operations Facility.

The primary method of notification to DOE is by the commercial phone system, in accordance with the provisions of the agreement letter, on file in the Emergency Response Section. Notifications may also be made through the NRC.

.3 National Weather Service (NWS) (Pittsburgh, PA) -- will respond to requests from the Beaver Valley Power Station for routine and special weather advisories and meteorological data, and through the River Forecasting Section, hydrologic data for the Ohio River.

The primary method of notification to NWS is by the commercial phone system, in accordance with the provisions of the agreement letter, on file in the Emergency Response Section.

.4 Federal Emergency Management Agency (FEMA) -- The responsibility of FEMA in the event of an emergency at a nuclear power facility is to coordinate the response of the various Federal agencies. The NRC and FEMA share responsibility for coordinating Federal response to emergencies. Specific responsibilities assigned to FEMA include:

- Coordination of Federal support to state and local officials
- Dissemination of data on offsite support actions to the White House, other Federal agencies, and news media, and the general public.

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TABLE 5.1 MINIMUM ON-SHIFT STAFFING REQUIREMENTS

C59 Major Functional Area	C59 Major Tasks	C59 Position Title/ Expertise	C59 On-Shift[5]	C59 2 Capability for Additions 30 Min	60 Min
Plant Operations and Assessment of Operational Aspects	Control Room Staff	Shift Manager (SRO) Unit Supervisor (SRO) Reactor Operator Nuclear Operator	2 2 4 6	--- --- --- ---	--- --- --- ---
Emergency Direction and Control C37	Command and Control	Shift Manager	1[1]	---	---
Notification/ Communication	Licensee Local/State Federal personnel and maintain communication	SRO Designated Communicator Licensed Operator (RO/SRO)	1[1] 1[1] 1[1]	--- 1 ---	--- 2 ---
Radiological Accident Assessment C38, C39, C40, C41	Offsite Dose Assessment Offsite Surveys Offsite Surveys Onsite Surveys (out-of-plant) Inplant Surveys	RP Technician / Sr RP expertise (EA & DP Coord) RP Technicians [3] RP Support [4] RP Technicians[3] RP Technicians[3]	1 --- --- 1 1	1 1 1 1 1	--- 1 1 1 1

TABLE 5.1 MINIMUM ON-SHIFT STAFFING REQUIREMENTS

C59 Major Functional Area	C59 Major Tasks	C59 Position Title/ Expertise	C59 On-Shift[5]	C59 2 Capability for Additions 30 Min	60 Min
Radiological Accident Assessment (cont.)	Chemistry/Radiochemistry	Chemistry[C13]	1	-----	1
Support of Operational Accident Assessment	EOF Director	Emergency/Recovery Manager	-----	-----	1
Plant System Engineering	Technical Support - Ops Core/Thermal Hydraulics	Shift Technical Advisor[C62] Shift Technical Advisor[C62] Electrical Mechanical	1 1[1] ----- -----	----- 1 ----- -----	----- ----- 1 1
Repair and Corrective Actions	Repair and Corrective Actions	mechanical repair rad waste operator electrical repair instrument & control repair	1[1] ----- 1[1] 1[1]	----- ----- 1 1	1 1 1 -----
Protective Actions (In-Plant)	Radiation Protection - Access Control - RP coverage - Personnel monitoring - Dosimetry	C38 RP Technicians [3]	2[1]	2	2

TABLE 5.1 MINIMUM ON-SHIFT STAFFING REQUIREMENTS

Major Functional Area	C59 Major Tasks	C59 Position Title/ Expertise	C59 On-Shift[5]	C59 2 Capability for Additions 30 Min	60 Min
C42 Firefighting		Fire Brigade Chief (RO/SRO) Fire Brigade Member (NO)	1[1] 4[1]	Local Support	Local Support
C42 Rescue Operations and First Aid		Fire Brigade	2[1]	Local Support	Local Support
Site Access Control and Personnel Accountability	Security and Accountability	Security Shift Supervisor Security Personnel	1 (6)	----- (6)	----- (6)
Totals per column			20	11	15

NOTES:

1 May be filled by someone filling another position having the same functional qualifications. C59

2 BVPS will continue to maintain an ERO and notification system, which will have the objective of meeting the 30/60 minute response time criteria specified in NUREG-0654. It is recognized that 100% staff augmentation, within 30 minutes, may not be achievable under all circumstances. The Onsite staff shall be augmented as soon as reasonably achievable.

3 Includes Radiation Technicians, RP Supervisors, or other personnel qualified to perform the functions listed. C38

4 Individuals designated as drivers for offsite Field Monitoring Team support. C38

5 On-shift staffing for both BVPS U1 and U2 per the BVPS On-Shift Staffing Analysis Report. C59

6 Per the BVPS Physical Security Plan. C59

Major Functional Area	Major Tasks	Position Title/Expertise	Proposed On-Shift	Capability for Additions	
				60 min	90 min
Emergency Direction and Control	Classification/Oversight	Shift Manager (SRO)	2	------	------
		TSC Emergency Coordinator (TSC)	------	1	------
		Emergency Director (EOF)	------	1	------
Notification/ Communication	Licensee, Local/State Federal personnel and maintain communication	Shift Communicator (State/local/Federal)	1	------	------
		State/local Communicator (EOF)	------	1	------
		ENS Communicator (TSC)	------	1	------
Radiological Accident Assessment	Offsite Dose Assessment	Shift Technical Advisor (SRO/STA)	1*	------	------
		Dose Assessment Coordinator (EOF)	------	1	------
	Offsite Surveys	FMT Lead	------	1	1
		FMT Member	------	1	1
	In-plant/Onsite (out-of-plant)	RP qualified individual	1	1	1
	Protective Actions	RP qualified individual	1	2	2
	RP Oversight	RP Coordinator (TSC)	------	1	------
Plant System Engineering	Technical Support	Shift Technical Advisor (SRO/STA)	1	------	------
		Core Hydraulic Engineer (TSC)	------	1	------
		Electrical Engineer (TSC)	------	1	------
		Mechanical Engineer (TSC)	------	1	------
Repair and Corrective	Repair and Corrective Actions	MM Coordinator (OSC)	------	------	1
		EM Coordinator (OSC)	------	------	1
		I&C Coordinator (OSC)	------	------	1
		OSC Coordinator (OSC)	------	1	------
		HP Coordinator (OSC)	------	1	------
		Mechanical Personnel (OSC)	------	1	------
		Electrical Personnel (OSC)	------	1	------
		Instrument & Control Personnel (OSC)	------	------	1
Total			**6**	**18**	**9**

*May be performed by someone filling another position having functional qualifications.

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~~TABLE 5.2~~

~~MINIMUM BVPS UNIT 1 and UNIT 2 CREW COMPOSITION(a)~~

	~~Applicable Modes(c)~~			
~~License Category~~	~~Both Units~~	~~One Unit~~	~~One Unit~~	~~Both Units~~
~~Qualification~~	~~1,2,3,4~~	~~1,2,3,4~~	~~5,6~~	~~5,6~~
~~Senior Reactor Operator (SRO) (SRO)(b)(e)~~	~~2(f)~~		~~2(d)(f)~~	~~1(d)(h)~~
~~Reactor Operator (RO)~~	~~3(g)~~		~~3(g)~~	~~2~~
~~Plant Operator~~	~~3(g)~~		~~3(g)~~	~~3(g)~~
~~Shift Technical Advisor (STA)C62~~	~~1~~		~~1(h)(i)~~	~~0~~
~~Individual Qualified in Radiation Protection Procedures~~	~~1(h)~~		~~1(h)~~	~~1(h)~~
~~Rad/Chem Technician~~	~~1(h)~~		~~1(h)~~	~~1(h)~~

~~NOTES:~~

~~(a) Except for the Shift Manager, the shift crew composition may be one less than the minimum requirements for a period of time not to exceed 2 hours in order to accommodate unexpected absence of on-duty shift crew members provided immediate action is taken to restore the shift crew composition to within the minimum requirements. This provision does not permit any shift crew position to be unmanned upon shift change due to an oncoming shift crewman being late or absent.~~

~~(b) Includes the licensed SRO serving as the Shift Manager.~~

~~(c) Operational Mode Definitions:~~

~~MODE 1 - Power Operation~~
~~MODE 2 - Start-up~~
~~MODE 3 - Hot Standby~~
~~MODE 4 - Hot Shutdown~~
~~MODE 5 - Cold Shutdown~~
~~MODE 6 - Refueling~~

~~(d) Does not include the SRO assigned during Mode 6 to directly supervise operations.~~

~~**TABLE 5.2**~~

~~MINIMUM BVPS UNIT 1 and UNIT 2 CREW COMPOSITION~~~~(a)~~
~~**(Continued)**~~

~~(e) During any absence of the Shift Manager from the Control Room while the unit is in Mode 1, 2, 3 or 4, an individual (other than the Shift Technical Advisor) with a valid SRO license shall be designated to assume the Control Room command function.~~[C62] ~~During any absence of the Shift Manager from the Control Room while the unit is in Mode 5 or 6, an individual with a valid SRO or RO license shall be designated to assume the Control Room command function.~~

~~(f) Minimum of 2 individuals for each unit; each individual may fill the same position on both units if qualified on both units.~~

~~(g) Minimum of 2 individuals for each unit; one of two individuals may fill the same position on both units if qualified on both units.~~

~~(h) Minimum of 1 individual for each unit; one individual may fill the same position on both units if qualified on both units.~~

~~(i) One of two required individuals filling the SRO positions may also fill the STA position, if qualified.~~

FIGURE 5.1

BEAVER VALLEY POWER STATION C62

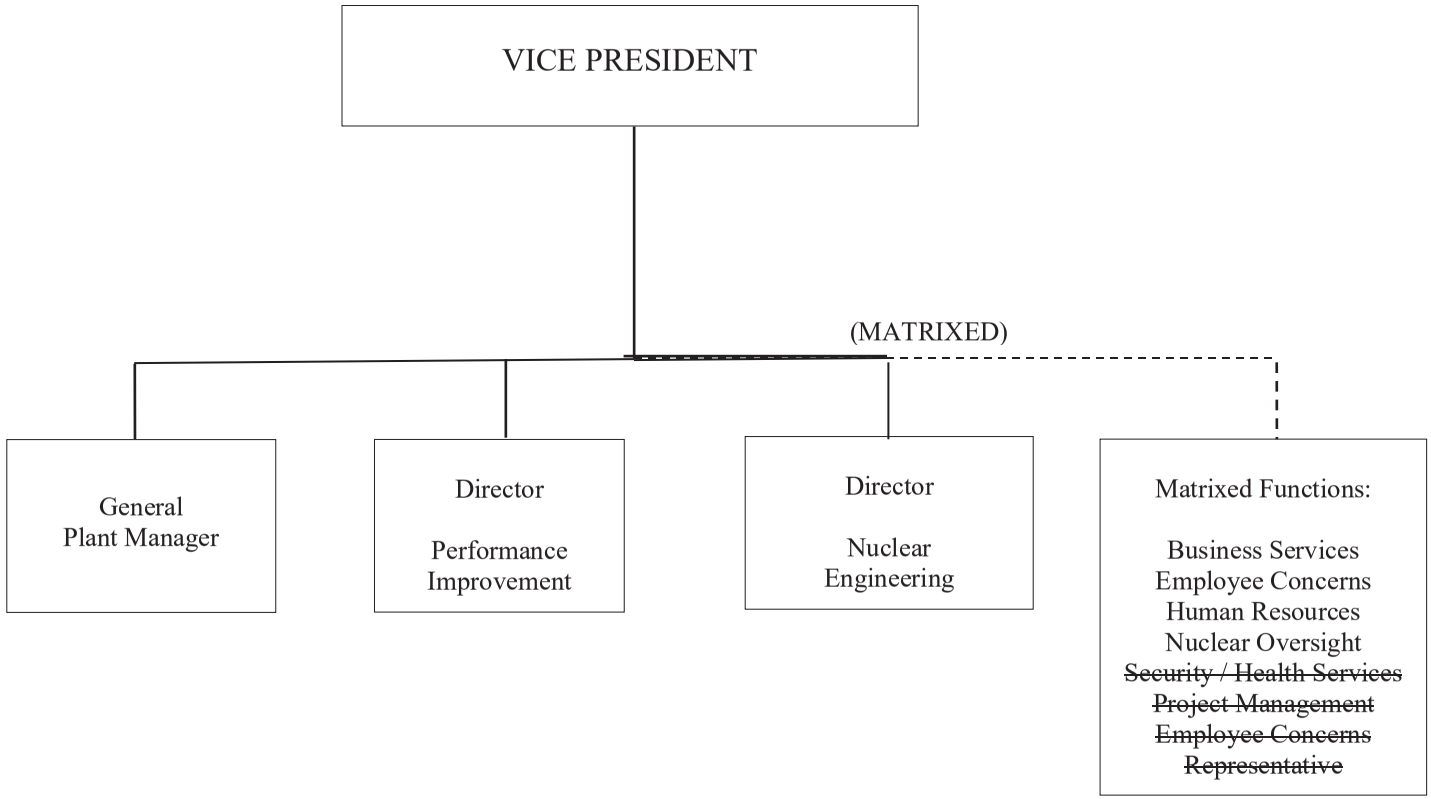

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FIGURE 5.2

ONSHIFT EMERGENCY ORGANIZATION

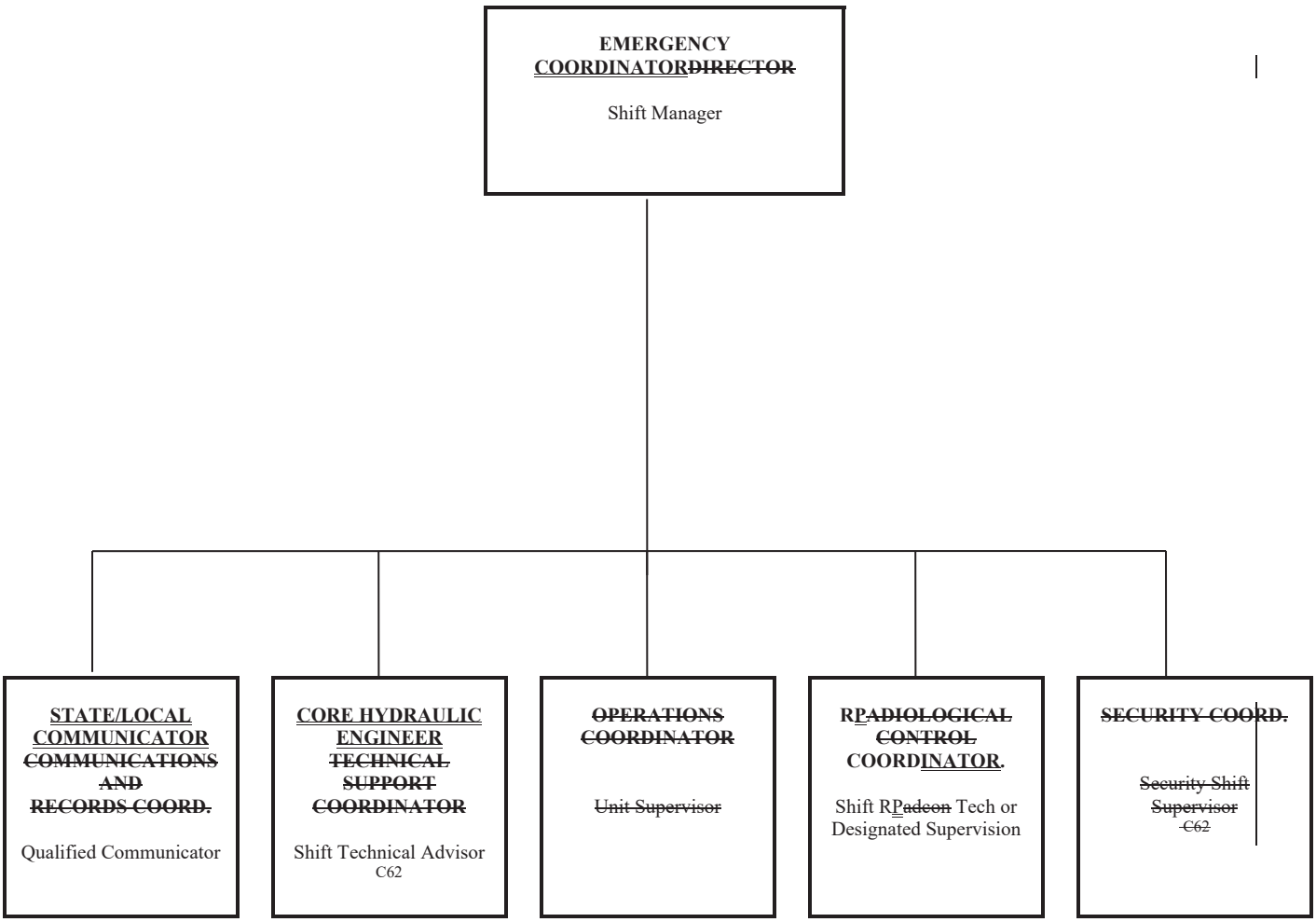

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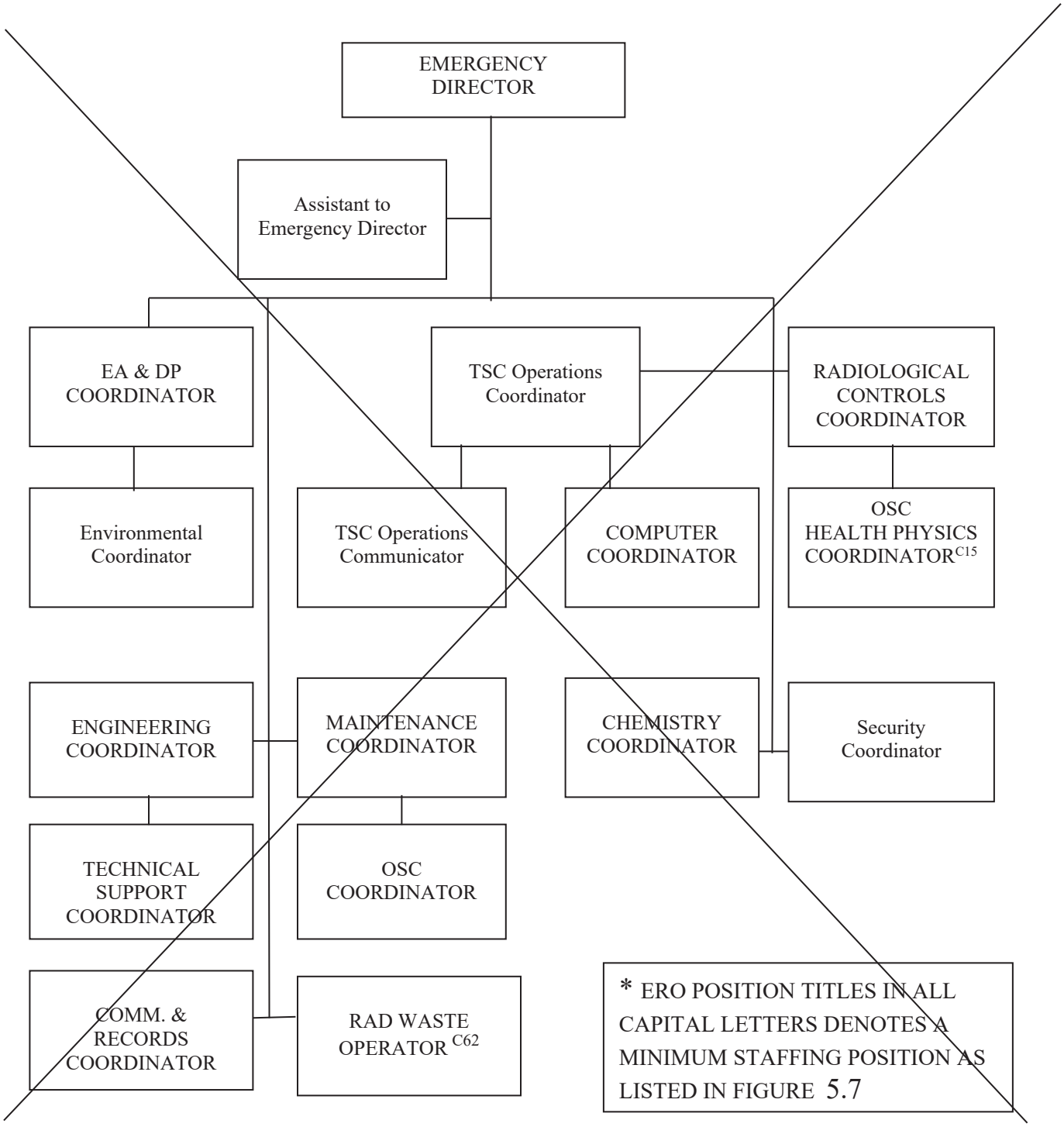
FIGURE 5.3

TECHNICAL SUPPORT CENTER ORGANIZATION [c8]



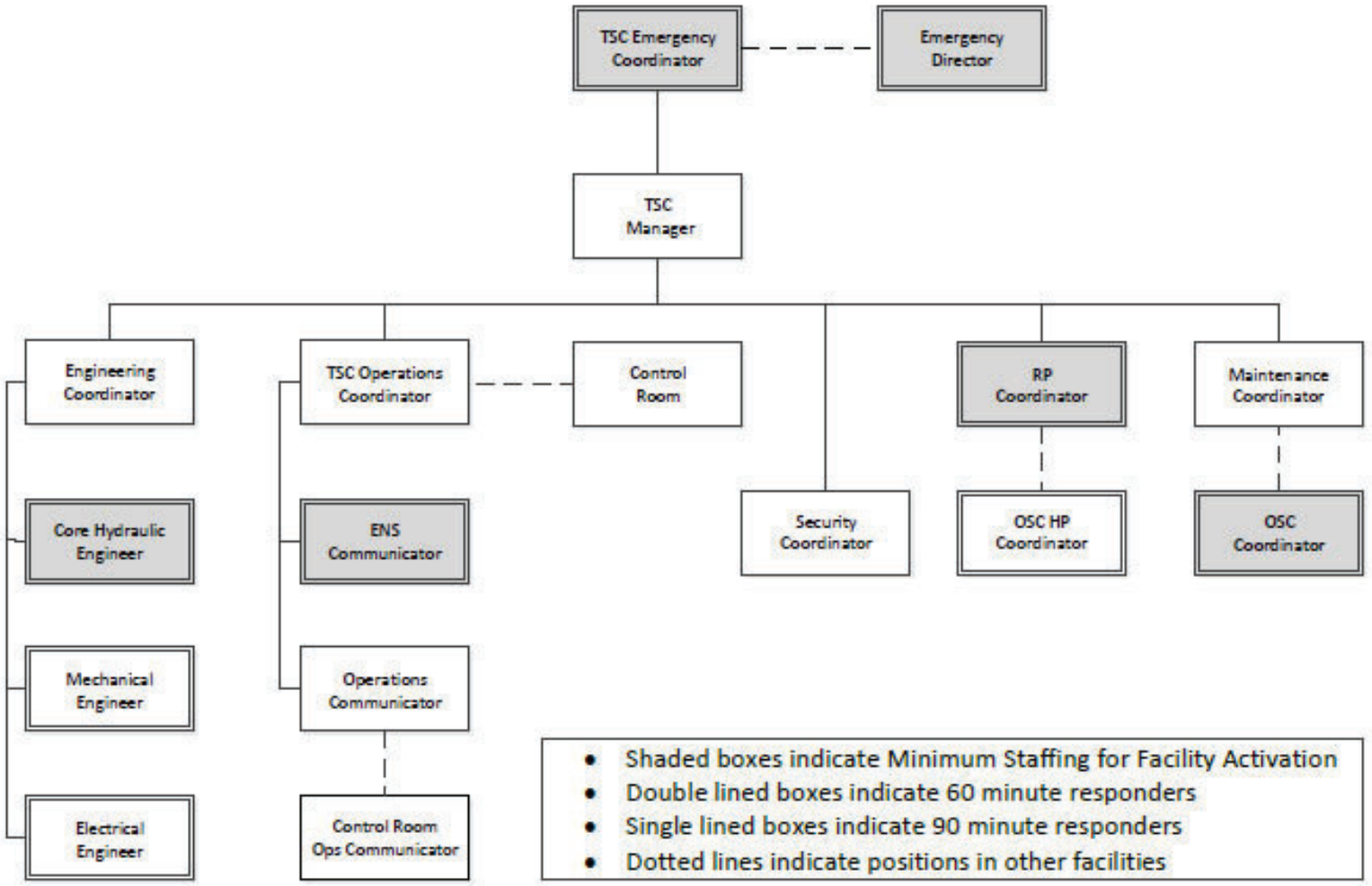

TSC Emergency Coordinator
Emergency Director
TSC Manager
Engineering Coordinator
TSC Operations Coordinator
Control Room
RP Coordinator
Maintenance Coordinator
Core Hydraulic Engineer
ENS Communicator
Security Coordinator
OSC HP Coordinator
OSC Coordinator
Mechanical Engineer
Operations Communicator
Electrical Engineer
Control Room Ops Communicator
• Shaded boxes indicate Minimum Staffing for Facility Activation
• Double lined boxes indicate 60 minute responders
• Single lined boxes indicate 90 minute responders
• Dotted lines indicate positions in other facilities

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FIGURE 5.4

OPERATIONS SUPPORT CENTER ORGANIZATION [c8]

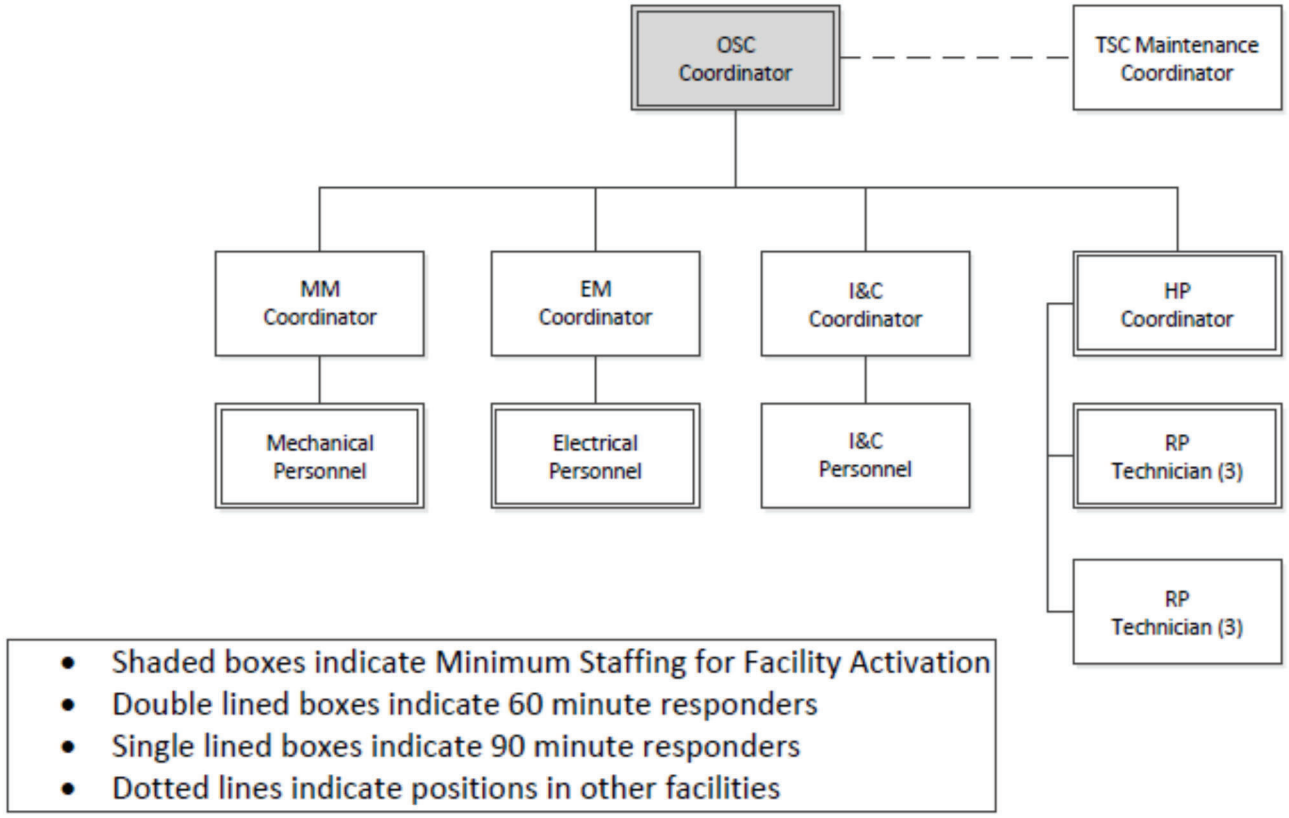

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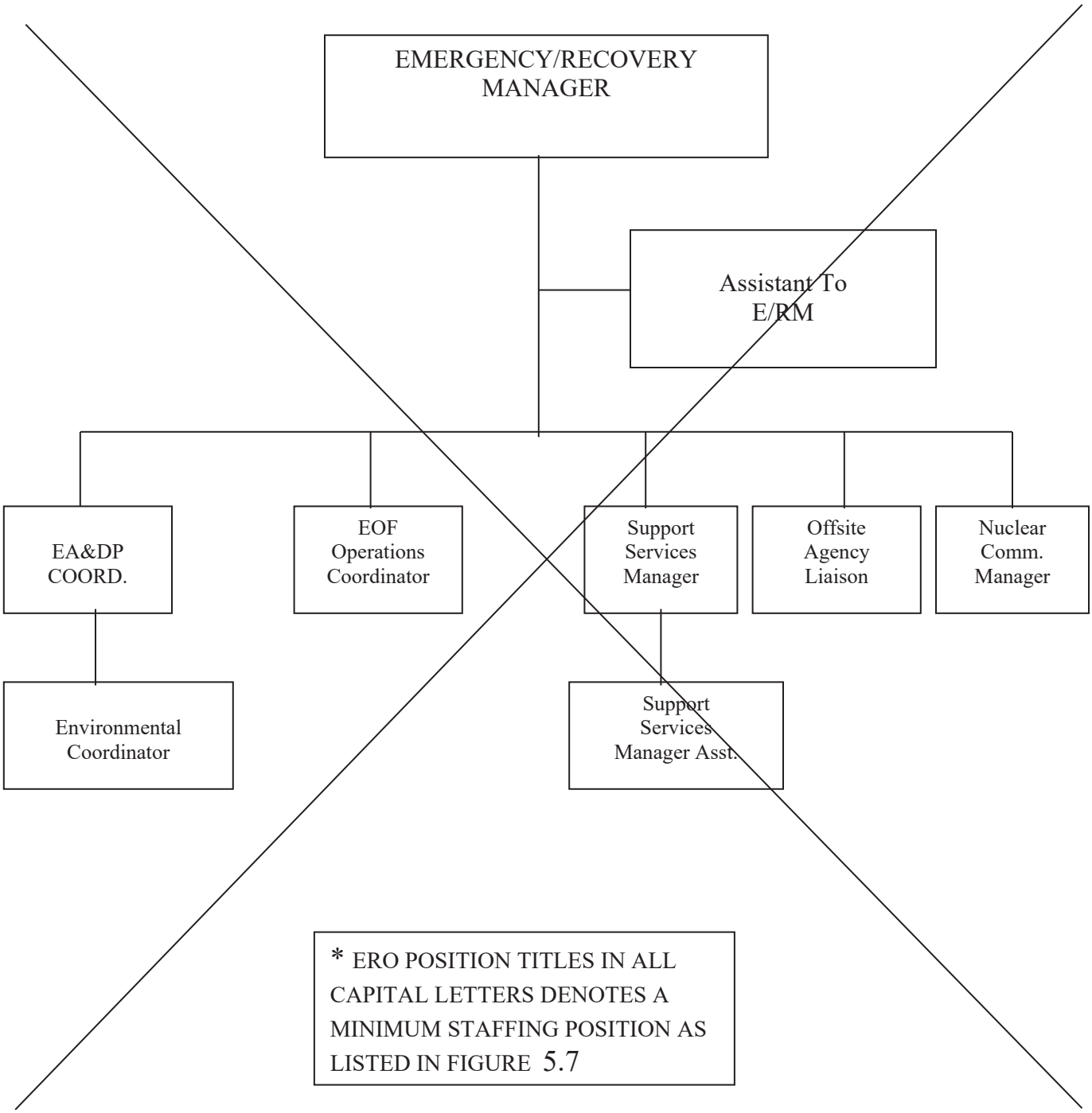
FIGURE 5.54

EMERGENCY OPERATIONS FACILITY ORGANIZATION



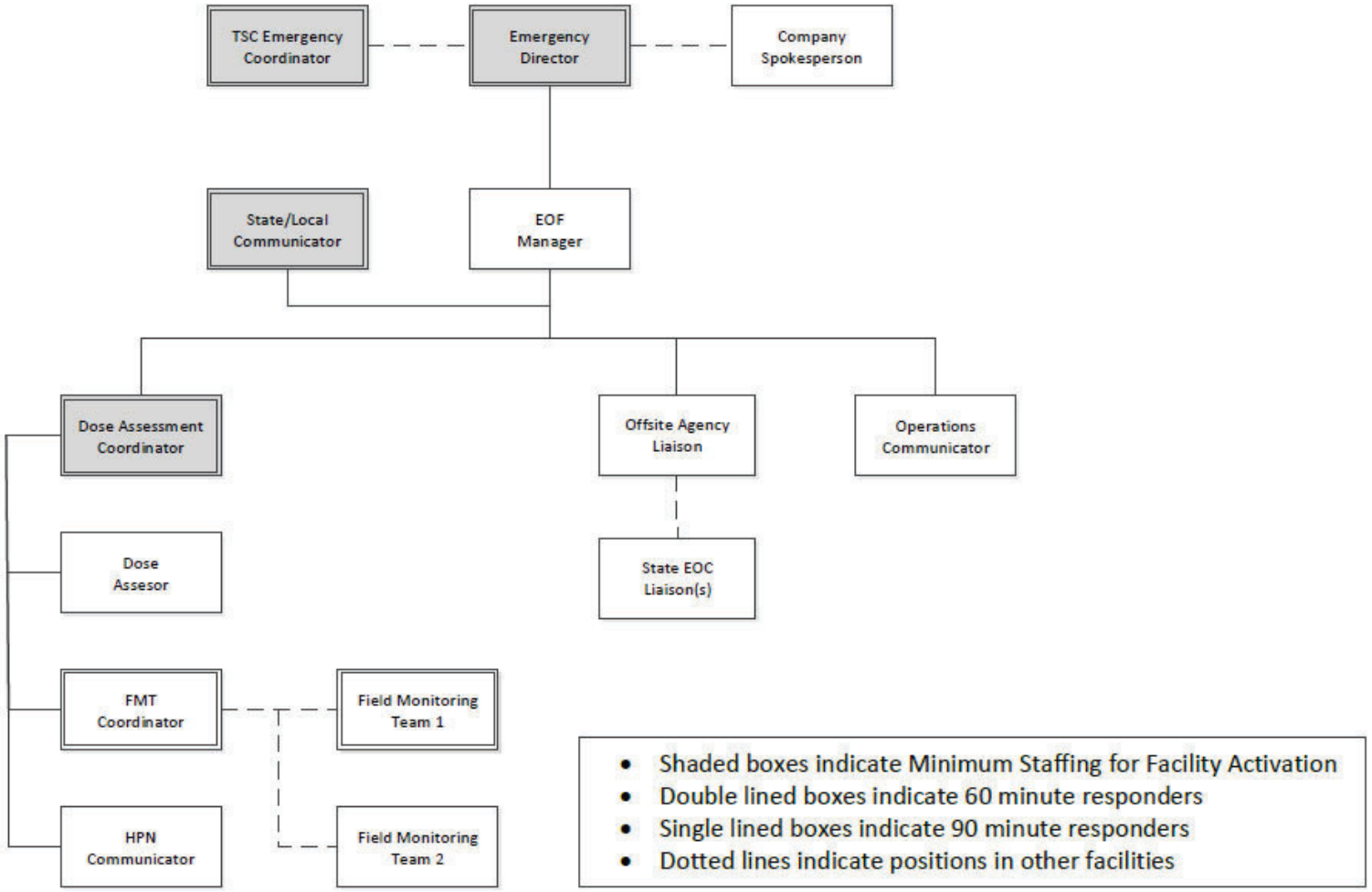

TSC Emergency Coordinator
Emergency Director
Company Spokesperson
State/Local Communicator
EOF Manager
Dose Assessment Coordinator
Offsite Agency Liaison
Operations Communicator
Dose Assesor
State EOC Liaison(s)
FMT Coordinator
Field Monitoring Team 1
HPN Communicator
Field Monitoring Team 2
• Shaded boxes indicate Minimum Staffing for Facility Activation
• Double lined boxes indicate 60 minute responders
• Single lined boxes indicate 90 minute responders
• Dotted lines indicate positions in other facilities

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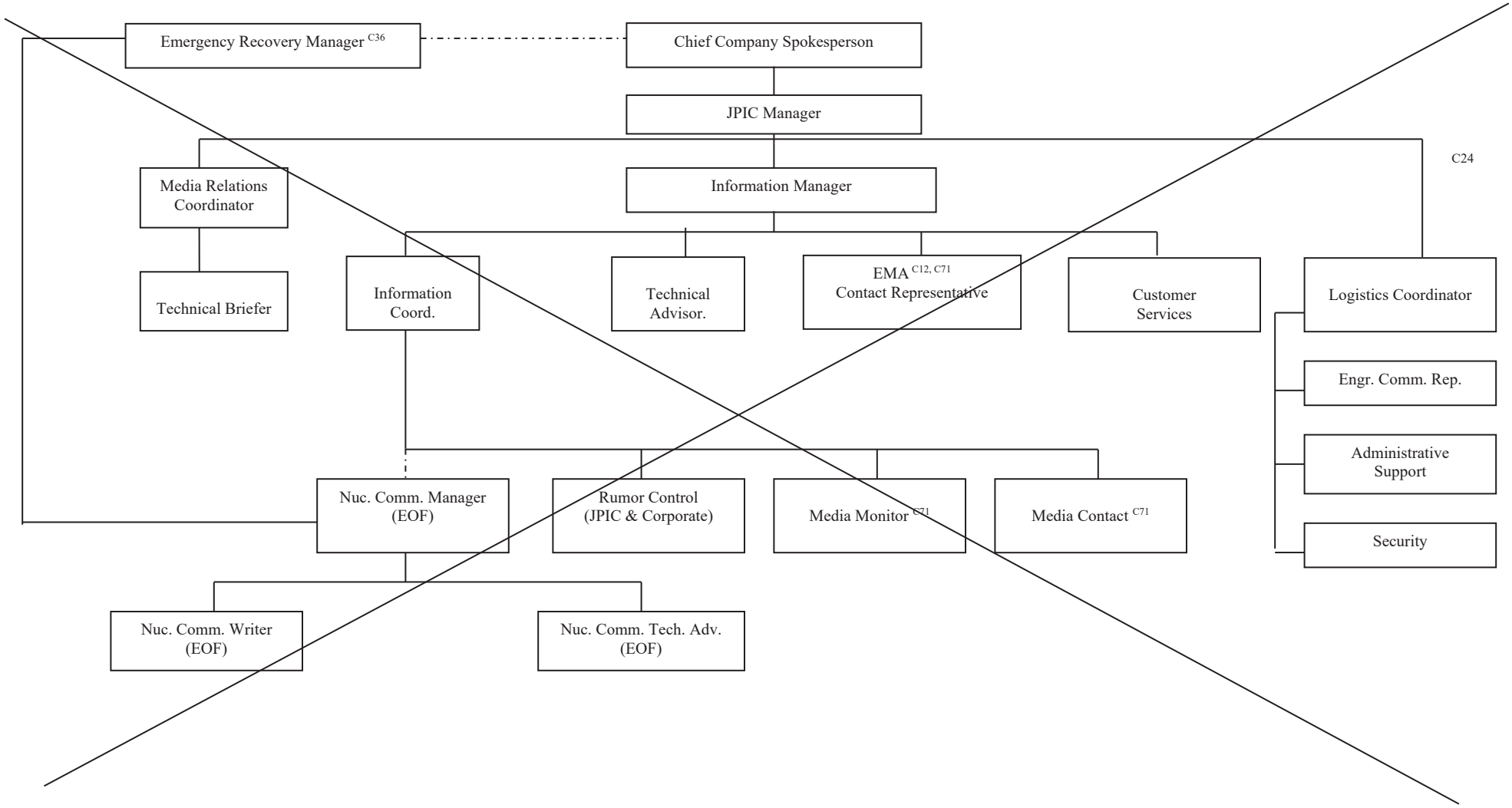
FIGURE 5.6~~5~~

JOINT~~EMERGENCY PUBLIC~~ INFORMATION RESPONSE ORGANIZATION [C8]



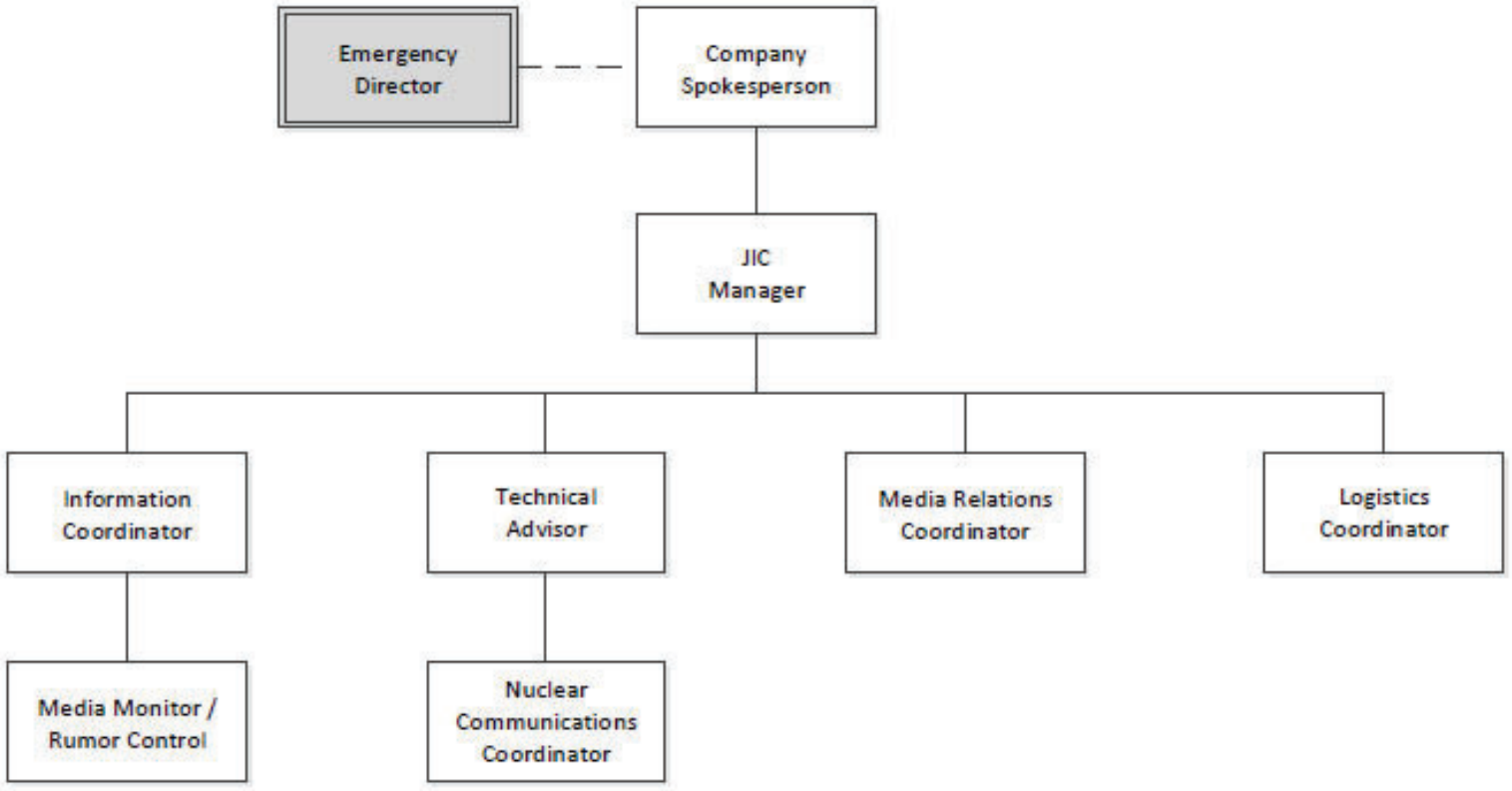

Emergency Director
Company Spokesperson
JIC Manager
Information Coordinator
Technical Advisor
Media Relations Coordinator
Logistics Coordinator
Media Monitor / Rumor Control
Nuclear Communications Coordinator

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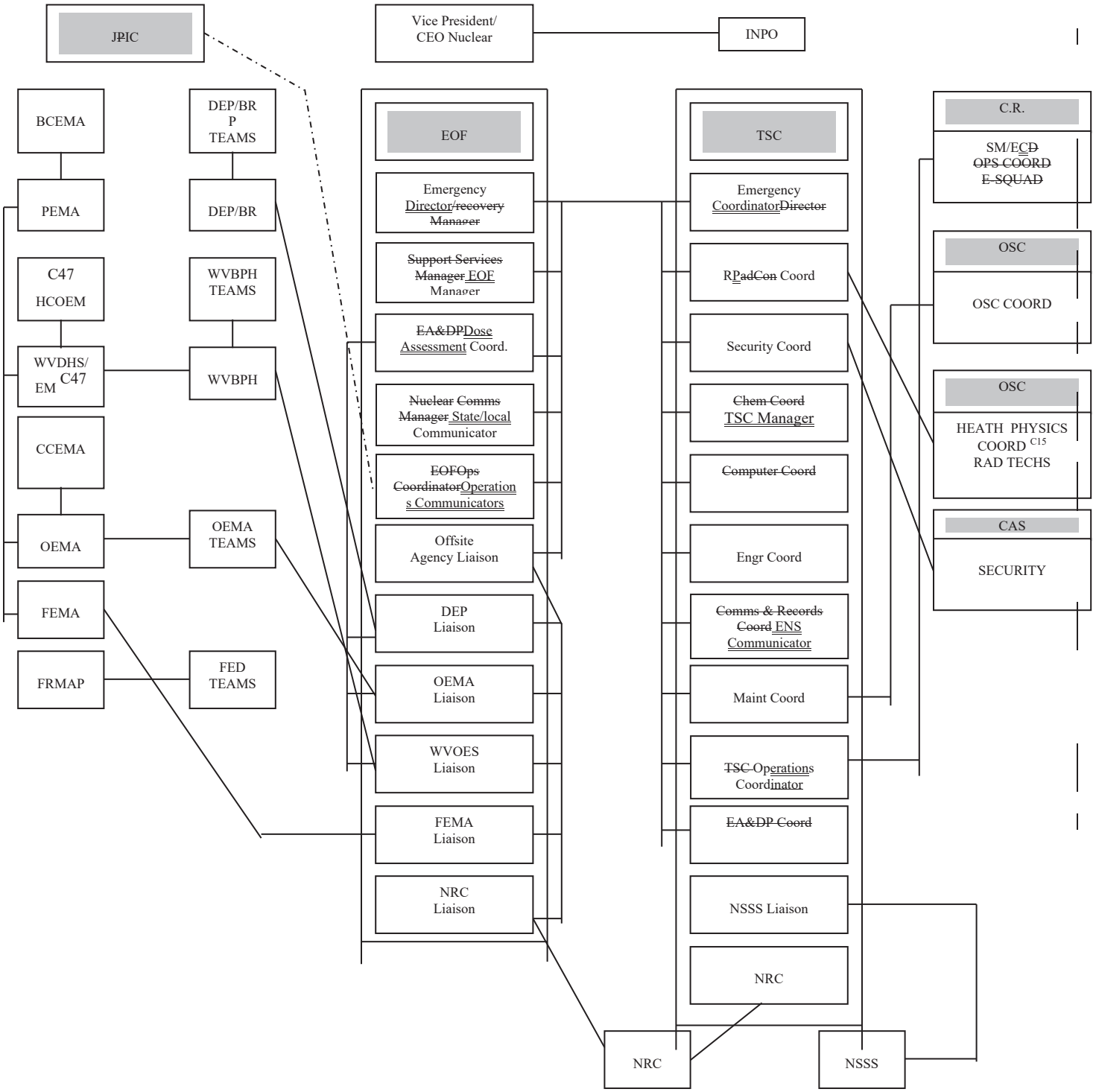
FIGURE 5.76

C36



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~~FIGURE 5.7~~

~~The following comprises the minimum staffing positions, in excess of the On-Shift minimum staffing, of the BVPS Emergency Response Organization needed to ensure that the BVPS Emergency Plan described Emergency Response Facilities responsible for mitigative and corrective actions are capable of fulfilling their function:~~

~~Operations Support Center (OSC) staffing:~~

~~Position Title~~	~~#~~
~~OSC Coordinator~~	~~1~~
~~OSC Health Physics Coordinator~~	~~1~~

~~Technical Support Center (TSC):~~

~~Emergency Director [or Assistant]~~	~~1~~
~~Communications & Records Coordinator~~	~~1~~
~~Communications Assistants~~	~~2~~
~~Chemistry Coordinator~~	~~1~~
~~TSC Coordinator~~	~~1~~
~~Radiological Controls Coordinator [or Assistant]~~	~~1~~
~~Maintenance Coordinator~~	~~1~~
~~Computer Coordinator~~	~~1~~
~~Engineering Coordinator~~	~~1~~
~~Electrical Engineer~~	~~1~~
~~Mechanical Engineer~~	~~1~~
~~Nuclear Engineer~~	~~1~~
~~Rad Waste Operator~~	~~1~~ ~~C62~~

~~Emergency Operations Facility (EOF):~~

~~Environmental Assessment & Dose Projection Coordinator [or Assistant]~~	~~1~~
~~Emergency / Recovery Manager [or Assistant]~~	~~1~~
~~Total~~	~~18~~ ~~C62~~

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~~Table 5.3~~

~~Major Functional Area~~	~~Major Tasks~~	~~Augmented ERO Position Title *~~
~~Assessment of Emergency Operational Aspects~~ ~~Implementation & Administration of the Emergency Plan~~ ~~Emergency Direction and Control~~ ~~Notification / Communication~~	~~Notify Licensee, State, Local and Federal personnel and maintain Communication~~	~~EMERGENCY DIRECTOR~~ ~~EMERGENCY / RECOVERY MANAGER~~ ~~TSC COORDINATOR~~ ~~COMPUTER COORDINATOR~~ ~~COMMUNICATIONS & RECORDS COORDINATOR and Communications Assistants~~ ~~TSC Operations Communicator~~
~~Radiological Accident Assessment~~	~~Offsite Dose Assessment~~ ~~Offsite Surveys~~ ~~Onsite Surveys~~ ~~In-plant Surveys~~ ~~Chemistry/Radiochemistry~~	~~EA & DP COORD. and Assistants~~ ~~RADIOLOGICAL CONTROLS COORDINATOR~~ ~~OSC HEALTH PHYSICS COORDINATOR~~ ~~HP Technicians and Field Monitoring Team drivers~~ ~~CHEMISTRY COORDINATOR~~
~~Support of Operational Accident Assessment~~	~~EOF Command & Control~~ ~~Data Access / Acquisition~~	~~EMERGENCY / RECOVERY MANAGER~~ ~~COMPUTER COORDINATOR~~

~~Table 5.3 (Continued)~~

~~Major Functional Area~~	~~Major Tasks~~	~~Augmented ERO Position Title *~~
~~Plant System Engineering~~	~~Technical Support~~ ~~Core / Thermal Hydraulics~~ ~~Engineering~~	~~ENGINEERING COORDINATOR~~ ~~NUCLEAR / ELECTRICAL / MECHANICAL ENGINEERS~~
~~Repair and Corrective Actions~~	~~Repair and Corrective Actions~~	~~OSC COORDINATOR / Assistants~~ ~~MAINTENANCE COORDINATOR~~ ~~Mechanical / Electrical / Instrument & Control Maintenance~~ ~~Rad Waste Operator~~
~~Protective Actions (In-Plant)~~	~~Radiation Protection~~ ~~- Access Control~~ ~~- HP coverage~~ ~~- Personnel monitoring~~ ~~- Dosimetry~~	~~OSC HP COORDINATOR~~ ~~HP Technicians~~
~~Firefighting~~	~~Fire Fighting / Rescue Operations / First Aid~~	~~Emergency Squad / Fire Brigade~~
~~Site Access Control and Personnel Accountability~~	~~Security / Personnel Accountability~~	~~Security Personnel~~

~~* ERO POSITION TITLES IN ALL CAPITAL LETTERS DENOTES A MINIMUM STAFFING POSITION AS LISTED IN FIGURE 5.7.~~

TABLE 5.34 [c9]

OFFSITE ORGANIZATIONS
COUNTY

ORGANIZATION	ADDRESS	RESPONSIBLE INDIVIDUAL
BCEMA	Beaver County EMA 351 14th Street Ambridge, PA 15003	Director, Beaver Co. Emer. Services Center
CCEMA	Columbiana County EMA 215 South Merchant Street [C62] Lisbon, OH 44432	Coordinator, Columbiana Co. EMA
HCOEM [C47]	[C47] Hancock County Office of Emer. Management P.O. Box 884 82 Emergency Drive New Cumberland, WV 26047	Director, Hancock Co. OEM [C47]

STATE

ORGANIZATION	ADDRESS	RESPONSIBLE INDIVIDUAL
Ohio Department of Health	Ohio Dept. of Health Radiological Health Program 246 N. High Street Columbus, OH 43266-0588	Director, Ohio Dept. of Health Radiological Health Branch
OEMA	Ohio Emergency Management Agency Adjutant General's Dept. 2855 West Granville Road Columbus, OH 43235-2206	Chief, Radiological Branch

TABLE 5.34 [c9]
OFFSITE ORGANIZATIONS

STATE (Continued)

ORGANIZATION	ADDRESS	RESPONSIBLE INDIVIDUAL
PA DEP/BRP	PA Dept. of Environmental Protection Bureau of Radiation Protection 16th Floor, M.S.S.O.B P.O. Box 8469 Harrisburg, PA 17105-8469	Section Chief of Division of Licensing and Registration
PEMA	PA Emergency Management Agency 1310 Elmerton Avenue Harrisburg, PA 17110	Director, Pennsylvania Emergency Management Agency
WV Department of Health and Human Resources	WV Department of Health and Human Resources Bureau for Public Health Radiological Health Program Capitol and Washington Streets 1 Davis Squire, Suite 200 Charleston, WV 25301	Chief, Radiological Health Division
WVDHS/EM [C47]	West Virginia Division of Homeland Security and Emergency Management [C47] 1703 Coonskin Drive Charleston, WV 25311	Division Director

SECTION 6

EMERGENCY MEASURES

Section 6

EMERGENCY MEASURES

Table of Contents

Section 6

EMERGENCY MEASURES

Table of Contents

Page No.

6.0 EMERGENCY MEASURES

Emergency Measures are actions taken to ensure that an emergency situation is assessed and that proper corrective and/or protective actions are taken. These actions include activation of the appropriate components of the emergency organizations, both onsite and offsite; assessment of plant systems status and radiological conditions; corrective actions to ameliorate or terminate an emergency situation; protective actions to minimize the consequences of the emergency to Site personnel and to the general public in the Site environs; decontamination and medical treatment for Site personnel; and other supporting actions such as timely and accurate emergency news releases to the public.

6.1 EMERGENCY INITIATION

Emergency actions are initiated primarily in response to alarmed instrumentation, but may be initiated through notification to the Control Room by the first individual at the Beaver Valley Power Station to become aware of an apparent emergency situation. The Reactor Operator (RO) performs the necessary immediate actions to contend with the off-normal situation in accordance with Abnormal Operating Procedures, instrument alarm response procedures and/or Operating Procedures (BVPS Op Manual). The RO promptly notifies Shift Supervision of the potential emergency situation. The Shift Manager assesses the situation and, if necessary, declares the emergency. The Shift Manager assumes the role of Beaver Valley Power Station Emergency ~~Director~~ Coordinator until he is relieved of that responsibility~~ by the On-call Emergency Director.~~ The Emergency ~~Director~~ Coordinator continues to assess and classify the condition and initiates the appropriate corrective and protective actions and ensures activation of the necessary segments of the total emergency organization.

The Emergency Operating Procedures contain appropriate action statements, which refer the operator to this Emergency Preparedness Plan when specified plant parameter values are exceeded or equipment status warrants such response.

6.2 ACTIVATION OF THE ONSITE EMERGENCY ORGANIZATION

This section describes the provisions for notifying or activating personnel in the onsite Emergency Response Organization for response to emergency events at the Beaver Valley Power Station. Action levels and recognition criteria, which dictate the appropriate emergency classifications, are described in Section 4. The composition of the onsite emergency organization and the assigned responsibilities and authorities of each member of the organization is described in Section 5. The activation process for each emergency classification is described in more detail in the Emergency Implementing Procedures.

Table 6.1 summarizes the notification/activation of both the onsite and the offsite emergency response organizations and designates immediate action requirements for each emergency classification. Table 6.2 tabulates the organizations notified, the point of notification, provision for 24-hour coverage, and the communications equipment used, for each notification made.

6.2.1 Activation for Unusual Events

Upon being informed of an emergency event, which corresponds to an Unusual Event, as defined in Section 4, the Shift Manager will immediately begin to assess and evaluate the situation. He will ensure that appropriate actions have been initiated to maintain the safe and proper operation of the Site. As Emergency ~~Director~~Coordinator, the Shift Manager, will concern himself with the emergency response activities, delegating responsibility for corrective actions to return the plant to a safe mode and other plant operations to the Unit Supervisor.

For most Unusual Event emergencies, the emergency response functions can be performed by the on-shift emergency response organization without augmentation by called-in personnel. In these cases, the Shift Manager will ensure that the appropriate emergency functions are performed in a timely manner consistent with the nature of the emergency. The Shift Manager may designate one or more individuals from the on-duty shift to assist in this effort.

6.2.2 Activation for Alert or Higher Emergencies

Once an off-normal condition has been classified as an Alert or higher, either initially or as an escalation from Unusual Event, the ~~entire onsite~~ Emergency Response Organization (as illustrated in Section 5, Figures 5.3, 5.4, and 5.5), will b~~egin activation~~activated. The Shift Manager will:

.1 Classify the condition ~~as an Alert~~.

.2 Implement immediate actions in accordance with this Plan and the applicable Emergency Implementing Procedures.

.3 Ensure the ~~following key~~ Emergency Response Organization~~Coordinators are~~ is notified.~~, as needed, using the ERO notification system or telephone communications:~~

- ~~Emergency Director~~
- ~~Assistant to the Emergency Director~~
- ~~TSC and EOF Operations Coordinator~~
- ~~Operations Communicator~~
- ~~Communication and Records Coordinator~~
- ~~Radiological Controls Coordinator~~
- ~~Technical Support Coordinator~~
- ~~Maintenance Coordinator~~
- ~~Engineering Coordinator~~
- ~~Operations Support Center Coordinator~~
- ~~Operations Support Center Health Physics Coordinator~~
- ~~Environmental Assessment and Dose Projection Coordinator~~
- ~~Security Coordinator~~
- ~~Chemistry Coordinator~~
- ~~Computer Coordinator~~
- ~~Environmental Coordinator~~

~~**NOTE**~~

~~These Emergency Coordinators will initiate additional call-out of personnel, as needed.~~

.4 Once the ~~designated~~ Emergency Coordinator and Emergency Director~~, or alternate,~~ arrives and ~~assumes the position~~command and control is transferred, the Shift Manager will re-assume control of the operation of the plant from the Unit Supervisor.

~~NOTE~~

~~The Emergency Director will ensure that the designated Emergency Recovery Manager, or alternate, is notified and placed on standby.~~

~~6.2.3 Activation for Site Area Emergency or General Emergency~~

~~Once an off-normal condition has been classified as a Site Area Emergency or General Emergency, either initially or as an escalation from a lower classification, the entire offsite emergency response organization (as illustrated in Figure 5.4), will be activated. The Emergency Director (Shift Manager, until relieved) will:~~

~~.1 Classify the condition as a Site Area or General Emergency, as appropriate.~~

~~.2 Implement immediate actions in accordance with this Plan and the applicable Emergency Implementing Procedures.~~

~~NOTE~~

~~The Shift Manager retains the authority and responsibility of the Emergency Director until properly relieved.~~

~~.3 Ensure the following key Emergency Managers are notified, as needed, using the ERO notification system or telephone communications, if not already completed.~~

- ~~Assistant to the Emergency Recovery Manager~~
- ~~Offsite Agency Liaison~~
- ~~Support Services Manager~~
- ~~Senior, Nuclear Communications Representative~~
- ~~Joint Public Information Center Manager~~
- ~~Chief Company Spokesperson~~

~~**NOTE**~~

~~These Emergency Managers will initiate additional call-out of personnel, as needed.~~

~~.4 When the Emergency Operations Facility is operational, transfer Environmental Assessment and Dose Projection activities to the EOF.~~

6.2.4~~3~~ Activation Times ~~of~~ for the Emergency Facilities

In the event of any off-normal event requiring implementation of the Emergency Preparedness Plan, the emergency response commences within the Control Room and emergency response functions are transferred to the designated emergency facilities as the incident escalates in severity and/or as the emergency response organization is activated. Beaver Valley Power Station will maintain an emergency organization and notification system, which will have the objective of meeting the response times in NRC Revised Table B-1 of NUREG-0654. ~~It is recognized that 100% staff augmentation, within 30 minutes, may not be achievable under all circumstances. The onsite staff shall be augmented as soon as reasonably achievable.~~ Section 7 describes the function, responsibilities, equipment, and communications of these emergency facilities. Emergency facilities are not required to be~~usually~~ activated for Unusual Events~~, but the Technical Support Center is activated for Alert and higher emergency conditions, and the Emergency Operations Facility is activated for Site Area Emergency or General Emergency~~. This section describes the activation of these facilities. Emergency Implementing Procedures provide other detailed information on the activation of these facilities.

.1 Control Room

The Control Room is initially the primary location of plant management control of emergencies and ~~would under most circumstances~~ provide~~s~~ sufficient capabilities to contend with emergencies classified as Unusual Events.

If an Alert or higher emergency occurs, the plant management functions would be transferred from the Control Room to the Technical Support Center and Emergency Operations Facility. ~~Upon arrival of the designated Emergency Director, Emergency Coordinators, and satisfactory energization of instrumentation and communications equipment activation will occur.~~

.2 Technical Support Center (TSC)

The Technical Support Center serves two functions, the first being plant management control of the emergency, and second, engineering and technical support of the emergency response. The first function is satisfied by the BVPS Emergency Response Organization illustrated in Figure 5.3. These personnel are activated by a call out initiated by the Shift Manager. The second function is served in the Core Hydraulic, Mechancial, and Electrical Engineer~~Technical Support~~ positions of the TSC and is staffed~~manned~~ by qualified technical and engineering personnel. The TSC staff calls upon other BVPS engineering personnel, as necessary, to contend with then-existing conditions. The TSC shall be activated within 60 minutes of an Alert or higher declaration.

.3 Operations Support Center (OSC)

The Operations Support Center (OSC) is primarily an assembly area for emergency response personnel and shift personnel needed for supplemental emergency maintenance team responses. An OSC Coordinator maintains accountability and interfaces with the TSC and the Control Room.

The Radiation~~ological~~ Protection~~Controls~~ Coordinator is stationed at the Technical Support Center, and would direct Health Physics activities through the OSC-Health Physics Coordinator in the OSC. The OSC H.P. Coordinator, would call-in Radcon Technicians, as necessary. If the nature of the emergency renders the OSC unusable due to radiological conditions, OSC operations are transferred to the Alternate OSC. No other formal assignments are made to the OSC.[C15] The OSC shall be activated within 60 minutes of an Alert or higher declaration.

.4 Emergency Operations Facility (EOF)

The EOF is the focal point for coordination of onsite and offsite emergency response activities. Management and technical personnel assigned to the EOF are responsible for protective action recommendations, liaison with offsite governmental organizations and response facilities, and overall coordination of the Emergency Organization. The Emergency Operations Facility ~~is~~ shall be activated within 60 minutes~~for any emergency classified~~ of an Alert or higher declaration. ~~as Site Area or General. Personnel to staff the~~ EOF personnel are notified simultaneously with the TSC emergency organization. Offsite agencies may supply a liaison to the EOF as part of the ~~activation~~ staffing of their individual emergency response organizations.

.5 Joint ~~Public~~ Information Center (J~~P~~IC)

In the event of any emergency condition at the Beaver Valley Power Station, the Licensee's Corporate Communications is notified as part of the initial notification process for offsite agencies and following completion of notifications to local and state emergency response organizations. The Joint ~~Public~~ Information Center (J~~P~~IC) is not ~~activated~~ staffed for Unusual Events. ~~For Alert emergencies, the JPIC is placed on standby. For Unusual Events or Alerts,~~ Company news announcements will be distributed from the Corporate Offices during this time. ~~or from the JPIC upon its activation~~. ~~For Alert emergencies, Communications Representatives will report to the Emergency Operations Facility to initiate development of news announcements and to anticipate the activation of the JPIC should the incident escalate.~~

For Alert or higher classifications~~Site Area Emergency or General Emergency~~, the Communications Emergency Response Team will ~~activate~~ staff the J~~P~~IC~~, located in Coraopolis, PA~~.[C68]

6.3 ACTIVATION OF THE EMERGENCY SUPPORT GROUPS

6.3.1 Offsite Emergency Response Groups

The Emergency ~~Director~~ Coordinator shall ensure that appropriate offsite emergency response groups are contacted to provide the type and level of emergency assistance which may be required to deal with the existing emergency condition. The organizations listed below may be contacted for assistance. Methods available for contacting these support groups include direct telephone communications with individual organizations and message relay through the Beaver County Emergency Services Center. Each of these agencies can be notified and can respond on a 24-hour-per-day basis. [C66]

- Heritage Valley Beaver Hospital
- University of Pittsburgh Medical Center-Presbyterian Hospital
- Offsite fire departments
- Offsite ambulance services
- Shippingport Police Department (security assistance)
- Pennsylvania State Police (security assistance)
- Beaver County District Attorney's Office – Emergency Services Unit (ESU) (security assistance)

6.3.2 Corporate Organization

Notifications will be made to the Licensee's Headquarters as appropriate to the type and severity of conditions at the Beaver Valley Power Station. The method for alerting the corporate organization from BVPS is a graded system of notifications, which, to the extent possible, follows normal organizational lines of communications. Once the emergency has been declared, the Shift Manager shall notify the designated Emergency ~~Director~~Coordinator, and other personnel, by the appropriate notification method in the Implementing procedures. [C36] Additional notifications to Licensee management will be made, consistent with the nature and severity of the emergency. Communications personnel are activated as part of the Onsite Emergency Response Organization.

6.3.3 Other Organizations Providing Onsite Support

The Westinghouse (W) Water Reactors Division provides emergency assistance to the Beaver Valley Power Station under the provisions of the W Emergency Response Plan. In the event of an Alert or higher Emergency, the Communications & Records Coordinator or designee notifies the W Water Reactors Division. Upon receipt of this notification, the W plan is initiated and the W emergency organization is activated. If appropriate, Site Response Personnel will be dispatched to the onsite Technical Support Center. The W plan provides for 24-hour-per-day notification and response capability.

Assistance from contractor groups and other utilities is not considered to be an immediate action. Thus, these groups will be contacted by TSC and/or EOF personnel as necessary to augment onsite personnel.

The Licensee's Institute for Nuclear Power Operations (INPO) administrative point of contact coordinates all requests for emergency assistance.

6.4 ACTIVATION OF OFFSITE EMERGENCY RESPONSE ORGANIZATIONS

The Emergency ~~Director~~ Coordinator shall ensure that offsite authorities are notified and apprised of emergency events at the Beaver Valley Power Station. Notifications are either initial or follow-up. Initial notifications inform offsite agencies that an event has occurred and, as applicable, the emergency response actions necessary. Follow-up notifications provide technical information on the incident on a periodic basis. For Alert or higher declarations~~Site Area or General Emergencies~~, the offsite agencies in the Emergency Operations Facility will interface with the BVPS emergency organization through the Offsite Agency Liaison, as necessary.

Detailed notification procedures, call-lists, and notification forms are provided in Emergency Implementing Procedures. Procedures include the use of a code word for authenticating notifications[C2]. The communications systems used for notification are described in Section 7 of this Emergency Preparedness Plan.

6.4.1 Initial Notifications

Notifications are made to the offsite authorities listed below:

- Beaver County Emergency Management Agency (host county)
- Pennsylvania Emergency Management Agency (host state)
- Columbiana County Emergency Management Agency (Ohio)
- Hancock County Office of Emergency Management (West Virginia)
- Ohio Emergency Management Agency
- West Virginia Department of Homeland Security/Emergency Management Division
- US Nuclear Regulatory Commission

The Pennsylvania Emergency Management Agency (PEMA) notifies the Pennsylvania Department of Environmental Protection/Bureau of Radiation Protection (DEP/BRP).

CCEMA and HCOEM both notify their respective state organizations. Each organization notified performs notifications in addition to those specified in accordance with their respective emergency response plans and procedures. [C47]

Since the initial contact with offsite authorities is generally made to a communications operator or other similarly qualified individual, the initial notification will be simple, brief, and factual. To facilitate notification, Initial Notification message forms are supplied to all appropriate offsite agencies. These forms contain pre-printed text with blanks for incident specific information. Where feasible, the blanks contain a choice of words and/or phrases which, when circled, complete the message text. The message provides information that an emergency condition exists, the classification of that emergency, whether or not a release of radioactive material is occurring or could occur, and recommendations for offsite protective actions.

Upon receipt of an initial notification the individual contacted at each agency notifies the Director of that agency, or other designated personnel and relays the message provided in the initial notification. The cognizant individual then contacts the facility for additional follow-up technical information. In Pennsylvania, DEP/BRP performs the call-back for PEMA.

The process described above provides necessary notifications in a manner, which facilitates accuracy and provides for verification of the notification.

Notification of an Unusual Event is primarily to ensure that the authorities are cognizant of the details of events, which might arouse public concern and initiate inquiries by the news media, or members of the public.

Primary means of notification is by regular telephone. An **E**mergency **T**elephone **S**ystem (ETS) connection onsite for contacting the USNRC, and "hot-line" exists between the Site and DEP/BRP. Back-up radio communications capability exists between the Control Room and each of the risk county Emergency Operations Centers (EOCs). See Table 6.2.

6.4.2 Follow-up Notifications

The follow-up notification form serves two purposes: The first is to provide technical information on the emergency directly to those individuals qualified to use the data. The second is to provide a means for offsite authorities to verify the authenticity of any emergency notification.

A Follow-up Notification Form has been developed and supplied to all appropriate offsite agencies. Similar in format to the Initial Notification Form, the Follow-up Notification Form contains data blanks which, when filled in, provide the following information:

- Location of incident and name and telephone number of caller
- Date/time of incident
- Class of emergency
- Type of actual or projected release and estimated duration/impact times
- Estimate of quantity of radioactive material released or being released and the points and height of releases
- Chemical and physical form of released material, including estimates of the relative quantities and concentration of noble gases, iodines and particulates
- Meteorological conditions and stability
- Actual or projected dose rates at site boundary; projected integrated dose at site boundary
- Projected and integrated dose at peak for 2, 5 and 10 miles
- Estimate of any surface radioactive contamination inplant, onsite and offsite
- Licensee response actions underway
- Recommended emergency actions, including protective measures
- Request for any needed onsite support by offsite organizations
- Prognosis for worsening or termination of event based on plant information

Unlike the Initial Notification Form, the Follow-up Form is not intended to be relayed word-for-word. The objective of the form is to standardize the information provided to offsite agencies by different communications personnel.

Following activation of the Emergency Operations Facility (EOF), technical data will be provided directly to state, local, and Federal liaison personnel at the EOF, providing additional information in conjunction with the Follow-up Notification Form.

6.4.3 Subsequent Notifications

In the event it becomes necessary to escalate an emergency classification, the Initial Notification Form will be used, in the manner described for initial notification, to notify offsite agencies of the escalation of the emergency.

6.5 ASSESSMENT ACTIONS

Provisions are made for assessment throughout the course of an emergency to ensure effective coordination, direction, and upgrading of emergency activities in a timely manner. The assessment actions are described, in detail, in Emergency Implementing Procedures. Assessment facilities and equipment are described in Section 7 of this Plan. The assessment functions, the general methodology, and the techniques utilized are identified in this section.

6.5.1 General Assessment Actions

.1 Unusual Event

Continuous assessment of the status of plant systems and radiological conditions is provided by plant instrumentation and is supplemented by routine surveillance functions. The occurrence of an Unusual Event will be recognized by instrument alarms or indications, surveillance results, or other observations of an off-normal condition by an individual at the site.

For events which require an on-shift response~~dispatching the Emergency Squad (or additional emergency teams)~~, the initial and continuing assessment will be performed by Control Room personnel~~the Emergency Squad Chief. His training and experience enable him to evaluate the condition and implement the proper corrective actions~~.

Offsite dose projections may be performed if the event involves radiological effluent releases. These dose projections are continually repeated throughout the duration of the release to reflect any significant changes. If warranted, the emergency classification will be upgraded to an Alert or higher. Methods for performing rapid dose projections are described in detail in Emergency Implementing Procedures, and are summarized in Section 6.5.3.

.2 Alert

Assessment action for an Alert include upgrading of the functions performed for an Unusual Event as appropriate for the condition. Examples are:

- Increased surveillance of in-plant instrumentation
- Additional assistance obtained from off-duty personnel and/or offsite support groups
- Extended radiological monitoring
- Increased offsite monitoring efforts
- Intensified dose projection activities

.3 Site Area Emergency

Assessment actions for a Site Area Emergency will be responsive to the increased probability of major failure of plant safety functions and a higher potential for release of significant quantities of radioactive material. Examples include:

- Increased surveillance of instrumentation, which may provide information on the status of the core and reactor coolant system.
- ~~Increased offsite monitoring efforts.~~
- Coordination of offsite dose assessment activities with DEP/BRP.
- ~~Increased reactor coolant sampling and analysis frequency.~~

.4 General Emergency

The emphasis of assessment actions for a General Emergency will be placed on the likelihood of substantial core degradation, potential loss of containment integrity and release of significant quantities of radioactive material. Surveillance of instrumentation relative to the core condition, reactor coolant system activity, containment pressure and radiation level, and radioactive effluents will be increased. Dose projection and offsite monitoring efforts will be further intensified and communications will be maintained with DEP/BRP and corresponding agencies in Ohio and West Virginia to ensure that offsite dose assessments are based on the best available information.

Recommendations for protective actions will be provided, as applicable, to PEMA, BCEMA, OEMA, CCEMA, WVDHS/EM and HCOEM.[C47]

6.5.2 Plant Systems Status

Process and effluent parameter monitoring instrumentation has been installed to provide a capability to identify that an off-normal condition exists, to determine the extent and nature of the off-normal condition, to assess the radioactivity in effluent paths, and to determine the effectiveness of corrective and mitigative measures such as safety injection or containment isolation. This equipment is described in Section 7 of this Plan and in the BVPS Updated Final Safety Analysis Report (FSAR) and Operating Manual.

The Reactor Operator has primary responsibility for monitoring and assessing plant systems status, reporting such status to shift supervision, and taking appropriate corrective action in a timely manner.

The ~~Staff Nuclear~~Shift Technical Advisor supports the shift operations personnel in assessing off-normal conditions and in recommending appropriate corrective action.

When activated, the Technical Support Center (TSC) will augment the Shift Technical~~Staff Nuclear~~ Advisor in performing accident assessment activities and in recommending corrective actions to place the plant in a safe configuration and to mitigate the consequences of the event. The TSC staff has access to all plant parameter indications through analog/digital data and voice communication links.

6.5.3 Dose Projection

.1 General

Dose projection is the assessment of the radiological consequences of an accidental release of radioactive material from the Site. The primary objective of these consequence assessments is to support decisions regarding the need for protective actions for members of the general public. A multi-component capability for performing dose projections for both gaseous and liquid radioactivity releases from the Site has been established. Necessary radiological, process, and meteorological information to support this assessment activity have been provided in the Control Room and in the TSC/EOF, and are described in Section 7 of this Plan.

There are several principles that are reflected in the dose projection methodology and implementing procedures at the Beaver Valley Power Station. These principles are:

- Dose projections are primarily performed to support decisions on offsite protective action recommendations in slowly developing emergency situations. Protective action decisions for quickly developing situations are based on pre-calculated Emergency Action Levels and plant systems status assessments.

- Time permitting, dose projection results may be considered in conjunction with results from plant systems status assessments in protective action decisions. In the event of a significant discrepancy between a protective action indicated by dose projection results and that indicated by plant systems status assessments, the most conservative (i.e., leading to the lower population dose) recommendation that cannot be readily discounted shall be relayed to appropriate offsite agencies.

- Compatibility in the dose assessment methodologies used by BVPS and the offsite agencies is largely an unachievable goal. The level of technical sophistication varies greatly from agency to agency. Technical information regarding the BVPS methodologies is routinely made available to these agencies and periodic comparison exercises are conducted.

- BVPS personnel will make every reasonable effort to resolve differences that may arise between onsite dose projection results and those results generated by the various offsite response agencies. However, in the absence of a resolution of the differences, the BVPS protective action recommendations shall be based on the onsite dose projection results, and/or plant systems status assessments.

.2 Dose Projection Capabilities

The dose projection capabilities and the implementing procedures provide methods for performing dose projections under a wide range of circumstances. There are three major components to the BVPS dose projection capability: (1) Gaseous release dose assessment method, (2) Liquid release dose assessment method, and (3) Back-Up dose assessment method.

These methods are described in detail in supporting technical documentation, and procedures for their use are included in the Emergency Implementing Procedures 1/2-EPP-IP-2.xx series. In brief summary:

- Gaseous Release Dose Assessment Method

  The dose assessment capabilities at BVPS include the Site dose assessment software. The BVPS Site dose assessment software contains modules adapted to the BVPS site.[C56] Flexible run time option choices provide for varying combinations of data sources, accident source terms, decay periods, report types, and other parameters. Information available includes X/Q, gamma dose, inhalation thyroid, and projected TEDE and CDE/thyroid dose.

- Back-Up[C50] Dose Assessment Methods

  Back-up dose assessment methods for both gaseous and liquid releases involve providing multiple computers with copies of the dose assessment software within the appropriate emergency facilities.

  Other dose assessment related methods available address:

  - Using Alternate Sources of Meteorological Data.
  - Dose Projection with Known Isotopic Release Rate or Known Isotopic Quantity.
  - Dose Projection with Source Term Based on Field Measurements.
  - Estimation of Ingestion/Inhalation Dose Commitments.
  - Integrated Dose Assessment.

- Liquid Release Dose Assessment Method

  The 1/2-EPP-IP-2.7 series provides a series of methods of assessing the radiological consequences of liquid releases to the Ohio River.[C56] The objective of these methods is to assess whether or not the release has exceeded the Emergency Action Levels listed in the BVPS Classification Procedure.[C56] This method determines the liquid concentration and dose at the entrance of the Ohio River and whether or not the release will result in activity at the Midland Water Treatment Plant intake that exceeds EPA drinking water standards. The procedure provides methods to address releases via normal monitored pathways and unmonitored releases.

.3 Technical Basis Summary

The atmospheric dispersion and dose projection methodologies are based on recognized national and international standards. The primary documentation for each method describes the technical bases for each method in detail. The paragraphs that follow summarize some significant basis.

- The gaseous release dose assessment method addresses ground level and elevated releases, plume rise, virtual source building wake correction, and other similar considerations. Plume direction is based on the 150' wind direction sensors due to terrain interference on the 35' sensors.

- The dose projection methodology is based on Regulatory Guide 1.109, "Calculation of Annual Dose to Man from Routine Releases of Reactor Effluents for the Purpose of Evaluating Compliance with 10 CFR 50, Appendix I," TID-21490, "Meteorology and Atomic Energy", and NUREG 1940 RASCAL-Description of Models and Methods.

- Source term processing is performed with default source term mixes associated with the FSAR - analyzed accidents, NUREG 1940 RASCAL-Description of Models and Methods, NUREG 1228 Source term Estimation during Incident Response to Severe Nuclear Power Plant Accidents, or with input isotopic sample data. These source term mixes are used to normalize both the monitor efficiency and the dose conversion factors for energy-dependent variations. The Site dose assessment software decays the source term mixes for the period between plant shutdown and start of release, and applies decay corrections in route.

.4 Meteorological Considerations

A meteorological study performed in 1982 determined that there were three (3) meteorological regimes that characterized the dispersion meteorology at the BVPS site. The paragraphs below identify these three regimes, and the likely affect on plume transport.

A. Night-time conditions (G, F, E stability) with 500' wind speeds lower than 4.0 mph.

Under these conditions, the regional wind flows will create a valley floor flow that is de-coupled from the regional wind flow. Upriver of the site (towards Beaver) the valley wind flow is towards the site. Downriver from the site, the wind flows are also towards the site. A heat island at the site of the J&L Specialty Steel plant creates a "chimney" effect that circulates these converging flows. If there is an inversion layer (as there is most likely), the upward chimney flow is recirculated back into the valley. This circulation will continue in the site area. If there is no inversion, the outlet flows from this chimney are injected into the regional wind flow.

Releases during these conditions will tend to "puddle" in the site area and will be generally contained within the valley walls. Releases that break through the inversion layer (if there is one) would follow the 500' winds.

B. Night-time or day-time conditions with 500' wind speeds greater than 4.0 mph.

Under these conditions, the regional wind flow creates eddies as the flow breaks over the leading edge (wind passes this first) of the valley and as it strikes the opposite valley wall. However, due to the regional wind velocity, these eddies and swirls continue to circulate and mix with the regional wind flow. This creates a scrubbing action that flushes the valley. A similar scrubbing effect will occur if the regional wind direction aligns with the valley.

A release under these conditions will follow the 500' wind direction.

C. Day-time with 500' wind speeds lower than 4.0 mph.

Under these conditions, the regional wind flow creates eddies as described above. However, since the wind velocity is low, the scrubbing action is not as strong, and the regional wind flow will create a de-coupled flow in the valley. This valley flow will tend to flow downriver in the absence of any other forces (i.e., regional wind direction aligns with valley).

Releases during these conditions could result in two (2) plumes, depending on wind direction, or a plume that starts in one direction and then changes direction as it leaves the valley area.

.5 Initiation and Performance of Dose Projection Functions

In the event of a known or projected release of radioactive material, immediate and continuous assessment, including dose projection, is performed by on-duty shift personnel. Following activation of the ~~Technical Support Center, dose projection activities are performed by the Environmental Assessment and Dose Projection Coordinator and assigned assistants. Upon declaration of a Site Area or General Emergency, this function transfers to the Emergency Operations Facility (EOF).~~ Emergency Operations Facility upon declaration of an Alert or higher classification, dose projection activities are performed by the Dose Assessment Coordinator and Dose Assessor. Responsibilities and functions assigned to these personnel are identified in Section 5 of this Plan. Activation of the emergency facilities is described in Section 6.2.3. The training of personnel assigned dose projection functions is identified in Section 8.

6.5.4 Field Radiological Monitoring

Radiological monitoring following a release of radioactive materials to the environment is an intrinsic part of the Beaver Valley Power Site Emergency Preparedness Plan. Emergency radiological monitoring includes actions such as dose rate surveys, sampling and analysis of airborne and liquid activity, and collection and analysis of environmental media, both onsite and offsite. The extent and degree of radiological monitoring following a release of radioactive material will depend on the nature, the severity, the physical/chemical form, and the radioisotopic composition of the release.

Emergency Implementing Procedures and Licensee Emergency Preparedness Nuclear Operating Procedures (NOP's) [C68] provide guidance to the Dose Assessment~~EA and DP~~ Coordinator and monitoring team personnel in the performance of this radiological monitoring. These procedures identify criteria and guidelines, instrumentation to be used, monitoring team protective actions, communications protocol, data handling methods, and predesignated survey routes and survey points. Environmental monitoring procedures identify the location of

environmental monitors, the use of the monitors, the sampling techniques and analysis methods to be used.

The Beaver Valley Power Station offsite monitoring teams may be supplemented or supplanted by monitoring teams from local, state, and Federal agencies. The Dose~~Environmental~~ Assessment ~~and Dose Projection~~ Coordinator will interface the activities of the BVPS offsite monitoring teams with the monitoring teams of the governmental agencies.

Initially in radioactive release situations, the Beaver Valley Power Station is in the best position to dispatch qualified monitoring personnel, and therefore has short-term responsibility of all offsite emergency radiological monitoring. However, following activation of the offsite emergency organizations and the deployment of governmental monitoring personnel, primary responsibility for offsite monitoring will revert to the state governments in the affected area. The state governments are assisted in this effort by personnel and equipment from the Federal Radiological Monitoring Assistance Program.

The types of emergency radiological monitoring performed and the methods for performing this monitoring are discussed below.

.1 In-Plant Radiological Surveys

Procedures for performing radiological surveys and the use of survey equipment are incorporated in the Beaver Valley Power Station Health Physics Manual. The methods and techniques are essentially the same as those used for emergency surveys.

.2 Onsite Radiological Monitoring

In the event of a radioactive release, one or more onsite radiation monitoring teams may be dispatched to assess radiological conditions onsite and at the site boundary in order to verify dose projection results and to determine the need for onsite protective actions.

Monitoring teams are normally comprised of one radcon technician and one other individual. Since there is a radcon technician on shift at all times, at least one monitoring team can be dispatched soon after the release has occurred, with additional teams dispatched using available personnel onsite or called-in personnel as they arrive onsite. Onsite monitoring teams maintain communications with the Control Room/OSC via portable radio transceivers. Survey equipment is provided for air sampling, direct radiation measurements, and for field-checking air sampling media. All sampling media is returned to the Site or to another designated location for laboratory analysis, as appropriate.

.3 Offsite Radiological Monitoring--Gaseous Release

~~In the event that dose projection results or onsite monitoring results indicate the potential for radioactivity release to offsite areas,~~ For events classified as an Alert or higher, an offsite radiation monitoring team~~s~~ will be ~~dispatched~~staffed within 60 minutes of event declaration. Initially, the ~~at least one~~ monitoring team will be sent in the direction of the plume movement.

~~The onsite monitoring team may be diverted from onsite monitoring to perform offsite monitoring. As additional radcon personnel assemble, additional~~ A second monitoring team~~s~~ will be staffed within 90 minutes of event declaration~~deployed at the discretion of the Environmental Assessment and Dose Projection Coordinator~~.

Offsite monitoring team personnel take direct radiation readings with appropriate survey instruments and take air samples for analysis of airborne radioactivity. Air sample media are field-checked and significant results reported immediately to the Dose Assessment ~~EA and DP~~ Coordinator. The field analysis provides for a minimum sensitivity for radioiodine detection of less than 1 x 10-7 uCi/cc, in the presence of radioactive noble gases. All monitoring results are recorded on data sheets by the monitoring teams and reported to the ~~EA and DP~~ Dose Assessment Coordinator. Vehicles for monitoring teams are available on BVPS controlled property. Instructions for securing FMT vehicles are provided in site procedures.~~NOP-LP-5015, Field Monitoring Teams Radiation Monitoring Teams Field Surveys.~~ [C68]

.4 Offsite Radiological Monitoring--Liquid Release

In the event of a release of radioactivity to the Ohio River, a monitoring team is sent to the Midland Water Treatment Plant (closest treatment plant) to collect samples of drinking water. Installed environmental monitoring sample pumps routinely draw samples of drinking water for subsequent laboratory analysis. Upon arrival at the treatment plant, monitoring personnel will take the on-line sample for analysis and will collect additional samples as directed by the ~~EA and DP~~Dose Assessment Coordinator. Sampling may be extended to downriver treatment plants if preliminary sampling results at Midland indicates the need. Vehicles for monitoring teams are available on BVPS controlled property. Instructions for securing FMT vehicles are provided in the Implementing Procedures.

.5 Emergency Environmental Monitoring

The Beaver Valley Power Station has made provisions for required post-accident environmental monitoring. Additional samples may be taken, or samples may be taken ahead of schedule, if deemed warranted by the ~~Environmental Assessment and Dose Projection~~Dose Assessment

Coordinator. Qualified personnel perform all environmental sampling and analysis. [C31]

6.6 CORRECTIVE ACTIONS

Detailed Operating Procedures, Abnormal Operating Procedures, and Emergency Operating Procedures are utilized by the site operating personnel to assist them in recognizing emergency events and taking the corrective actions necessary to place the plant in a safe condition. Additionally, Emergency Implementing Procedures, as listed in Appendix C, describe subsequent and supplemental corrective actions for the scope of potential situations within each of the emergency classifications. These procedures are designed to provide general guidance to personnel for correcting or mitigating the condition as early and as near to the source of the problem as feasible. Actions are specified, for example, which may prevent or significantly reduce a potential release of radioactive material, provide for prompt fire control, and ensure timely damage control and repair. The Emergency Implementing Procedures are also utilized in emergency training and are the basis for periodic emergency drills, and emergency equipment operational checks.

6.7 PROTECTIVE ACTIONS

Protective actions are implemented to prevent or mitigate consequences to individuals during or after a radiological incident or a hostile action event.[C69] Protective actions within the Beaver Valley Power Station site boundary, in response to an emergency originating at BVPS, ~~are~~ is initially the responsibility of the BVPS Emergency ~~Director~~Coordinator and the Emergency Director upon activation of the EOF. However, such protective actions may require coordination with other onsite organizations or the unaffected BVPS Unit, and may include assistance by offsite organizations. Protective actions outside the Beaver Valley Power Station site boundary are primarily the responsibility of state and local emergency organizations, but may require coordination of activities, dissemination of appropriate data, and recommendations by the BVPS Emergency Director.

6.7.1 Onsite Protective Actions

.1 Evacuations

The primary protective measure for onsite personnel in an emergency is prompt evacuation from areas, which may be affected by significant radiation, contamination or airborne radioactivity.

Significant aspects of the various classes of evacuations are described in sections 6.7.1.2 through 6.7.1.4. General provisions applicable to all evacuations are:

- In addition to the normal site complement, there are often visitors, construction workers, and nonconstruction contractors and vendors onsite. These construction personnel and contractors receive training, which addresses their responsibilities during an evacuation, prior to being issued a site badge. All other persons onsite, other than Licensee personnel assigned to BVPS, will be treated as visitors during evacuations. As such, these visitors will follow all instructions provided with regard to evacuations in site paging system announcements.

- Protective Action Guides (PAGs) for evacuations are provided in the Emergency Implementing Procedures. Although the primary reason for evacuation is likely to be a radiological condition, evacuations may be indicated for other conditions, which create habitability problems, such as toxic gases, and/or fire. Appropriate PAGs are provided for these hazards in the Emergency Implementing Procedures.

.2 Local Evacuation

This category refers to evacuation of localized areas within the site. Evacuation of personnel from localized areas is initiated primarily by local area radiation monitors (ARM) and/or continuous air monitors (CAM). The alarm setpoints are based on normal levels of radiation and airborne radioactivity and expected fluctuations within the specific areas. The immediate response by individuals in the vicinity of such an alarm is evacuation to an unaffected area, possibly within the same building, but away from the localized condition, and reporting the situation to the appropriate Control Room. In the absence of readily available radiological surveillance information or other logical assessment of conditions, those individuals will evacuate at least to a point where other radiological monitors show that the area is unaffected. Applicable instructions to personnel, based on evaluation of Control Room instrumentation or other supporting information, may be transmitted over the site paging system.

Strategic location of the radiological monitors and the requirement for immediate evacuation in response to alarms from these monitors provides reasonable assurance that radiological consequences of a localized incident will be minimized. Frequent radiological surveys throughout the site provide continuing verification of levels and trends indicated by these monitors. These surveys, as well as any other detection methods, can also serve to initiate the evacuation of personnel for conditions, which may not otherwise be identified by these monitors.

.3 Site Assembly

The declaration of a Site Assembly (as ordered by the Emergency ~~Director~~Coordinator/Shift Manager until properly relieved) requires all non-emergency response personnel to assemble at Primary or Near-Site Assembly Areas. Personnel within the protected area shall report to their designated Primary Assembly Area. These Primary Assembly Areas are identified below:

- BV-1 Service Building - Locker Room
- SOSB - 3rd Floor - Locker Room
- C28
- Nuclear Construction Office and Shops (NCOS) 2nd Floor
- C45

Personnel located outside the protected area but within the owner controlled property shall report to their designated Near-Site Assembly Area. These areas are listed below: C25

- C28
- C30
- Training Building C19
- Warehouse B

The actual decision to implement a Site Assembly is the responsibility of the BVPS Emergency ~~Director~~Coordinator. This decision is based largely on his evaluation and judgment of the magnitude and severity of the particular situation. Factors to be considered must include the apparent levels of radiation and/or airborne radioactivity involved, the exposure to personnel that would result from evacuating as well as not evacuating to the Primary Assembly Areas. In the event of a multiple alarms (fire, ARMs, or CAMs) within the Controlled Area, the BVPS Emergency ~~Director~~ Coordinator may deem it prudent not to evacuate personnel outside of the Controlled Area but within the Site's protected area fence, and allow work to continue if these personnel are not at risk.

.4 Site Evacuation

Site Evacuation requires that all individuals within the BVPS exclusion area, except for Control Room operations personnel and others, with specific emergency assignments, evacuate and proceed to the designated Remote Assembly Area, located upwind of the release or other designated area. This Site Evacuation includes all non-essential persons on site, and any other persons within the exclusion area. The Remote Assembly Areas for BVPS personnel are located at:

- The Hookstown Grange
- Community College of Beaver County

Implementation of a Site Evacuation is the responsibility of the BVPS Emergency ~~Director~~Coordinator. That decision is based on the severity of the incident, the likelihood of escalation, and the radiation and airborne radioactivity levels throughout the site, particularly (but not exclusively) at the Primary Assembly Area. Primary Assembly Area dose rates and airborne radioactivity concentrations are determined by radiation control personnel using portable survey instruments and air sample collection devices and/or readings from fixed radiological monitors.

Notification of a Site Evacuation is made via the site paging system, consisting of evacuation alarm signal and message announcement.

.5 Personnel Accountability

To ensure that all Site personnel present in affected areas have been evacuated and to ascertain the whereabouts of all emergency personnel who have not evacuated, measures have been established to provide for personnel accountability in the event of an evacuation. Accountability of evacuated and nonevacuated personnel (emergency workers) will be performed in accordance with the detailed Emergency Implementing Procedures. All individuals within the protected areas of BVPS are issued a security keycard badge. These security badges form the basis of the accountability process.

In the event of a local assembly near-by supervision shall ensure that all personnel have evacuated the affected area.

In the event Accountability is declared, personnel accountability will be accomplished through the use of the computerized access security system (key-card). This system has provisions for identifying and printing a listing of all personnel in selected areas of the site. Site personnel update their whereabouts in the computer by inserting their security badge/key-card in the readers adjacent to the security doors leading to these areas. The results from the assembly areas, and from personnel performing emergency response functions who can not report to an assembly area but are listed on a Site Accountability Form are reported to the Security Coordinator (on-duty Security Supervisor, until relieved by designated Security Coordinator), who provides a tabulation of missing individuals to the Emergency ~~Director~~Coordinator. If this system is unavailable, Security personnel will follow Site Security Procedures for manual accountability [C52]. If necessary, search and rescue efforts will commence in accordance with Emergency Implementing Procedures. The initial accountability phase shall be completed within thirty (30) minutes. Unaccounted for personnel are reported to the Emergency ~~Director~~ Coordinator who shall take the necessary steps to initiate Search and Rescue.

.6 Contamination Control

The Beaver Valley Power Station Health Physics Manual (HPM) contains provisions governing the control of contamination including access control, use of protective clothing, contamination monitoring, and the release of potentially contaminated items from controlled areas. Chapter 3 of the HPM contains procedures that implement the HPM provisions. The requirements and guidelines of these documents shall apply to contamination control during emergency conditions. Emergency Implementing Procedures provide the interface between the HPM and the Emergency Preparedness Plan. These procedures authorize the ~~Radiological Controls~~Radiation Protection Coordinator to waive or modify certain normal contamination control methods, if other conditions, such as delaying necessary evacuations, personnel rescue, or delaying access to necessary plant equipment would create a greater hazard to plant personnel or the general population.

There are no potentially affected agricultural products within the Beaver Valley Power Station exclusion area. The Ohio River, which flows within the exclusion area, however, is a navigable river and is the source of water for several downstream communities and industrial facilities.

Domestic water at the Beaver Valley Power Station is provided by the Midland Water System. It's distributed by the domestic water system, which is a closed system. As a result of this configuration, contamination of the drinking water is unlikely. The Midland Water System storage tank has sufficient capacity to meet short-term needs.

With the exception of food brought to the site by Site personnel, all food supplied to the site arrives sealed for vending machine sale. These machines are located in noncontrolled areas. If these areas become contaminated they will be considered as controlled areas, and eating will be prohibited as is normally the case for controlled areas. Normal controlled area access controls will prevent the removal of contaminated food from these controlled areas and possible ingestion by unwary individuals.

Contamination monitoring will be performed as specified in the HPM. During Site Evacuations, personnel and vehicle contamination surveys are performed at a location on the site exit road. Contaminated personnel will be returned to the Site, for decontamination. In the event that the Site Evacuation must be made immediately, the survey process will result in undue delay in evacuating site personnel, personnel will be directed to proceed, with personal automobiles, to the designated remote assembly area. Personnel monitoring will be performed at the location.

Decontamination of materials and equipment are performed in areas provided for that purpose within the Beaver Valley Power Station. The Liquid Waste System, described in the BVPS Operating Manual, provides the capability to store and process decontamination wastes. The handling of solid radioactive waste is also described in the Operating Manual and Health Physics Manual.

Personnel decontamination is described in Section 6.8.1.

.7 Exposure Control

The exposure of Site personnel during emergency operations shall be maintained as low as reasonably achievable, and should be maintained less than the administrative guides established in the BVPS Health Physics Manual (HPM) and/or less than the Federal Radiation exposure standards established in 10 CFR 20. In order to accomplish this objective, administrative means used during normal operations to minimize personnel exposure (such as radiation work permits and ALARA measures) should remain in effect to the extent consistent with timely implementation of emergency measures.

If necessary operations require personnel exposures in excess of the normal control limits, or if normal access control and radiological work practices will result in unacceptable delays, the ~~Radiological Controls~~Radiation Protection Coordinator may, at his discretion, waive or modify the established exposure control criteria and methods. The Emergency ~~Director~~ Coordinator is the only individual who may authorize dose extensions in excess of 10CFR20.

Table 6.3 summarizes the emergency exposure criteria for entry or re-entry into areas for the purposes of undertaking protective or corrective actions. Two classifications of emergency exposure are identified: corrective actions, and lifesaving actions. Lifesaving actions include actions such as rescue, first aid, personnel decontamination, medical transport, and medical treatment services, when such actions are immediately necessary to save a life. Corrective actions include surveillance actions and plant operations necessary to minimize further deterioration of the level of plant safety or to mitigate the consequences of the accident, if failure to perform these actions could result in a significant increase in offsite exposures. Personnel exposures received performing emergency measures, other than those identified above, shall be limited pursuant to 10 CFR 20.

Dosimetry monitoring equipment is provided at the Site as part of the normal Radiation Control Program, and such dosimetry will continue to be used during emergency situations. Health Physics Procedures provide guidelines and procedures for issuing, using, and reading dosimetry devices and provisions for exposure record keeping.

The Beaver Valley Power Station Health Physics Manual contains provisions for administration of the facility bioassay program. Emergency Implementing Procedures provide guidance for accelerated or additional bioassays in the event there are individuals who are suspected of being exposed to elevated levels of airborne activity as a result of the emergency. This bioassay consists primarily of lung and thyroid counts. These are supplemented by whole body counts and urinalysis when pre-determined lung and thyroid count screening levels, or pre-determined airborne activity exposure levels, are exceeded or suspect of being exceeded. These procedures provide for follow-up monitoring, medical treatment, and incident reporting.

.8 Respiratory Protection

The Beaver Valley Power Station Health Physics Manual (HPM) contains provisions governing the use of respiratory protection equipment and administration of the BVPS Respiratory Protection Program, which is responsive to Regulatory Guide 8.15 and NUREG-0041. The provisions of this document and supporting procedures shall apply to all usage of respiratory protection equipment during emergency conditions.

Three exceptions to normal respiratory protection practices may be authorized by the Emergency ~~Director~~ Coordinator with the advice of the ~~Radiological Controls~~ Radiation Protection Coordinator, in accordance with the provisions of Emergency Implementing Procedures. These exceptions are:

- Extension of normal uptake limits. Under these provisions, internal exposure is controlled such that the total dose commitment--due to internal and external exposure, does not exceed the emergency exposure limits established in Table 6.3.

- Use of Thyroid Prophylaxis. Potassium iodide is available for use by BVPS employees and contractors in the event of an emergency. This potassium iodide is only specified for use by emergency workers who must remain in affected areas, and for whom other means of respiratory protection are not available or are not practicable. Normally, potassium iodide will not be issued unless I-131 airborne activity in occupied areas would result in a thyroid CDE in excess of 25 REM. The use of thyroid prophylaxis by Site personnel is voluntary. Potassium iodide shall not be administered to non-emergency workers or to members of the general public by BVPS personnel, and is issued only at the direction of the Emergency ~~Director~~Coordinator.

- Use of Iodine Sorbent Canisters in Filter Respirators. During emergencies, iodine sorbent canisters may be used in filter respirators. If this is the case, the ~~Radiological Controls~~Radiation Protection Coordinator may recommend that BVPS petition the NRC for permission to assign protection factors for iodine sorbent canisters as specified in 10CFR20.

.9 Hostile Action

In conjunction with the onsite protective actions described above, a range of protective actions to protect onsite personnel during hostile action have been developed to ensure the continued ability to safely shut down the reactor and perform the functions of the emergency plan. These actions are described in operating manual procedures 1/2OM-53C.4A.100.2, Land-Based Threat and 1/2OM-53C.4A.100.3, Airborne Threat, and Site Protection procedure SP-18.1, EPP Personnel Accountability. [C66]

6.7.2 Offsite Protective Actions

The Nuclear Regulatory Commission has postulated (that in the event of a severe accident) protective actions may be necessary in a ten (10) mile radius Emergency Planning Zone (EPZ) around the Beaver Valley Power Station in order to minimize the exposure of the population to radioactive material in the plume. Under these conditions, it may also be necessary to monitor and control foodstocks and wildlife in a fifty (50) mile radius Ingestion Pathway Emergency Planning Zone. Both of these zones encompass areas with Pennsylvania, Ohio, and West Virginia. While there may be highly improbable accident sequences that would require extending these zones, the planning established for the ten (10) mile EPZ and the fifty (50) mile ingestion pathway planning zone provides an adequate basis for this expansion, should it be necessary.

To have the maximum effectiveness, the protective measures may require lead times before implementation, and with regard to evacuation, would require time to complete. Because of this, protective action decisions are based on the probability of a significant radioactivity release, as well as the existence of a current release. Under the worst postulated scenarios the time between event initiation and the occurrence of a significant release may be as little as thirty (30) minutes.

Although dose assessment methodologies are developed to a reasonable degree of accuracy, there are uncertainties involved with the input data to these assessments. It is unlikely that the release source term will be adequately quantified when the first protective action decisions are being made during a rapidly developing situation. Similarly, the meteorological conditions at the site may not be consistent with those a few miles from the site. These uncertainties, coupled with the need for rapid decisions in a fast breaking incident, and the significant lead time necessary to implement a protective action, has resulted in greater emphasis being

placed on plant systems status assessments against pre-determined criteria, and lesser emphasis on dose assessments.

While it is appropriate that any protective action decision be discussed in conjunction with the three States and with the NRC, and while BVPS shall make reasonable efforts with these agencies to arrive at a common recommendation, in the absence of such an agreement the BVPS recommendation shall be based on the staff's best evaluation of the technical considerations involved, be the plant condition or dose assessment related, and will include only those geographical areas projected to be affected by the plume transport.

The state and local governments within the EPZ have developed emergency response plans for the protection of the general public in their jurisdictions. The role of the Beaver Valley Power Station in offsite protective actions is the notification of cognizant officials, performing accident assessments and apprising the offsite agencies, and making recommendations for offsite protective actions. The role of the local and state governments is to act upon the information and recommendations provided by the facility and to perform emergency measures necessary for the protection of the public.

The emergency preparedness plans of these jurisdictions are prepared and submitted to the Federal Emergency Management Agency and the Nuclear Regulatory Commission for review and approval. These documents should be consulted for detailed information on offsite protective actions. The following sections summarize the provisions for offsite protective actions in the BVPS EPZ.

.1 Protective Actions Within Beaver County, Pennsylvania. The responsibility for actions to protect offsite individuals rests with Beaver County government as described in the Beaver County Plan. The Beaver County Emergency Management Agency (BCEMA) is responsible for implementation of that plan.

The Pennsylvania Department of Environmental Protection/Bureau of Radiation Protection (DEP/BRP) is responsible for evaluating information obtained from the Beaver Valley Power Station and/or other sources and recommending appropriate offsite protective actions to BCEMA through the Pennsylvania Emergency Management Agency (PEMA). Such recommendations, based on all available data, local constrains and other considerations may include:

- Shelter for affected populations
- Evacuation within a specified radial distance and/or downwind sector
- Administration of thyroid prophylaxis (as approved by the State)
- Control of contaminated agricultural products

The principal offsite local coordinating agency for providing response to radiological emergencies in the vicinity of the Beaver Valley Power Station is the Beaver County Emergency Management Agency (BCEMA). Since the area and population inside the ten (10) mile emergency planning zone are partially within Columbiana County, Ohio and Hancock County, WVA; essentially parallel emergency response functions are provided by the coordinating agencies within those Counties. The implementation of protective actions within these areas are discussed in Sections 6.7.2.2 and 6.7.2.3. Upon notification by Beaver Valley Power Station or by PEMA of a situation, which may require protective actions for offsite populations, BCEMA will activate its emergency organization, and if required, will initiate appropriate actions in accordance with specific instructions from PEMA and the BCEMA emergency plans and procedures. If communication cannot be established with PEMA in the necessary time frame, BCEMA may implement limited protective actions with the concurrence of the County Commissioners on the basis of recommendations made by the BVPS Emergency Director ~~(Emergency/Recovery Manager when EOF is activated)~~.

- Providing assistance for evacuation of the County's population within the ten (10) mile emergency planning zone

- Identifying reception and mass care centers for individuals evacuated from Beaver County

Occupants within the ten (10) mile emergency planning zone of the Beaver Valley Power Station will be provided with information regarding emergency planning. This information will describe the method(s) by which they will be notified of an emergency and will provide specific instructions to follow upon receiving such notification. Additional discussion of the content and method of distribution of this information is contained in Section 8.

A detailed study has been conducted of the status and capacities of roads, traffic patterns, and demography within the ten (10) mile emergency planning zone. This study includes the estimated times to evacuate all or specific segments of the population, identifies potential problem areas and provides contingencies for dealing with adverse conditions. This study was utilized in the development of detailed evacuation plans by BCEMA, CCEMA, and HCOEM. A summary of this study is presented in Appendix B. [C47]

The Ohio River, which flows within the exclusion area, is the source of water to communities and industrial facilities downstream. The closest water treatment facilities are at Midland, PA and East Liverpool, OH; less than 1 mile and approximately 5 miles down-stream, respectively. Additional water supply intakes are located 7 or more miles downstream. The minimum average flow in the river (Sept.) is approximately 5 million gallons per minute. In the event of an actual or projected release of radioactive material to the river, by any pathway, the Midland and East Liverpool water treatment companies may be notified and a recommendation made to secure water processing depending on the estimated or calculated river activity. If a water treatment plant is shutdown as a result of a recommendation by the BVPS Emergency ~~Director~~Coordinator, or by request of DEP/BRP (in the case of Midland), the decision to allow restarting those water treatment plants is the authority and responsibility of governmental agencies responsible for water purity in each of the three jurisdictions.

The Ohio River is navigable, and is routinely used for barge traffic. In the event of an emergency condition requiring protective actions within the BVPS exclusion area, the U.S. Coast Guard will be notified and requested to restrict vessels from entering affected areas. In addition, lockmasters at the New Cumberland Dam, located approximately 20 miles downstream; the Montgomery Dam, located approximately 3.3 miles upstream; and/or the Danshield Dam, located approximately 11.3 miles upstream; can be called upon to restrict access to affected areas on the river.

BCEMA has the capability and detailed plans for implementing protective actions in Beaver County, which include:

- Implementing prompt notification of the County's population within 10 miles of the Beaver Valley Power Station

- Transmitting specific instructions to the potentially affected populations

.2 Protective Actions Within Columbiana County, Ohio

The responsibility for actions to protect offsite individuals rests with the State of Ohio, as described in the State of Ohio Plan for Response to Radiation Emergencies at Licensed Nuclear Facilities. The Ohio EMA is responsible for implementation of that plan.

The State Department of Health is responsible for evaluating information obtained from the Beaver Valley Power Station and/or other sources and recommending appropriate offsite protective action to the Governor through Ohio EMA. Such recommendations, based on all available data, local constraints and other considerations may include:

- Shelter for affected populations
- Evacuation within a specified radial distance and/or downwind sector
- Administration of thyroid prophylaxis (for emergency workers only)
- Control for contaminated agricultural products

The principal offsite local coordinating agency for providing response to radiological emergencies in Columbiana County is the Columbiana County EMA. Upon notification by the BVPS Emergency Director or by BCEMA or by OEMA of a situation, which may require protective actions for offsite populations, CCEMA will initiate appropriate actions in accordance with specific instructions from the notifying party, and within the guidelines of the CCEMA emergency plans. If time permits, CCEMA will obtain a review and verification by OEMA of recommendations made by the BVPS Emergency Director. CCEMA has the capability and detailed plans for implementing protective actions similar to those for BCEMA described in Section 6.7.2.1 of this Plan.

.3 Protective Actions Within Hancock County, West Virginia

The responsibility for coordination of protective action recommendations rests with the State of West Virginia, as described in the West Virginia Radiological Emergency Plan. The West Virginia Department of Homeland Security/Emergency Management Division (WVDHS/EM) is responsible for implementation of that plan. [C47]

The West Virginia Department of Health and Human Resources is responsible for evaluating information obtained from the Beaver Valley Power Station and/or other sources and recommending appropriate offsite protective actions to WVDHS/EM. Such recommendations, based on all available data, local constraints and other considerations may include: [C47]

- Shelter for affected populations
- Evacuation within a specified radial distance and/or downwind sector
- Administration of thyroid prophylaxis (for emergency workers only)
- Control of contaminated agricultural products

The principal offsite local coordinating agency for providing response to radiological emergencies in Hancock County is the Hancock County Office of Emergency Management. Upon notification by BVPS or by BCEMA or by WVDHS/EM of a situation, which may require protective actions for offsite populations, HCOEM will initiate appropriate actions in accordance with specific instructions from the notifying party, and within the guidelines of the HCOEM emergency plans. If time permits, HCOEM will obtain a review and verification by WVDHS/EM of recommendations made by the BVPS Emergency Director. HCOEM has the capability and detailed plans for implementing protective actions similar to those for BCEMA as described in Section 6.7.2.1 of this Plan. [C47]

.4 Public Warning System

The primary means for alerting and warning the population of an incident at the Beaver Valley Power Station is the Siren Warning System. [C29] This system involves alerting the population with sirens. In accordance with instructions provided by periodic public information programs (See Section 8.5), the alerted population will turn to Local Emergency Broadcasting radio or television stations for emergency information and instructions. Hardware has been provided for this public warning system within the plume exposure pathway EPZ. The design objective of this system is to have the capability to complete an initial notification of the public within the plume exposure pathway EPZ within about 15 minutes.

The hardware consists of fixed outdoor sirens located within the 10 mile EPZ. The sirens will be activated remotely by radio from the emergency services office within the respective jurisdictions. [C29]

The responsibility for activation of the public warning system rests with the emergency services organization in each of the three risk counties. These organizations will activate their respective portions of the warning system, or coordinate activation by one County, and supply appropriate emergency messages to the Emergency Alert System (EAS) station serving their jurisdiction in accordance with the provisions of their emergency response plans. The control for these systems are located in the respective county emergency services offices. The Beaver Valley Power Station supplies information for these emergency messages in the form of the initial and follow-up notifications described in Section 6.4.1 and 6.4.2.

Backup alert and notification for the BVPS 10-mile EPZ is achieved by Electronic Notification Systems (ENS) and other capabilities described in County Emergency Response Plans. This method has been approved by the Federal Emergency Management Agency (FEMA).

As per approved county emergency plans, ENS is utilized by the risk counties as a concurrent backup means for failures of the siren system. Additional electronic alerting means may also be utilized as developed and documented in the counties plans.[C69]

.5 Protective Action Guides and Recommendation of Protective Actions

A protective action guide is the projected radiological dose, or dose commitment, to individuals in the general public above which protective actions may be warranted following a significant release of radioactive material. Protective Action Guides (PAGs) have been established by the U.S. Environmental Protection Agency. These guides are specified for the population as a whole. The guides for dose commitment for the general public are:

General Public Protective Action Guides

TEDE (rem)	Child Thyroid (CDE) (rem)
1	5

As noted earlier, these guides are applied against projections of offsite dose, be they based on an ongoing release or a potential release. The plant system status indicators and the protective actions associated with each indicator, as provided in 1/2-EPP-IP-4.1, "Offsite Protective Action," are based on the postulated offsite exposures associated with each condition and the protective action guides above.

- Protective actions such a sheltering or evacuation are mandatory in affected areas if projected offsite doses exceed the value of the protective action guide established above.

- Sheltering is an appropriate protective action for:

  Severe events in which evacuation cannot be implemented because of inadequate lead time due to rapid passage of the plume ("puff" release). C34 C63

  When an evacuation is indicated, but local constraints, such as inclement weather, road conditions, etc., dictate that directing the public to seek shelter is a more feasible and effective protective measure than evacuation. Studies indicate that a normal wood structure that can be made reasonably snug can reduce the direct exposure to the plume by 10% and can minimize inhalation dose for about two-hours.

- Evacuation is an appropriate protective action for:

  An incident involving a release, or potential release, which is projected to result in an offsite dose greater than 1 rem TEDE, or 5 rem to the child thyroid (CDE), in situations where the lead time between declaration of the emergency and population relocation is compatible with plume movement, and in the absence of constraints to evacuation (inclement weather, etc.).

- Situations which do not provide for advance warnings, but for which substantial reductions in population dose can be made by avoiding exposure to residual radioactivity (plume fallout) in the wake of sudden severe incidents involving significant releases of radioiodine or particulate material. In these cases, sheltering should be maintained until the plume passes, if possible.

Offsite agencies responsible for implementing protective actions for the public will assign protective actions based on their evaluations and consideration of the BVPS recommendation. While the agencies in the three (3) jurisdictions will coordinate their respective actions with each other, the action taken in each jurisdiction is ultimately the prerogative of that jurisdiction.

The role of BVPS in offsite protective actions is to provide offsite agencies with timely notifications of emergencies, appropriate recommendations for protective actions, appropriate accident assessment data, and data from offsite monitoring performed by BVPS personnel in the event of a release; to provide a capability for warning the public in a timely manner; and to assist local officials with public information programs.

6.8 AID TO AFFECTED PERSONNEL

Established Emergency Plan Implementing Procedures, Operating Procedures, and Radiation Control Procedures provide for personnel decontamination and for assistance to injured persons including situations involving complications due to the presence of radiation or radioactive contamination.

6.8.1 Personnel Decontamination

The Beaver Valley Power Station Health Physics Manual identifies criteria and provides procedures for personnel decontamination. The provisions of the HPM and supporting procedures shall apply to emergency situations to the maximum extent possible. These procedures commence with simple washing with soap and water by the individual. If contamination is persistent, or involves significant amounts of contamination, particularly in the vicinity of facial openings, decontamination will be performed under the direction of radiation control personnel using established procedures.

Personnel decontamination areas, consisting of showers and sinks, which drain to the Liquid Radwaste System, are available within the Site for routine or emergency use. These facilities are located near the access to the controlled areas of the Site. Portable decontamination kits are maintained for use at remote assembly areas.

A listing of typical decontamination equipment located at the personnel decontamination areas is provided in Appendix D. Personnel having their personal clothing contaminated will be issued clean clothing as temporary replacement clothing.

In addition to decontamination within the Site, the Emergency Response Facility will provide a decontamination facility. Decontamination liquids are held-up in tanks for subsequent processing. In the interim, personnel decontamination will be performed prior to the departure from the Site, or at a designated location.

Normal contamination control limits expressed in the HPM shall remain in effect to the extent possible. However, the Radiation ~~Control~~ Protection Coordinator, may modify the contamination control limits as provided in Emergency Implementing Procedures. Under site evacuation conditions, the level of removable contamination above which removable decontamination is mandatory is established as 4000 dpm/100 cm2 (400 cpm on HP210 detector) [C53], four times the normal control limit. No contamination limit applies to contaminated injured personnel needing immediate medical treatment at a hospital.

6.8.2 First Aid

~~At least two persons who are qualified in first aid methods shall be onsite at all times. The qualified individuals are trained in First Aid/CPR.~~ First aid to injured personnel can normally be performed in conjunction with any necessary decontamination methods. However, if immediate treatment of the injury is vital, that treatment shall take precedence over decontamination. This philosophy also extends to offsite emergency medical assistance involving radioactive contamination. For that purpose, measures are established in the Fire Protection Program~~Operations and Health Manuals~~ to ensure availability of First Aid equipment and timely offsite medical treatment. ~~First Aid Kits are available for use at several locations within the Site, and a medical facility is available.~~

6.8.3 Medical Transportation

Arrangements have been made for the transportation of injured personnel from the Beaver Valley Power Station, who may have injuries complicated with radioactive contamination or who may have been involved in a radiation incident, to a medical treatment facility. These organizations can be contacted directly or through the Beaver County Emergency Services Center.

Emergency Medical Services radio provides for communications between the Beaver County Emergency Services Center, the ambulances, and the Beaver County hospitals. Copies of the agreement(s) to provide emergency services from these organizations are on file in the Emergency Response Section. Ambulance emergency supply kits, which typically contain items shown in Appendix D, are available for use and are stored in the Medical Facility at the Site.

Ambulance personnel arriving at the Site are directed by security personnel to the appropriate area. Personnel dosimetry for ambulance personnel is provided by the Site. Contaminated patients are accompanied by radiation control personnel. The radiation control person is responsible for maintaining appropriate contamination control measures to minimize the contamination of the ambulance, the hospital, and hospital personnel. This individual is responsible for controlling contaminated material, and surveying the ambulance and the hospital treatment area following use.

If an ambulance can not be obtained in a reasonable period of time, a suitable BVPS vehicle, or employee vehicle (only on a voluntary basis), may be utilized to transport injured personnel.

6.8.4 Medical Treatment

Arrangements have been made for treatment of injured personnel from the Beaver Valley Power Station, who may have injuries complicated with radioactive contamination at:

- Heritage Valley Beaver Hospital
- University of Pittsburgh Medical Center Presbyterian Hospital [C66]

The Heritage Valley Beaver and the UPMC Presbyterian Hospitals are adequately supplied and equipped to receive and treat contaminated patients. Sets of contamination control supplies are provided at these facilities. A typical list of this equipment is shown in Appendix D. Service is provided for both hospitals to contact REAC/TS at Oak Ridge, TN as needed, to assist with treatment of contaminated/injured or irradiated persons.

Evaluation of significant contamination injuries, over-exposures, and radioactive materials uptakes can be made by the Radiation Protection Department at BVPS. [C31]

The BVPS Health Services maintains a contract for a qualified physician. This physician has or will complete training through REAC/TS at Oak Ridge, TN, and can assist with clinical diagnosis and/or treatment of contaminated/injured or irradiated persons.

Copies of agreements to provide medical treatment from the above organizations are on file in the Emergency Response Section.

6.9 EMERGENCY PUBLIC INFORMATION

The Licensee respects the public's right to information about its operations and service and, in particular, information regarding accidents and unplanned events which occur at Company facilities, including the Beaver Valley Power Station. The Company's policy has and continues to be to make public, accurate information about these events.

The ~~Emergency Public~~Joint Information Center procedures describe the objectives, responsibilities, facilities, and protocol for emergency public information. Section 7 of this Plan describes the Joint ~~Public~~ Information Center (J~~P~~IC). Section ~~6.2.4.6~~6.2.3.5 describes ~~activation~~ staffing of the Joint ~~Public~~ Information Center~~ and the Emergency Public Information Response staff~~.

The Joint ~~Public~~ Information Center, if ~~activated~~staffed, is the location from which replies to news media inquiries will be made, and at which news briefings will be held. If the situation warrants, news briefings may be held at other locations. ~~The Beaver Valley Power Station will supply operational and technical information, upon request, to JPIC personnel via the onsite Emergency Public Information Response staff at the ERF. This individual shall have access to all information regarding the emergency. Senior management designated individuals will serve as Chief Company Spokesperson.~~ ~~C31~~

Space is provided at the Joint ~~Public~~ Information Center for State, local, and Federal public information personnel, and provisions are made for coordination of news announcements and press briefings.

As part of the ~~Emergency Public Information~~ JIC procedures, telephone contact personnel respond during an emergency to handle incoming calls from members of the general public.[C31] In addition to other functions, these personnel will serve as the point of contact between the general public and BVPS. The purpose of this contact is to respond to concerns of the general public in an effort to suppress unfounded rumors and incorrect information which has not been answered by news announcements. In addition, the ~~Emergency Public Information ERO~~JIC provides an internal rumor control system to quell rumors to company employees and the news media.

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TABLE 6.1
SUMMARY OF IMMEDIATE NOTIFICATION AND RESPONSE

EMERGENCY CLASS	CRITERIA	IMMEDIATE NOTIFICATIONS		IMMEDIATE ACTIONS	
		ONSITE	OFFSITE	ONSITE PERSONNEL	OFFSITE PERSONNEL
UNUSUAL EVENT	Off-normal Events Which By Themselves Do Not Constitute Significant Events. But Could Indicate a Potential Degradation in the Level of Safety of the Plant.	* Fire Brigade * Damage Control Teams * Surveillance Watches ~~* First Aid Teams~~ ~~* Rescue Teams~~ * Monitoring Teams * Security Force * Outage Contractors	* Fire Units * Rescue Assistance * Ambulance Assistance * Hospital * BCEMA * PEMA * OEMA * HCOEM C47 * CCEMA * WVDHS/EM C47 * NRC * Licensee Headquarters	* Make Prompt Offsite Notification * Fight fires * Perform emergency repairs * Designated Surveillance Functions * Administer First Aid * Conduct Rescue Operations * Perform Onsite Monitoring * Appropriate Security Measures * Perform Continuing Assessment * Make Prompt Onsite Notifications	* Provide Fire Fighting Assistance * Assist in rescue operations * Provide Medical Transportation * Provide Hospital Medical Treatment * Assist in Damage Control
ALERT	Events Which Indicate an Actual Degradation in the Level of Safety of the Plant	* Fire Brigade * Damage Control Teams * Monitoring Teams * Dose Projection Personnel * Security Force * Outage Contractors	* Fire Units * BCEMA * PEMA * OEMA * HCOEM C47 * CCEMA * WVDHS/EM C47 * NRC * Licensee Headquarters	* Make Prompt Offsite Notifications * Fight Fire * Perform Emergency Repairs * Onsite and Offsite Monitoring * Offsite Dose Projection * Approp. Security Measures * Augment Onshift Resources * Activate TSC, OSC, C15 ~~Place~~ EOF, and staff JPIC ~~on standby~~	* Provide Onsite Assist. as required * Activate Primary Response Centers * Alert Key Personnel to Standby * Conduct Confirmatory Dose Projections * Maintain Emergency Communications.

TABLE 6.1
SUMMARY OF IMMEDIATE NOTIFICATION AND RESPONSE

EMERGENCY CLASS	CRITERIA	IMMEDIATE NOTIFICATIONS		IMMEDIATE ACTIONS	
		ONSITE	OFFSITE	ONSITE PERSONNEL	OFFSITE PERSONNEL
SITE AREA EMERGENCY	Events Which Involve Actual or Likely Major Failures of Plant Functions Needed for Protection of the Public	* Appro. Emer. Teams * Security Force * All other station Personnel * Outage Contractors	* Appropriate Local Assist. * BCEMA * PEMA * OEMA * HCOEM C47 * CCEMA * WVDHS/EM C47 * NRC * Licensee Headquarters	* Make Prompt Offsite Notifications * Take Appro. Corrective Action * Onsite and Offsite Monitoring * Offsite Dose Projections * Appro. Security Measures * Augment Resources/Activate Emergency Centers * Personnel Evacuation as Approp. * Alert Total Emergency Org. * Perform Continuing Assess. ~~* Activate EOF, JPIC~~	* Provide Onsite Assistance as required * Activate and Man Response Centers * Mobilize Emer. Response Personnel * Continuously Evaluate Dose Projections * Place Public Notification System and Procedures in Standby Status * Implement Appropriate Near-Site Emergency Protective Measures * Maintain Emergency Communications
GENERAL EMERGENCY	Events Which Involve Imminent Substantial Core Degradation or Melting With Potential for Loss of Containment Integrity	* Appropriate Emer. Teams * Security Force * All Other Station Personnel * Outage Contractors	* Appro. Local Assistance * BCEMA * PEMA * OEMA * HCOEM C47 * CCEMA * WVDHS/EM C47 * NRC * Licensee Headquarters	* Make Prompt Offsite Notif. * Take Appro. Corrective Actions * Onsite and Offsite Monitoring * Appro. Security Measures * Augment Resources/Activate Emergency Organization * Activate Total Emergency Organization * Personnel Evacuation as appropriate * Perform Continuing Assess. * Recommend Offsite Action	* Provide Onsite Assistance as required * Fully Staff Response Centers * Activate all Emergency Response Personnel * Implement Public Notif. Procedures * Continuously Evaluate Dose Projections * Implement Appro. Offsite Emer. Protective Measures * Maintain Emergency Communications

TABLE 6.2

NOTIFICATION MATRIX

ORGANIZATION	CONTACT		COMMUNICATION		24-HOUR COVERAGE	PURPOSE
	PRIMARY	ALTERNATE	PRIMARY	ALTERNATE		
BCEMA	DISPATCHER	BCEMA DIRECTOR	COMMERCIAL TELEPHONE SYSTEM	BVPS RADIO	YES	ACTIVATE BCEMA
PEMA DEP/BRP	DUTY OFFICER	BCEMA	COMMERCIAL TELEPHONE SYSTEM	BVPS RADIO VIA C2 BCEMA	YES	ACTIVATE PEMA VERIFICATION CALL
OEMA	DUTY OFFICER	OHIO HWY PATROL DISPATCHER	COMMERCIAL TELEPHONE SYSTEM	BVPS RADIO VIA C2 CCEMA	YES	ACTIVATE OEMA
WVDHS/EM C47	DISPATCHER	HCOEM C47 DISPATCHER	COMMERCIAL TELEPHONE SYSTEM	BVPS RADIO VIA C2 HCOEM C47	YES	ACTIVATE WVDHS/EM C47
CCEMA	DISPATCHER	CCEMA DIRECTOR	COMMERCIAL TELEPHONE SYSTEM	BVPS RADIO	YES	ACTIVATE CCEMA
HCOEM C47	DISPATCHER	C47 HCOEM DISPATCHER	COMMERCIAL TELEPHONE SYSTEM	BVPS RADIO	YES	ACTIVATE HCOEM C47
NRC	DUTY OFFICER	N/A	NRC/ENS (RED PHONE)	TELEPHONE	YES	ACTIVATE FEDERAL RESPONSE
FIRE DEPTS	BCEMA DISPATCHER	N/A	COMMERCIAL TELEPHONE SYSTEM	BVPS RADIO	YES	FIRE ASSISTANCE
AMBULANCES	BCEMA DISPATCHER	AMBULANCE COMPANY	COMMERCIAL TELEPHONE SYSTEM	BVPS RADIO	YES	MEDICAL TRANSPORTATION
HOSPITALS	EMERGENCY ROOM	BCEMA DISPATCHER	COMMERCIAL TELEPHONE SYSTEM	BVPS RADIO	YES	MEDICAL TREATMENT

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EMERGENCY EXPOSURE CRITERIA TABLE 6.3

Dose to workers performing emergency services should not exceed the following recommendations of the EPA Manual of Protective Action Guides and Protective actions for Nuclear Incidents (EPA 400-R-92-001).

Dose Limit (a) (rem)	Activity	Condition
5	All	
10	Protecting valuable property	Lower dose not practicable
25	Life saving or protection of large populations	Lower Dose not practicable
>25	Life saving or protection of large populations	Only on a voluntary basis to persons fully aware of the risks involved

(a) Sum of external effective dose equivalent and committed effective dose equivalent to nonpregnant adults from exposure and intake during an emergency situation. Workers performing services during emergencies should limit dose to the lens of the eye to three times the listed value and doses to any other organ (including skin and body extremities) to ten times the listed value. These limits apply to all doses from an incident, except those received in unrestricted areas as members of the public during the intermediate phase of the incident.

- The BVPS Emergency ~~Director~~ Coordinator must approve all planned emergency exposures. The ~~Radiological Controls~~Radiation Protection Coordinator should be consulted prior to authorizing the planned emergency exposure, if time permits.
- All reasonable measures must be taken to control contamination and internal exposure.
- Persons performing emergency activities should be familiar with the consequences of the exposure.
- Persons performing emergency activities under these provisions should be volunteers.
- Personnel shall not enter any area where dose rates are unknown or unmeasurable with instruments and dosimetry immediately available.

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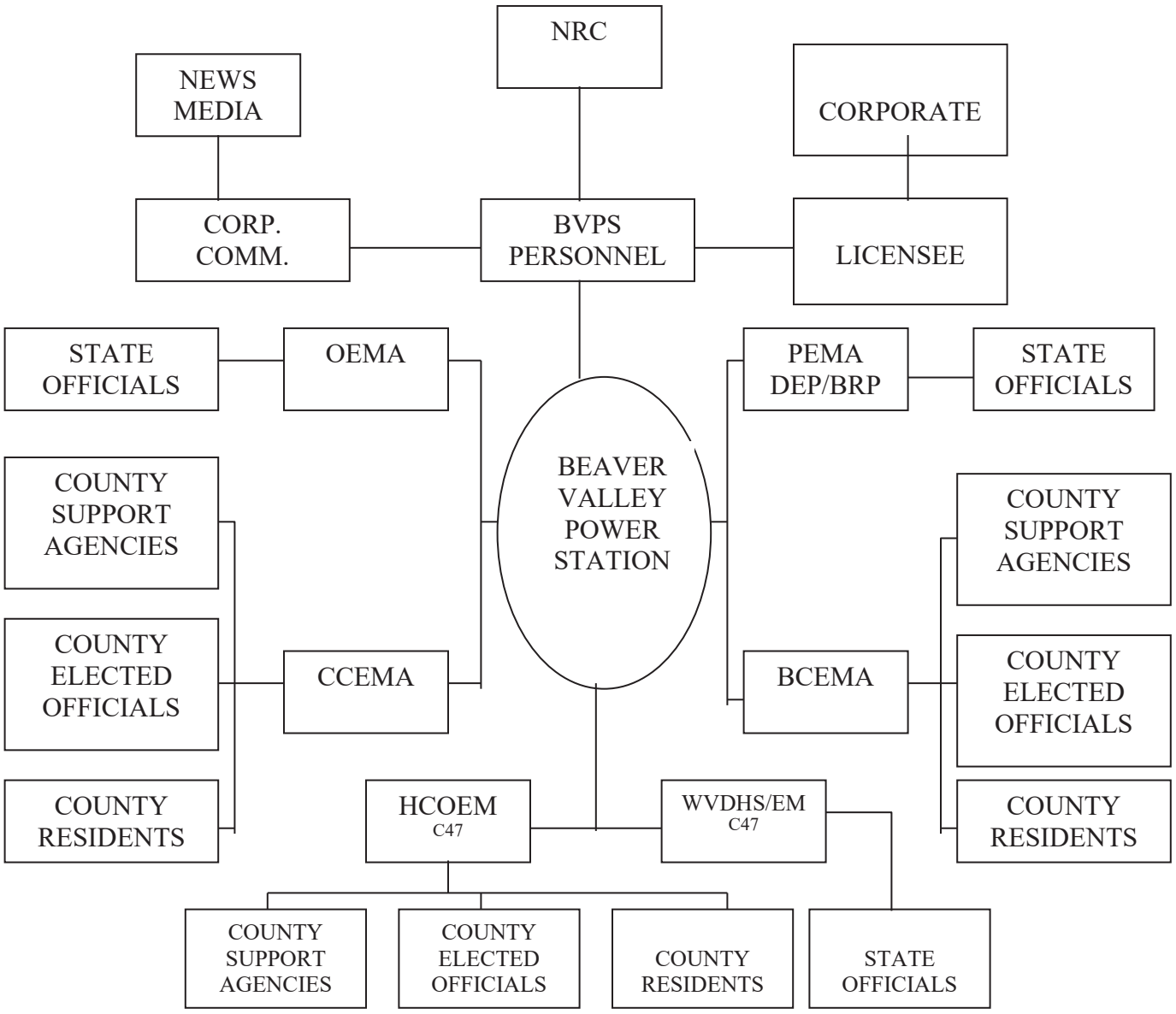
FIG. 6.1
PRIMARY INITIAL NOTIFICATIONS



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SECTION 7

EMERGENCY FACILITIES AND EQUIPMENT

Section 7

EMERGENCY FACILITIES AND EQUIPMENT

Table of Contents

7.0 EMERGENCY FACILITIES AND EQUIPMENT

Emergency facilities and equipment are provided at the Beaver Valley Power Station to ensure the capabilities for prompt, efficient assessment and control of situations over the entire spectrum of probable and postulated emergency conditions. The facilities and associated equipment, and their emergency functions, are described in this section.

7.1 EMERGENCY FACILITIES~~CENTERS~~

Emergency facilities for the Beaver Valley Power Station are described in this section. The significant instrumentation and communications available at each of the BVPS emergency facilities are listed in the Implementing Procedures.

7.1.1 Control Room

The Control Room is the primary location for the assessment and coordination of corrective actions for essentially all emergency conditions. The Control Room is equipped with the readout and controls for all critical plant systems, the readout and assessment aids related to radiological and meteorological monitoring systems, and access to all station communications systems.

The Control Room is initially the primary location for accident management and emergency communications until the Technical Support Center ~~is~~ and Emergency Operations Facility are activated. Located within the Control Room are telephone and radio communications equipment and emergency equipment and supplies necessary to support direction and coordination of emergency response activities.

The Control Room provides for the effective coordination of the following emergency response functions:

- Plant assessment and coordination of corrective actions
- Requesting initial call out of emergency response personnel
- Perform notifications to offsite government agencies
- Requesting offsite dose projections be initiated and directions provided for offsite monitoring until the TSC/EOF is activated

- Communicate with other onsite/offsite Emergency Operations Centers
- Serve as the central location for the receipt of data from radiological monitoring (until the TSC/EOF is activated) and other emergency teams
- Provide direction to emergency coordinators
- Make recommendations to offsite agencies regarding protective and other actions (until relieved by TSC/EOF)
- Provide administrative direction (until relieved by TSC/EOF)

7.1.2 Operations Support Center

The Operations Support Center (OSC) provides for assembly of Operations support personnel for supplemental emergency team personnel. The location of the OSC is the Outage Central Area[C15] located above the BVPS Control Rooms. This area has communications capability with the Control Room and the BVPS Site. Protective equipment for personnel assigned to the OSC is available in emergency cabinets in the OSC and at the Plant Health Physics Check Area, located adjacent to the access to the controlled area.

The OSC is equipped with the Radcon and Operations circuits, the site page party system and PAX/Commercial phone system capabilities.

The OSC is designated as a central location for coordinating the activities of radcon technicians for both BVPS units. Wall maps are provided for maintaining the status of radiological conditions within the Station.

If the nature of the emergency renders the OSC unusable due to radiological conditions, etc., OSC operations are co-located to the Alternate OSC.

The Alternate OSC is located in the Process Instrument and Rod Position Instrument Area below the Unit 1 Control Room. This area has the same shielding and ventilation features as the Control Room and the same communications capabilities as the OSC. The BV-1 remote shutdown panel is located in this area.[C15]

7.1.3 Emergency Response Facility

The Emergency Response Facility has been designed to satisfy the functional requirements of the Technical Support Center. The design of the building enhances the proper control and coordination of the principle emergency response activities without interfering with plant emergency operations. The facility provides for the following:

.1 Technical Support Center

The Technical Support Center is located in the Emergency Response Facility (ERF) located approximately 1200 feet from the Beaver Valley Power Station Control Rooms. The TSC provides for engineering and management support during emergency situations and has the following features:

a) Reasonably close proximity of the Control Room

b) Capability to display real-time plant status data

An Inplant Process Computer performs data acquisition, trending, alarm reporting, logging, CRT displays, data storage and various human communication functions to provide for the monitoring of plant variables in the Control Room.

The Safety Parameter Display System (SPDS), provides a display of plant parameters from which the safety status of operations may be assessed. The SPDS will help operating personnel make quick assessments of plant safety status and improve the exchange of information between TSC, EOF and Control Room.

c) Dedicated communications links to Control Room and NRC

A dedicated line system is provided between the Control Room and the TSC.[C31] This system is powered by emergency power. A base station for the BVPS Industrial Radio System is also provided. This base station has its own transmitter and antenna and can communicate (via the BVPS repeater) with all units. **E**mergency **T**elephone **S**ystem (ETS) extension for contacting the NRC/ENS and HPN are available, as is PAX and Commercial system telephones.

d) As-built drawings are maintained within the building

.2 Dosimetry Laboratory

A shielded dosimetry lab is provided with sufficient TLD availability to serve the needs of all Station personnel. Whole body counting facilities are located within the ERF.

.3 Sample Preparation and Counting Facilities

Shielded sample preparation areas are provided. Counting equipment include a gamma spectrometry system.

.4 Nuclear Regulatory Commission

Provisions have been made in the TSC and EOF to accommodate the complete NRC Site Team Organization. These provisions include desk space, communications capabilities and a conference room.

.5 Decontamination Facility

A decontamination facility is provided. This facility is intended for the use of ERF personnel. (Reserve portable survey instruments will be maintained here.)

.6 Other

- Kitchen
- Rest rooms and sleeping areas (for men and women)
- Medical Services
- Security and reception areas
- Records room

Increased shielding is provided for the TSC~~ERF~~ and the dosimetry/sample laboratories. Ventilation will be such that intake air flow can be diverted through high efficiency particulate (HEPA) filters and if necessary, charcoal filters. An emergency diesel generator, with an approximate 180-hour fuel supply, is provided for back-up power. Important instrumentation and communications equipment are powered by UPS and battery. Appropriate communications from the TSC~~ERF~~ and EOF to the Control Room, Onsite Response Facilities, and offsite agency Emergency Operations Centers, are provided.

7.1.4 Emergency Operations Facility [C55]

.1 The Emergency Operations Facility is located approximately 10.1 miles from the Beaver Valley Power Station site on the Beaver County Airport property in Chippewa Township, PA. There is adequate desk space for 50 or more people, including desk space for State and County representatives. Multiple communication types and paths are available in the facility and are described in the EOF implementing procedure. The EOF includes space for the environmental assessment and dose projection function. When the EOF is activated, the dose assessment~~EA&DP~~ area becomes a part of the EOF. The EOF will serve as the location from which the overall BVPS response will be directed and coordinated; and as a coordinating center for utility, Federal, State and local agencies. BVPS management personnel at this facility provide an interface with the Technical Support Center. The location is used as a muster point for other plant emergency response personnel should the plant become inaccessible for any reason.

The EOF Building (which contains the EOF, Alternate TSC, and an ERO Muster Area), is the Alternative Facility as described in 10CFR50 App. E., Sec IV, E.8.d. [C64]

.2 The EOF location is outside of the 10-mile radius from the TSC and the plant and therefore outside the area affected by a radiological release from a Beaver Valley Power Station emergency event.

.3 An emergency diesel generator, with an approximate 24-hour fuel supply, is provided for back-up power. Important instrumentation and communications equipment are powered by UPS and battery. Appropriate communications from the EOF to the Control Room to Onsite Response Facilities, and to offsite agency Emergency Operations Centers are provided.

.4 Environmental Assessment and Dose Projection capability
An environmental assessment and dose projection area, located in the EOF area, provides the capability to perform dose projection and offsite radiological assessment functions. 15-minute average print-outs of meteorological parameters is available in the dose assessment~~EA&DP~~ area. The Site meteorological monitoring system or other appropriate data acquisition systems will provide data needed for determination of meteorological conditions in the vicinity of BVPS and capability to access and monitor actual or potential offsite consequences of a release during a radiological condition. NRC/HPN, BVPS radio transceiver, and extensions to the DEP/BRP phones are available.

7.1.5 Joint ~~Public~~ Information Center (J~~P~~IC)

The Joint ~~Public~~ Information Center (J~~P~~IC) will serve as the focal point for all Nuclear Communications activities. All media communications by Licensee personnel, including press conferences, will be coordinated through the J~~P~~IC. The location of the J~~P~~IC is in the Pittsburgh Airport Business Park, Spring Run Road, Coraopolis, PA. This facility provides working space for the press and for Licensee Communications personnel. A briefing area to seat 300 persons is available. Adequate parking for cars and trailers is available.

The Implementing Procedures provides for ~~activation~~ staffing and operation of this facility. If the facility is unavailable due to radiological conditions, the activities of the J~~P~~IC will be transferred to the Corporate Headquarters.

7.2 EMERGENCY SUPPLIES

Emergency supplies are located at onsite and offsite locations to provide a ready supply of equipment and material necessary to meet the short-term needs for performing emergency functions. The emergency supplies include portable communication equipment, protective equipment, monitoring equipment, and applicable procedures. Additional, and/or replacement equipment and materials are available at the Station, or can be readily obtained from offsite sources to support longer term emergency measures or the recovery effort. Appendix D provides a typical inventory by general category.

In addition, BVPS maintains an inventory of contamination control material at The Heritage Valley Beaver Hospital for minimizing the spread of contamination while handling contaminated injured personnel.

The emergency kits are inspected and inventoried at least quarterly and after each use.

7.3 COUNTY AND STATE EMERGENCY CENTERS

7.3.1 County Emergency Centers

The 10-mile emergency planning zone for the Beaver Valley Power Station includes areas and populations in Beaver County, PA; Columbiana County, OH; and Hancock County, WVA. Each of these county jurisdictions has Emergency Operations Centers, which meet or exceed the minimum Federal criteria for sufficient space, communications, warning systems, and self-sufficiency in supplies and accommodations. All three counties maintain employees to coordinate emergency planning and execution, and have made provision for 24-hour per day communications coverage.

Location of the county Emergency Operations Centers are:

- Beaver County Emergency Operations Center
  Beaver County Emergency Management Agency
  Beaver County Emergency Services Center
  351 14th Street
  Ambridge, Pennsylvania

- Columbiana County Emergency Operations Center
  Columbiana County Emergency Management Agency
  215 South Market Street
  Lisbon, Ohio

- Hancock County Emergency Operations Center
  Hancock County Office of Emergency Management C47
  82 Emergency Drive
  New Cumberland, West Virginia

7.3.2 State Emergency Operations Center

The 10-mile Emergency Planning Zone (EPZ) for the Beaver Valley Power Station includes areas and populations in Pennsylvania, Ohio, and West Virginia. All of the states maintain full-time employees to coordinate emergency planning and execution, and have made provision for 24-hour per day communications coverage.

The Pennsylvania Emergency Operations Center is located at the PEMA headquarters in Harrisburg, PA. This center is equipped with a reliable communications system, which ties all area and county emergency operations centers with PEMA headquarters. During an emergency, the State will assemble at the State Emergency Operations Center to manage and support the emergency response activities.

The Ohio Emergency Operations Center is located at the Ohio Emergency Management Agency headquarters in Worthington, Ohio (near Columbus). This center is equipped with extensive communications capability, which ties all area and county emergency operations centers with the OEMA headquarters. During an emergency, representatives from designated State agencies will assemble at the State Emergency Operations Center to manage and support the emergency response activities.

The West Virginia Emergency Operations Center is located at the West Virginia National Guard Headquarters in Charleston, West Virginia. An integral Emergency Communications center provides communication support for the emergency response effort. Communications and warning links connect all area and county emergency operations centers with the State EOC. During an emergency, the State EOC is staffed by personnel from each of the major State departments and agencies.

7.4 ASSESSMENT FACILITIES

The primary emergency assessment facility is the site Control Room. Supplementary and complimentary assessment functions are performed in the TSC. This section discusses the assessment facilities provided for both initial and continuing assessment of emergency conditions.

7.4.1 Radiological Monitors

Radiological monitoring equipment has been provided at the Beaver Valley Power Station for the detection and assessment of emergency conditions. Radiological monitors include the process, effluent, and area radiation monitors included in the Radiation Monitoring System; portable radiation, contamination, and airborne activity sampling and measuring equipment; radiological laboratory equipment; radiological environmental monitors; and accident monitors. These monitors are summarized below. More detailed information is found in the BVPS Final Safety Analysis Report (FSAR), the BVPS Health Physics Manual, the BVPS Operating Manual, and Appendix D to this Plan.

.1 Radiation Monitoring System/Digital Radiation Monitoring System - This onsite system, consisting of effluent monitors, continuous air monitors, area radiation monitors, and process monitors, contributes to personnel protection, equipment monitoring and accident assessment by measuring and recording radiation levels and concentrations of radioactive material at strategically selected locations throughout the station.

Each potential radioactivity release path has been provided with appropriate radiation monitors. These monitors, which provide for radioactivity detection and measurement during normal operations, are tabulated in Appendix D.

.2 Portable Instrumentation

Portable radiological sampling and measuring equipment is provided as part of the Beaver Valley Power Station Radiation Controls Program, as established in the BVPS Health Physics Manual. Appropriate gamma survey instruments, contamination monitoring equipment, and air sampling equipment are reserved in emergency kits for emergency use. With few exceptions, this equipment is battery operated. The reserved equipment is supplemented by the instruments provided for routine use. Appendix D tabulates, by type, the instruments available. The selection of instruments and sampling media, and the methodology established in Emergency Implementing Procedures, provides for a minimum field detection capability of at least 1 E-7 uCi/cc of Iodine-131 in the presence of radioactive noble gases.

.3 Radiological Laboratory Equipment

Appropriate radiological counting equipment is provided in support of routine operations. This equipment is available for use during emergencies. Equipment includes, beta counter, liquid scintillation counters, and gamma spectrometers.

Laboratory support from outside the Site can be requested through the Brookhaven D.O.E. Bettis Atomic Power Labs, located approximately one hour away by car is the nearest D.O.E. facility.[C1] A laboratory is included in the Emergency Response Facility.

Laboratory support for environmental sample analyses are available from the environmental contractor. [C31]

.4 Environmental Monitors

The primary functions of the environmental radiological monitoring program are to establish the pre-operational background levels, detect any gradual build-up of long-lived radionuclides and verify that operation of the plant has no detrimental effect on the health and safety of the public or the environment. Field thermoluminescent dosimeters (TLDs) and sampling media from environmental monitoring locations may, however, be utilized to obtain valuable assessment data in the event of an accident involving the release of a significant amount of radioactive material.

.5 Accident Monitors

Several radiological monitors have been provided for assessment of radiological conditions or radiological release rates in the wake of a significant accident. These monitors generally supplement the monitors in the Radiation Monitoring System by extending the range of radiation measurements. Such monitors are provided for each of the major radioactivity release paths to the atmosphere and in the Containment Building. The range of the effluent monitors is about 1 E-7 to 1 E5 uCi/cc (Xe-133), and the range of the Containment area radiation monitor is about 1 R/hour to 1 E7 R/hour.

7.4.2 Fire Detection Systems

Fire protection at the Beaver Valley Power Station is provided by a complete network of fire suppression and extinguishing systems. These systems include a central alarm system (with an annunciator panel located in the Control Rooms) which is activated by a variety of fire and smoke detection devices which are located throughout the plant. Although the suppression and extinguishing systems for BV-2 are similar to BV-1 they are not identical. These fire detection systems are identified in the BVPS Fire Protection Plans.

7.4.3 Geophysical Phenomena Monitors

Monitors are provided for detecting and recording geophysical phenomena parameters related to meteorology and seismic events.

.1 Meteorology

The Beaver Valley Power Station maintains an onsite Meteorological Measurements Program. This program is comprised of equipment and procedures which provide for indication and recording of meteorological measurements necessary to perform dose projections based on atmospheric dispersion of a radioactivity release from the station. Meteorological sensors are provided on a meteorology tower located near the site to measure and record the following parameters:

- Wind direction at three altitudes
- Wind speed at three altitudes
- Vertical temperature difference
- Ambient temperature
- Precipitation

There are two (2) redundant trains of sensors located on this tower. The output from the two sets of sensors is processed and recorded by instrumentation in a shelter located near the tower. Two redundant communication links transmit the processed data to the Site meteorological monitoring system. The Site meteorological monitoring system information is located in the Emergency Response Facility and is accessible at the Emergency Operations Facility. The Site meteorological monitoring system samples the parameters every five (5) seconds and calculates and records an average value every fifteen (15) minutes and once every hour. This information is also available on the PI system at the EOF. A minimum of one (1) month of historical hourly data and two (2) weeks of historical quarter hour data is available online at any time. This data is available on request at any Site meteorological monitoring system computer. Meteorological data is available to the States via electronic data transfer methods (example: Edata, internet-based, etc).[C49]

The instrumentation in the meteorological shelter and the tower sensors have an automatic backup power supply. The Site meteorological monitoring system is powered by the Emergency Response Facility uninterruptible power supply (UPS). Backup meteorological information is available through the National Weather Service.

.2 Seismic Equipment

Appropriate seismic instrumentation is provided at the Station to monitor and record the motion and peak shock imparted to critical elements of the Station (structures and components) due to an earthquake. Alarms are provided for peak accelerations and mechanical/electrical devices record the extent of the acceleration for subsequent evaluation to determine if maximum allowable accelerations have been exceeded and if any plant corrective actions are necessary.

The seismic instrumentation is categorized into two separate subsystems: C70

- Seismic Monitoring System C70

  This system is continuously monitoring in standby. It consists of a Central Controller, Recorder panels connected to triaxial accelerometer sensors, Alarm Panel, and Uninterruptible Power Supply (UPS). The Central Controller provides recording and sounds an annunciator in the Control Room at an acceleration of 0.01g. In the event of system activation, the Central Controller will provide a common trigger for all connected accelerometers to ensure an event is properly recorded by all associated field sensors within the same time frame. For Unit 1: Three independent triaxial sensors are provided--two in the containment, and one in the Auxiliary Building. Four passive triaxial recorders are provided in the Control Room. For Unit 2, sensors are provided in containment and also in the Switchyard. The operator will obtain and assess the results from the recorder using the BVPS Operating Manual.

- Peak Recording Accelerometers C70

  The Central Controller will provide the recording and analysis function for recording triaxial accelerometers. This is accomplished via post seismic event data processing with the Central Controller based on information recorded by the Triaxial Force Balance Accelerometers located in the Control Room, Auxiliary Building, and Containment. For Unit 1: Four peak recording triaxial accelerometers are provided--three in the containment and one in the Auxiliary Building. For Unit 2, sensors are also provided in containment and the Auxiliary Bldg. The

containment Triaxial Force-Balance Accelerometer will activate annunciators located in the Control Room via the Central Controller at accelerations equivalent to 70% of the Operational Basis Earthquake (OBE) and 100% OBE.

.3 Hydrologic Data

Data on the river flow in the Ohio River is available from two sources. The Lockmaster at the Montgomery Dam, located upriver in Industry, PA., is the primary source. The US Army Corps of Engineers provide 24-hour coverage at this location. The National Weather Service, River Forecasting Section, Pittsburgh is a source of river flow data during normal work hours, and during emergency periods of high river levels.

7.4.4 Process Monitoring Equipment

Process monitoring instrumentation is provided in the Station Control Rooms to provide the operator with necessary data on plant status to operate the plant under normal and emergency situations. This instrumentation generally includes instruments that:

- Provide information required to take pre-planned manual actions.
- Provide information to monitor the process of accomplishing critical safety functions.
- Indicate the potential for damage, or actual damage, to fission product barriers.
- Indicate the effectiveness of individual safety systems.
- Provide information for use in determining the magnitude of the release of radioactive materials, as described in Section 7.4.1.

In addition to the instrumentation described above, additional process parameter instrumentation systems are installed. These systems are the Safety Parameter Display System (SPDS) Computer, and the Inplant Process Computer (IPC) and Plant Safety Monitoring System (PSMS).

.1 Safety Parameter Display System

The Safety Parameter Display Systems (SPDS) provide displays of essential plant parameters from which the safety status of operations may be assessed. The primary function of the SPDS is to help Control Room personnel make quick assessments of plant safety. Displays for this system are provided in the BVPS Control Rooms and the Technical Support Center (TSC). The plant data display in the EOF provides plant data through a link with the plant computers.

.2 Inplant Process Computer and Bypassed & Inoperable Status Indication System

The Inplant Process Computer (IPC) is designed to obtain data from the reactor control, reactor protection, the environmental monitor racks, and other transducers in the plant and provide access to these indications in the Technical Support Center (TSC), the Emergency Operations Facility (EOF) and in the Control Room. The Bypassed & Inoperable Status Indication (BISI) System provides an indication in the Control Room of bypassed or inoperable equipment in the facility to assist the operators in operating the plant.

.3 The Plant Safety Monitoring System (PSMS) is located in Unit 2 Control Room. The PSMS will monitor plant conditions such as incore thermocouples, rod positions, Reactor vessel water level, etc.

~~7.4.5 Post Accident Sampling~~[C20]

~~Beaver Valley Power Station has Contingency Plans for obtaining and analyzing highly radioactive samples of reactor coolant, containment sump, and containment atmosphere in the event of a radiological accident. These Contingency Plans are maintained in the BVPS Chemistry Manual.~~

7.4.5~~6~~ Emergency Response Data System (ERDS)

The BVPS Emergency Response Data System (ERDS) collects and transmits data as specified by the Nuclear Regulatory Commission (NRC). The system is tested for both Units 1 and 2 on a schedule specified by the NRC.

7.5 PROTECTIVE FACILITIES

Facilities and designated assembly locations are provided which ensure adequate radiological protection for personnel assigned to emergency duties in the plant, and for the accommodation of other personnel evacuated from areas that may be affected by radiation and/or airborne radioactivity.

7.5.1 Station Control Rooms

In addition to serving as the first-line control for emergency situations, the station Control Rooms have the following features which provide protection for personnel who may have emergency or operational duties throughout the course of any emergency:

- Adequate shielding by concrete walls to permit continuous occupancy under severe accident conditions
- An independent emergency air supply system, equipped with absolute and activated charcoal filters
- Continuous monitoring of radiation levels in the Control Room and throughout the plant by the RMS/DRMS system, with readout in the Control Room
- Emergency lighting and power, supplied by a 125 V DC system
- Basic protection equipment for emergency teams (Appendix D), and listings of emergency supplies/equipment, and their locations within the station
- Communications systems, as described in Section 7.6

7.5.2 Site Assembly Areas

Specific locations are designated for assembly of personnel at the site in the event of a Site Assembly or a Site Accountability. These areas provide space to accommodate all personnel who may be at the station. They are located on the basis of logical access routes and physical separation from likely areas of radiation and/or airborne radioactivity. The locations and the individuals assigned are:

.1 Primary Assembly Area (Unit 1 Service Building-Locker Room Area, South Office Shops Building - Locker Room Area and Nuclear Construction Office and Shops)

Personnel without emergency assignments within the BVPS protected areas will report to these areas. This includes BVPS employees, visitors, and contractor groups not covered by a specific evacuation plan. The responsibility to ensure that a visitor reports to the proper area is that of the individual accompanying the visitor at the time evacuation occurs.

.2 Unit 1/Unit 2 Contractor Personnel

Construction and contractor personnel are covered by the BVPS procedures, which provides instructions for assembly, accountability and evacuation. Personnel are instructed on these areas upon arrival at the BVPS site.

.3 Personnel Access Facility

Members of the Security Section assemble in accordance with the Beaver Valley Power Station Security Procedures.

.4 Training Building and other out-buildings designated in the Implementing Procedures. [C19, C25]

These buildings are located outside of the protected area. Personnel and visitors outside of the Unit 1-2 protected areas, will assemble in these buildings and await further instructions.

7.5.3 Remote Assembly Areas

These areas are designated for assembly of personnel from within the site in the event of a Site Evacuation. The locations are the Beaver County Community College Golden Dome and the Hookstown Grange. The Beaver County Community College Golden Dome is located approximately 9.8 miles from the site in the SE sector. The Hookstown Grange is located approximately 3.5 miles from the site in the SW sector. There are telephone links between each of these locations and the Control Room/TSC/EOF. C48

The BVPS Emergency Coordinator~~Director~~ will direct personnel to the appropriate area based on the direction of plume travel. If, based on radiological measurements at the Remote Assembly Areas and/or data from the Control Room, neither of these locations is deemed by the BVPS Emergency Coordinator~~Director~~ to be appropriate, the BVPS Emergency Coordinator~~Director~~ in cooperation with management and State and county agencies will direct personnel to another location.

Since accountability and radiological monitoring would be performed prior to exiting the site, no provisions are made for inclement weather. If weather conditions make use of the facilities impracticable, evacuated personnel will be sent home (or to their assigned Mass Care Center, identified in the county emergency plans). In cases of extreme weather conditions, non-essential Site personnel would be sent home prior to roads becoming impassable, and thus would not be onsite when the emergency was declared.

7.6 COMMUNICATIONS SYSTEMS

Communications are essential for effective activation and implementation of the Emergency Preparedness Plan. Beaver Valley Power Station has five independent systems for outside communication to Federal, state, county authorities, to corporate management, and to offsite support groups. These systems are the Commercial telephone system, the PAX system, the dedicated "hot lines", the Beaver Valley Emergency Response System and the Industrial Radio System. Onsite, the plant alarm system and the Station paging system provides communication/notification for Site personnel. Radio contact with the State agencies is via relay through their respective County[C2].

These multiple systems and redundancies ensure the performance of vital functions in transmitting and receiving information throughout the course of the emergency. Systems available at the various emergency facility locations are:

7.6.1 Commercial Telephone System

The Beaver Valley Power Station site is provided with telephone service by Verizon. All lines entering the site are direct connections with the telephone exchange (724-643/682) in Midland, (724-775) Rochester or (330-315) in Akron, Ohio. There are numerous direct lines, all of which can be used simultaneously. Power supply redundancy is provided for by emergency power supplies.

Emergency facilities served by direct lines:

- Control Rooms
- Technical Support Center (TSC)
- Emergency Operations Facility (EOF)
- BVPS Unit 1/2

The Commercial systems are routinely used by station personnel performing routine station activities, thus, periodic testing is not necessary.

7.6.2 PAX System

The PAX System includes automatic switchboards in the SOSB and the ERF. These switchboards are connected to each other and connected via T1 carrier and fiber optic trunks to a digital switchboard at Akron, Ohio which in turn is connected to the public telephone network as well as to other switchboards. The ERF and SOSB switchboards also has direct trunks to the public telephone network.

The PAX System has Direct Inward Dial capability for all telephone lines connected to any of the Company switchboards (724-682-xxxx). These telephone lines also have the capability of calling any other telephone line on the PAX System as well as Direct Dial calling anywhere on the public telephone network.

The PAX systems are routinely used by shift operations personnel performing routine station activities, thus periodic testing is not necessary.

7.6.3 Remote Shelve Connection

The Remote Shelve connection provides a similar communication link to the PAX from the EOF to the public telephone network.

7.6.4 DEP/BRP and NRC Communications

The DEP/BRP auto-dialer phone located in the ~~EA & DP~~Dose Assessment area of the EOF is used to provide radiological data. The DEP/BRP auto-dialer phone located in the Control Room and is used to provide technical data. The DEP/BRP does not have 24-hour per day coverage on this phone, but will activate the DEP/BRP staff upon notification from PEMA that an event has occurred. This phone is tested monthly.

The ENS (Emergency Notification System) is used to make the initial notification of an emergency declaration as well as providing ongoing information on plant status, systems and parameters to the NRC. The **E**mergency **T**elephone **S**ystem (ETS) is a designated set of phones on the commercial phone system that **DOES NOT** go through either of the Beaver Valley Phone Switches but goes directly to Akron, Ohio for switching. This is to meet the requirements for dissimilar vulnerability to assure contact with the NRC during a declared emergency at Beaver Valley Power Station should the local phone switches become overloaded. The ETS operates in the same manner as the commercial phone systems when placing a long distance call. Simply lift the receiver, wait for a dial tone and dial "9" then "1" before dialing the ten digit phone number. ENS phones are located in the following locations:

- Control Room – Communications Console in the Administrative Assistant Area C31
- Control Room – Unit 1 Communications Console C31
- Technical Support Center
- Emergency Operations Facility
- NRC EOC

The HPN (Health Physics Network) phone, utilized to communicate radiological and meteorological conditions to the NRC, is also accessed by the ETS. These phones are located at:

- Operations Support Center
- Emergency Operations Facility (~~EA & DP~~Dose Assessment Area)
- Technical Support Center (Rad Protection~~Con~~ Coord.)
- NRC EOC

Other phones associated with the ETS and dedicated to NRC Communications are located in the ERF and EOF are described as follows:

- Reactor Safety Counterpart Link (RSCL)
- Protective Measures Counterpart Link (PMCL)
- Emergency Response Data System (ERDS) Channels (2) (Data transmission only)
- Management Counterpart Link (MCL)
- Local Area Network (LAN) Access

The Control Room ENS phone is tested daily, while the others are tested monthly.

7.6.5 Beaver Valley Power Station Industrial Radio

BVPS operates a radio communications network on two frequency bands. [C36] This service is used by BVPS, the DLC Power Stations Department, and other corporate groups. Tone-operated squelch prevents standby emergency stations from receiving routine operational transmissions.

There are six fixed base station transceivers associated with Beaver Valley Power Station (there are others serving other divisions within DLC). [C36] These are located at:

- Columbiana County Communications Center (CCEMA)

There are operating consoles for this base station located at the Sheriff's Dispatcher, the Ohio Highway Patrol, and at CCEMA.

- Hancock County Communication Center (HCOEM) [C47]
- Pennsylvania State Police
- Remote Relay Station on Shippingport hill SW from BVPS
- Beaver County Emergency Services Center
- Community College of Beaver County

The remote relay station is operated from the Control Room SM communications console via a UHF radio link or a dedicated telephone line. This station has power redundancy supplied by batteries connected to a battery charger. Remote consoles are located at:

- US area in the Control Room (BV-1) (Both frequencies)
- U1 Plant Shutdown Panel
- U2 Plant Shutdown Panel
- Control Room Office (shared BV 1-2) (Both frequencies)
- Dose Assessment~~EA and DP~~ Area (EOF) [C36]
- TSC - Radiological Controls Area [C36]

The offsite monitoring teams are provided with radios capable of communicating with the site.

The industrial radio system is operated routinely by shift operations and security personnel and the base stations are tested by substations and shops. The communications links between the Control Room, the risk counties, and the State Police are tested weekly. Portable transceivers maintained in the Control Room are used daily as part of the normal plant operations.

7.6.6 Beaver Valley Emergency Response System

The Beaver Valley Emergency Response System (BVERS) is a mass ERO notification system capable of contacting the Emergency Response Organization. The system will alert the BVPS Emergency Response Organization in the event of an emergency declaration, provide personnel with a recorded reporting message, and record response information from each responder. BVERS will be tested monthly.

7.6.7 Station Page Party Telephone System

A Station page party telephone system is used for onsite communications and notifications. There are five party lines available at each transceiver location. Power supply redundance is provided by connection into the vital AC distribution, and by backup batteries.

The page party system is the primary means for alerting and providing instructions to Station personnel.

7.6.8 Personal Electronic Devices

Personnel in the emergency organizations use Personal Electronic Devices (Cell Phones, Satellite Phones, Pagers, etc.) that are programmed in BVERS to activate when emergency notifications are required.

7.6.9 Station Emergency Alarm System

A plant emergency alarm system provides audible warning of emergency conditions to station personnel. The emergency alarms are sounded over the station page system. The system is powered from the vital AC distribution.

7.6.10 Satellite Phones

Satellite phones are provided as an alternate means of communications in the event that normal communication systems become unavailable. These phones are located in specific facilities and are clearly marked as satellite phones.

7.6.11 Gold Executive Conference Line

The Gold Executive Conference Line provides capability for a conferencing line to provide protective action recommendations to state and county EOCs and the PA DEP/BRP. Conferencing lines also provide capability for upper level management discussions.

~~7.7 ONSITE FIRST AID AND MEDICAL FACILITIES~~

~~A Medical Facility, equipped with normal industrial first aid supplies, is located in the ERF Building. The BVPS Emergency Squad provides immediate first aid for any emergency within the protected area.~~

~~Standard first aid equipment is stored at designated locations throughout the station. The first aid kits are checked periodically, in accordance with station procedures and replenished as necessary.~~

7.~~7~~8 DAMAGE CONTROL EQUIPMENT

Damage control equipment consists of normal and special purpose tools and devices used for maintenance functions throughout the station. Personnel assigned to damage control teams are cognizant of the locations of specific equipment, which may be required in an emergency. Control Room staff~~The Emergency Squad Chief and the BVPS Emergency Director~~ have access to keys for maintenance tool cribs, shops and other locations where appropriate damage control equipment may be stored.

Implementing Procedures provide guidance for emergency teams, and include locations for designated emergency equipment.

SECTION 9

RE-ENTRY AND RECOVERY

Section 9

RE-ENTRY AND RECOVERY

Table of Contents

9.0 RE-ENTRY AND RECOVERY

Actions taken during an emergency situation can be categorized into two general phases: Response and Recovery. Response actions are assessment, corrective, and protective measures taken to mitigate the consequences of the event and to place the emergency under control. Recovery actions are the longer-term actions taken to restore the Site, as nearly as possible, to its pre-emergency condition.

9.1 TRANSITION FROM RESPONSE TO TERMINATION AND/OR RECOVERY

The extent and nature of the corrective and protective actions and the extent of recovery operations will depend on the emergency conditions at hand and the status of Site areas and equipment. In many emergency situations, the condition may be resolved without significant plant damage, and thus, the Site can be restored to a normal operation mode without a definitive recovery phase and without extensive outside assistance. In the event of a more extensive damage, a long-term recovery will require the establishment of a recovery organization.

At the onset of an emergency condition, response actions to mitigate the consequences of the accident take precedence over recovery actions. The Emergency Director~~Recovery Manager~~ may initiate some limited recovery operations during the response phase. Gradually as the response effort begins to abate the emergency classifications are terminated, recovery efforts gain more importance. Criteria for terminating emergency classifications are included in site procedures.~~listed in EPP/IP 6.2 "Termination of the Emergency and Recovery".~~ Finally, a point is reached where the emergency situation has decreased to the extent that it can be considered, for all practical purposes, to be resolved. At this point, the emergency can be declared to be terminated, and a recovery organization implemented as necessary.

If following the termination, the emergency situation recurs, then the Emergency Director ~~or Emergency Recovery Manager~~ will re-activate the onsite emergency organizations, and if necessary, the offsite emergency organizations. Recovery efforts will be suspended until the Emergency Director~~Recovery Manager~~ allows them to resume.

9.2 TERMINATION CRITERIA

An emergency condition can be considered resolved, and a recovery organization established (if necessary) when the specific guidelines have been met. Some of the guidelines are:

.1 In-plant radiation levels are stable or are decreasing below acceptable levels with time.

.2 The release of radioactive material to the environment, greater than Technical Specifications, is under control or has ceased.

.3 Any fire, flooding, earthquake, or similar emergency conditions are under control or have ceased.

Termination from an emergency condition will be through joint evaluation by the organizations involved. In the case of a severe emergency involving offsite consequences, this would include the Emergency Director~~Recovery Manager~~, Emergency Coordinator~~Director~~, the three states involved, and NRC. All emergency response and support organizations shall be notified of the termination of the emergency, and/or the initiation of recovery operations, in the same manner as was used for initial notification

9.3 RE-ENTRY

During the emergency response, it may become necessary for Site personnel to re-enter previously evacuated areas. In many cases the radiological conditions in these areas will be unknown. There may also be other unknown conditions in these areas which could place re-entry personnel at additional risk. The control of re-entry to these areas will depend on the nature of the initiating events, the extent of the affected area, and the radiological conditions and other hazards present. Emergency Implementing Procedures have been developed and implemented to provide guidance for re-entry activities. The Re-entry Emergency Implementing Procedure is divided into (a) re-entry team personnel and (b) necessary plant personnel. Re-entry of plant personnel will depend on information obtained by re-entry teams and present and future plant conditions. Significant provisions relative to re-entry to affected areas include:

.1 Re-entry will be by two-men (or more) teams. These personnel are directed to remain in voice or visual contact with each other while in the affected area. At least one individual in the team will be a Radcon Technician, or another individual appropriately qualified in radiation control procedures.

.2 With the exception of re-entries made for the purpose of saving human life, or performing necessary corrective actions, the exposure of re-entry personnel shall be limited to the occupational standards for radiation exposure established in 10 CFR 20.

9.4 RECOVERY

The Beaver Valley Power Station emergency organization shall continue to provide appropriate emergency response functions until such time as the emergency is terminated and/or a recovery organization is established. The Senior Vice President with the concurrence from the Company Nuclear Review Board and with the advice of the BVPS Emergency Director~~Recovery Manager~~ may establish a recovery organization when the criteria of Section 9.2 have been met.

Although planning for recovery will vary according to the nature of the specific emergency situation, it is not expected that any recovery organization which may be necessary would differ significantly from the structure and staffing of the Nuclear Power Division described in Section 5 of this Plan and illustrated in Figure 5.1. The Nuclear Power Division is structured into functional areas and staffed by personnel competent in the various disciplines necessary for safe operation of the BVPS facilities under normal and emergency conditions. Since the Nuclear Power Division maintains office facilities either onsite or near the site, it is not necessary to identify working space for the recovery organization.

Upon activation of the recovery organization, the Emergency Director~~Senior Vice President~~, or alternate, will assume the role of Recovery Manager. In this capacity, the Recovery Manager will have the responsibility for directing and coordinating recovery operations. He will draw upon any necessary resources to support the recovery effort.

9.5 RECOVERY OPERATIONS

During recovery operations, the radiation exposure limits of 10 CFR 20 shall apply. Compliance with those limits shall be the responsibility of the Recovery Manager via the Health Physics organization.

At the time of declaring that an emergency has entered the recovery phase, the Recovery Manager shall be responsible for providing notification to all applicable offsite agencies (e.g. Federal, State, and county agencies, etc.) that the emergency has shifted to a recovery phase.

Recovery actions that plan for or may result in radioactive release will be evaluated by the Recovery Manager and his staff as far in advance of the event as possible. Such events and data pertaining to the release will be reported to the appropriate off-site emergency response organizations and agencies.

9.6 POST-ACCIDENT EVALUATION

Following the termination of the response phase of the accident and the commencement of recovery operations, appropriate evaluations to assess Site conditions will be performed. The outcome of these evaluations will form the basis of recovery planning and licensee event reports to the USNRC. The scope of these evaluations will be consistent with the emergency classification, the nature of the initiating events, and the preliminary assessment of Site equipment status.

An integral part of these evaluations will be the periodic estimation of the total population exposure resulting from radioactivity releases during the emergency. Analysis will be performed to estimate population exposure from all applicable exposure pathways identified in Regulatory Guide 1.109 and the analysis will utilize monitoring and sampling data obtained during the incident and actual meteorology. The methodology for performing these analysis is provided in the environmental monitoring program described in the Offsite Dose Calculation Manual as it relates to compliance with 10 CFR 50 Appendix I requirements. Emergency Implementing Procedures provide guidance and methods for performing these analysis.

Attachment 2
BVPS EPP
Affected Pages (Clean Copy)
(181 pages follow)

SECTION 1 C61

DEFINITIONS

Section 1

DEFINITIONS

Table of Contents

1. DEFINITIONS

The terms defined in this section are those which are used in special context in this document and/or are unique to the Beaver Valley Power Station (BVPS).

1.1. **ACCOUNTABILITY** -- Process to ascertain the whereabouts of all personnel within the plant PROTECTED AREA fence. Process is completed through the use of a computerized access security system.

1.2. **AFFECTING SAFE SHUTDOWN** -- Event in progress has adversely affected functions that are necessary to bring the plant to and maintain it in the applicable Hot or Cold Shutdown condition. Plant condition applicability is determined by Technical Specification LCOs in effect.

Example 1: Event causes damage that results in entry into an LCO that requires the plant to be placed in Hot Shutdown. Hot Shutdown is achievable, but Cold Shutdown is not. This event is not "AFFECTING SAFE SHUTDOWN."

Example 2: Event causes damage that results in entry into an LCO that requires the plant to be placed in Cold Shutdown. Hot Shutdown is achievable, but Cold Shutdown is not. This event is "AFFECTING SAFE SHUTDOWN."

1.3. **ALERT** -- See definition for EMERGENCY CLASSIFICATION LEVEL.

1.4. **ASSESSMENT ACTIONS** -- Those actions taken during or after an accident to obtain and process information that is necessary to make decisions to implement specific emergency measures.

1.5. **ASSESSMENT FACILITY** -- A facility for evaluation of information, including instrument data, to assess the severity and scope of an emergency condition.

1.6. **BEAVER VALLEY EMERGENCY RESPONSE SYSTEM** -- The BEAVER VALLEY EMERGENCY RESPONSE SYSTEM (BVERS) is a computer aided Voice Mail System to be utilized for ERO activation.

1.7. **BEAVER VALLEY SITE** -- The entire OWNER CONTROLLED AREA. Includes the BVPS Unit 1, BVPS Unit 2 and the EMERGENCY RESPONSE FACILITY.

1.8. **COMPENSATORY INDICATIONS** -- Computer points, In-Plant Computer - IPC (U1), Inadequate Core Cooling Monitor - ICCM (U1) , Sequence of Events Recorder - SER (U1), Plant Computer System - PCS (U2), Plant Safety Monitoring System - PSMS (U2) and PI Data (ProcessBook®).

1.9. **CONFINEMENT BOUNDARY** – The barrier(s) between spent fuel and the environment once the spent fuel is processed for dry storage. For BVPS the CONFINEMENT BOUNDARY is the Dry Shielded Canister (DSC).

1.10. **CONTAINMENT CLOSURE** -- The procedurally defined conditions or actions taken to secure containment and its associated structures, systems, and components as a functional barrier to fission product release under shutdown conditions.

1.11. **CONTROL ROOM** -- Area from which plant systems are operated and monitored.

1.12. **CORRECTIVE ACTIONS** -- Those emergency measures taken to terminate an emergency situation at or near the source of the problem.

1.13. **DOSE PROJECTION** -- A calculated estimate of the potential dose to individuals at a given location, normally OFFSITE; as determined from the quantity of radioactive material released and the appropriate meteorological transport and diffusion parameters.

1.14. **DRILL** -- A pre-planned training activity in which the participants are "walked" or "talked" through one or more procedures, or aspects of the Emergency Preparedness Plan.

1.15. **EMERGENCY ACTIONS** -- A collective term encompassing the Assessment, Corrective, and PROTECTIVE ACTIONS taken during the course of an emergency.

1.16. **EMERGENCY ACTION LEVEL (EAL) --** A pre-determined, site specific, observable threshold for a plant Initiating Condition that, when met or exceeded, places the plant in a given EMERGENCY CLASSIFICATION LEVEL.

1.17. **EMERGENCY CLASSIFICATION LEVEL (ECL)** -- One of a set of names or titles established by the NRC for grouping off-normal events or conditions according to (1) potential or actual effects or consequences, and (2) resulting ONSITE and OFFSITE response actions. The EMERGENCY CLASSIFICATION LEVELS, in ascending order of severity, are:

- **UNUSUAL EVENT** -- Events are in progress or have occurred which indicate a potential degradation of the level of safety of the plant or indicate a security threat to facility protection has been initiated. No releases of radioactive material requiring OFFSITE response or monitoring are expected unless further degradation of SAFETY SYSTEMS occurs. [C46]

- **ALERT** -- Events are in progress or have occurred which involve an actual or potential substantial degradation of the level of safety of the plant or a security event that involves probable life threatening risk to site personnel or damage to site equipment because of HOSTILE ACTION. Any releases are expected to be limited to small fractions of the EPA Protective Action Guide exposure levels. [C46]

- **SITE AREA EMERGENCY** -- Events are in progress or have occurred which involve actual or likely major failures of plant functions needed for protection of the public or HOSTILE ACTION that results in intentional damage or malicious acts; 1) toward site personnel or equipment that could lead to the likely failure of or; 2) that prevent effective access to, equipment needed for the protection of the public. Any releases are not expected to result in exposure levels which exceed EPA Protective Action Guide exposure levels beyond the site boundary. [C46]

- **GENERAL EMERGENCY** -- Events are in progress or have occurred which involve actual or IMMINENT substantial core degradation or melting with potential for loss of containment integrity or HOSTILE ACTION that results in an actual loss of physical control of the facility. Releases can be reasonably expected to exceed EPA Protective Action Guide exposure levels OFFSITE for more than the immediate site area. [C46]

1.18. **EMERGENCY COORDINATOR** -- The BVPS individual responsible for direction of ONSITE activities during any emergency at BVPS. The EMERGENCY COORDINATOR is authorized to declare an emergency condition, authorize emergency personnel radiation exposures greater than 10 CFR 20; and/or direct the issuance of KI.

1.19. **EMERGENCY FACILITY** – Facilities, as described in Section 7, that provide for assessment and communications capability in response to an emergency event. They include the Technical Support Center (TSC), Operations Support Center (OSC), Emergency Operations Facility (EOF) and Joint Information Center (JIC).

1.20. **EMERGENCY IMPLEMENTING PROCEDURES** -- The detailed procedures which carry out the guidance of this Plan.

1.21. **EMERGENCY OPERATING PROCEDURES (EOP)** -- Those procedures utilized by the station operations staff in responding to CONTROL ROOM instrumentation alarms or indications (i.e., assessment and CORRECTIVE ACTIONS).

1.22. **EMERGENCY OPERATIONS CENTER (EOC)** -- Designated Federal, State, and County (i.e., Emergency or disaster services/management agencies) headquarters/facilities, especially designed and equipped for the purpose of exercising effective coordination and control for disaster operations carried out within their jurisdiction.

1.23. **EMERGENCY OPERATIONS FACILITY (EOF)** -- The facility designated for providing overall coordination of the utility's emergency response and coordination with offsite response agencies of the various jurisdictions for the protection of the general public. Space is provided for Federal, State, and local liaison officials. C61

1.24. **EMERGENCY PLANNING ZONE** -- There are two EMERGENCY PLANNING ZONES (EPZ). The first is an area approximately 10 miles in radius around BVPS, for which emergency planning consideration of the plume exposure pathway has been given in order to ensure that prompt and effective actions can and will be taken to protect the public in the event of an accident. The second is an area approximately 50 miles in radius around BVPS for which emergency planning consideration of the ingestion pathway has been given.

1.25. **EMERGENCY DIRECTOR** -- Upon classification of an ALERT or higher, the EMERGENCY DIRECTOR assumes responsibility and authority for overall direction and coordination of the BVPS emergency response, with primary responsibility for coordination of OFFSITE activities (monitoring, logistics, interagency liaison). The EMERGENCY DIRECTOR is authorized to make recommendations of OFFSITE PROTECTIVE ACTIONS to OFFSITE response agencies.

1.26. **EMERGENCY RESPONSE FACILITY (ERF)** -- The near-site facility provided by BVPS. Incorporates the TECHNICAL SUPPORT CENTER, the Dosimetry Area, Counting Room and other facilities. C68

1.27. **EXERCISE** -- A realistic, pre-planned simulation of an accident, designed and coordinated in such a manner that the response of the emergency organization and other station personnel closely approximates the response to an actual incident. An EXERCISE may involve participation of OFFSITE organizations.

1.28. **EXPLOSION** -- A rapid, violent, and catastrophic failure of a piece of equipment due to combustion, chemical reaction or overpressurization. A release of steam (from high energy lines or components) or an electrical component failure (caused by short circuits, grounding, arcing, etc.) should not automatically be considered an explosion. Such events may require a post-event inspection to determine if the attributes of an explosion are present.

1.29. **EXTORTION** -- An attempt to cause an action at the station by threat of force.

1.30. **FACILITY ACTIVATION** – An Emergency Facility is activated when the minimum staff per Figure 5.3, 5.4, or 5.5 is available and the facility is ready to assume its assigned Emergency Plan functions.

1.31. **FAULTED** -- The term applied to a steam generator that has a steam leak on the secondary side of sufficient size to cause an uncontrolled drop in steam generator pressure or the steam generator being completely depressurized.

1.32. **FIRE** -- Combustion characterized by heat and light. Sources of smoke such as slipping drive belts or overheated electrical equipment do not constitute FIRES. Observation of flame is preferred but is NOT required if large quantities of smoke and heat are observed.

1.33. **FISSION PRODUCT BARRIER THRESHOLD** -- A pre-determined, site-specific, observable threshold indicating the loss or potential loss of a fission product barrier.

1.34. **GENERAL EMERGENCY** -- See definition for EMERGENCY CLASSIFICATION LEVEL.

1.35. **GROUND RELEASE** -- Release of radioactive effluents from the facility via the Reactor Building and supplementary leak collection system vent (located on top of the Reactor Building), the ventilation vent (located on top of the Auxiliary Building), the PROCESS VENT (located on the Cooling Tower), or any other release pathway.

1.36. **HOSTAGE** -- A person(s) held as leverage against the station to ensure that demands will be met by the station.

1.37. **HOSTILE ACTION** -- An act toward a nuclear power plant or its personnel that includes the use of violent force to destroy equipment, take HOSTAGES, and/or intimidate the licensee to achieve an end. This includes attack by air, land, or water using guns, explosives, PROJECTILES, vehicles, or other devices used to deliver destructive force. Other acts that satisfy the overall intent may be included. HOSTILE ACTION should not be construed to include acts of civil disobedience or felonious acts that are not part of a concerted attack on the nuclear power plant. Non-terrorism-based EALs should be used to address such activities (i.e., violent acts between individuals in the OWNER CONTROLLED AREA).

1.38. **HOSTILE FORCE** – One or more individuals, who are engaged in a determined assault, overtly or by stealth and deception, equipped with suitable weapons capable of killing, maiming, or causing destruction. [C46]

1.39. **IMMINENT** -- The trajectory of events or conditions is such that an EAL will be met within a relatively short period of time regardless of mitigation or corrective actions.

1.40. **INDEPENDENT SPENT FUEL STORAGE INSTALLATION (ISFSI)** -- A complex that is designed and constructed for the interim storage of spent nuclear fuel and other radioactive materials associated with spent fuel storage.

1.41. **INTIATING CONDITION (IC)** – An event or condition that aligns with the definition of one of the four emergency classification levels by virtue of the potential or actual effects of consequences.

1.42. **JOINT INFORMATION CENTER (JIC)** -- The designated location from which news releases, press conferences, and other media interfacing can be provided.

1.43. **LARGE AIRCRAFT**– Any size or type of aircraft with the potential for causing significant damage to the plant (refer to the Security Plan for a more detailed definition).

1.44. **LOCAL AREA EVACUATION** -- Evacuation of personnel from localized affected areas within the station.

1.45. **NON-ESSENTIAL PERSONNEL** – Those personnel not determined to be ESSENTIAL PERSONNEL.

1.46. **NORMAL PLANT OPERATIONS** -- Activities at the plant site associated with routine testing, maintenance, or equipment operations, in accordance with normal operating or administrative procedures. Entry into abnormal or EMERGENCY OPERATING PROCEDURES, or deviation from normal security or radiological controls posture, is a departure from NORMAL PLANT OPERATIONS.

1.47. **OFFSITE** -- Any area outside of the BVPS property boundary surrounding the BEAVER VALLEY SITE.

1.48. **ONSITE** -- See Definition for BEAVER VALLEY SITE.

1.49. **OPERATIONS SUPPORT CENTER (OSC)** -- The designated location for assembly of on-duty and relief operations, health physics and maintenance support personnel.[C15]

1.50. **OWNER CONTROLLED AREA** – The property associated with the station and owned by the company. Access is normally limited to persons entering for official business.

1.51. **PRIMARY ASSEMBLY AREA** -- An area designated for the assembly of specific groups of individuals for ACCOUNTABILITY and/or in preparation for a plant evacuation within the PROTECTED AREA fence.

1.52. **PROCESS VENT** -- The effluent release path by which gaseous radioactive wastes are released following processing. The release point is located at the top of the cooling tower. In DOSE PROJECTION and accident analyses, this release pathway is considered a GROUND RELEASE.

1.53. **PROJECTILE** -- An object directed toward a NPP that could cause concern for its continued operability, reliability, or personnel safety.

1.54. **PROTECTED AREA** – Means an area encompassed by physical security barriers that is monitored by an intrusion detection system to which access is controlled. Access to the PROTECTED AREA requires proper security clearance and is controlled at the Site Security Alarm Stations.

1.55. **PROTECTIVE ACTIONS** -- Those emergency measures taken after an uncontrolled release of radioactive material, for the purpose of preventing or minimizing radiological exposures.

1.56. **PROTECTIVE ACTION GUIDES (PAG)** -- Projected radiological dose rate or dose commitment values to individuals in the general population that warrant protective action following a release of radioactive material.

1.57. **RADIOLOGICAL EMERGENCY RESPONSE PLAN (RERP)** -- Detailed incident response plans developed by the State of Pennsylvania and its agencies and County and Municipal Emergency Management agencies in coordination with the Pennsylvania Emergency Management Agency (PEMA) and the fixed nuclear facility.

1.58. **RECOVERY ACTIONS** -- Those actions taken after the emergency to restore the station as nearly as possible to its pre-emergency conditions.

1.59. **REFUELING PATHWAY** – The reactor refueling cavity, spent fuel pool and fuel transfer canal comprise the refueling pathway.

1.60. **REMOTE ASSEMBLY AREA** -- A designated area (or areas), outside the site, for the assembly of evacuated plant personnel during a SITE EVACUATION.

1.61. **RUPTURE(D)** -- The condition of a steam generator in which primary-to-secondary leakage is of sufficient magnitude to require a safety injection.

1.62. **SABOTAGE** -- Deliberate damage, mis-alignment, or mis-operation of plant equipment with the intent to render the equipment inoperable. Equipment found tampered with or damaged due to malicious mischief may not meet the definition of SABOTAGE until this determination is made by security supervision.

1.63. **SAFETY SYSTEM:** A system required for safe plant operation, cooling down the plant and/or placing it in the cold shutdown condition, including the ECCS. These are typically systems classified as safety-related (as defined in 10 CFR 50.2):

Those structures, systems and components that are relied upon to remain functional during and following design basis events to assure:

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

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

(3) The capability to prevent or mitigate the consequences of accidents which could result in potential offsite exposures.

1.64. **SECURITY CONDITION** -- Any Security Event as listed in the approved security contingency plan that constitutes a threat/compromise to site security, threat/risk to site personnel, or a potential degradation to the level of safety of the plant. A SECURITY CONDITION does not involve a HOSTILE ACTION.

1.65. **SITE ASSEMBLY** -- Process of gathering all personnel from areas within the PROTECTED AREA to PRIMARY ASSEMBLY AREAS.

1.66. **SITE AREA EMERGENCY** -- See definition for EMERGENCY CLASSIFICATION LEVEL.

1.67. **SITE EVACUATION** -- Evacuation of all NON-ESSENTIAL PERSONNEL within the BEAVER VALLEY SITE.

1.68. **STRIKE ACTION** -- A work stoppage within the PROTECTED AREA by a body of workers to enforce compliance with demands made on management. The STRIKE ACTION must threaten to interrupt NORMAL PLANT OPERATIONS.

1.69. **TECHNICAL SUPPORT CENTER (TSC)** -- A designated location where plant management coordination of emergency response is performed and where various Licensee, Federal, and vendor engineering disciplines can analyze the conditions within the reactor core during and after an accident to provide technical assessment of the accident and corrective action recommendations to the EMERGENCY COORDINATOR.

1.70. **UNAFFECTED AREA** -- Any area or location which is known to be not significantly affected by radiation levels or other hazardous conditions.

1.71. **UNISOLABLE** -- An open or breached system line that cannot be isolated, remotely or locally.

1.72. **UNPLANNED** -- A parameter change or an event that is not 1) the result of an intended evolution or 2) an expected plant response to a transient. The cause of the parameter change or event may be known or unknown.

1.73. **UNUSUAL EVENT** -- See definition for EMERGENCY CLASSIFICATION LEVEL.

1.74. **VALID** -- An indication, report, or condition, is considered to be VALID when it is verified by (1) an instrument channel check, (2) indications on related or redundant indicators, or (3) by direct observation by plant personnel, such that doubt related to the indicator's operability, the condition's existence, or the report's accuracy is removed. Implicit in this definition is the need for timely assessment.

1.75. **VISIBLE DAMAGE** -- Damage to a SAFETY SYSTEM train that is readily observable without measurements, testing, or analysis. The visual impact of the damage is sufficient to cause concern regarding the operability or reliability of the affected SAFETY SYSTEM train.

1.76. **VITAL AREA** -- Means any area that contains VITAL EQUIPMENT.

1.77. **VITAL EQUIPMENT** -- Means any equipment, system, device, or material, the failure, destruction, or release of which could directly or indirectly endanger the public health and safety by exposure to radiation. Equipment or systems which would be required to function to protect public health and safety following such failure, destruction, or release are also considered to be vital.

2. ABBREVIATIONS

AC ..... Alternating Current

AFW ..... Auxiliary Feed Water

AOP ..... Abnormal Operating Procedure

ATWS ..... Anticipated Transient Without Scram

B&W ..... Babcock and Wilcox

BCEMA ..... Beaver County Emergency Management Agency

BVERS ..... BEAVER VALLEY EMERGENCY RESPONSE SYSTEM

BVPS ..... Beaver Valley Power Station

BWST ..... Borated Water Storage Tank

CCEMA ..... Columbiana County Emergency Management Agency

CCW ..... Component Cooling Water

CDE ..... Committed Dose Equivalent

CE ..... Combustion Engineering

CFR ..... Code of Federal Regulations

CR ..... CONTROL ROOM

CSF ..... Critical Safety Function

CSFST ..... Critical Safety Function Status Tree

CVCS ..... Chemical and Volume Control System

DBA ..... Design Basis Accident

DC ..... Direct Current

DEP/BRP ..... Dept of Environmental Protection/Bureau of Radiation Protection (Pennsylvania)

DHR ..... Decay Heat Removal

DOE ..... Department of Energy (US)

DOT ..... Department of Transportation

EAL.....EMERGENCY ACTION LEVEL

EC .....EMERGENCY COORDINATOR

ECCS.....Emergency Core Cooling System

ECL .....EMERGENCY CLASSIFICATION LEVEL

ED .....EMERGENCY DIRECTOR

EOC..... EMERGENCY OPERATIONS CENTER

EOF .....EMERGENCY OPERATIONS FACILITY

EOP ..... EMERGENCY OPERATING PROCEDURE

EPA .....Environmental Protection Agency

EPG ..... Emergency Procedure Guideline

EPIP .....Emergency Plan Implementing Procedure

EPRI.....Electric Power Research Institute

EPZ .....EMERGENCY PLANNING ZONE

ERDS .....Emergency Response Data System

ERF ..... EMERGENCY RESPONSE FACILITY

ERG..... Emergency Response Guideline

ESF..... Engineered Safety Feature

ESW .....Emergency Service Water

FAA..... Federal Aviation Administration

FBI .....Federal Bureau of Investigation

FEMA .....Federal Emergency Management Agency

FPB ..... Fission Product Barrier

FRMAP .....Federal Radiation Monitoring and Assessment Plan

FSAR..... Final Safety Analysis Report

GE ..... GENERAL EMERGENCY

HCOEM ..... Hancock County Office of Emergency Management [C47]

IC ..... Initiating Condition

INPO ..... Institute for Nuclear Power Operations

IPC ..... Inplant Process Computer

IPEEE ..... Individual Plant Examination of External Events (Generic Letter 88-20)

ISFSI ..... INDEPENDENT SPENT FUEL STORAGE INSTALLATION

ITS ..... Improved Technical Specifications

JIC ..... JOINT INFORMATION CENTER

Keff ..... Effective Neutron Multiplication Factor

LEARN ..... Law Enforcement Activity Radio Network

LER ..... Licensee Event Report

LCO ..... Limiting Condition for Operations

LOCA ..... Loss of Coolant Accident

LRM ..... Licensing Requirements Manual

LWR ..... Light Water Reactor

MFW ..... Main Feed Water

mR ..... milliRoentgen

MSIV ..... Main Steam Isolation Valve

MSL ..... Main Steam Line

MSSV ..... Main Steam Safety Valve

MW ..... Megawatt

NAWAS ..... National Warning System

NEI ..... Nuclear Energy Institute

NESP ..... National Environmental Studies Project

NORAD ..... North American Aerospace Defense Command

NPP ..... Nuclear Power Plant

NRC ..... Nuclear Regulatory Commission (US)

NSSS ..... Nuclear Steam Supply System

NUMARC ..... Nuclear Management and Resources Council

OBE ..... Operating Basis Earthquake

OCA ..... OWNER CONTROLLED AREA

ODCM/ODAM ..... Offsite Dose Calculation (Assessment) Manual

OEMA ..... Ohio Emergency Management Agency

ORC ..... Offsite Review Committee

ORO ..... Offsite Response Organization

OSC ..... OPERATIONS SUPPORT CENTER, or Onsite Safety Committee

PA ..... PROTECTED AREA

PEMA ..... Pennsylvania Emergency Management Agency

POAH ..... Point of Adding Heat

PORV ..... Power Operated Relief Valve

PRA/PSA ..... Probabilistic Risk Assessment / Probabilistic Safety Assessment

PSIG ..... Pounds per Square Inch Gauge

PWR ..... Pressurized Water Reactor

R ..... Roentgen

RCC ..... Reactor Control Console

RCCA ..... Rod Cluster Control Assembly

RCDT ..... Reactor Coolant Drain Tank

RCP ..... Reactor Coolant Pump

RCS ..... Reactor Coolant System

REM ..... Roentgen Equivalent Man

RPS ..... Reactor Protection System

RPV ..... Reactor Pressure Vessel

RVLIS ..... Reactor Vessel Level Indicating System

SBO ..... Station Blackout

SCBA ..... Self-Contained Breathing Apparatus

SG ..... Steam Generator

SI ..... Safety Injection

SLCRS ..... Supplemental Leak Collection and Release System

SPDS ..... Safety Parameter Display System

SPING ..... Special Particulate, Iodine, Noble Gas Monitoring System (Unit 1)

SRO ..... Senior Reactor Operator

SSE ..... Safe Shutdown Earthquake

TEDE ..... Total Effective Dose Equivalent

TOAF ..... Top of Active Fuel

TOP ..... Temporary Operating Procedure

T/S ..... Technical Specification

TID ..... Technical Information Document

TSC ..... TECHNICAL SUPPORT CENTER

UE ..... UNUSUAL EVENT

URI ..... Unified RASCAL Interface (Site Dose Assessment Software)

WE ..... Westinghouse Electric

WOG ..... Westinghouse Owners Group

WRGM ..... Wide Range Gas Monitor (Unit 2)

WVDHS/EM ..... West Virginia Division of Homeland Security and Emergency Management [C47]

SECTION 3

SUMMARY

Section 3

SUMMARY OF EMERGENCY PREPAREDNESS PLAN

Table of Contents

Page No.

3.0 SUMMARY OF EMERGENCY PREPAREDNESS PLAN

This Beaver Valley Power Station Emergency Preparedness Plan describes the total preparedness program established, implemented, and coordinated to ensure the capability and readiness for coping with and mitigating both onsite and offsite consequences of radiological emergencies. The Plan covers the spectrum of emergencies from minor localized incidents to major emergencies involving protective measures by offsite response organizations. Included are guidelines for immediate response, assessment of emergency situations, defined action criteria, and delineation of support functions. Emergency Implementing Procedures provide detailed information for individuals who may be involved with specific emergency response functions. The Emergency Preparedness Plan and Implementing Procedures shall be reviewed annually.

This Emergency Preparedness Plan provides for a graded scale of response for distinct classifications of emergency conditions, action within those classifications, and criteria for escalation to a more severe classification. This classification system is compatible with the classification scheme used by the emergency response agencies in all three risk Counties and risk States. This Plan uses four categories; Unusual Event, Alert, Site Area Emergency and General Emergency. The categories and the initiating events within each category are described in detail in Section 4 of this Plan.

3.1 ONSITE EMERGENCY ORGANIZATION

The organization for control of emergencies begins with on-shift Site organization and contains provisions for augmentation and extension to include other Site personnel, corporate personnel, and outside emergency response organizations.

The BVPS Emergency Coordinator (initially the on-duty Shift Manager, and ultimately designated personnel with Operations background), provides control and direction for the response of utility personnel to the emergency. The Emergency Coordinator, as a member of the normal corporate structure, receives guidance and support from the Licensee's Management.

The BVPS emergency organization is augmented by personnel from the Licensee's nuclear and corporate divisions at the Emergency Operations Facility for Alert, Site Area Emergency or General Emergency declarations. BVPS personnel and support personnel are responsible for onsite emergency actions and limited offsite activities, such as offsite radiological surveillance. The Joint Information Center (JIC) is also staffed at the Alert classification level. The relationship of the BVPS organization to the overall emergency response effort is explained in more detail in Section 5.

3.2 OFFSITE EMERGENCY ORGANIZATIONS

The total emergency program includes the support of County, State and Federal emergency organizations. Detailed provisions are made for implementing protective measures against direct radiation and inhalation of radioactive material for members of the public within a radius of at least 10 miles from BVPS. Additional preventive measures may be implemented beyond that distance to preclude ingestion pathway exposures. The relationship of each organization to the whole emergency response effort is explained in more detail in Section 5 of the Plan.

Specific arrangements and agreements are made with local offsite support organizations to provide onsite services including:

- Fire and rescue
- Emergency medical transportation
- Hospital medical treatment

County, State and Federal agencies having lead responsibilities specifically related to this Plan are:

.1 Beaver County Emergency Management Agency (BCEMA) -- the lead emergency response coordinating agency within Beaver County, responsible for implementing offsite action upon either direct notification from BVPS or from the Pennsylvania Emergency Management Agency.

.2 Columbiana County Emergency Management Agency (CCEMA) -- the agency having the same emergency response capabilities and responsibilities within Columbiana County, Ohio, as BCEMA does within Beaver County.

.3 Hancock County Office of Emergency Management (HCOEM) -- the agency having the same emergency response capabilities and responsibilities within Hancock County, West Virginia, as BCEMA does within Beaver County. [C47]

.4 Pennsylvania Emergency Management Agency (PEMA) -- the lead State-level agency responsible for ensuring availability of Commonwealth government emergency services, personnel and equipment. Responsible for ingestion pathway protective measures in the Pennsylvania portion of the ingestion pathway planning zone.

.5 Department of Environmental Protection/Bureau of Radiation Protection (DEP/BRP) -- the State-level agency responsible to provide guidance and recommendations for specific offsite protective measures in Pennsylvania. DEP/BRP interfaces with corresponding agencies in Ohio and West Virginia.

.6 Ohio Emergency Management Agency (OEMA) -- the lead State-level agency responsible for ensuring availability of Ohio state government emergency services, personnel, and equipment. Responsible for ingestion pathway protective measures in the Ohio portion of the ingestion pathway planning zone.

.7 West Virginia Division of Homeland Security and Emergency Management (WVDHS/EM) -- The lead State-level agency responsible for ensuring availability of West Virginia state government emergency services, personnel, and equipment. Responsible for ingestion pathway protective measures in the West Virginia portion of the ingestion pathway planning zone. [C47]

.8 US Nuclear Regulatory Commission (NRC) -- the Federal agency responsible for verifying that appropriate utility emergency plans have been implemented and for conducting investigative activities associated with a radiological emergency.

.9 US Department of Energy (DOE) -- the Federal agency responsible to provide assistance to State and local governments in emergency action essential for the control of immediate hazards to public health and safety. DOE is lead coordinating agency for the Federal Radiation Monitoring and Assessment Plan (FRMAP), which provides the framework through which participating Federal agencies coordinate their emergency radiological monitoring and assessment activities with those of the State and local governments.

.10 Federal Emergency Management Agency (FEMA) -- the Federal agency responsible for reviewing State and local emergency plans and making recommendations to the Nuclear Regulatory Commission.

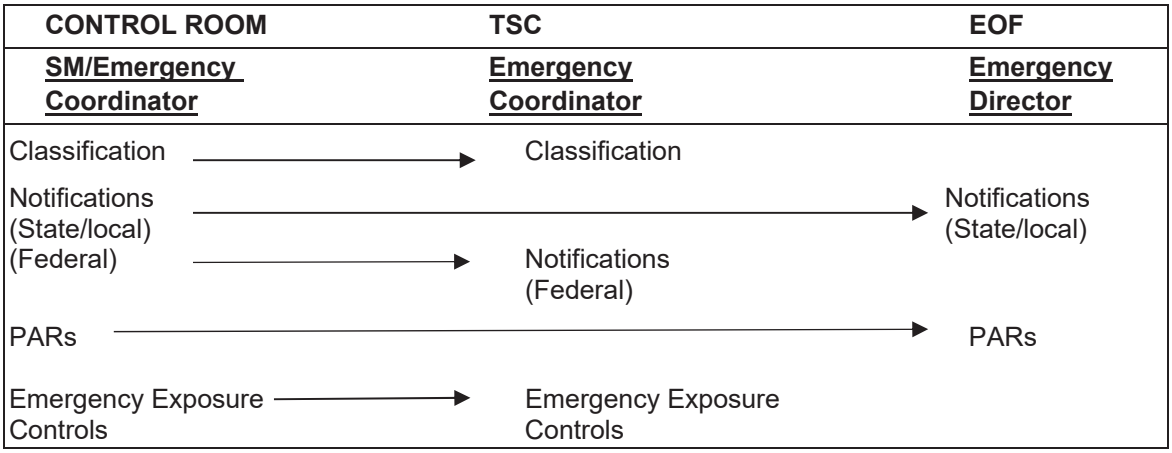
3.3 EMERGENCY MEASURES

The mechanisms through which this Plan provides for the proper response to emergency conditions at BVPS are described below.

3.3.1 Initiation

The first Site individual who becomes aware of an emergency condition ensures that notification is made and details are provided to the appropriate Control Room. This recognition and the initiation of emergency response may also be from Control Room instrumentation. Appropriate initial action is taken in accordance with Emergency Operations Procedures and/or other station operating procedures (such as shutting down or operating certain plant equipment or systems). The Shift Manager assumes the role of BVPS Emergency Coordinator and continues in that capacity until relieved by a designated alternate. The Unit Supervisor assumes responsibility for plant control functions while the Shift Manager is acting as Emergency Coordinator.

At the declaration of an Alert or at the discretion of the On-shift Emergency Coordinator, the Technical Support Center (TSC), Operations Support Center (OSC) and Emergency Operations Facility (EOF) will be activated. The Emergency Coordinator responsibilities are then transferred to the TSC Emergency Coordinator and EOF Emergency Director as depicted in the figure below.



Transition of Command and Control Functions

Although the Emergency Director has responsibility and authority for the direction and coordination of the overall BVPS response, the functions performed by the Emergency Director are primarily related to offsite activities, while the Emergency Coordinator is primarily concerned with onsite activities.

3.3.2 Assessment

The BVPS Emergency Coordinator performs assessment action relative to the situation in accordance with Section 6 of this Plan and the Emergency Implementing Procedures listed in Appendix C. This assessment and concurrent classification of the emergency are based on available information such as the initial verbal communication, Control Room instrumentation, dose projection data, and follow-up monitoring or other supportive information. The assessment is updated as new information becomes available, with appropriate change in the emergency classification as may be warranted.

3.3.3 Notification

The BVPS Emergency Coordinator ensures the initial activation and alerting of both onsite and offsite emergency personnel and organizations. Offsite notification methods for various emergency conditions are discussed in Section 6, and are summarized as follows:

- Requests for assistance, such as fire fighting and medical transportation, from local offsite support groups should be made by telephone through the Beaver County Emergency Services Center.

- Notification to offsite authorities of an Unusual Event is primarily to ensure that those agencies are cognizant of the details of events, which may arouse public concern. The authorities will be informed on an immediate emergency basis. These notifications will be made to BCEMA, HCOEM, CCEMA, OEMA, PEMA, WVDHS/EM within 15 minutes and to the NRC within one hour. C47

- Notification to the above listed offsite authorities shall commence immediately upon the declaration of an Unusual Event, an Alert, a Site Area Emergency or a General Emergency. Section 4 describes the time limitations between the first indication of an event and declaration of the applicable emergency condition. Notifications to BCEMA, PEMA, CCEMA, OEMA, HCOEM and WVDHS/EM are made via regular commercial[C72] telephone serving as the primary method of communications. Radio communication links to each of the risk counties provides an alternate method to the telephone connections. Immediate notifications to the NRC are made via the **E**mergency **T**elephone **S**ystem (ETS). C47

3.3.4 Corrective Actions

Onsite corrective actions may proceed concurrently with assessment, and are described in detail for situations within each emergency classification in the emergency Implementing Procedures listed in Appendix C and in applicable Emergency Operating Procedures.

3.3.5 Onsite Protective Actions

Onsite protective actions, including criteria and methods, are described in Section 6. The primary protective action is evacuation of non-essential personnel and the use of protective equipment and clothing for those personnel who are required to perform emergency activities. Provision is made for increasingly larger areas of evacuation commensurate with existing conditions, summarized as follows:

- A Local Evacuation is the immediate response of individuals in an area where a local area radiation monitor and/or continuous air monitor alarms, toxic/flammable gas, or other similar condition exists.

- A Site Assembly may be implemented by the BVPS Emergency Coordinator if the affected area is larger than appropriate for a Local Evacuation, and up to the entire Protected Area.

- A Site Evacuation, when implemented by the BVPS Emergency Coordinator, encompasses the entire Beaver Valley site.

Other onsite protective actions include the use of respiratory protection equipment, anti-contamination clothing, thyroid prophylaxis, and the administration of an effective radiological controls program.

3.3.6 Offsite Protective Actions

Offsite protective actions are addressed in Section 6. Such actions are primarily the responsibility of State and local emergency organizations, but may be based on recommendations by the BVPS Emergency Coordinator or Emergency Director. These offsite organizations may invoke any emergency actions which they deem appropriate, according to assessment of the individual situation, and at any level of radioactive material release or projected offsite dose. The key element which ensures compatibility of this Plan and offsite emergency plans is the provision for initial notification and continuing status reports to the State and local agencies, conveying current release and dose projection information. A description of the communications systems which ensure the capability of prompt notification and continuing transmittal of vital information is contained in Section 7.

3.3.7 Recovery

Provisions are made for establishing a recovery organization which is commensurate with the scope and magnitude of an emergency condition. These provisions include the assignment of qualified individuals to fill recovery organization positions as may be appropriate. Termination from a severe emergency involving offsite consequences will be through joint evaluation of the utility, the three States involved and the NRC.

3.4 EMERGENCY FACILITIES

Appropriate emergency facilities and equipment are provided to facilitate implementation of this Plan. These facilities and equipment are described in Section 7, and include, assessment capability, communications capability, provision for a Technical Support Center, Operations Support Center and an Emergency Operations Facility.

3.5 MAINTAINING EMERGENCY PREPAREDNESS

A concept of in-depth preparedness is employed regarding this Plan. This concept is emphasized in the training program and in preparedness drills and exercises. Site personnel are trained to provide an in-depth response capability for required actions in an emergency situation. Similarly, members of the population within the Emergency Planning Zone are informed of their response to an emergency at Beaver Valley. Also, emergency equipment is routinely inspected and inventoried to ensure operability and availability in the event of an emergency. Section 8 describes the provisions to maintain preparedness.

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SECTION 5

EMERGENCY ORGANIZATION

Section 5

EMERGENCY ORGANIZATION

Table of Contents

PAGE

Section 5

EMERGENCY ORGANIZATION

Table of Contents

PAGE

5.0 EMERGENCY ORGANIZATION

The Licensee's emergency organization for the Beaver Valley Power Station is discussed in this section. Included are the authorities and responsibilities of key individuals and groups and the communication links for notifying, alerting, and mobilizing emergency personnel. The emergency organization described in this section, which encompasses both the operating elements and support elements of the Beaver Valley Power Station [C16], provides for a timely, staged response consistent with the emergency classification. The emergency organization will remain in effect until such a time as conditions have been stabilized at the Beaver Valley Power Station and normal operations have resumed or, if necessary, recovery operations are ready to begin.

The Beaver Valley Power Station (BVPS) Emergency Response Organization is supplemented by the emergency organizations of the various governmental agencies having an emergency response role within the Beaver Valley Power Station emergency planning zones. These offsite organizations are discussed in Section 5.6.

5.1 NORMAL OPERATING ORGANIZATION

The Beaver Valley Power Station [C16] organization for normal operations is shown in Figure 5.1. The organization integrates the major elements and disciplines necessary for the safe operation of the facilities into Figure 5.1.[C62] The organization reports to a Vice President and operates from facilities located on the BVPS site.

The Beaver Valley Power Station[C16] on-shift emergency organization for normal conditions is shown in Figure 5.2 [c8]. This organization is applicable to the operation of both Units. This figure shows the levels of responsibility within the station and indicates the typical categories of personnel present onsite.

5.2 BVPS EMERGENCY ORGANIZATION

For Unusual Event emergencies, the Beaver Valley Power Station emergency organization is initially comprised of the on-duty shift with the Shift Manager serving as Emergency Coordinator. BVPS Unit 1 and Unit 2 minimum onshift crew compositions are identified in Table 5.1. Figure 5.2 illustrates the on-shift Emergency Organization shown in all capitals. For initiating events within the Unusual Event category, this organization would be capable of adequately providing necessary assessment and corrective actions without augmentation. However, the Emergency Coordinator, based on his evaluation of the situation, may activate part or all of the emergency organization described below. Table 5.1 identifies the staffing requirements and capabilities for additions of the Emergency Response Organization.

EMERGENCY ORGANIZATION

Personnel assigned to the various positions in the BVPS Emergency Organization are detailed in the bi-monthly issue of the Emergency Response Organization Call List. This list provides names and phone numbers for personnel assigned to each emergency position.

The Beaver Valley Power Station onsite and offsite emergency organization is illustrated in Figure 5.3, 5.4, 5.5 and 5.6. The TSC, OSC and EOF organizations would be activated and the JIC would be staffed for Alert or higher emergencies or, at the discretion of the Emergency Coordinator, for Unusual Events.

The TSC is responsible for onsite implementation of assessment, classification, Federal notification, corrective and damage control actions and emergency exposure controls. The EOF is responsible for direction and coordination of the overall response with primary emphasis on the offsite aspects of State/local notification, dose projection and recommendation of offsite protection actions.

Regardless of the emergency classification, time of day, or status of emergency organization activation, the authorities and responsibilities for implementation of the Beaver Valley Power Station Emergency Preparedness Plan are unambiguously vested in a designated individual. Section 6.2 describes the activation of the emergency organization.

This section describes the positions, functions and responsibilities of the BVPS emergency organization. The Emergency Coordinator and Emergency Director may designate individuals, based on personnel availability, to fill Emergency Response Organization (ERO) positions. Section 8 of the Plan describes the training of the BVPS emergency organization personnel.

For a longer-term emergency condition, a duty rotation system will be established using the designated alternates and/or other appropriately qualified personnel from the BVPS staff. C16

5.2.1 Emergency Coordinator

The Shift Manager shall assume the role of the Beaver Valley Power Station Emergency Coordinator

and assumes full responsibility and authority for the implementation and administration of the BVPS Emergency Preparedness Plan, as set forth in 10CFR50 Appendix E and this section, until relieved of this responsibility by the TSC Emergency Coordinator and Emergency Director upon activation of the TSC and EOF.

Functional responsibilities of the Emergency Coordinator include:

.1 Immediately upon notification of an existing or potential emergency, contact the Control Room and initiate assessment activities, including classification of the emergency, implementation of protective and corrective actions, and projection of offsite doses, as appropriate to the emergency condition.

.2 Initiate appropriate notifications and recommendations to offsite organizations and ERO. When the TSC and EOF are activated responsibility for classification, NRC notification and emergency exposure authorization are transferred to the TSC Emergency Coordinator and responsibility for offsite protective actions and State/local notifications are transferred to the EOF Emergency Director.

.3 Appoint emergency coordinators from qualified personnel on-shift, for assistance with current and continuing emergency control; but assume those responsibilities until the positions are filled.

.4 Augment the BVPS emergency organization with emergency call-list personnel and other available staff members, as appropriate.

.5 Ensure that information to be released is accurate and released through the proper channels.

.6 Request assistance from Federal agencies, if applicable.

.7 Activate other emergency facilities as described in Section 6.2, as appropriate.

.8 Remain alert to radiological conditions and other hazards having the potential for significant effect on the health and/or safety of onsite BVPS personnel and other individuals having emergency assignments onsite and, where necessary, implement appropriate protective measures including emergency exposure limits and/or thyroid prophylaxis.

.9 Provide technical updates to the TSC Emergency Coordinator and the Emergency Director on plant systems status and radiological effluent assessment activities.

.10 Request additional technical, engineering, material, or manpower assistance from the Emergency Director to supplement the resources of the onsite organization.

.11 Upon implementation of the Severe Accident Management Guidelines (SAMGs), the Emergency Coordinator assumes the role and responsibilities of the Decision Maker in addition to his/her Emergency Preparedness duties. The Emergency Coordinator should base his/her decision upon information received from the TSC Operations Coordinator and/or the Engineering Coordinator.

The BVPS Emergency Coordinator may delegate some of his assigned functional responsibilities to appropriately qualified Licensee personnel. However, the BVPS Emergency Coordinator is the only individual authorized to declare an emergency condition, authorize emergency personnel radiation exposures greater than 10 CFR 20; and/or direct the issuance of thyroid prophylaxis, pursuant to Section 6.7.1.8.

5.2.2 Emergency Director

When the Emergency Operations Facility is activated the responsibilities and authorities related to overall coordination of the BVPS response and to offsite response activities, are assumed by the Emergency Director.

The functional responsibilities of the Emergency Director include:

.1 Appoint interim emergency managers/coordinators from available qualified personnel, for assistance with current and continuing emergency control until such time as the designated managers/coordinators are available; but assume these responsibilities until the positions are filled.

.2 Direct and coordinate the activities of the designated emergency managers, the Emergency Coordinator and other BVPS personnel in the assessment of radiological effluent releases, assessment, monitoring, or projection of offsite radiological conditions, the recommendation of offsite protective actions, and the exchange of technical and operational information with offsite emergency response organizations.

NOTE

When the EOF is activated, the Emergency Director is the only BVPS individual authorized to make recommendations of offsite protective actions to offsite response agencies.

.3 Respond to requests for assistance from the Emergency Coordinator, with additional technical, engineering, material, or manpower resources as necessary; arrange for this assistance from outside sources if such requests cannot be met with the resources of the Beaver Valley Power Station. C16

.4 Remain alert via the Emergency Coordinator, of radiological conditions or other hazards having the potential for significant effect on the health and/or safety of personnel and other individuals assigned to BVPS emergency response facilities.

.5 Request assistance from Federal agencies should the situation warrant.

.6 Through the Offsite Agency Liaison, coordinate the response of the BVPS Emergency Response Organization with that of the local, county, state, and Federal response organizations located at the Site.

.7 When appropriate and necessary, implement the recovery organization as provided in Section 9 of this Plan.

5.2.3 TSC Manager and EOF Manager

These positions are filled by individuals who are cognizant of the Emergency Plan and Procedures. The primary responsibility of the TSC Manager is to assist the Emergency Coordinator in the performance of his activities and, in particular, to advise him with regard to the provisions of this plan and the supporting implementing procedures. This individual is assigned to the Technical Support Center. The EOF Manager is located in the Emergency Operations Facility upon activation and reports to the Emergency Director performing similar functions as the TSC Manager.

The TSC Manager and EOF Manager have similar experience/backgrounds and receive the same training as the Emergency Coordinator and Emergency Director, respectively. Therefore, the respective facility manager may assume the functional responsibilities of the Emergency Coordinator or Emergency Director.[C23]

5.2.4 Operations Coordinator

This ERO position is located in the TSC.

At the Alert or greater stage, it will be filled by designated emergency response organization personnel.

Primary responsibilities of the Operations Coordinator are:

.1 In the TSC, report to, and advise the Emergency Coordinator on matters concerning plant operations.

.2 Upon implementation of the Severe Accident Management Guidelines (SAMGs), the Operations Coordinator assumes the role and responsibilities of an Evaluator in addition to his/her Emergency Preparedness duties. Appropriate ERO personnel should aid the TSC OPS Coordinator in this evaluation process. The Operations Coordinator shall provide the evaluation results to the Emergency Coordinator.

The Operations Coordinator reports directly to the Emergency Coordinator.

The Operations Communicator reports to the Operations Coordinator.

5.2.5 State/local Communicator

A designated qualified communicator will fill this position for Unusual Event emergencies or until the EOF is activated. For an Alert or higher emergency, this position will be filled by a designated emergency response organization member.

Responsibilities of the State/local Communicator include:

.1 Coordinate and ensure proper notification of offsite organizations.

.2 Function as liaison for emergency-related communications between the Emergency Director and offsite emergency groups.

.3 Maintain records concerning the emergency.

The State/local Communicator reports to the EOF Manager.

Appropriate emergency response personnel will assist communications personnel with obtaining appropriate information for off-site agencies notifications.

5.2.6 Operations Support Center (OSC) Health Physics Coordinator

The OSC H.P. Coordinator will be located at the Operations Support Center and will interface with the Radiological Protection Coordinator in the TSC. This position will be filled by designated emergency response organization personnel. Responsibilities to be assumed by the OSC H.P. Coordinator are[C15]:

.1 Maintain appropriate in-plant radiation control.

.2 Provide onsite radiation control personnel for in-plant, onsite and offsite monitoring teams.

.3 Coordinate radiological habitability surveys for assembly areas and response facilities.

.4 Maintain accountability of personnel in the OSC and those personnel deployed in monitoring teams.

5.2.7 Radiological Protection Coordinator

The Radiation Technician or Health Physics Supervisor, when available, will fill this position for the Unusual Event or until the TSC is activated. This TSC position will be filled by the Manager of Health Physics or designee. Alternates for the position of Radiological Protection Coordinator are designated emergency response organization personnel. Responsibilities to be assumed by the Radiological Protection Coordinator are primarily related to in-plant radiation control and include:

.1 Provide onsite radiation control personnel for monitoring teams consistent with maintaining appropriate radiation controls in-plant.

.2 Relay technical data to the Emergency Coordinator and/or the Operations Coordinator on radiological aspects of onsite emergency activities.

.3 Provides radiation control personnel and other radiological coverage for emergency team efforts.

.4 Coordinate and direct personnel decontamination efforts, as necessary.

.5 Oversee the operation of the personnel dosimetry program for on-site personnel and personnel assigned to the BVPS emergency response facilities.

.6 Provide onsite bioassay services such as whole body counting for designated personnel.

.7 Ensure access is restricted or controlled to areas where radiological hazards exist.

The Radiological Protection Coordinator reports to the Emergency Coordinator and is responsible for onsite radiological activities. Radiological Controls personnel not assigned to offsite monitoring activities report to the Radiological Protection Coordinator through the normal radiological controls supervision. Radiological conditions permitting, the Radiological Protection Coordinator will normally operate from the Technical Support Center.

5.2.8 Dose Assessment Coordinator

During the early stages of an accident, where environmental and/or radiological situations warrant, radiological dose projections will be performed under the cognizance of the Shift Technical Advisor (STA). The Dose Assessment Coordinator position will be available for performance of the dose assessment function at the Alert level or upon activation of the EOF.

Upon activation of the Emergency Organization, this EOF position will be filled by designated emergency response organization personnel.

Responsibilities of the Dose Assessment Coordinator are as follows:

.1 Direct the activities of the offsite radiation monitoring teams.

.2 Coordinate offsite monitoring activities and the exchange of results and other technical data with Federal and State agencies.

.3 Provide the Emergency Director with dose projections and evaluations.

.4 Provide technical advice to the Emergency Director concerning radiological assessment and recommendations for offsite protective actions.

.5 Coordinate environmental sampling and analyses, and evaluation of results.

Assigned Environmental and Radiological monitoring personnel will report to the Dose Assessment Coordinator.

5.2.9 Field Monitoring Team (FMT) Coordinator

This ERO position is filled by designated emergency response organization personnel. Responsibilities to be assumed by the FMT Coordinator include:

.1 Adapt the existing environmental monitoring procedures to emergency environmental monitoring.

.2 Determine the locations and type of sample media based on the type of activity released and the wind direction.

.3 Direct personnel in any additional sampling, other than those in the ongoing program.

.4 Review and evaluate sample results received from a designated low-level laboratory and forward result to proper personnel.

The FMT Coordinator reports to the Dose Assessment Coordinator during emergency situations.

5.2.10 Engineering Coordinator

This TSC position is activated at an Alert and is filled by designated emergency response organization personnel. Responsibilities to be assumed by the Engineering Coordinator include:

.1 Direct and coordinate engineering efforts related to the emergency response.

.2 Advise the Emergency Coordinator on matters related to the engineering of short-term modifications to plant systems necessary to mitigate the consequences of the accident and/or recover the plant.

.3 Supervise the Core Hydraulic, Mechanical and Electrical Engineers.

.4 Upon implementation of the Severe Accident Management Guidelines (SAMGs), the Engineering Coordinator assumes the role and responsibilities of an Evaluator in addition to his/her Emergency Preparedness duties. Appropriate ERO personnel should aid the Engineering Coordinator in this evaluation process. The Engineering Coordinator shall provide the evaluation results to the Emergency Coordinator.

The Engineering Coordinator reports to the TSC Manager.

5.2.11 Core Hydraulic, Mechanical, Electrical Engineering Support

The Core Hydraulic Engineer position is initially filled by the Shift Technical Advisor [C62]. This individual, or his relief, will remain in the Control Room throughout the emergency. For Alert and higher emergencies, the onsite Technical Support Center (TSC) will be activated and the position of Core Hydraulic Engineer will be filled by designated emergency response organization personnel.

The Core Hydraulic, Mechanical and Electrical Engineers are responsible for:

.1 Analyzing mechanical, electrical, instrument and control, effluent control, and radiation dose rate problems; determining alternate solutions, design and coordination of short-term modifications installation.

.2 Analyzing thermohydraulic and thermodynamic problems and developing resolutions.

.3 Assisting in the development of Emergency Operating Procedures or other procedures, as necessary, for conducting emergency operations.

.4 Analyzing conditions and developing guidance for the Emergency Coordinator and operations personnel.

5.2.12 Operations Support Center Coordinator

This OSC position will be filled by designated emergency response organization personnel. Responsibilities to be assumed by the Operations Support Center Coordinator are: [C35]

.1 Direct the activities of in-plant supplemental emergency team(s).

.2 Coordinate the assignment of personnel from the onsite pool of available persons in response to requests from the Maintenance Coordinator.

.3 Maintain accountability of personnel in the Operations Support Center (OSC) and those personnel deployed in emergency teams.

.4 Provide direction to Operations Support Center assistants in completing the facility functions.

The Operations Support Center Coordinator (located in the OSC) reports to the Maintenance Coordinator in the TSC. All personnel assigned to or directed to the OSC will report to the OSC Coordinator.

- Mechanical Maintenance Coordinator

  The Mechanical Maintenance Coordinator will be located in the OSC. The position is responsible for oversight of mechanical maintenance troubleshooting and corrective actions work in the plant.

- Electrical Maintenance Coordinator

  The Electrical Maintenance Coordinator will be located in the OSC. The position is responsible for oversight of electrical maintenance troubleshooting and corrective actions work in the plant.

- Instrumentation and Controls (I&C) Maintenance Coordinator

  The I&C Maintenance Coordinator will be located in the OSC. The position is responsible for oversight of I&C maintenance troubleshooting and corrective actions work in the plant.

5.2.13 Maintenance Coordinator

This TSC position is filled by designated emergency response organization personnel. Responsibilities to be assumed by the Maintenance Coordinator are:

.1 Direct and coordinate the activities of mechanical, electrical, and instrumentation personnel in the performance of emergency corrective actions, and or damage control activities.

.2 Advise the Emergency Coordinator on the status of plant systems.

.3 Direct and coordinate the installation of short-term emergency systems modifications.

The Maintenance Coordinator reports to the TSC Manager. All station maintenance forces (electrical, mechanical, and instrumentation) will report to the Maintenance Coordinator via the OSC Coordinator, through their normal supervisory chain.

5.2.14 Security Coordinator

The Security Coordinator position is initially filled by the Supervisor, Nuclear Shift Security. This position is located in the Central Alarm Station (CAS) and will be relieved by the senior member of the security organization who may be located in the TSC.

Responsibilities to be assumed by the Security Coordinator include:

.1 Maintain an appropriate plant security posture and institute appropriate contingency measures as necessary.

.2 For Site Assemblies/Accountabilities and/or Site Evacuations, receive reports from assembly areas; determine the identity of unaccounted personnel; advise Emergency Coordinator of personnel accountability status; and maintain accountability of onsite personnel during an emergency.

.3 Expeditiously provide Site access for emergency response personnel who do not have current security badging at BVPS.

.4 Ensure Security personnel are changed-out consistent with any exposure received depending upon the severity of the accident.

.5 Oversee the Security portion of the ERF access sign-in.

.6 Interface with the Emergency Coordinator and the TSC staff concerning Security support.

.7 Relay Assembly/Accountability instructions from the TSC and CAS and the status of Accountability or Search and Rescue from the CAS to the TSC.

All Site Security personnel will report to the Security Coordinator.

The Security Coordinator reports to the TSC Manager.[C12]

5.2.15 Operations Communicators

These positions will be filled by designated emergency response organization personnel.

Responsibilities to be assumed by the Operations Communicators:

.1 Serve as liaison between operations personnel and personnel in other Emergency Centers (CR-TSC-EOF). The Operations Communicators will report to the Control Room, TSC and EOF upon activation of the Alert emergency response organization.

.2 Alert their immediate supervisor of vital data relayed over the Operations Circuit. The CR and TSC Operations Communicators report to the TSC Operations Coordinator. The EOF Operations Communicator reports to the EOF Manager.

.3 Maintain a log of information pertaining to the Operations Circuit communications.

.4 Serve as a back-up to the IPC and SPDS for retrieval of control board data.

5.2.16 ENS Communicator

This TSC position is filled by designated emergency response organization personnel.

Responsibilities assumed by the ENS Communicator include:

1. Serve as the primary communicator for the NRC ENS phone upon activation of the ERO at an Alert or higher classification.

2. Verify operability of the Emergency Response Data System (ERDS)

The ENS Communicator reports to the TSC Operations Coordinator.

5.2.17 Offsite Agency Liaison

This EOF position is staffed at the Alert or higher classification and will be filled by designated emergency response organization personnel. Responsibilities to be assumed by the Offsite Agency Liaison are:

.1 Resolving questions concerning Operating License requirements with Nuclear Regulatory Commission representatives.

.2 Serving as liaison between representatives of the state and local governments present in the Emergency Operations Facility and the Beaver Valley Power Station emergency organization. This liaison is primarily for the exchange of operational information (less radiological assessment) and coordination of offsite activities with those of the Beaver Valley Power Station. The Offsite Agency Liaison reports directly to the EOF Manager.

5.2.18 Company Spokesperson

The Company Spokesperson is responsible for establishing corporate credibility and is designated by Senior Management.[C36] Makes announcements to the media regarding significant changes in plant conditions and on-site status of the power station. Consults with both the Manager-Joint Information Center and the Emergency Director to assure consistent and timely response on behalf of the Company. Company Spokesperson, or designee, reviews all news announcements prior to issuance to the news media.

5.2.19 JIC Manager

The JIC Manager is responsible for the activation and overall operation of the Joint Information Center. The JIC Manager presides over news briefings at the JIC. The JIC Manager will introduce spokespersons and oversee the conduct of the briefings and may review news announcements in the absence of the Company Spokesperson. The JIC Manager will compile a list of follow-up items from briefings and coordinate information between Licensee and off-site agencies spokespersons.

5.2.20 Media Relations Coordinator

The Media Relations Coordinator is the liaison between the Licensee and the Media. When the JIC Manager is unavailable, the Media Relations Coordinator will introduce spokespersons and oversee the conduct of the briefings. In addition, the Media Relations Coordinator will work with the news media to meet special requests such as arranging interviews of company officials and directing media photographers and camera crews to designated locations to obtain requested photos and film footage and responds to media inquiries. The Media Relations Coordinator ensures operability of the media briefing area and provides biographies of spokespersons upon request.

5.2.21 Information Coordinator

The Information Coordinator is responsible for managing and coordinating the flow of verbal and written information for the JIC. The Information Coordinator is located at the Joint Information Center (JIC). Once the JIC is staffed, this individual participates in the telephone discussions between the technical advisors at the EOF and JIC, and the Company Spokesperson to ensure that verbal and written information issued from the organization is accurate and timely. The Information Coordinator may also review news releases if the JIC Manager or Company Spokesperson is unavailable. This individual also works closely with State and County Public Information Officers.

5.2.21.1 Media Monitor/Rumor Control

Under the general supervision of the Information Coordinator - JIC. Responsible for monitoring local TV broadcasts and online resources to ensure accuracy of information reported, establishing and maintaining telephone communications for coordination of rumor information.

5.2.22 Logistics Coordinator (JIC)

Under the general supervision of the JIC Manager, is responsible for addressing logistical needs. Serves as the primary source for locating, acquiring and ensuring the timely acquisition and set-up of all equipment to be used at the JIC to carry out the emergency response and coordinates response to PIO requests.

5.2.23 JIC Technical Advisor

Under the general supervision of the JIC Manager, is responsible for maintaining frequent contact with the EOF Operations Communicator to obtain up-to-the-minute information on plant status. This information is relayed to the Company Spokesperson, the JIC Manager and the Information Coordinator. This position also consults with the JIC staff in the interpretation and clarification of plant status and actions being taken to achieve plant stability and recovery.[c8]

5.2.24 Nuclear Communications Coordinator

Ensures a continuous flow of essential information for developing news announcements regarding plant conditions and serves as the JIC's primary information resource. Responsibilities for developing and writing all news announcements are in accordance with news announcement guidelines.

5.3 EMERGENCY ORGANIZATION STAFFING

This section describes the on-shift and augmented staffing for initial event response, radiological monitoring, other emergency teams, and the emergency centers. Specific personnel assignments to these teams and centers are made by title or job classification in an Emergency Organization Call-Out List. Section 8 describes the training requirements for these personnel.

.1 The BVPS on-shift operations organization provides

initial response to emergency conditions.

The on-shift organization is illustrated in Figure 5.2 in capital letters [C62].

.2 The on-shift staff may be supplemented by emergency teams comprised of other off-duty personnel onsite, or personnel called in during off-hours. Functions assigned to these emergency teams may include onsite radiological monitoring, offsite radiological monitoring, and/or damage control, as appropriate to the emergency.

.3 Table 5.1 describes the on-shift minimum staffing for emergency activity assignments.

.4 The TSC, OSC[C15], and the EOF, when activated, will be staffed with personnel from the BVPS emergency response organization, personnel from other Licensee organizations, vendor/contractor personnel, and Federal, State and county agency personnel, depending on the severity of the emergency condition. The TSC, OSC, EOF, and JIC staffing is illustrated in Figure 5.3, Figure 5.4, Figure 5.5, and Figure 5.6, respectively.

.5 The on-duty Shift Technical Advisor[C62] will continue to serve in an advisory role to the operating personnel from the Control Room. The Emergency Coordinator will serve as the Control Room contact for the Technical Support Center, relaying questions and responses between operations personnel and the Technical Support Center.

5.3.1 Relationship Between Normal and Emergency Organizations

In the event of an Alert or more severe emergency, personnel in the normal Beaver Valley Power Station[C16] organization will assume their assigned positions within the Beaver Valley Power Station emergency organization. This emergency organization is operational in nature. Administrative reporting will continue as established in the normal Group and Station organization as described in the administration manuals, to the extent it does not conflict with timely emergency response in accordance with this Emergency Preparedness Plan and the Emergency Implementing Procedures. All other non-assigned personnel are available as a resource pool to support the activities of the various emergency coordinators.

Regulatory, Corporate, and other Station supervisory personnel without a specific supervisory assignment pursuant to this Plan shall not provide directions or instructions directly to plant personnel. All such directions and instructions shall be made to the designated emergency coordinators responsible for the activity in question.

In the course of the emergency, it may become necessary for Technical Support Center personnel to recommend a course of action that conflicts with approved procedures. [C62] Normal procedure change approval requirements should be met, consistent with timely implementation of the required action. However, in the event of an emergency or casualty not covered by an approved procedure, operating personnel have the responsibility and authority to take whatever action they consider required to prevent injury to personnel or damage to the plant or to equipment and to place the plant and equipment in a safe condition.

5.4 AUGMENTATION OF THE ONSITE EMERGENCY ORGANIZATION

5.4.1 Corporate Level Support

The Beaver Valley Power Station[C16] is comprised of the major elements and disciplines necessary to adequately respond to emergency situations. For this reason, a distinct Corporate emergency response organization is not defined. Legal, Financial and Security support shall be provided by Corporate personnel as requested by various BVPS Emergency Response Coordinators/Managers.

Personnel may be drawn from the following corporate groups:

- Legal and Public Affairs
- Corporate Services
- Finance
- Customer Operations
- Generation Group

Personnel from these groups can be activated from call-lists developed by onsite response personnel.

5.4.2 Institute for Nuclear Power Operations (INPO) Support

The Institute for Nuclear Power Operation's (INPO) will be a clearinghouse organization for maintaining a roster of individuals and skills available to each utility for augmenting onsite and corporate emergency organizations in the event of an emergency. INPO will also serve as a clearinghouse for maintaining an inventory of material, equipment, and services, which may be used to supplement onsite resources. The Licensee participates in the INPO program. The Licensee INPO Administrative Point of Contact is the liaison with INPO during normal operations [C36]. In an emergency, this individual will coordinate all requests for assistance from INPO and will coordinate INPO activities in response to these requests, as appropriate to the nature and severity of the emergency.

5.4.3 NSSS Support

The Westinghouse Water Reactor Division, designer of the BVPS Nuclear Steam Supply System (NSSS), has developed an emergency response plan which provides for emergency engineering assistance to facilities having a NSSS designed by Westinghouse. This assistance is available on a 24-hour/day, 7-day/week basis. Section 6.3.3 describes activation of this organization. The Westinghouse WRD can supply a site response team if deemed appropriate. These personnel, if activated, could be directed to the Technical Support Center.

5.4.4 Industry Support

The Beaver Valley Power Station is operated by the Licensee. The Licensee also operates the Perry Nuclear Power Plant and the Davis Besse Nuclear Power Plant which may be a source of assistance in the event of an emergency at Beaver Valley Power Station.[c8] Assistance from other nuclear facilities may be accessed through the Institute of Nuclear Power Operations, as described in Section 5.4.2.

5.4.5 Local Services Support

The nature of an emergency may require augmenting onsite response groups with local services, personnel and equipment. These local agencies may be contacted for support in response to specific emergency conditions. The expected response of the medical treatment and transportation agencies is described in Section 6.8. The response of the fire organizations is described in detail in the Mutual Aid Fire Plan and in the BVPS Operating Manual. Support may be obtained as necessary from the following local organizations: C66

- Heritage Valley Beaver and University of Pittsburgh Medical Center (UPMC) Presbyterian hospitals - provide hospital treatment for victims of radiological accidents, including contaminated and injured individuals from BVPS as requested by BVPS via the Beaver County 911 Center and transported by local emergency medical services ambulance.
- Shippingport, Midland, Hookstown, Industry, Raccoon and Ohioville Volunteer Fire Departments – provide fire response, fire apparatus, firefighting equipment and firefighters as requested by BVPS via the Beaver County 911 Center and implemented using the Incident Command System (ICS).
- Medic Rescue – provide emergency medical services, and ambulances for transport of victims to hospital facilities as requested by BVPS via the Beaver County 911 Center and implemented using ICS.
- Shippingport Police Department, Pennsylvania State Police and Beaver County District Attorney's Office Emergency Service Unit (ESU) – provide tactical support, off-site logistics, traffic controls and other law enforcement resources as described in the BVPS Security Plan as requested by BVPS via the Beaver County 911 Center and implemented using ICS.

Specific methods for notifying these organizations and their expected assistance are described in Emergency Implementing Procedures and are summarized in Section 6 of this Plan. Letters of Agreement from each organization to provide their respective emergency assistance to the Beaver Valley Power Station are on file in the Emergency Response Section. Local fire services personnel performing emergency measures onsite shall coordinate activities onsite

as described in the Mutual Aid Fire Plan. Police functions to be performed by the law enforcement agencies in support of BVPS are contained within the BVPS Security Plan.

Should additional resources be required to respond to the site for an emergency including a hostile action event, these resources may be obtained by way of request through the Beaver County Emergency Management Agency (BCEMA) under the Pennsylvania Intrastate Mutual Aid System, the Beaver County Fire Mutual Aid Agreement, and the PA Region 13 Counter-terrorism Task Force. C66

5.4.6 Other Support Services

Emergency conditions may require long-term or extensive support from organizations such as contractors, other utilities, support agencies or Federal and State agencies. Space is available, near the TSC, for trailers or other temporary facilities. Various facilities may be established for the following activities: security, training, instrument repair and calibration, food preparation, etc. If necessary, these functions would be considered an extension of the Emergency Response Organization.

5.5 COORDINATION WITH PARTICIPATING GOVERNMENT AGENCIES

5.5.1 State and Local Agencies

This section identifies the principal State and local governmental agencies in Pennsylvania, Ohio, and West Virginia having action responsibilities for radiological emergencies in the vicinity of the Beaver Valley Power Station. The radiological emergency response plans of these agencies describe their respective responsibilities, authorities, capabilities and emergency functions; and although not included as part of this Plan, are intrinsic parts of the emergency planning for the Beaver Valley Power Station. The emergency organizational interfacing between BVPS, local and state agencies and Federal government groups is outlined in Figure 5.6. The following sections provide a summary of the provisions for preparedness and response to radiological emergencies by each organization, as well as the primary and alternate methods of emergency notification. Table 5.3 identifies the governmental agencies, their mailing address and the individual (by position) accountable for planning, ordering and controlling emergency actions.[c9]

The Beaver Valley Power Station has made available in the near-site Emergency Operations Facility space for liaison personnel from each of the jurisdictions within the BVPS Emergency Planning Zone. The Offsite Agency Liaison will be assigned to this location to serve as an interface between the Licensee and the governmental groups. Liaison personnel at the EOF will serve to provide for coordination among the Federal agencies, primary State and local agencies within the EPZ, and BVPS. Upon request, BVPS will provide liaison personnel to the primary governmental Emergency Operations Centers (EOC).

.1 Beaver County Emergency Management Agency (BCEMA) -- is the lead governmental agency for offsite coordination and response in Beaver County. The BCEMA emergency plan is entitled "Beaver County Emergency Operations Plan Annex "E" Beaver Valley Power Station", and the plan includes provisions for:

- Planning and coordination with local and State authorities
- Initial response to notification by Beaver Valley Power Station
- Alert and warning of local populations

- Evacuation and other protective measures for local populations
- Emergency services

The primary method of notification to BCEMA is the commercial phone system. The alternate method is radio. A copy of the agreement letter from the BCEMA is on file in the Emergency Response Section.

.2 Pennsylvania Emergency Management Agency (PEMA) -- is the lead governmental agency for coordination and response of emergency activities at the State level. The PEMA emergency plan is entitled "Commonwealth of Pennsylvania Emergency Operations Plan Annex "E" Radiological Emergency Response to Nuclear Power Plant Incidents". The PEMA plan includes provisions for:

- Issuance of planning guidance
- Coordination of State and Federal response to nuclear incidents
- Establishment of an emergency operations center
- Provision for emergency public information
- Coordination of State agencies and departments
- Notification and provision of technical information to affected contiguous states

The primary method of notification to PEMA is the commercial phone system. The alternate method is radio via BCEMA. A copy of the agreement letter from PEMA is on file in the Emergency Response Section.

.3 Department of Environmental Protection/Bureau of Radiation Protection (DEP/BRP) -- is the lead governmental agency for providing technical advice and consultation to State and local organizations in evaluation of appropriate offsite preventive and protective measures. The DEP/BRP emergency plan is incorporated into the PEMA response plan. The DEP/BRP plan provides for:

- Technical consultation
- Accident assessment
- Recommendations for protective actions
- Recommendations for protection of potable water and food
- Recommendations for recovery and re-entry (off-site)

The initial notification to DEP/BRP will be made by PEMA. Direct telephone "hot-lines" have been installed between the Beaver Valley Power Station and DEP/BRP for transmitting radiological information.

.4 Columbiana County Emergency Management Agency (CCEMA) -- is the lead governmental agency for offsite coordination and response in Columbiana County, Ohio. The CCEMA emergency plan is entitled

"Columbiana County Radiological Emergency Response Plan for Beaver Valley Power Station".

The CCEMA plan includes provisions for:

- Planning and coordination with local and State authorities
- Initial response to notification by Beaver Valley Power Station
- Alert and warning of local populations
- Evacuation and other protective measures for local populations
- Emergency Services

The CCEMA plan also contains emergency procedures for the local organizations, which are assigned action and/or support responsibilities under that plan.

The primary method of notification to CCEMA is the commercial phone system. The alternate method is radio. A copy of the agreement letter from the CCEMA is on file in the Emergency Response Section. CCEMA will not be requested to provide onsite local support, such as fire fighting.

.5 Ohio Emergency Management Agency (OEMA) -- is the lead governmental agency for coordination and response of emergency activities at the State level. The OEMA emergency plan is entitled "The Ohio Plan for Response to Radiation Emergencies at Licensed Nuclear Facilities". The OEMA plan includes provisions for:

- Issuance of planning guidance
- Coordination of State response to nuclear incidents
- Accident Assessment
- Recommendations for protective actions
- Recommendations for recovery and re-entry (offsite)
- Operation of the emergency operations center
- Provision for emergency public information
- Coordination of response with Federal agencies and applicable agencies in the contiguous states.

The primary method of notification to OEMA is the commercial phone system. The alternate method is radio via CCEMA. Additionally, backup notification of OEMA can be made by PEMA via the commercial phone system, or as an alternate the National Warning Systems (NAWAS) interconnection. A copy of the Letter of Agreement with OEMA is on file in the Emergency Response Section.

.6 Hancock County Office of Emergency Management (HCOEM) [C47] -- is the lead governmental agency for offsite coordination and response in Hancock County, West Virginia. The HCOEM emergency plan is entitled "Hancock

County Radiological Emergency Response Plan Beaver Valley Power Station". [C47]

The HCOEM plan includes provisions for: [C47]

- Planning and coordination with local and State authorities
- Initial response to notification by Beaver Valley Power Station
- Alert and warning of local populations
- Evacuation and other protective measures for local populations
- Emergency services

The HCOEM plan also contains emergency procedures for local organizations, which are assigned action and/or support responsibilities under that plan. [C47]

The primary method of notification to HCOEM is the commercial phone system. The alternate method is radio. A copy of the agreement letter from the HCOEM is on file in the Emergency Response Section. HCOEM will not be requested to provide onsite local support, such as fire fighting. [C47]

.7 West Virginia Division of Homeland Security and Emergency Management (WVDHS/EM) -- is the lead governmental agency for coordination and response of emergency activities at the State level. The WVDHS/EM emergency plan is entitled "West Virginia Emergency/Disaster Plan Volume Four Response/Radiological Beaver Valley Power Station". The WVDHS/EM plan includes provisions for: [C47]

- Issuance of planning guidance
- Coordination of State response to nuclear incidents
- Accident Assessment
- Recommendations for protective actions
- Recommendations for protection of potable water and food
- Recommendations for recovery and re-entry (offsite)
- Operation of the Emergency Operations Center
- Provision for emergency public information
- Coordination of response with Federal Agencies, and with applicable agencies in the contiguous States

The primary method of notification to WVDHS/EM is the commercial phone system. The alternate method is radio via HCOEM. Additionally, backup notification of WVDHS/EM can be made by PEMA via the commercial phone system, or as an alternate, the National Warning System (NAWAS) interconnection. Copies of the agreement letters between WVDHS/EM and Beaver Valley Power Station are on file in the Emergency Response Section. [C47]

5.5.2 Federal Agencies

The principal Federal government agencies having emergency responsibilities relative to the Beaver Valley Power Station, and a summary of those responsibilities are:

.1 US Nuclear Regulatory Commission (NRC), -- is responsible for conducting investigative activities associated with a radiological emergency, and verifying that emergency plans have been implemented and the proper agencies notified. The NRC and the Federal Emergency Management Agency (FEMA) share responsibility for coordinating Federal response to emergencies. Specific responsibilities assigned to the NRC include:

- Notification of FEMA whenever a radiological event occurs or whenever there is high potential for such an event.
- Monitoring operational data and assuring that adequate information and recommendations are being provided to offsite agencies.
- As a back-up to the licensee, providing a technical assessment of onsite radiological and plant conditions to FEMA and other Federal agencies and keeping offsite agencies apprised of any operational decisions that may effect offsite protective actions.
- Dissemination of onsite data to FEMA and Federal agencies, the news media, and the general public.

.2 US Department of Energy (DOE), Brookhaven Area Office -- will respond to requests from the Beaver Valley Power Station and provide offsite assistance which is limited to advice and emergency action essential for the control of the immediate hazards to public health and safety.

DOE coordinates the activities of the Federal Radiological Monitoring and Assessment Plan (FRMAP). The FRMAP plan provides the framework through which the Federal agencies participating in the FRMAP program will coordinate their emergency radiological monitoring and assessment activities with those of State and local governments. The Beaver Valley Power Station will perform necessary onsite and in-plant radiological monitoring with Station personnel, augmented as necessary with personnel

from other nuclear utilities, and from contractor organizations. FRMAP personnel will not be used for onsite or in-plant monitoring at Beaver Valley. Since FRMAP resources are to be used for offsite response, the emergency plans of Pennsylvania, West Virginia, and Ohio have made provisions for the use of FRMAP resources. To provide means for FRMAP access to plant release and meteorological data, space will be made available for a liaison from FRMAP in the Emergency Operations Facility.

The primary method of notification to DOE is by the commercial phone system, in accordance with the provisions of the agreement letter, on file in the Emergency Response Section. Notifications may also be made through the NRC.

.3 National Weather Service (NWS) (Pittsburgh, PA) -- will respond to requests from the Beaver Valley Power Station for routine and special weather advisories and meteorological data, and through the River Forecasting Section, hydrologic data for the Ohio River.

The primary method of notification to NWS is by the commercial phone system, in accordance with the provisions of the agreement letter, on file in the Emergency Response Section.

.4 Federal Emergency Management Agency (FEMA) -- The responsibility of FEMA in the event of an emergency at a nuclear power facility is to coordinate the response of the various Federal agencies. The NRC and FEMA share responsibility for coordinating Federal response to emergencies. Specific responsibilities assigned to FEMA include:

- Coordination of Federal support to state and local officials
- Dissemination of data on offsite support actions to the White House, other Federal agencies, and news media, and the general public.

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TABLE 5.1 MINIMUM ON-SHIFT STAFFING REQUIREMENTS

Major Functional Area	Major Tasks	Position Title/Expertise	Proposed On-Shift	Capability for Additions	
				60 min	90 min
Emergency Direction and Control	Classification/Oversight	Shift Manager (SRO)	2	------	------
		TSC Emergency Coordinator (TSC)	------	1	------
		Emergency Director (EOF)	------	1	------
Notification/ Communication	Licensee, Local/State Federal personnel and maintain communication	Shift Communicator (State/local/Federal)	1	------	------
		State/local Communicator (EOF)	------	1	------
		ENS Communicator (TSC)	------	1	------
Radiological Accident Assessment	Offsite Dose Assessment	Shift Technical Advisor (SRO/STA)	1*	------	------
		Dose Assessment Coordinator (EOF)	------	1	------
	Offsite Surveys	FMT Lead	------	1	1
		FMT Member	------	1	1
	In-plant/Onsite (out-of-plant)	RP qualified individual	1	1	1
	Protective Actions	RP qualified individual	1	2	2
	RP Oversight	RP Coordinator (TSC)	------	1	------
Plant System Engineering	Technical Support	Shift Technical Advisor (SRO/STA)	1	------	------
		Core Hydraulic Engineer (TSC)	------	1	------
		Electrical Engineer (TSC)	------	1	------
		Mechanical Engineer (TSC)	------	1	------
Repair and Corrective	Repair and Corrective Actions	MM Coordinator (OSC)	------	------	1
		EM Coordinator (OSC)	------	------	1
		I&C Coordinator (OSC)	------	------	1
		OSC Coordinator (OSC)	------	1	------
		HP Coordinator (OSC)	------	1	------
		Mechanical Personnel (OSC)	------	1	------
		Electrical Personnel (OSC)	------	1	------
		Instrument & Control Personnel (OSC)	------	------	1
Total			**6**	**18**	**9**

*May be performed by someone filling another position having functional qualifications.

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FIGURE 5.1

BEAVER VALLEY POWER STATION C62

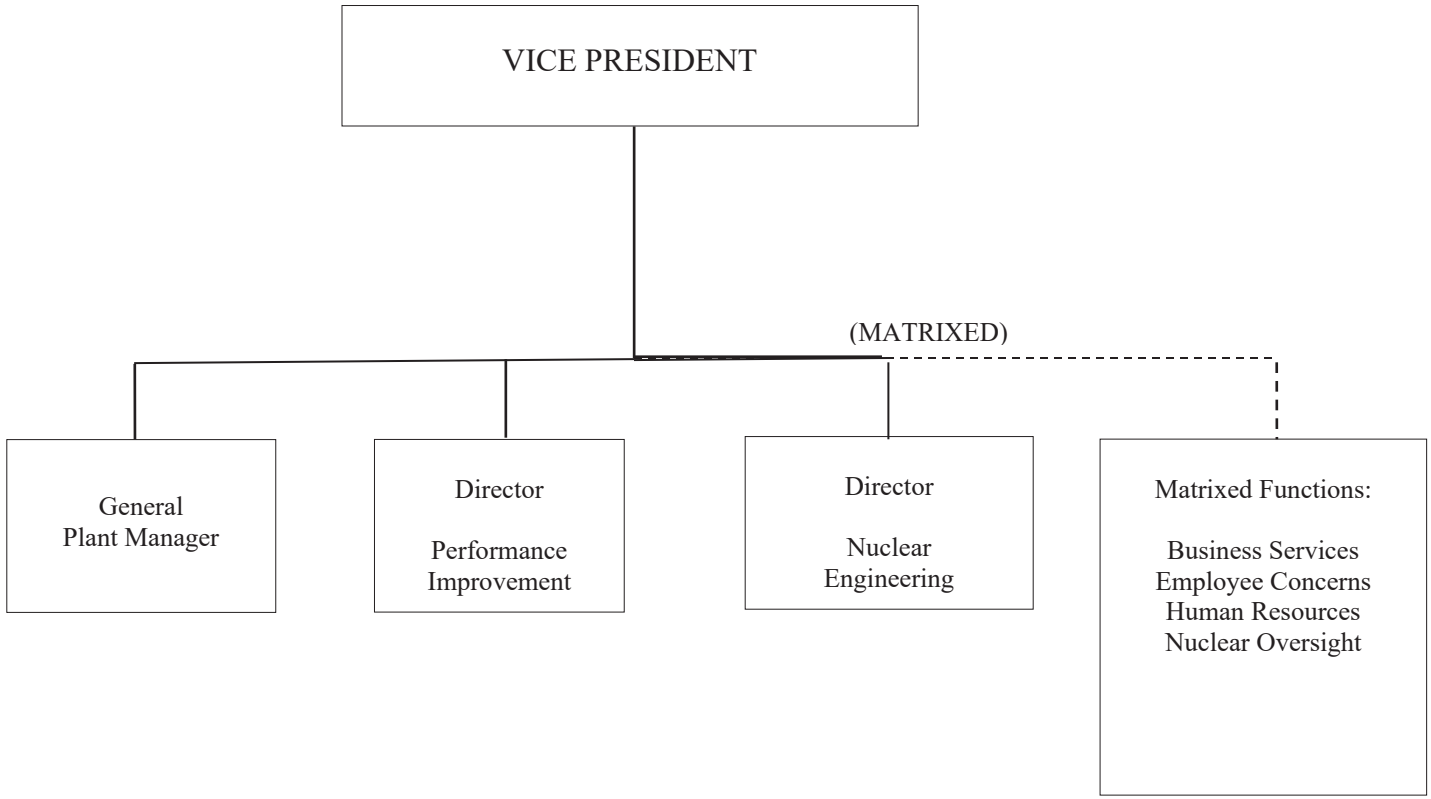

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FIGURE 5.2

ONSHIFT EMERGENCY ORGANIZATION

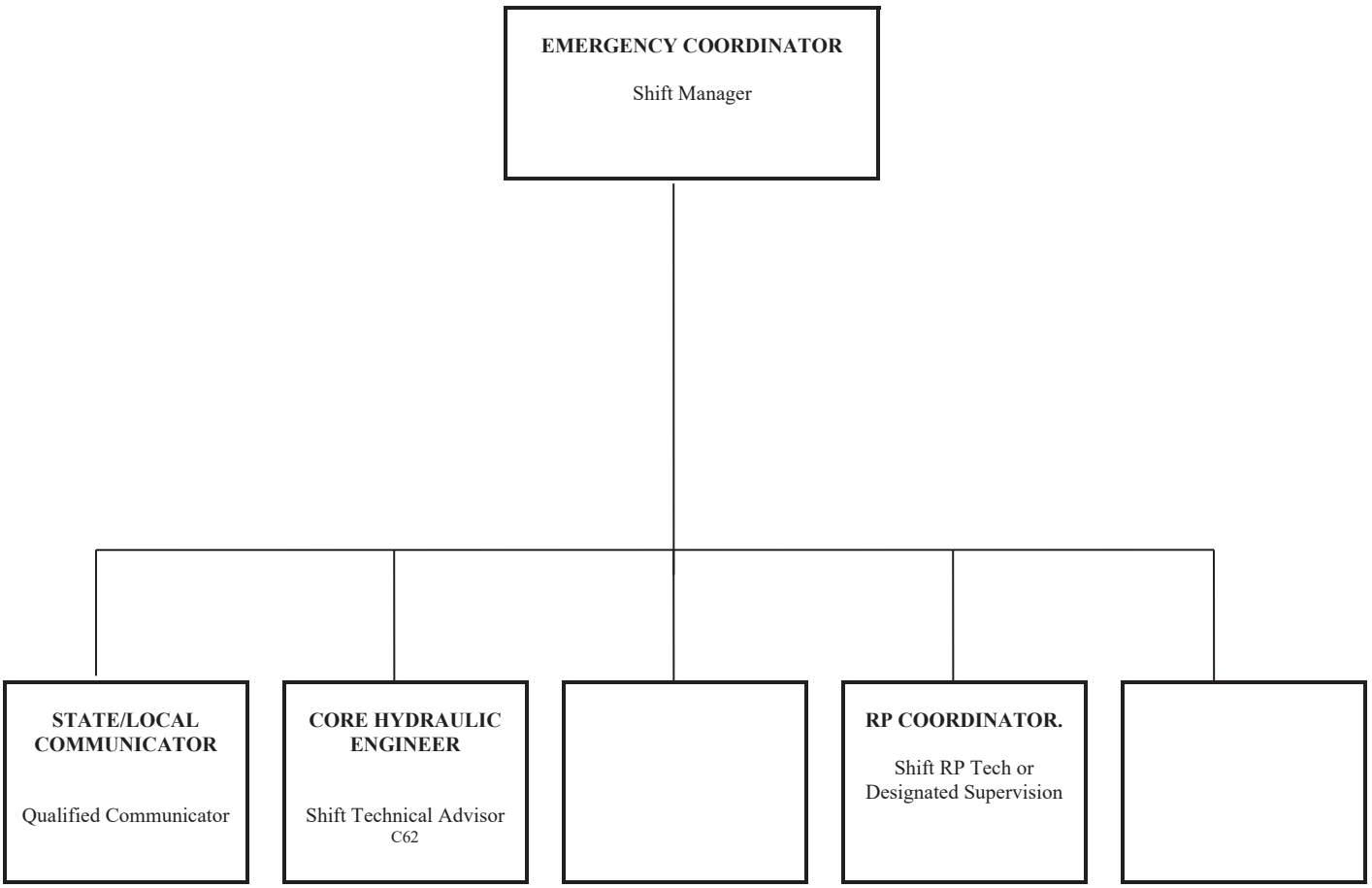

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FIGURE 5.3

TECHNICAL SUPPORT CENTER ORGANIZATION [c8]

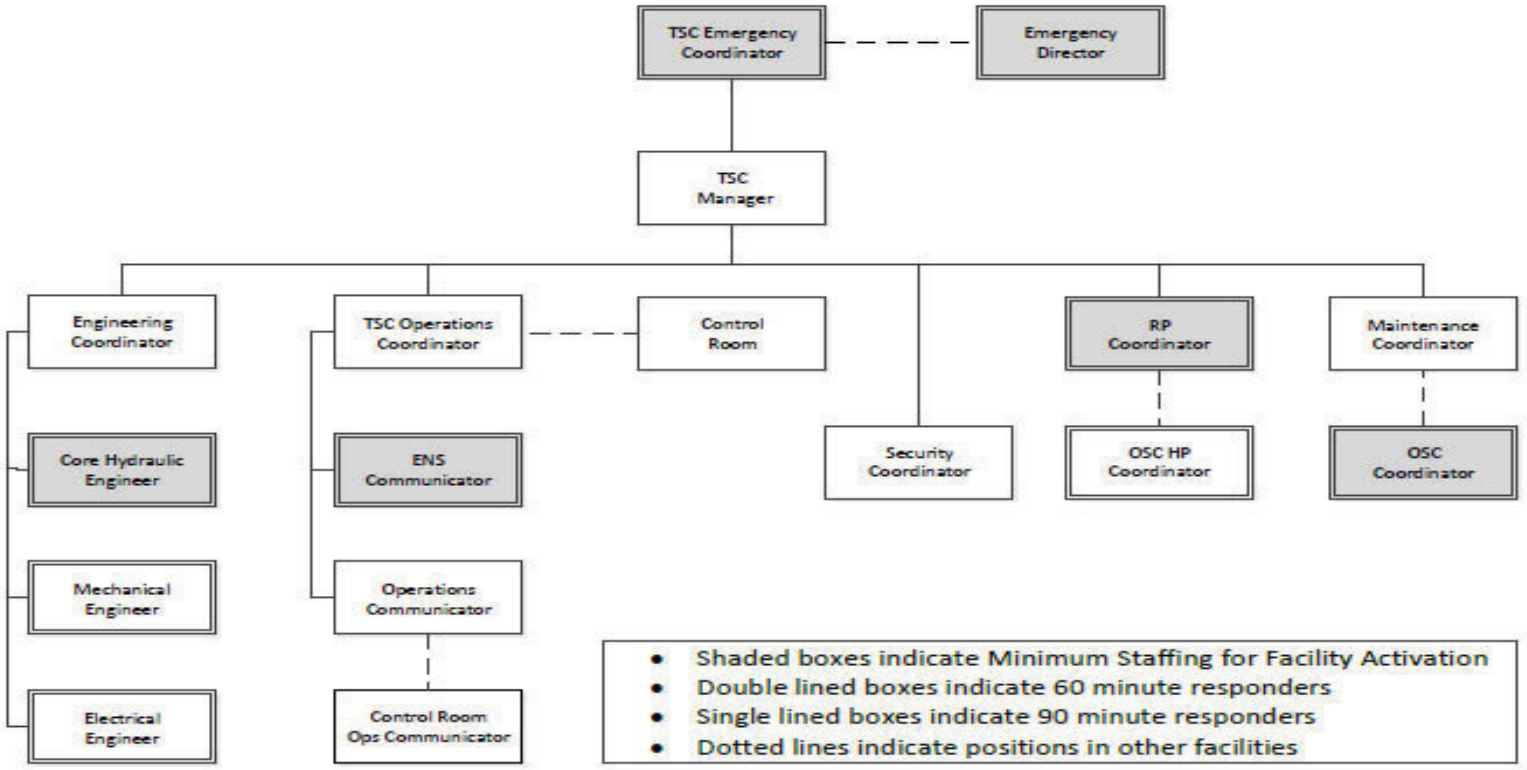

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FIGURE 5.4

OPERATIONS SUPPORT CENTER ORGANIZATION [c8]

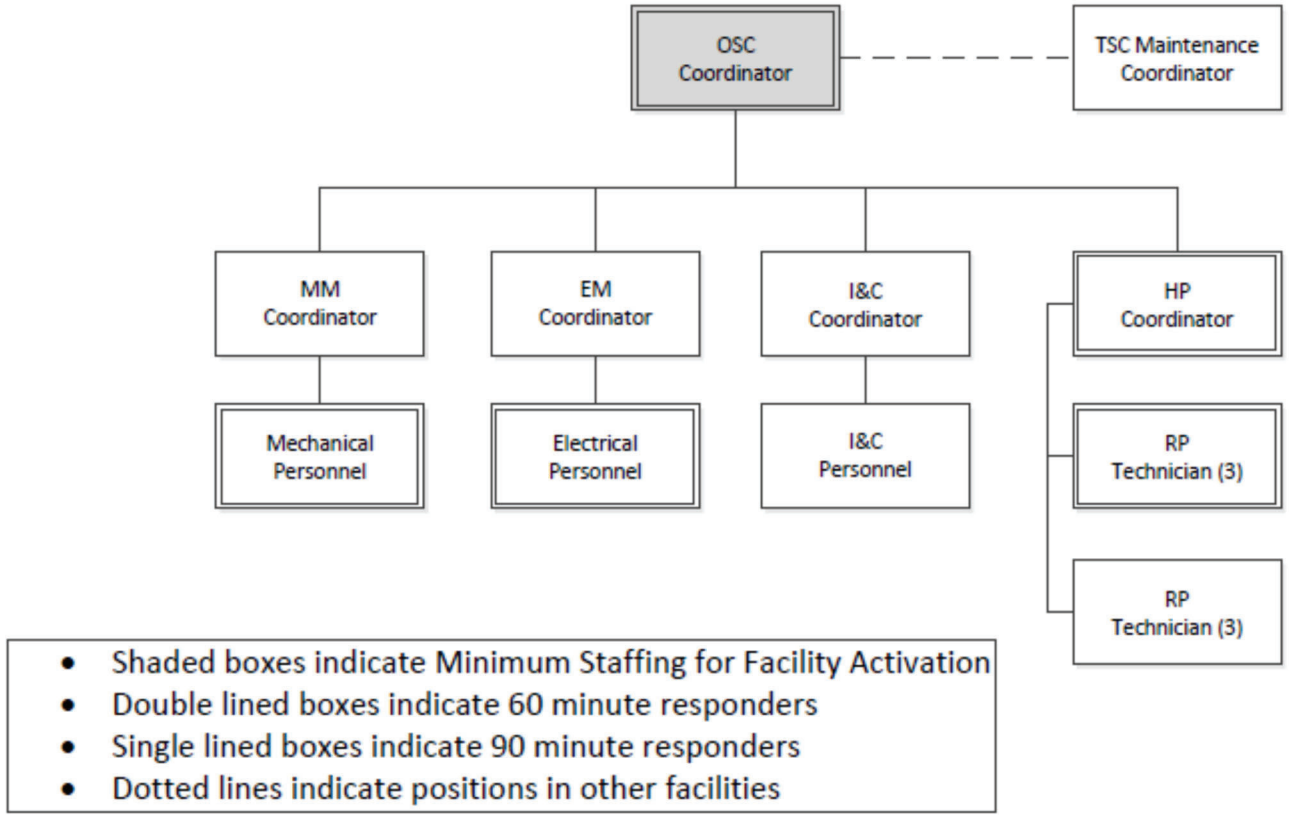

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FIGURE 5.5

EMERGENCY OPERATIONS FACILITY ORGANIZATION

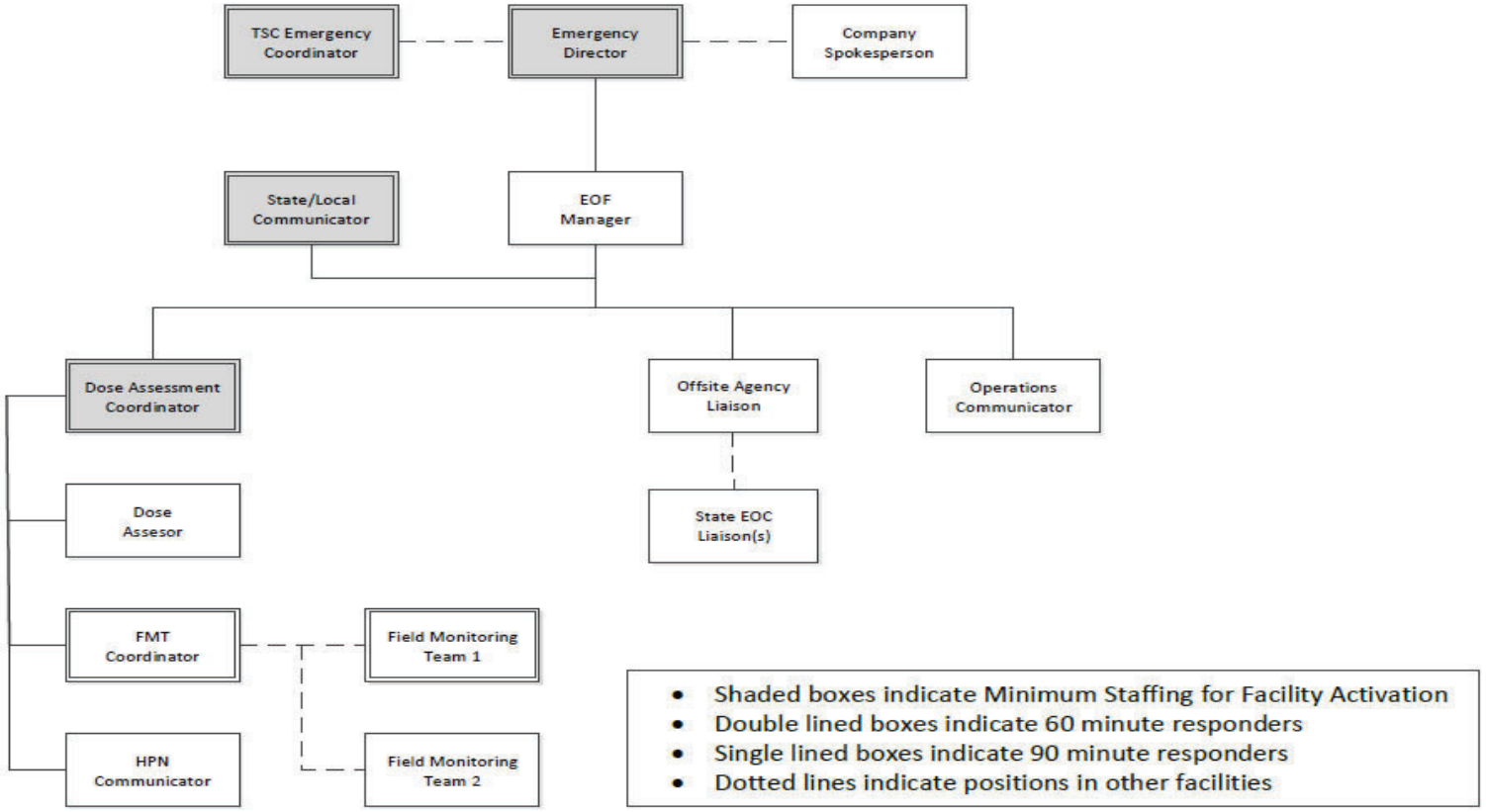

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FIGURE 5.6

JOINT INFORMATION RESPONSE ORGANIZATION [c8]

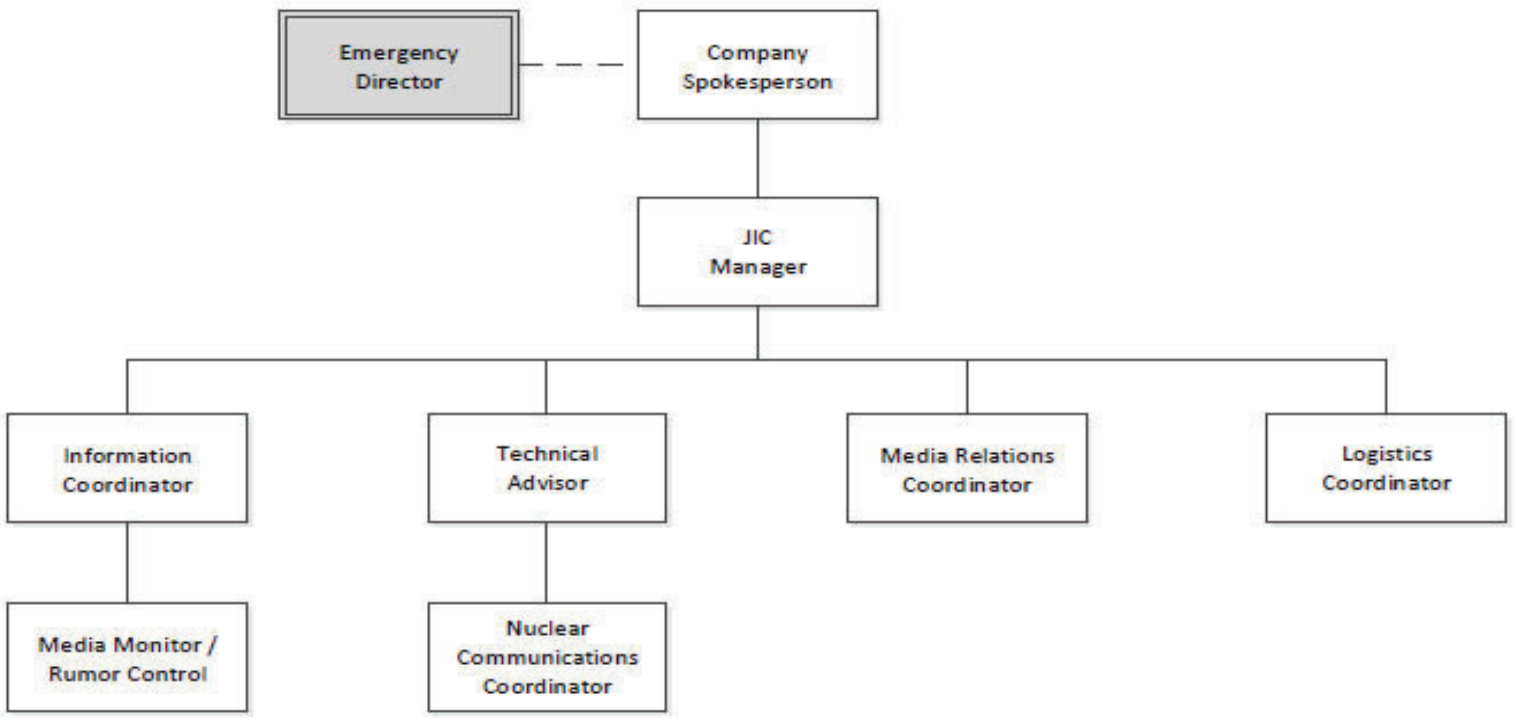

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FIGURE 5.7

C36

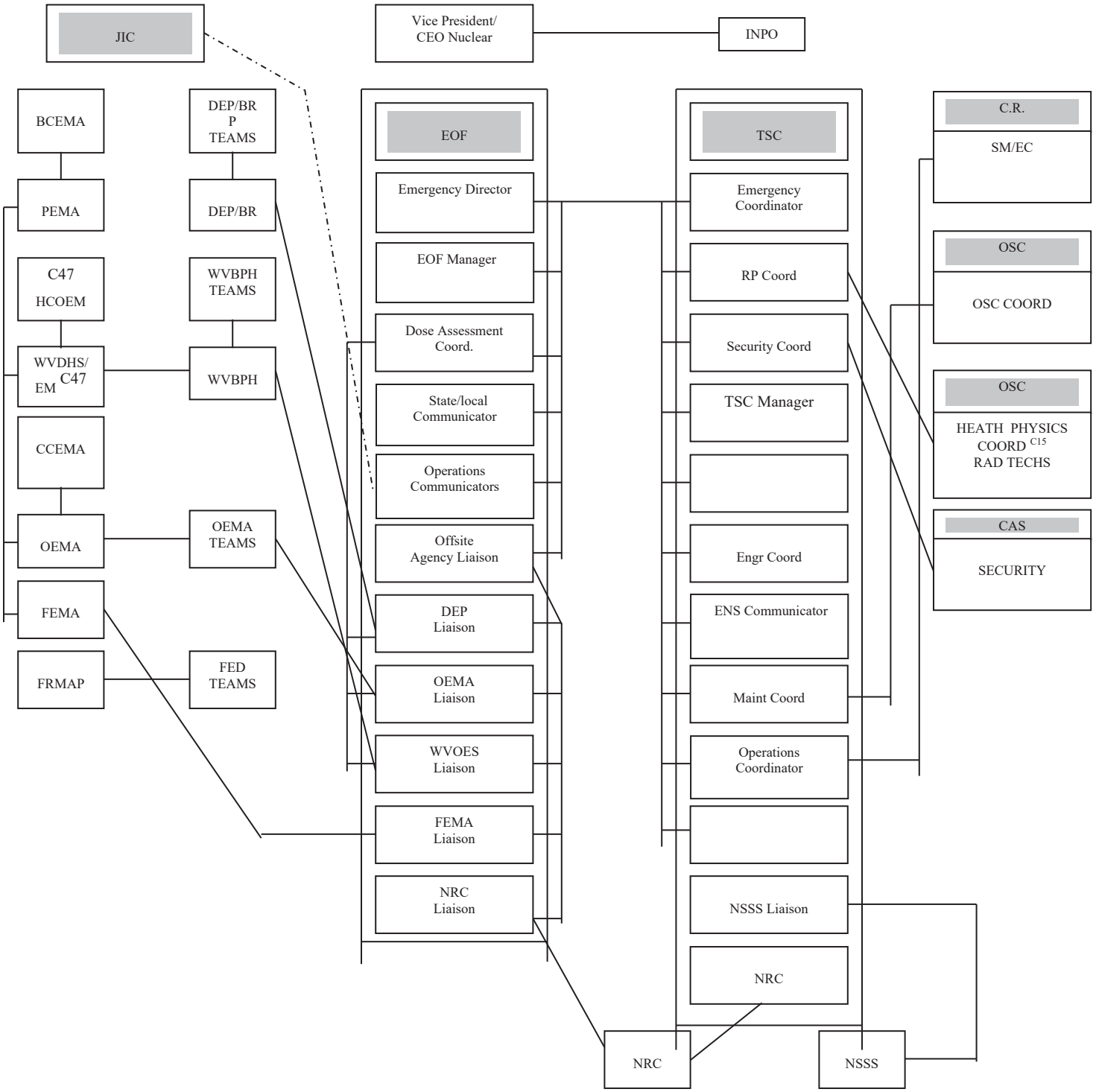

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TABLE 5.3 [c9]

OFFSITE ORGANIZATIONS
COUNTY

ORGANIZATION	ADDRESS	RESPONSIBLE INDIVIDUAL
BCEMA	Beaver County EMA 351 14th Street Ambridge, PA 15003	Director, Beaver Co. Emer. Services Center
CCEMA	Columbiana County EMA 215 South Merchant Street [C62] Lisbon, OH 44432	Coordinator, Columbiana Co. EMA
HCOEM [C47]	[C47] Hancock County Office of Emer. Management P.O. Box 884 82 Emergency Drive New Cumberland, WV 26047	Director, Hancock Co. OEM [C47]

STATE

ORGANIZATION	ADDRESS	RESPONSIBLE INDIVIDUAL
Ohio Department of Health	Ohio Dept. of Health Radiological Health Program 246 N. High Street Columbus, OH 43266-0588	Director, Ohio Dept. of Health Radiological Health Branch
OEMA	Ohio Emergency Management Agency Adjutant General's Dept. 2855 West Granville Road Columbus, OH 43235-2206	Chief, Radiological Branch

TABLE 5.3 [c9]
OFFSITE ORGANIZATIONS

STATE (Continued)

ORGANIZATION	ADDRESS	RESPONSIBLE INDIVIDUAL
PA DEP/BRP	PA Dept. of Environmental Protection Bureau of Radiation Protection 16th Floor, M.S.S.O.B P.O. Box 8469 Harrisburg, PA 17105-8469	Section Chief of Division of Licensing and Registration
PEMA	PA Emergency Management Agency 1310 Elmerton Avenue Harrisburg, PA 17110	Director, Pennsylvania Emergency Management Agency
WV Department of Health and Human Resources	WV Department of Health and Human Resources Bureau for Public Health Radiological Health Program Capitol and Washington Streets 1 Davis Squire, Suite 200 Charleston, WV 25301	Chief, Radiological Health Division
WVDHS/EM [C47]	West Virginia Division of Homeland Security and Emergency Management [C47] 1703 Coonskin Drive Charleston, WV 25311	Division Director

SECTION 6

EMERGENCY MEASURES

Section 6

EMERGENCY MEASURES

Table of Contents

Section 6

EMERGENCY MEASURES

Table of Contents

Page No.

6.0 EMERGENCY MEASURES

Emergency Measures are actions taken to ensure that an emergency situation is assessed and that proper corrective and/or protective actions are taken. These actions include activation of the appropriate components of the emergency organizations, both onsite and offsite; assessment of plant systems status and radiological conditions; corrective actions to ameliorate or terminate an emergency situation; protective actions to minimize the consequences of the emergency to Site personnel and to the general public in the Site environs; decontamination and medical treatment for Site personnel; and other supporting actions such as timely and accurate emergency news releases to the public.

6.1 EMERGENCY INITIATION

Emergency actions are initiated primarily in response to alarmed instrumentation, but may be initiated through notification to the Control Room by the first individual at the Beaver Valley Power Station to become aware of an apparent emergency situation. The Reactor Operator (RO) performs the necessary immediate actions to contend with the off-normal situation in accordance with Abnormal Operating Procedures, instrument alarm response procedures and/or Operating Procedures (BVPS Op Manual). The RO promptly notifies Shift Supervision of the potential emergency situation. The Shift Manager assesses the situation and, if necessary, declares the emergency. The Shift Manager assumes the role of Beaver Valley Power Station Emergency Coordinator until he is relieved of that responsibility. The Emergency Coordinator continues to assess and classify the condition and initiates the appropriate corrective and protective actions and ensures activation of the necessary segments of the total emergency organization.

The Emergency Operating Procedures contain appropriate action statements, which refer the operator to this Emergency Preparedness Plan when specified plant parameter values are exceeded or equipment status warrants such response.

6.2 ACTIVATION OF THE ONSITE EMERGENCY ORGANIZATION

This section describes the provisions for notifying or activating personnel in the onsite Emergency Response Organization for response to emergency events at the Beaver Valley Power Station. Action levels and recognition criteria, which dictate the appropriate emergency classifications, are described in Section 4. The composition of the onsite emergency organization and the assigned responsibilities and authorities of each member of the organization is described in Section 5. The activation process for each emergency classification is described in more detail in the Emergency Implementing Procedures.

Table 6.1 summarizes the notification/activation of both the onsite and the offsite emergency response organizations and designates immediate action requirements for each emergency classification. Table 6.2 tabulates the organizations notified, the point of notification, provision for 24-hour coverage, and the communications equipment used, for each notification made.

6.2.1 Activation for Unusual Events

Upon being informed of an emergency event, which corresponds to an Unusual Event, as defined in Section 4, the Shift Manager will immediately begin to assess and evaluate the situation. He will ensure that appropriate actions have been initiated to maintain the safe and proper operation of the Site. As Emergency Coordinator, the Shift Manager, will concern himself with the emergency response activities, delegating responsibility for corrective actions to return the plant to a safe mode and other plant operations to the Unit Supervisor.

For most Unusual Event emergencies, the emergency response functions can be performed by the on-shift emergency response organization without augmentation by called-in personnel. In these cases, the Shift Manager will ensure that the appropriate emergency functions are performed in a timely manner consistent with the nature of the emergency. The Shift Manager may designate one or more individuals from the on-duty shift to assist in this effort.

6.2.2 Activation for Alert or Higher Emergencies

Once an off-normal condition has been classified as an Alert or higher, either initially or as an escalation from Unusual Event, the Emergency Response Organization (as illustrated in Section 5, Figures 5.3, 5.4, and 5.5), will be activated. The Shift Manager will:

.1 Classify the condition.

.2 Implement immediate actions in accordance with this Plan and the applicable Emergency Implementing Procedures.

.3 Ensure the Emergency Response Organization is notified.

.4 Once the Emergency Coordinator and Emergency Director arrives and command and control is transferred, the Shift Manager will re-assume control of the operation of the plant from the Unit Supervisor.

6.2.3 Activation Times for the Emergency Facilities

In the event of any off-normal event requiring implementation of the Emergency Preparedness Plan, the emergency response commences within the Control Room and emergency response functions are transferred to the designated emergency facilities as the incident escalates in severity and/or as the emergency response organization is activated. Beaver Valley Power Station will maintain an emergency organization and notification system, which will have the objective of meeting the response times in NRC Revised Table B-1 of NUREG-0654. Section 7 describes the function, responsibilities, equipment, and communications of these emergency facilities. Emergency facilities are not required to be activated for Unusual Events. This section describes the activation of these facilities. Emergency Implementing Procedures provide other detailed information on the activation of these facilities.

.1 Control Room

The Control Room is initially the primary location of plant management control of emergencies and provides sufficient capabilities to contend with emergencies classified as Unusual Events.

If an Alert or higher emergency occurs, the plant management functions would be transferred from the Control Room to the Technical Support Center and Emergency Operations Facility.

.2 Technical Support Center (TSC)

The Technical Support Center serves two functions, the first being plant management control of the emergency, and second, engineering and technical support of the emergency response. The first function is satisfied by the BVPS Emergency Response Organization illustrated in Figure 5.3. These personnel are activated by a call out initiated by the Shift Manager. The second function is served in the Core Hydraulic, Mechancial, and Electrical Engineer positions of the TSC and is staffed by qualified technical and engineering personnel. The TSC staff calls upon other BVPS engineering personnel, as necessary, to contend with then-existing conditions. The TSC shall be activated within 60 minutes of an Alert or higher declaration.

.3 Operations Support Center (OSC)

The Operations Support Center (OSC) is primarily an assembly area for emergency response personnel and shift personnel needed for supplemental emergency maintenance team responses. An OSC Coordinator maintains accountability and interfaces with the TSC and the Control Room.

The Radiation Protection Coordinator is stationed at the Technical Support Center, and would direct Health Physics activities through the OSC-Health Physics Coordinator in the OSC. The OSC H.P. Coordinator, would call-in Radcon Technicians, as necessary. If the nature of the emergency renders the OSC unusable due to radiological conditions, OSC operations are transferred to the Alternate OSC. No other formal assignments are made to the OSC.[C15] The OSC shall be activated within 60 minutes of an Alert or higher declaration.

.4 Emergency Operations Facility (EOF)

The EOF is the focal point for coordination of onsite and offsite emergency response activities. Management and technical personnel assigned to the EOF are responsible for protective action recommendations, liaison with offsite governmental organizations and response facilities, and overall coordination of the Emergency Organization. The Emergency Operations Facility shall be activated within 60 minutes of an Alert or higher declaration. EOF personnel are notified simultaneously with the TSC emergency organization. Offsite agencies may supply a liaison to the EOF as part of the staffing of their individual emergency response organizations.

.5 Joint Information Center (JIC)

In the event of any emergency condition at the Beaver Valley Power Station, the Licensee's Corporate Communications is notified as part of the initial notification process for offsite agencies and following completion of notifications to local and state emergency response organizations. The Joint Information Center (JIC) is not staffed for Unusual Events. Company news announcements will be distributed from the Corporate Offices during this time.

For Alert or higher classifications, the Communications Emergency Response Team will staff the JIC.

6.3 ACTIVATION OF THE EMERGENCY SUPPORT GROUPS

6.3.1 Offsite Emergency Response Groups

The Emergency Coordinator shall ensure that appropriate offsite emergency response groups are contacted to provide the type and level of emergency assistance which may be required to deal with the existing emergency condition. The organizations listed below may be contacted for assistance. Methods available for contacting these support groups include direct telephone communications with individual organizations and message relay through the Beaver County Emergency Services Center. Each of these agencies can be notified and can respond on a 24-hour-per-day basis. [C66]

- Heritage Valley Beaver Hospital
- University of Pittsburgh Medical Center-Presbyterian Hospital
- Offsite fire departments
- Offsite ambulance services
- Shippingport Police Department (security assistance)
- Pennsylvania State Police (security assistance)
- Beaver County District Attorney's Office – Emergency Services Unit (ESU) (security assistance)

which, to the extent possible, follows normal organizational lines of communications. Once the emergency has been declared, the Shift Manager shall notify the designated Emergency Coordinator, and other personnel, by the appropriate notification method in the Implementing procedures. [C36] Additional notifications to Licensee management will be made, consistent with the nature and severity of the emergency. Communications personnel are activated as part of the Onsite Emergency Response Organization.

6.3.3 Other Organizations Providing Onsite Support

The Westinghouse (W) Water Reactors Division provides emergency assistance to the Beaver Valley Power Station under the provisions of the W Emergency Response Plan. In the event of an Alert or higher Emergency, the Communications & Records Coordinator or designee notifies the W Water Reactors Division. Upon receipt of this notification, the W plan is initiated and the W emergency organization is activated. If appropriate, Site Response Personnel will be dispatched to the onsite Technical Support Center. The W plan provides for 24-hour-per-day notification and response capability.

Assistance from contractor groups and other utilities is not considered to be an immediate action. Thus, these groups will be contacted by TSC and/or EOF personnel as necessary to augment onsite personnel.

The Licensee's Institute for Nuclear Power Operations (INPO) administrative point of contact coordinates all requests for emergency assistance.

6.4 ACTIVATION OF OFFSITE EMERGENCY RESPONSE ORGANIZATIONS

The Emergency Coordinator shall ensure that offsite authorities are notified and apprised of emergency events at the Beaver Valley Power Station. Notifications are either initial or follow-up. Initial notifications inform offsite agencies that an event has occurred and, as applicable, the emergency response actions necessary. Follow-up notifications provide technical information on the incident on a periodic basis. For Alert or higher declarations, the offsite agencies in the Emergency Operations Facility will interface with the BVPS emergency organization through the Offsite Agency Liaison, as necessary.

Detailed notification procedures, call-lists, and notification forms are provided in Emergency Implementing Procedures. Procedures include the use of a code word for authenticating notifications[C2]. The communications systems used for notification are described in Section 7 of this Emergency Preparedness Plan.

6.4.1 Initial Notifications

Notifications are made to the offsite authorities listed below:

- Beaver County Emergency Management Agency (host county)
- Pennsylvania Emergency Management Agency (host state)
- Columbiana County Emergency Management Agency (Ohio)
- Hancock County Office of Emergency Management (West Virginia)
- Ohio Emergency Management Agency
- West Virginia Department of Homeland Security/Emergency Management Division
- US Nuclear Regulatory Commission

The Pennsylvania Emergency Management Agency (PEMA) notifies the Pennsylvania Department of Environmental Protection/Bureau of Radiation Protection (DEP/BRP).

CCEMA and HCOEM both notify their respective state organizations. Each organization notified performs notifications in addition to those specified in accordance with their respective emergency response plans and procedures. [C47]

Since the initial contact with offsite authorities is generally made to a communications operator or other similarly qualified individual, the initial notification will be simple, brief, and factual. To facilitate notification, Initial Notification message forms are supplied to all appropriate offsite agencies. These forms contain pre-printed text with blanks for incident specific information. Where feasible, the blanks contain a choice of words and/or phrases which, when circled, complete the message text. The message provides information that an emergency condition exists, the classification of that emergency, whether or not a release of radioactive material is occurring or could occur, and recommendations for offsite protective actions.

Upon receipt of an initial notification the individual contacted at each agency notifies the Director of that agency, or other designated personnel and relays the message provided in the initial notification. The cognizant individual then contacts the facility for additional follow-up technical information. In Pennsylvania, DEP/BRP performs the call-back for PEMA.

The process described above provides necessary notifications in a manner, which facilitates accuracy and provides for verification of the notification.

Notification of an Unusual Event is primarily to ensure that the authorities are cognizant of the details of events, which might arouse public concern and initiate inquiries by the news media, or members of the public.

Primary means of notification is by regular telephone. An **E**mergency **T**elephone **S**ystem (ETS) connection onsite for contacting the USNRC, and "hot-line" exists between the Site and DEP/BRP. Back-up radio communications capability exists between the Control Room and each of the risk county Emergency Operations Centers (EOCs). See Table 6.2.

6.4.2 Follow-up Notifications

The follow-up notification form serves two purposes: The first is to provide technical information on the emergency directly to those individuals qualified to use the data. The second is to provide a means for offsite authorities to verify the authenticity of any emergency notification.

A Follow-up Notification Form has been developed and supplied to all appropriate offsite agencies. Similar in format to the Initial Notification Form, the Follow-up Notification Form contains data blanks which, when filled in, provide the following information:

- Location of incident and name and telephone number of caller
- Date/time of incident
- Class of emergency
- Type of actual or projected release and estimated duration/impact times
- Estimate of quantity of radioactive material released or being released and the points and height of releases
- Chemical and physical form of released material, including estimates of the relative quantities and concentration of noble gases, iodines and particulates
- Meteorological conditions and stability
- Actual or projected dose rates at site boundary; projected integrated dose at site boundary
- Projected and integrated dose at peak for 2, 5 and 10 miles
- Estimate of any surface radioactive contamination inplant, onsite and offsite
- Licensee response actions underway
- Recommended emergency actions, including protective measures
- Request for any needed onsite support by offsite organizations
- Prognosis for worsening or termination of event based on plant information

Unlike the Initial Notification Form, the Follow-up Form is not intended to be relayed word-for-word. The objective of the form is to standardize the information provided to offsite agencies by different communications personnel.

Following activation of the Emergency Operations Facility (EOF), technical data will be provided directly to state, local, and Federal liaison personnel at the EOF, providing additional information in conjunction with the Follow-up Notification Form.

6.4.3 Subsequent Notifications

In the event it becomes necessary to escalate an emergency classification, the Initial Notification Form will be used, in the manner described for initial notification, to notify offsite agencies of the escalation of the emergency.

6.5 ASSESSMENT ACTIONS

Provisions are made for assessment throughout the course of an emergency to ensure effective coordination, direction, and upgrading of emergency activities in a timely manner. The assessment actions are described, in detail, in Emergency Implementing Procedures. Assessment facilities and equipment are described in Section 7 of this Plan. The assessment functions, the general methodology, and the techniques utilized are identified in this section.

6.5.1 General Assessment Actions

.1 Unusual Event

Continuous assessment of the status of plant systems and radiological conditions is provided by plant instrumentation and is supplemented by routine surveillance functions. The occurrence of an Unusual Event will be recognized by instrument alarms or indications, surveillance results, or other observations of an off-normal condition by an individual at the site.

For events which require an on-shift response, the initial and continuing assessment will be performed by Control Room personnel.

Offsite dose projections may be performed if the event involves radiological effluent releases. These dose projections are continually repeated throughout the duration of the release to reflect any significant changes. If warranted, the emergency classification will be upgraded to an Alert or higher. Methods for performing rapid dose projections are described in detail in Emergency Implementing Procedures, and are summarized in Section 6.5.3.

.2 Alert

Assessment action for an Alert include upgrading of the functions performed for an Unusual Event as appropriate for the condition. Examples are:

- Increased surveillance of in-plant instrumentation
- Additional assistance obtained from off-duty personnel and/or offsite support groups
- Extended radiological monitoring
- Increased offsite monitoring efforts
- Intensified dose projection activities

.3 Site Area Emergency

Assessment actions for a Site Area Emergency will be responsive to the increased probability of major failure of plant safety functions and a higher potential for release of significant quantities of radioactive material. Examples include:

- Increased surveillance of instrumentation, which may provide information on the status of the core and reactor coolant system.
- Coordination of offsite dose assessment activities with DEP/BRP.

.4 General Emergency

The emphasis of assessment actions for a General Emergency will be placed on the likelihood of substantial core degradation, potential loss of containment integrity and release of significant quantities of radioactive material. Surveillance of instrumentation relative to the core condition, reactor coolant system activity, containment pressure and radiation level, and radioactive effluents will be increased. Dose projection and offsite monitoring efforts will be further intensified and communications will be maintained with DEP/BRP and corresponding agencies in Ohio and West Virginia to ensure that offsite dose assessments are based on the best available information.

Recommendations for protective actions will be provided, as applicable, to PEMA, BCEMA, OEMA, CCEMA, WVDHS/EM and HCOEM.[C47]

6.5.2 Plant Systems Status

Process and effluent parameter monitoring instrumentation has been installed to provide a capability to identify that an off-normal condition exists, to determine the extent and nature of the off-normal condition, to assess the radioactivity in effluent paths, and to determine the effectiveness of corrective and mitigative measures such as safety injection or containment isolation. This equipment is described in Section 7 of this Plan and in the BVPS Updated Final Safety Analysis Report (FSAR) and Operating Manual.

The Reactor Operator has primary responsibility for monitoring and assessing plant systems status, reporting such status to shift supervision, and taking appropriate corrective action in a timely manner.

The Shift Technical Advisor supports the shift operations personnel in assessing off-normal conditions and in recommending appropriate corrective action.

When activated, the Technical Support Center (TSC) will augment the Shift Technical Advisor in performing accident assessment activities and in recommending corrective actions to place the plant in a safe configuration and to mitigate the consequences of the event. The TSC staff has access to all plant parameter indications through analog/digital data and voice communication links.

6.5.3 Dose Projection

.1 General

Dose projection is the assessment of the radiological consequences of an accidental release of radioactive material from the Site. The primary objective of these consequence assessments is to support decisions regarding the need for protective actions for members of the general public. A multi-component capability for performing dose projections for both gaseous and liquid radioactivity releases from the Site has been established. Necessary radiological, process, and meteorological information to support this assessment activity have been provided in the Control Room and in the TSC/EOF, and are described in Section 7 of this Plan.

There are several principles that are reflected in the dose projection methodology and implementing procedures at the Beaver Valley Power Station. These principles are:

- Dose projections are primarily performed to support decisions on offsite protective action recommendations in slowly developing emergency situations. Protective action decisions for quickly developing situations are based on pre-calculated Emergency Action Levels and plant systems status assessments.

- Time permitting, dose projection results may be considered in conjunction with results from plant systems status assessments in protective action decisions. In the event of a significant discrepancy between a protective action indicated by dose projection results and that indicated by plant systems status assessments, the most conservative (i.e., leading to the lower population dose) recommendation that cannot be readily discounted shall be relayed to appropriate offsite agencies.

- Compatibility in the dose assessment methodologies used by BVPS and the offsite agencies is largely an unachievable goal. The level of technical sophistication varies greatly from agency to agency. Technical information regarding the BVPS methodologies is routinely made available to these agencies and periodic comparison exercises are conducted.

- BVPS personnel will make every reasonable effort to resolve differences that may arise between onsite dose projection results and those results generated by the various offsite response agencies. However, in the absence of a resolution of the differences, the BVPS protective action recommendations shall be based on the onsite dose projection results, and/or plant systems status assessments.

.2 Dose Projection Capabilities

The dose projection capabilities and the implementing procedures provide methods for performing dose projections under a wide range of circumstances. There are three major components to the BVPS dose projection capability: (1) Gaseous release dose assessment method, (2) Liquid release dose assessment method, and (3) Back-Up dose assessment method.

These methods are described in detail in supporting technical documentation, and procedures for their use are included in the Emergency Implementing Procedures 1/2-EPP-IP-2.xx series. In brief summary:

- Gaseous Release Dose Assessment Method

  The dose assessment capabilities at BVPS include the Site dose assessment software. The BVPS Site dose assessment software contains modules adapted to the BVPS site.[C56] Flexible run time option choices provide for varying combinations of data sources, accident source terms, decay periods, report types, and other parameters. Information available includes X/Q, gamma dose, inhalation thyroid, and projected TEDE and CDE/thyroid dose.

- Back-Up[C50] Dose Assessment Methods

  Back-up dose assessment methods for both gaseous and liquid releases involve providing multiple computers with copies of the dose assessment software within the appropriate emergency facilities.

  Other dose assessment related methods available address:

  - Using Alternate Sources of Meteorological Data.
  - Dose Projection with Known Isotopic Release Rate or Known Isotopic Quantity.
  - Dose Projection with Source Term Based on Field Measurements.
  - Estimation of Ingestion/Inhalation Dose Commitments.
  - Integrated Dose Assessment.

- Liquid Release Dose Assessment Method

  The 1/2-EPP-IP-2.7 series provides a series of methods of assessing the radiological consequences of liquid releases to the Ohio River.[C56] The objective of these methods is to assess whether or not the release has exceeded the Emergency Action Levels listed in the BVPS Classification Procedure.[C56] This method determines the liquid concentration and dose at the entrance of the Ohio River and whether or not the release will result in activity at the Midland Water Treatment Plant intake that exceeds EPA drinking water standards. The procedure provides methods to address releases via normal monitored pathways and unmonitored releases.

.3 Technical Basis Summary

The atmospheric dispersion and dose projection methodologies are based on recognized national and international standards. The primary documentation for each method describes the technical bases for each method in detail. The paragraphs that follow summarize some significant basis.

- The gaseous release dose assessment method addresses ground level and elevated releases, plume rise, virtual source building wake correction, and other similar considerations. Plume direction is based on the 150' wind direction sensors due to terrain interference on the 35' sensors.

- The dose projection methodology is based on Regulatory Guide 1.109, "Calculation of Annual Dose to Man from Routine Releases of Reactor Effluents for the Purpose of Evaluating Compliance with 10 CFR 50, Appendix I," TID-21490, "Meteorology and Atomic Energy", and NUREG 1940 RASCAL-Description of Models and Methods.

- Source term processing is performed with default source term mixes associated with the FSAR - analyzed accidents, NUREG 1940 RASCAL-Description of Models and Methods, NUREG 1228 Source term Estimation during Incident Response to Severe Nuclear Power Plant Accidents, or with input isotopic sample data. These source term mixes are used to normalize both the monitor efficiency and the dose conversion factors for energy-dependent variations. The Site dose assessment software decays the source term mixes for the period between plant shutdown and start of release, and applies decay corrections in route.

.4 Meteorological Considerations

A meteorological study performed in 1982 determined that there were three (3) meteorological regimes that characterized the dispersion meteorology at the BVPS site. The paragraphs below identify these three regimes, and the likely affect on plume transport.

A. Night-time conditions (G, F, E stability) with 500' wind speeds lower than 4.0 mph.

Under these conditions, the regional wind flows will create a valley floor flow that is de-coupled from the regional wind flow. Upriver of the site (towards Beaver) the valley wind flow is towards the site. Downriver from the site, the wind flows are also towards the site. A heat island at the site of the J&L Specialty Steel plant creates a "chimney" effect that circulates these converging flows. If there is an inversion layer (as there is most likely), the upward chimney flow is recirculated back into the valley. This circulation will continue in the site area. If there is no inversion, the outlet flows from this chimney are injected into the regional wind flow.

Releases during these conditions will tend to "puddle" in the site area and will be generally contained within the valley walls. Releases that break through the inversion layer (if there is one) would follow the 500' winds.

B. Night-time or day-time conditions with 500' wind speeds greater than 4.0 mph.

Under these conditions, the regional wind flow creates eddies as the flow breaks over the leading edge (wind passes this first) of the valley and as it strikes the opposite valley wall. However, due to the regional wind velocity, these eddies and swirls continue to circulate and mix with the regional wind flow. This creates a scrubbing action that flushes the valley. A similar scrubbing effect will occur if the regional wind direction aligns with the valley.

A release under these conditions will follow the 500' wind direction.

C. Day-time with 500' wind speeds lower than 4.0 mph.

Under these conditions, the regional wind flow creates eddies as described above. However, since the wind velocity is low, the scrubbing action is not as strong, and the regional wind flow will create a de-coupled flow in the valley. This valley flow will tend to flow downriver in the absence of any other forces (i.e., regional wind direction aligns with valley).

Releases during these conditions could result in two (2) plumes, depending on wind direction, or a plume that starts in one direction and then changes direction as it leaves the valley area.

.5 Initiation and Performance of Dose Projection Functions

In the event of a known or projected release of radioactive material, immediate and continuous assessment, including dose projection, is performed by on-duty shift personnel. Following activation of the

Emergency Operations Facility upon declaration of an Alert or higher classification, dose projection activities are performed by the Dose Assessment Coordinator and Dose Assessor. Responsibilities and functions assigned to these personnel are identified in Section 5 of this Plan. Activation of the emergency facilities is described in Section 6.2.3. The training of personnel assigned dose projection functions is identified in Section 8.

6.5.4 Field Radiological Monitoring

Radiological monitoring following a release of radioactive materials to the environment is an intrinsic part of the Beaver Valley Power Site Emergency Preparedness Plan. Emergency radiological monitoring includes actions such as dose rate surveys, sampling and analysis of airborne and liquid activity, and collection and analysis of environmental media, both onsite and offsite. The extent and degree of radiological monitoring following a release of radioactive material will depend on the nature, the severity, the physical/chemical form, and the radioisotopic composition of the release.

Emergency Implementing Procedures and Licensee Emergency Preparedness Nuclear Operating Procedures (NOP's) [C68] provide guidance to the Dose Assessment Coordinator and monitoring team personnel in the performance of this radiological monitoring. These procedures identify criteria and guidelines, instrumentation to be used, monitoring team protective actions, communications protocol, data handling methods, and predesignated survey routes and survey points. Environmental monitoring procedures identify the location of

environmental monitors, the use of the monitors, the sampling techniques and analysis methods to be used.

The Beaver Valley Power Station offsite monitoring teams may be supplemented or supplanted by monitoring teams from local, state, and Federal agencies. The Dose Assessment Coordinator will interface the activities of the BVPS offsite monitoring teams with the monitoring teams of the governmental agencies.

Initially in radioactive release situations, the Beaver Valley Power Station is in the best position to dispatch qualified monitoring personnel, and therefore has short-term responsibility of all offsite emergency radiological monitoring. However, following activation of the offsite emergency organizations and the deployment of governmental monitoring personnel, primary responsibility for offsite monitoring will revert to the state governments in the affected area. The state governments are assisted in this effort by personnel and equipment from the Federal Radiological Monitoring Assistance Program.

The types of emergency radiological monitoring performed and the methods for performing this monitoring are discussed below.

.1 In-Plant Radiological Surveys

Procedures for performing radiological surveys and the use of survey equipment are incorporated in the Beaver Valley Power Station Health Physics Manual. The methods and techniques are essentially the same as those used for emergency surveys.

.2 Onsite Radiological Monitoring

In the event of a radioactive release, one or more onsite radiation monitoring teams may be dispatched to assess radiological conditions onsite and at the site boundary in order to verify dose projection results and to determine the need for onsite protective actions.

Monitoring teams are normally comprised of one radcon technician and one other individual. Since there is a radcon technician on shift at all times, at least one monitoring team can be dispatched soon after the release has occurred, with additional teams dispatched using available personnel onsite or called-in personnel as they arrive onsite. Onsite monitoring teams maintain communications with the Control Room/OSC via portable radio transceivers. Survey equipment is provided for air sampling, direct radiation measurements, and for field-checking air sampling media. All sampling media is returned to the Site or to another designated location for laboratory analysis, as appropriate.

.3 Offsite Radiological Monitoring--Gaseous Release

For events classified as an Alert or higher, an offsite radiation monitoring team will be staffed within 60 minutes of event declaration. Initially, the monitoring team will be sent in the direction of the plume movement.

A second monitoring team will be staffed within 90 minutes of event declaration.

Offsite monitoring team personnel take direct radiation readings with appropriate survey instruments and take air samples for analysis of airborne radioactivity. Air sample media are field-checked and significant results reported immediately to the Dose Assessment Coordinator. The field analysis provides for a minimum sensitivity for radioiodine detection of less than 1 x 10-7 uCi/cc, in the presence of radioactive noble gases. All monitoring results are recorded on data sheets by the monitoring teams and reported to the Dose Assessment Coordinator. Vehicles for monitoring teams are available on BVPS controlled property. Instructions for securing FMT vehicles are provided in site procedures.

.4 Offsite Radiological Monitoring--Liquid Release

In the event of a release of radioactivity to the Ohio River, a monitoring team is sent to the Midland Water Treatment Plant (closest treatment plant) to collect samples of drinking water. Installed environmental monitoring sample pumps routinely draw samples of drinking water for subsequent laboratory analysis. Upon arrival at the treatment plant, monitoring personnel will take the on-line sample for analysis and will collect additional samples as directed by the Dose Assessment Coordinator. Sampling may be extended to downriver treatment plants if preliminary sampling results at Midland indicates the need. Vehicles for monitoring teams are available on BVPS controlled property. Instructions for securing FMT vehicles are provided in the Implementing Procedures.

.5 Emergency Environmental Monitoring

The Beaver Valley Power Station has made provisions for required post-accident environmental monitoring. Additional samples may be taken, or samples may be taken ahead of schedule, if deemed warranted by the Dose Assessment Coordinator. Qualified personnel perform all environmental sampling and analysis. [C31]

6.6 CORRECTIVE ACTIONS

Detailed Operating Procedures, Abnormal Operating Procedures, and Emergency Operating Procedures are utilized by the site operating personnel to assist them in recognizing emergency events and taking the corrective actions necessary to place the plant in a safe condition. Additionally, Emergency Implementing Procedures, as listed in Appendix C, describe subsequent and supplemental corrective actions for the scope of potential situations within each of the emergency classifications. These procedures are designed to provide general guidance to personnel for correcting or mitigating the condition as early and as near to the source of the problem as feasible. Actions are specified, for example, which may prevent or significantly reduce a potential release of radioactive material, provide for prompt fire control, and ensure timely damage control and repair. The Emergency Implementing Procedures are also utilized in emergency training and are the basis for periodic emergency drills, and emergency equipment operational checks.

6.7 PROTECTIVE ACTIONS

Protective actions are implemented to prevent or mitigate consequences to individuals during or after a radiological incident or a hostile action event.[C69] Protective actions within the Beaver Valley Power Station site boundary, in response to an emergency originating at BVPS, is initially the responsibility of the BVPS Emergency Coordinator and the Emergency Director upon activation of the EOF. However, such protective actions may require coordination with other onsite organizations or the unaffected BVPS Unit, and may include assistance by offsite organizations. Protective actions outside the Beaver Valley Power Station site boundary are primarily the responsibility of state and local emergency organizations, but may require coordination of activities, dissemination of appropriate data, and recommendations by the BVPS Emergency Director.

6.7.1 Onsite Protective Actions

.1 Evacuations

The primary protective measure for onsite personnel in an emergency is prompt evacuation from areas, which may be affected by significant radiation, contamination or airborne radioactivity.

Significant aspects of the various classes of evacuations are described in sections 6.7.1.2 through 6.7.1.4. General provisions applicable to all evacuations are:

- In addition to the normal site complement, there are often visitors, construction workers, and nonconstruction contractors and vendors onsite. These construction personnel and contractors receive training, which addresses their responsibilities during an evacuation, prior to being issued a site badge. All other persons onsite, other than Licensee personnel assigned to BVPS, will be treated as visitors during evacuations. As such, these visitors will follow all instructions provided with regard to evacuations in site paging system announcements.

- Protective Action Guides (PAGs) for evacuations are provided in the Emergency Implementing Procedures. Although the primary reason for evacuation is likely to be a radiological condition, evacuations may be indicated for other conditions, which create habitability problems, such as toxic gases, and/or fire. Appropriate PAGs are provided for these hazards in the Emergency Implementing Procedures.

.2 Local Evacuation

This category refers to evacuation of localized areas within the site. Evacuation of personnel from localized areas is initiated primarily by local area radiation monitors (ARM) and/or continuous air monitors (CAM). The alarm setpoints are based on normal levels of radiation and airborne radioactivity and expected fluctuations within the specific areas. The immediate response by individuals in the vicinity of such an alarm is evacuation to an unaffected area, possibly within the same building, but away from the localized condition, and reporting the situation to the appropriate Control Room. In the absence of readily available radiological surveillance information or other logical assessment of conditions, those individuals will evacuate at least to a point where other radiological monitors show that the area is unaffected. Applicable instructions to personnel, based on evaluation of Control Room instrumentation or other supporting information, may be transmitted over the site paging system.

Strategic location of the radiological monitors and the requirement for immediate evacuation in response to alarms from these monitors provides reasonable assurance that radiological consequences of a localized incident will be minimized. Frequent radiological surveys throughout the site provide continuing verification of levels and trends indicated by these monitors. These surveys, as well as any other detection methods, can also serve to initiate the evacuation of personnel for conditions, which may not otherwise be identified by these monitors.

.3 Site Assembly

The declaration of a Site Assembly (as ordered by the Emergency Coordinator/Shift Manager until properly relieved) requires all non-emergency response personnel to assemble at Primary or Near-Site Assembly Areas. Personnel within the protected area shall report to their designated Primary Assembly Area. These Primary Assembly Areas are identified below:

- BV-1 Service Building - Locker Room
- SOSB - 3rd Floor - Locker Room
- C28
- Nuclear Construction Office and Shops (NCOS) 2nd Floor
- C45

Personnel located outside the protected area but within the owner controlled property shall report to their designated Near-Site Assembly Area. These areas are listed below: C25

- C28
- C30
- Training Building C19
- Warehouse B

The actual decision to implement a Site Assembly is the responsibility of the BVPS Emergency Coordinator. This decision is based largely on his evaluation and judgment of the magnitude and severity of the particular situation. Factors to be considered must include the apparent levels of radiation and/or airborne radioactivity involved, the exposure to personnel that would result from evacuating as well as not evacuating to the Primary Assembly Areas. In the event of a multiple alarms (fire, ARMs, or CAMs) within the Controlled Area, the BVPS Emergency Coordinator may deem it prudent not to evacuate personnel outside of the Controlled Area but within the Site's protected area fence, and allow work to continue if these personnel are not at risk.

.4 Site Evacuation

Site Evacuation requires that all individuals within the BVPS exclusion area, except for Control Room operations personnel and others, with specific emergency assignments, evacuate and proceed to the designated Remote Assembly Area, located upwind of the release or other designated area. This Site Evacuation includes all non-essential persons on site, and any other persons within the exclusion area. The Remote Assembly Areas for BVPS personnel are located at:

- The Hookstown Grange
- Community College of Beaver County

Implementation of a Site Evacuation is the responsibility of the BVPS Emergency Coordinator. That decision is based on the severity of the incident, the likelihood of escalation, and the radiation and airborne radioactivity levels throughout the site, particularly (but not exclusively) at the Primary Assembly Area. Primary Assembly Area dose rates and airborne radioactivity concentrations are determined by radiation control personnel using portable survey instruments and air sample collection devices and/or readings from fixed radiological monitors.

Notification of a Site Evacuation is made via the site paging system, consisting of evacuation alarm signal and message announcement.

.5 Personnel Accountability

To ensure that all Site personnel present in affected areas have been evacuated and to ascertain the whereabouts of all emergency personnel who have not evacuated, measures have been established to provide for personnel accountability in the event of an evacuation. Accountability of evacuated and nonevacuated personnel (emergency workers) will be performed in accordance with the detailed Emergency Implementing Procedures. All individuals within the protected areas of BVPS are issued a security keycard badge. These security badges form the basis of the accountability process.

In the event of a local assembly near-by supervision shall ensure that all personnel have evacuated the affected area.

In the event Accountability is declared, personnel accountability will be accomplished through the use of the computerized access security system (key-card). This system has provisions for identifying and printing a listing of all personnel in selected areas of the site. Site personnel update their whereabouts in the computer by inserting their security badge/key-card in the readers adjacent to the security doors leading to these areas. The results from the assembly areas, and from personnel performing emergency response functions who can not report to an assembly area but are listed on a Site Accountability Form are reported to the Security Coordinator (on-duty Security Supervisor, until relieved by designated Security Coordinator), who provides a tabulation of missing individuals to the Emergency Coordinator. If this system is unavailable, Security personnel will follow Site Security Procedures for manual accountability [C52]. If necessary, search and rescue efforts will commence in accordance with Emergency Implementing Procedures. The initial accountability phase shall be completed within thirty (30) minutes. Unaccounted for personnel are reported to the Emergency Coordinator who shall take the necessary steps to initiate Search and Rescue.

.6 Contamination Control

The Beaver Valley Power Station Health Physics Manual (HPM) contains provisions governing the control of contamination including access control, use of protective clothing, contamination monitoring, and the release of potentially contaminated items from controlled areas. Chapter 3 of the HPM contains procedures that implement the HPM provisions. The requirements and guidelines of these documents shall apply to contamination control during emergency conditions. Emergency Implementing Procedures provide the interface between the HPM and the Emergency Preparedness Plan. These procedures authorize the Radiation Protection Coordinator to waive or modify certain normal contamination control methods, if other conditions, such as delaying necessary evacuations, personnel rescue, or delaying access to necessary plant equipment would create a greater hazard to plant personnel or the general population.

There are no potentially affected agricultural products within the Beaver Valley Power Station exclusion area. The Ohio River, which flows within the exclusion area, however, is a navigable river and is the source of water for several downstream communities and industrial facilities.

Domestic water at the Beaver Valley Power Station is provided by the Midland Water System. It's distributed by the domestic water system, which is a closed system. As a result of this configuration, contamination of the drinking water is unlikely. The Midland Water System storage tank has sufficient capacity to meet short-term needs.

With the exception of food brought to the site by Site personnel, all food supplied to the site arrives sealed for vending machine sale. These machines are located in noncontrolled areas. If these areas become contaminated they will be considered as controlled areas, and eating will be prohibited as is normally the case for controlled areas. Normal controlled area access controls will prevent the removal of contaminated food from these controlled areas and possible ingestion by unwary individuals.

Contamination monitoring will be performed as specified in the HPM. During Site Evacuations, personnel and vehicle contamination surveys are performed at a location on the site exit road. Contaminated personnel will be returned to the Site, for decontamination. In the event that the Site Evacuation must be made immediately, the survey process will result in undue delay in evacuating site personnel, personnel will be directed to proceed, with personal automobiles, to the designated remote assembly area. Personnel monitoring will be performed at the location.

Decontamination of materials and equipment are performed in areas provided for that purpose within the Beaver Valley Power Station. The Liquid Waste System, described in the BVPS Operating Manual, provides the capability to store and process decontamination wastes. The handling of solid radioactive waste is also described in the Operating Manual and Health Physics Manual.

Personnel decontamination is described in Section 6.8.1.

.7 Exposure Control

The exposure of Site personnel during emergency operations shall be maintained as low as reasonably achievable, and should be maintained less than the administrative guides established in the BVPS Health Physics Manual (HPM) and/or less than the Federal Radiation exposure standards established in 10 CFR 20. In order to accomplish this objective, administrative means used during normal operations to minimize personnel exposure (such as radiation work permits and ALARA measures) should remain in effect to the extent consistent with timely implementation of emergency measures.

If necessary operations require personnel exposures in excess of the normal control limits, or if normal access control and radiological work practices will result in unacceptable delays, the Radiation Protection Coordinator may, at his discretion, waive or modify the established exposure control criteria and methods. The Emergency Coordinator is the only individual who may authorize dose extensions in excess of 10CFR20.

Table 6.3 summarizes the emergency exposure criteria for entry or re-entry into areas for the purposes of undertaking protective or corrective actions. Two classifications of emergency exposure are identified: corrective actions, and lifesaving actions. Lifesaving actions include actions such as rescue, first aid, personnel decontamination, medical transport, and medical treatment services, when such actions are immediately necessary to save a life. Corrective actions include surveillance actions and plant operations necessary to minimize further deterioration of the level of plant safety or to mitigate the consequences of the accident, if failure to perform these actions could result in a significant increase in offsite exposures. Personnel exposures received performing emergency measures, other than those identified above, shall be limited pursuant to 10 CFR 20.

Dosimetry monitoring equipment is provided at the Site as part of the normal Radiation Control Program, and such dosimetry will continue to be used during emergency situations. Health Physics Procedures provide guidelines and procedures for issuing, using, and reading dosimetry devices and provisions for exposure record keeping.

The Beaver Valley Power Station Health Physics Manual contains provisions for administration of the facility bioassay program. Emergency Implementing Procedures provide guidance for accelerated or additional bioassays in the event there are individuals who are suspected of being exposed to elevated levels of airborne activity as a result of the emergency. This bioassay consists primarily of lung and thyroid counts. These are supplemented by whole body counts and urinalysis when pre-determined lung and thyroid count screening levels, or pre-determined airborne activity exposure levels, are exceeded or suspect of being exceeded. These procedures provide for follow-up monitoring, medical treatment, and incident reporting.

.8 Respiratory Protection

The Beaver Valley Power Station Health Physics Manual (HPM) contains provisions governing the use of respiratory protection equipment and administration of the BVPS Respiratory Protection Program, which is responsive to Regulatory Guide 8.15 and NUREG-0041. The provisions of this document and supporting procedures shall apply to all usage of respiratory protection equipment during emergency conditions.

Three exceptions to normal respiratory protection practices may be authorized by the Emergency Coordinator with the advice of the Radiation Protection Coordinator, in accordance with the provisions of Emergency Implementing Procedures. These exceptions are:

- Extension of normal uptake limits. Under these provisions, internal exposure is controlled such that the total dose commitment--due to internal and external exposure, does not exceed the emergency exposure limits established in Table 6.3.

- Use of Thyroid Prophylaxis. Potassium iodide is available for use by BVPS employees and contractors in the event of an emergency. This potassium iodide is only specified for use by emergency workers who must remain in affected areas, and for whom other means of respiratory protection are not available or are not practicable. Normally, potassium iodide will not be issued unless I-131 airborne activity in occupied areas would result in a thyroid CDE in excess of 25 REM. The use of thyroid prophylaxis by Site personnel is voluntary. Potassium iodide shall not be administered to non-emergency workers or to members of the general public by BVPS personnel, and is issued only at the direction of the Emergency Coordinator.

- Use of Iodine Sorbent Canisters in Filter Respirators. During emergencies, iodine sorbent canisters may be used in filter respirators. If this is the case, the Radiation Protection Coordinator may recommend that BVPS petition the NRC for permission to assign protection factors for iodine sorbent canisters as specified in 10CFR20.

.9 Hostile Action

In conjunction with the onsite protective actions described above, a range of protective actions to protect onsite personnel during hostile action have been developed to ensure the continued ability to safely shut down the reactor and perform the functions of the emergency plan. These actions are described in operating manual procedures 1/2OM-53C.4A.100.2, Land-Based Threat and 1/2OM-53C.4A.100.3, Airborne Threat, and Site Protection procedure SP-18.1, EPP Personnel Accountability. [C66]

6.7.2 Offsite Protective Actions

The Nuclear Regulatory Commission has postulated (that in the event of a severe accident) protective actions may be necessary in a ten (10) mile radius Emergency Planning Zone (EPZ) around the Beaver Valley Power Station in order to minimize the exposure of the population to radioactive material in the plume. Under these conditions, it may also be necessary to monitor and control foodstocks and wildlife in a fifty (50) mile radius Ingestion Pathway Emergency Planning Zone. Both of these zones encompass areas with Pennsylvania, Ohio, and West Virginia. While there may be highly improbable accident sequences that would require extending these zones, the planning established for the ten (10) mile EPZ and the fifty (50) mile ingestion pathway planning zone provides an adequate basis for this expansion, should it be necessary.

To have the maximum effectiveness, the protective measures may require lead times before implementation, and with regard to evacuation, would require time to complete. Because of this, protective action decisions are based on the probability of a significant radioactivity release, as well as the existence of a current release. Under the worst postulated scenarios the time between event initiation and the occurrence of a significant release may be as little as thirty (30) minutes.

Although dose assessment methodologies are developed to a reasonable degree of accuracy, there are uncertainties involved with the input data to these assessments. It is unlikely that the release source term will be adequately quantified when the first protective action decisions are being made during a rapidly developing situation. Similarly, the meteorological conditions at the site may not be consistent with those a few miles from the site. These uncertainties, coupled with the need for rapid decisions in a fast breaking incident, and the significant lead time necessary to implement a protective action, has resulted in greater emphasis being

placed on plant systems status assessments against pre-determined criteria, and lesser emphasis on dose assessments.

While it is appropriate that any protective action decision be discussed in conjunction with the three States and with the NRC, and while BVPS shall make reasonable efforts with these agencies to arrive at a common recommendation, in the absence of such an agreement the BVPS recommendation shall be based on the staff's best evaluation of the technical considerations involved, be the plant condition or dose assessment related, and will include only those geographical areas projected to be affected by the plume transport.

The state and local governments within the EPZ have developed emergency response plans for the protection of the general public in their jurisdictions. The role of the Beaver Valley Power Station in offsite protective actions is the notification of cognizant officials, performing accident assessments and apprising the offsite agencies, and making recommendations for offsite protective actions. The role of the local and state governments is to act upon the information and recommendations provided by the facility and to perform emergency measures necessary for the protection of the public.

The emergency preparedness plans of these jurisdictions are prepared and submitted to the Federal Emergency Management Agency and the Nuclear Regulatory Commission for review and approval. These documents should be consulted for detailed information on offsite protective actions. The following sections summarize the provisions for offsite protective actions in the BVPS EPZ.

.1 Protective Actions Within Beaver County, Pennsylvania. The responsibility for actions to protect offsite individuals rests with Beaver County government as described in the Beaver County Plan. The Beaver County Emergency Management Agency (BCEMA) is responsible for implementation of that plan.

The Pennsylvania Department of Environmental Protection/Bureau of Radiation Protection (DEP/BRP) is responsible for evaluating information obtained from the Beaver Valley Power Station and/or other sources and recommending appropriate offsite protective actions to BCEMA through the Pennsylvania Emergency Management Agency (PEMA). Such recommendations, based on all available data, local constrains and other considerations may include:

- Shelter for affected populations
- Evacuation within a specified radial distance and/or downwind sector
- Administration of thyroid prophylaxis (as approved by the State)
- Control of contaminated agricultural products

The principal offsite local coordinating agency for providing response to radiological emergencies in the vicinity of the Beaver Valley Power Station is the Beaver County Emergency Management Agency (BCEMA). Since the area and population inside the ten (10) mile emergency planning zone are partially within Columbiana County, Ohio and Hancock County, WVA; essentially parallel emergency response functions are provided by the coordinating agencies within those Counties. The implementation of protective actions within these areas are discussed in Sections 6.7.2.2 and 6.7.2.3. Upon notification by Beaver Valley Power Station or by PEMA of a situation, which may require protective actions for offsite populations, BCEMA will activate its emergency organization, and if required, will initiate appropriate actions in accordance with specific instructions from PEMA and the BCEMA emergency plans and procedures. If communication cannot be established with PEMA in the necessary time frame, BCEMA may implement limited protective actions with the concurrence of the County Commissioners on the basis of recommendations made by the BVPS Emergency Director.

- Providing assistance for evacuation of the County's population within the ten (10) mile emergency planning zone

- Identifying reception and mass care centers for individuals evacuated from Beaver County

Occupants within the ten (10) mile emergency planning zone of the Beaver Valley Power Station will be provided with information regarding emergency planning. This information will describe the method(s) by which they will be notified of an emergency and will provide specific instructions to follow upon receiving such notification. Additional discussion of the content and method of distribution of this information is contained in Section 8.

A detailed study has been conducted of the status and capacities of roads, traffic patterns, and demography within the ten (10) mile emergency planning zone. This study includes the estimated times to evacuate all or specific segments of the population, identifies potential problem areas and provides contingencies for dealing with adverse conditions. This study was utilized in the development of detailed evacuation plans by BCEMA, CCEMA, and HCOEM. A summary of this study is presented in Appendix B. [C47]

The Ohio River, which flows within the exclusion area, is the source of water to communities and industrial facilities downstream. The closest water treatment facilities are at Midland, PA and East Liverpool, OH; less than 1 mile and approximately 5 miles down-stream, respectively. Additional water supply intakes are located 7 or more miles downstream. The minimum average flow in the river (Sept.) is approximately 5 million gallons per minute. In the event of an actual or projected release of radioactive material to the river, by any pathway, the Midland and East Liverpool water treatment companies may be notified and a recommendation made to secure water processing depending on the estimated or calculated river activity. If a water treatment plant is shutdown as a result of a recommendation by the BVPS Emergency Coordinator, or by request of DEP/BRP (in the case of Midland), the decision to allow restarting those water treatment plants is the authority and responsibility of governmental agencies responsible for water purity in each of the three jurisdictions.

The Ohio River is navigable, and is routinely used for barge traffic. In the event of an emergency condition requiring protective actions within the BVPS exclusion area, the U.S. Coast Guard will be notified and requested to restrict vessels from entering affected areas. In addition, lockmasters at the New Cumberland Dam, located approximately 20 miles downstream; the Montgomery Dam, located approximately 3.3 miles upstream; and/or the Danshield Dam, located approximately 11.3 miles upstream; can be called upon to restrict access to affected areas on the river.

BCEMA has the capability and detailed plans for implementing protective actions in Beaver County, which include:

- Implementing prompt notification of the County's population within 10 miles of the Beaver Valley Power Station

- Transmitting specific instructions to the potentially affected populations

.2 Protective Actions Within Columbiana County, Ohio

The responsibility for actions to protect offsite individuals rests with the State of Ohio, as described in the State of Ohio Plan for Response to Radiation Emergencies at Licensed Nuclear Facilities. The Ohio EMA is responsible for implementation of that plan.

The State Department of Health is responsible for evaluating information obtained from the Beaver Valley Power Station and/or other sources and recommending appropriate offsite protective action to the Governor through Ohio EMA. Such recommendations, based on all available data, local constraints and other considerations may include:

- Shelter for affected populations
- Evacuation within a specified radial distance and/or downwind sector
- Administration of thyroid prophylaxis (for emergency workers only)
- Control for contaminated agricultural products

The principal offsite local coordinating agency for providing response to radiological emergencies in Columbiana County is the Columbiana County EMA. Upon notification by the BVPS Emergency Director or by BCEMA or by OEMA of a situation, which may require protective actions for offsite populations, CCEMA will initiate appropriate actions in accordance with specific instructions from the notifying party, and within the guidelines of the CCEMA emergency plans. If time permits, CCEMA will obtain a review and verification by OEMA of recommendations made by the BVPS Emergency Director. CCEMA has the capability and detailed plans for implementing protective actions similar to those for BCEMA described in Section 6.7.2.1 of this Plan.

.3 Protective Actions Within Hancock County, West Virginia

The responsibility for coordination of protective action recommendations rests with the State of West Virginia, as described in the West Virginia Radiological Emergency Plan. The West Virginia Department of Homeland Security/Emergency Management Division (WVDHS/EM) is responsible for implementation of that plan. [C47]

The West Virginia Department of Health and Human Resources is responsible for evaluating information obtained from the Beaver Valley Power Station and/or other sources and recommending appropriate offsite protective actions to WVDHS/EM. Such recommendations, based on all available data, local constraints and other considerations may include: [C47]

- Shelter for affected populations
- Evacuation within a specified radial distance and/or downwind sector
- Administration of thyroid prophylaxis (for emergency workers only)
- Control of contaminated agricultural products

The principal offsite local coordinating agency for providing response to radiological emergencies in Hancock County is the Hancock County Office of Emergency Management. Upon notification by BVPS or by BCEMA or by WVDHS/EM of a situation, which may require protective actions for offsite populations, HCOEM will initiate appropriate actions in accordance with specific instructions from the notifying party, and within the guidelines of the HCOEM emergency plans. If time permits, HCOEM will obtain a review and verification by WVDHS/EM of recommendations made by the BVPS Emergency Director. HCOEM has the capability and detailed plans for implementing protective actions similar to those for BCEMA as described in Section 6.7.2.1 of this Plan. [C47]

.4 Public Warning System

The primary means for alerting and warning the population of an incident at the Beaver Valley Power Station is the Siren Warning System. [C29] This system involves alerting the population with sirens. In accordance with instructions provided by periodic public information programs (See Section 8.5), the alerted population will turn to Local Emergency Broadcasting radio or television stations for emergency information and instructions. Hardware has been provided for this public warning system within the plume exposure pathway EPZ. The design objective of this system is to have the capability to complete an initial notification of the public within the plume exposure pathway EPZ within about 15 minutes.

The hardware consists of fixed outdoor sirens located within the 10 mile EPZ. The sirens will be activated remotely by radio from the emergency services office within the respective jurisdictions. [C29]

The responsibility for activation of the public warning system rests with the emergency services organization in each of the three risk counties. These organizations will activate their respective portions of the warning system, or coordinate activation by one County, and supply appropriate emergency messages to the Emergency Alert System (EAS) station serving their jurisdiction in accordance with the provisions of their emergency response plans. The control for these systems are located in the respective county emergency services offices. The Beaver Valley Power Station supplies information for these emergency messages in the form of the initial and follow-up notifications described in Section 6.4.1 and 6.4.2.

Backup alert and notification for the BVPS 10-mile EPZ is achieved by Electronic Notification Systems (ENS) and other capabilities described in County Emergency Response Plans. This method has been approved by the Federal Emergency Management Agency (FEMA).

As per approved county emergency plans, ENS is utilized by the risk counties as a concurrent backup means for failures of the siren system. Additional electronic alerting means may also be utilized as developed and documented in the counties plans.[C69]

.5 Protective Action Guides and Recommendation of Protective Actions

A protective action guide is the projected radiological dose, or dose commitment, to individuals in the general public above which protective actions may be warranted following a significant release of radioactive material. Protective Action Guides (PAGs) have been established by the U.S. Environmental Protection Agency. These guides are specified for the population as a whole. The guides for dose commitment for the general public are:

General Public Protective Action Guides

TEDE (rem)	Child Thyroid (CDE) (rem)
1	5

As noted earlier, these guides are applied against projections of offsite dose, be they based on an ongoing release or a potential release. The plant system status indicators and the protective actions associated with each indicator, as provided in 1/2-EPP-IP-4.1, "Offsite Protective Action," are based on the postulated offsite exposures associated with each condition and the protective action guides above.

- Protective actions such a sheltering or evacuation are mandatory in affected areas if projected offsite doses exceed the value of the protective action guide established above.

- Sheltering is an appropriate protective action for:

  Severe events in which evacuation cannot be implemented because of inadequate lead time due to rapid passage of the plume ("puff" release). C34 C63

  When an evacuation is indicated, but local constraints, such as inclement weather, road conditions, etc., dictate that directing the public to seek shelter is a more feasible and effective protective measure than evacuation. Studies indicate that a normal wood structure that can be made reasonably snug can reduce the direct exposure to the plume by 10% and can minimize inhalation dose for about two-hours.

- Evacuation is an appropriate protective action for:

  An incident involving a release, or potential release, which is projected to result in an offsite dose greater than 1 rem TEDE, or 5 rem to the child thyroid (CDE), in situations where the lead time between declaration of the emergency and population relocation is compatible with plume movement, and in the absence of constraints to evacuation (inclement weather, etc.).

- Situations which do not provide for advance warnings, but for which substantial reductions in population dose can be made by avoiding exposure to residual radioactivity (plume fallout) in the wake of sudden severe incidents involving significant releases of radioiodine or particulate material. In these cases, sheltering should be maintained until the plume passes, if possible.

Offsite agencies responsible for implementing protective actions for the public will assign protective actions based on their evaluations and consideration of the BVPS recommendation. While the agencies in the three (3) jurisdictions will coordinate their respective actions with each other, the action taken in each jurisdiction is ultimately the prerogative of that jurisdiction.

The role of BVPS in offsite protective actions is to provide offsite agencies with timely notifications of emergencies, appropriate recommendations for protective actions, appropriate accident assessment data, and data from offsite monitoring performed by BVPS personnel in the event of a release; to provide a capability for warning the public in a timely manner; and to assist local officials with public information programs.

6.8 AID TO AFFECTED PERSONNEL

Established Emergency Plan Implementing Procedures, Operating Procedures, and Radiation Control Procedures provide for personnel decontamination and for assistance to injured persons including situations involving complications due to the presence of radiation or radioactive contamination.

6.8.1 Personnel Decontamination

The Beaver Valley Power Station Health Physics Manual identifies criteria and provides procedures for personnel decontamination. The provisions of the HPM and supporting procedures shall apply to emergency situations to the maximum extent possible. These procedures commence with simple washing with soap and water by the individual. If contamination is persistent, or involves significant amounts of contamination, particularly in the vicinity of facial openings, decontamination will be performed under the direction of radiation control personnel using established procedures.

Personnel decontamination areas, consisting of showers and sinks, which drain to the Liquid Radwaste System, are available within the Site for routine or emergency use. These facilities are located near the access to the controlled areas of the Site. Portable decontamination kits are maintained for use at remote assembly areas.

A listing of typical decontamination equipment located at the personnel decontamination areas is provided in Appendix D. Personnel having their personal clothing contaminated will be issued clean clothing as temporary replacement clothing.

In addition to decontamination within the Site, the Emergency Response Facility will provide a decontamination facility. Decontamination liquids are held-up in tanks for subsequent processing. In the interim, personnel decontamination will be performed prior to the departure from the Site, or at a designated location.

Normal contamination control limits expressed in the HPM shall remain in effect to the extent possible. However, the Radiation Protection Coordinator, may modify the contamination control limits as provided in Emergency Implementing Procedures. Under site evacuation conditions, the level of removable contamination above which removable decontamination is mandatory is established as 4000 dpm/100 cm2 (400 cpm on HP210 detector) [C53], four times the normal control limit. No contamination limit applies to contaminated injured personnel needing immediate medical treatment at a hospital.

6.8.2 First Aid

First aid to injured personnel can normally be performed in conjunction with any necessary decontamination methods. However, if immediate treatment of the injury is vital, that treatment shall take precedence over decontamination. This philosophy also extends to offsite emergency medical assistance involving radioactive contamination. For that purpose, measures are established in the Fire Protection Program to ensure availability of First Aid equipment and timely offsite medical treatment.

6.8.3 Medical Transportation

Arrangements have been made for the transportation of injured personnel from the Beaver Valley Power Station, who may have injuries complicated with radioactive contamination or who may have been involved in a radiation incident, to a medical treatment facility. These organizations can be contacted directly or through the Beaver County Emergency Services Center.

Emergency Medical Services radio provides for communications between the Beaver County Emergency Services Center, the ambulances, and the Beaver County hospitals. Copies of the agreement(s) to provide emergency services from these organizations are on file in the Emergency Response Section. Ambulance emergency supply kits, which typically contain items shown in Appendix D, are available for use and are stored in the Medical Facility at the Site.

Ambulance personnel arriving at the Site are directed by security personnel to the appropriate area. Personnel dosimetry for ambulance personnel is provided by the Site. Contaminated patients are accompanied by radiation control personnel. The radiation control person is responsible for maintaining appropriate contamination control measures to minimize the contamination of the ambulance, the hospital, and hospital personnel. This individual is responsible for controlling contaminated material, and surveying the ambulance and the hospital treatment area following use.

If an ambulance can not be obtained in a reasonable period of time, a suitable BVPS vehicle, or employee vehicle (only on a voluntary basis), may be utilized to transport injured personnel.

6.8.4 Medical Treatment

Arrangements have been made for treatment of injured personnel from the Beaver Valley Power Station, who may have injuries complicated with radioactive contamination at:

- Heritage Valley Beaver Hospital
- University of Pittsburgh Medical Center Presbyterian Hospital [C66]

The Heritage Valley Beaver and the UPMC Presbyterian Hospitals are adequately supplied and equipped to receive and treat contaminated patients. Sets of contamination control supplies are provided at these facilities. A typical list of this equipment is shown in Appendix D. Service is provided for both hospitals to contact REAC/TS at Oak Ridge, TN as needed, to assist with treatment of contaminated/injured or irradiated persons.

Evaluation of significant contamination injuries, over-exposures, and radioactive materials uptakes can be made by the Radiation Protection Department at BVPS. [C31]

The BVPS Health Services maintains a contract for a qualified physician. This physician has or will complete training through REAC/TS at Oak Ridge, TN, and can assist with clinical diagnosis and/or treatment of contaminated/injured or irradiated persons.

Copies of agreements to provide medical treatment from the above organizations are on file in the Emergency Response Section.

6.9 EMERGENCY PUBLIC INFORMATION

The Licensee respects the public's right to information about its operations and service and, in particular, information regarding accidents and unplanned events which occur at Company facilities, including the Beaver Valley Power Station. The Company's policy has and continues to be to make public, accurate information about these events.

The Joint Information Center procedures describe the objectives, responsibilities, facilities, and protocol for emergency public information. Section 7 of this Plan describes the Joint Information Center (JIC). Section 6.2.3.5 describes staffing of the Joint Information Center.

The Joint Information Center, if staffed, is the location from which replies to news media inquiries will be made, and at which news briefings will be held. If the situation warrants, news briefings may be held at other locations.

Space is provided at the Joint Information Center for State, local, and Federal public information personnel, and provisions are made for coordination of news announcements and press briefings.

As part of the JIC procedures, telephone contact personnel respond during an emergency to handle incoming calls from members of the general public.[C31] In addition to other functions, these personnel will serve as the point of contact between the general public and BVPS. The purpose of this contact is to respond to concerns of the general public in an effort to suppress unfounded rumors and incorrect information which has not been answered by news announcements. In addition, the JIC provides an internal rumor control system to quell rumors to company employees and the news media.

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TABLE 6.1
SUMMARY OF IMMEDIATE NOTIFICATION AND RESPONSE

EMERGENCY CLASS	CRITERIA	IMMEDIATE NOTIFICATIONS		IMMEDIATE ACTIONS	
		ONSITE	OFFSITE	ONSITE PERSONNEL	OFFSITE PERSONNEL
UNUSUAL EVENT	Off-normal Events Which By Themselves Do Not Constitute Significant Events. But Could Indicate a Potential Degradation in the Level of Safety of the Plant.	* Fire Brigade * Damage Control Teams * Surveillance Watches * Monitoring Teams * Security Force * Outage Contractors	* Fire Units * Rescue Assistance * Ambulance Assistance * Hospital * BCEMA * PEMA * OEMA * HCOEM C47 * CCEMA * WVDHS/EM C47 * NRC * Licensee Headquarters	* Make Prompt Offsite Notification * Fight fires * Perform emergency repairs * Designated Surveillance Functions * Administer First Aid * Conduct Rescue Operations * Perform Onsite Monitoring * Appropriate Security Measures * Perform Continuing Assessment * Make Prompt Onsite Notifications	* Provide Fire Fighting Assistance * Assist in rescue operations * Provide Medical Transportation * Provide Hospital Medical Treatment * Assist in Damage Control
ALERT	Events Which Indicate an Actual Degradation in the Level of Safety of the Plant	* Fire Brigade * Damage Control Teams * Monitoring Teams * Dose Projection Personnel * Security Force * Outage Contractors	* Fire Units * BCEMA * PEMA * OEMA * HCOEM C47 * CCEMA * WVDHS/EM C47 * NRC * Licensee Headquarters	* Make Prompt Offsite Notifications * Fight Fire * Perform Emergency Repairs * Onsite and Offsite Monitoring * Offsite Dose Projection * Approp. Security Measures * Augment Onshift Resources * Activate TSC, OSC, C15 EOF, and staff JIC	* Provide Onsite Assist. as required * Activate Primary Response Centers * Alert Key Personnel to Standby * Conduct Confirmatory Dose Projections * Maintain Emergency Communications.

TABLE 6.1
SUMMARY OF IMMEDIATE NOTIFICATION AND RESPONSE

EMERGENCY CLASS	CRITERIA	IMMEDIATE NOTIFICATIONS		IMMEDIATE ACTIONS	
		ONSITE	OFFSITE	ONSITE PERSONNEL	OFFSITE PERSONNEL
SITE AREA EMERGENCY	Events Which Involve Actual or Likely Major Failures of Plant Functions Needed for Protection of the Public	* Appro. Emer. Teams * Security Force * All other station Personnel * Outage Contractors	* Appropriate Local Assist. * BCEMA * PEMA * OEMA * HCOEM C47 * CCEMA * WVDHS/EM C47 * NRC * Licensee Headquarters	* Make Prompt Offsite Notifications * Take Appro. Corrective Action * Onsite and Offsite Monitoring * Offsite Dose Projections * Appro. Security Measures * Augment Resources/Activate Emergency Centers * Personnel Evacuation as Approp. * Alert Total Emergency Org. * Perform Continuing Assess.	* Provide Onsite Assistance as required * Activate and Man Response Centers * Mobilize Emer. Response Personnel * Continuously Evaluate Dose Projections * Place Public Notification System and Procedures in Standby Status * Implement Appropriate Near-Site Emergency Protective Measures * Maintain Emergency Communications
GENERAL EMERGENCY	Events Which Involve Imminent Substantial Core Degradation or Melting With Potential for Loss of Containment Integrity	* Appropriate Emer. Teams * Security Force * All Other Station Personnel * Outage Contractors	* Appro. Local Assistance * BCEMA * PEMA * OEMA * HCOEM C47 * CCEMA * WVDHS/EM C47 * NRC * Licensee Headquarters	* Make Prompt Offsite Notif. * Take Appro. Corrective Actions * Onsite and Offsite Monitoring * Appro. Security Measures * Augment Resources/Activate Emergency Organization * Activate Total Emergency Organization * Personnel Evacuation as appropriate * Perform Continuing Assess. * Recommend Offsite Action	* Provide Onsite Assistance as required * Fully Staff Response Centers * Activate all Emergency Response Personnel * Implement Public Notif. Procedures * Continuously Evaluate Dose Projections * Implement Appro. Offsite Emer. Protective Measures * Maintain Emergency Communications

TABLE 6.2

NOTIFICATION MATRIX

ORGANIZATION	CONTACT		COMMUNICATION		24-HOUR COVERAGE	PURPOSE
	PRIMARY	ALTERNATE	PRIMARY	ALTERNATE		
BCEMA	DISPATCHER	BCEMA DIRECTOR	COMMERCIAL TELEPHONE SYSTEM	BVPS RADIO	YES	ACTIVATE BCEMA
PEMA DEP/BRP	DUTY OFFICER	BCEMA	COMMERCIAL TELEPHONE SYSTEM	BVPS RADIO VIA C2 BCEMA	YES	ACTIVATE PEMA VERIFICATION CALL
OEMA	DUTY OFFICER	OHIO HWY PATROL DISPATCHER	COMMERCIAL TELEPHONE SYSTEM	BVPS RADIO VIA C2 CCEMA	YES	ACTIVATE OEMA
WVDHS/EM C47	DISPATCHER	HCOEM C47 DISPATCHER	COMMERCIAL TELEPHONE SYSTEM	BVPS RADIO VIA C2 HCOEM C47	YES	ACTIVATE WVDHS/EM C47
CCEMA	DISPATCHER	CCEMA DIRECTOR	COMMERCIAL TELEPHONE SYSTEM	BVPS RADIO	YES	ACTIVATE CCEMA
HCOEM C47	DISPATCHER	C47 HCOEM DISPATCHER	COMMERCIAL TELEPHONE SYSTEM	BVPS RADIO	YES	ACTIVATE HCOEM C47
NRC	DUTY OFFICER	N/A	NRC/ENS (RED PHONE)	TELEPHONE	YES	ACTIVATE FEDERAL RESPONSE
FIRE DEPTS	BCEMA DISPATCHER	N/A	COMMERCIAL TELEPHONE SYSTEM	BVPS RADIO	YES	FIRE ASSISTANCE
AMBULANCES	BCEMA DISPATCHER	AMBULANCE COMPANY	COMMERCIAL TELEPHONE SYSTEM	BVPS RADIO	YES	MEDICAL TRANSPORTATION
HOSPITALS	EMERGENCY ROOM	BCEMA DISPATCHER	COMMERCIAL TELEPHONE SYSTEM	BVPS RADIO	YES	MEDICAL TREATMENT

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EMERGENCY EXPOSURE CRITERIA TABLE 6.3

Dose to workers performing emergency services should not exceed the following recommendations of the EPA Manual of Protective Action Guides and Protective actions for Nuclear Incidents (EPA 400-R-92-001).

Dose Limit (a) (rem)	Activity	Condition
5	All	
10	Protecting valuable property	Lower dose not practicable
25	Life saving or protection of large populations	Lower Dose not practicable
>25	Life saving or protection of large populations	Only on a voluntary basis to persons fully aware of the risks involved

(a) Sum of external effective dose equivalent and committed effective dose equivalent to nonpregnant adults from exposure and intake during an emergency situation. Workers performing services during emergencies should limit dose to the lens of the eye to three times the listed value and doses to any other organ (including skin and body extremities) to ten times the listed value. These limits apply to all doses from an incident, except those received in unrestricted areas as members of the public during the intermediate phase of the incident.

- The BVPS Emergency Coordinator must approve all planned emergency exposures. The Radiation Protection Coordinator should be consulted prior to authorizing the planned emergency exposure, if time permits.
- All reasonable measures must be taken to control contamination and internal exposure.
- Persons performing emergency activities should be familiar with the consequences of the exposure.
- Persons performing emergency activities under these provisions should be volunteers.
- Personnel shall not enter any area where dose rates are unknown or unmeasurable with instruments and dosimetry immediately available.

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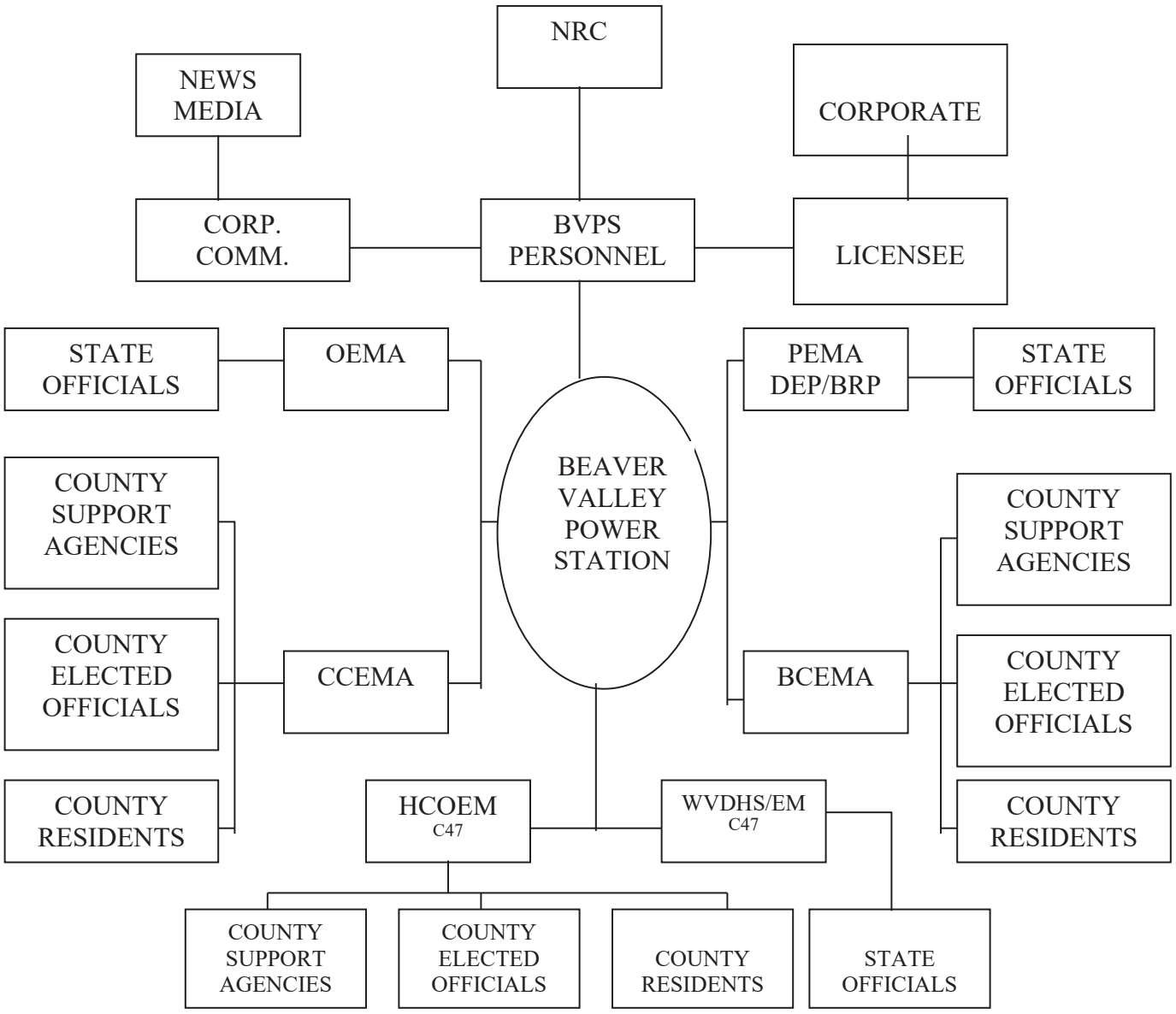
FIG. 6.1
PRIMARY INITIAL NOTIFICATIONS



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SECTION 7

EMERGENCY FACILITIES AND EQUIPMENT

Section 7

EMERGENCY FACILITIES AND EQUIPMENT

Table of Contents

7.0 EMERGENCY FACILITIES AND EQUIPMENT

Emergency facilities and equipment are provided at the Beaver Valley Power Station to ensure the capabilities for prompt, efficient assessment and control of situations over the entire spectrum of probable and postulated emergency conditions. The facilities and associated equipment, and their emergency functions, are described in this section.

7.1 EMERGENCY FACILITIES

Emergency facilities for the Beaver Valley Power Station are described in this section. The significant instrumentation and communications available at each of the BVPS emergency facilities are listed in the Implementing Procedures.

7.1.1 Control Room

The Control Room is the primary location for the assessment and coordination of corrective actions for essentially all emergency conditions. The Control Room is equipped with the readout and controls for all critical plant systems, the readout and assessment aids related to radiological and meteorological monitoring systems, and access to all station communications systems.

The Control Room is initially the primary location for accident management and emergency communications until the Technical Support Center and Emergency Operations Facility are activated. Located within the Control Room are telephone and radio communications equipment and emergency equipment and supplies necessary to support direction and coordination of emergency response activities.

The Control Room provides for the effective coordination of the following emergency response functions:

- Plant assessment and coordination of corrective actions
- Requesting initial call out of emergency response personnel
- Perform notifications to offsite government agencies
- Requesting offsite dose projections be initiated and directions provided for offsite monitoring until the TSC/EOF is activated

- Communicate with other onsite/offsite Emergency Operations Centers
- Serve as the central location for the receipt of data from radiological monitoring (until the TSC/EOF is activated) and other emergency teams
- Provide direction to emergency coordinators
- Make recommendations to offsite agencies regarding protective and other actions (until relieved by TSC/EOF)
- Provide administrative direction (until relieved by TSC/EOF)

7.1.2 Operations Support Center

The Operations Support Center (OSC) provides for assembly of Operations support personnel for supplemental emergency team personnel. The location of the OSC is the Outage Central Area[C15] located above the BVPS Control Rooms. This area has communications capability with the Control Room and the BVPS Site. Protective equipment for personnel assigned to the OSC is available in emergency cabinets in the OSC and at the Plant Health Physics Check Area, located adjacent to the access to the controlled area.

The OSC is equipped with the Radcon and Operations circuits, the site page party system and PAX/Commercial phone system capabilities.

The OSC is designated as a central location for coordinating the activities of radcon technicians for both BVPS units. Wall maps are provided for maintaining the status of radiological conditions within the Station.

If the nature of the emergency renders the OSC unusable due to radiological conditions, etc., OSC operations are co-located to the Alternate OSC.

The Alternate OSC is located in the Process Instrument and Rod Position Instrument Area below the Unit 1 Control Room. This area has the same shielding and ventilation features as the Control Room and the same communications capabilities as the OSC. The BV-1 remote shutdown panel is located in this area.[C15]

7.1.3 Emergency Response Facility

The Emergency Response Facility has been designed to satisfy the functional requirements of the Technical Support Center. The design of the building enhances the proper control and coordination of the principle emergency response activities without interfering with plant emergency operations. The facility provides for the following:

.1 Technical Support Center

The Technical Support Center is located in the Emergency Response Facility (ERF) located approximately 1200 feet from the Beaver Valley Power Station Control Rooms. The TSC provides for engineering and management support during emergency situations and has the following features:

a) Reasonably close proximity of the Control Room

b) Capability to display real-time plant status data

An Inplant Process Computer performs data acquisition, trending, alarm reporting, logging, CRT displays, data storage and various human communication functions to provide for the monitoring of plant variables in the Control Room.

The Safety Parameter Display System (SPDS), provides a display of plant parameters from which the safety status of operations may be assessed. The SPDS will help operating personnel make quick assessments of plant safety status and improve the exchange of information between TSC, EOF and Control Room.

c) Dedicated communications links to Control Room and NRC

A dedicated line system is provided between the Control Room and the TSC.[C31] This system is powered by emergency power. A base station for the BVPS Industrial Radio System is also provided. This base station has its own transmitter and antenna and can communicate (via the BVPS repeater) with all units. **E**mergency **T**elephone **S**ystem (ETS) extension for contacting the NRC/ENS and HPN are available, as is PAX and Commercial system telephones.

d) As-built drawings are maintained within the building

.2 Dosimetry Laboratory

A shielded dosimetry lab is provided with sufficient TLD availability to serve the needs of all Station personnel. Whole body counting facilities are located within the ERF.

.3 Sample Preparation and Counting Facilities

Shielded sample preparation areas are provided. Counting equipment include a gamma spectrometry system.

.4 Nuclear Regulatory Commission

Provisions have been made in the TSC and EOF to accommodate the complete NRC Site Team Organization. These provisions include desk space, communications capabilities and a conference room.

.5 Decontamination Facility

A decontamination facility is provided. This facility is intended for the use of ERF personnel. (Reserve portable survey instruments will be maintained here.)

.6 Other

- Kitchen
- Rest rooms and sleeping areas (for men and women)
- Medical Services
- Security and reception areas
- Records room

Increased shielding is provided for the TSC and the dosimetry/sample laboratories. Ventilation will be such that intake air flow can be diverted through high efficiency particulate (HEPA) filters and if necessary, charcoal filters. An emergency diesel generator, with an approximate 180-hour fuel supply, is provided for back-up power. Important instrumentation and communications equipment are powered by UPS and battery. Appropriate communications from the TSC and EOF to the Control Room, Onsite Response Facilities, and offsite agency Emergency Operations Centers, are provided.

7.1.4 Emergency Operations Facility [C55]

.1 The Emergency Operations Facility is located approximately 10.1 miles from the Beaver Valley Power Station site on the Beaver County Airport property in Chippewa Township, PA. There is adequate desk space for 50 or more people, including desk space for State and County representatives. Multiple communication types and paths are available in the facility and are described in the EOF implementing procedure. The EOF includes space for the environmental assessment and dose projection function. When the EOF is activated, the dose assessment area becomes a part of the EOF. The EOF will serve as the location from which the overall BVPS response will be directed and coordinated; and as a coordinating center for utility, Federal, State and local agencies. BVPS management personnel at this facility provide an interface with the Technical Support Center. The location is used as a muster point for other plant emergency response personnel should the plant become inaccessible for any reason.

The EOF Building (which contains the EOF, Alternate TSC, and an ERO Muster Area), is the Alternative Facility as described in 10CFR50 App. E., Sec IV, E.8.d. [C64]

.2 The EOF location is outside of the 10-mile radius from the TSC and the plant and therefore outside the area affected by a radiological release from a Beaver Valley Power Station emergency event.

.3 An emergency diesel generator, with an approximate 24-hour fuel supply, is provided for back-up power. Important instrumentation and communications equipment are powered by UPS and battery. Appropriate communications from the EOF to the Control Room to Onsite Response Facilities, and to offsite agency Emergency Operations Centers are provided.

.4 Environmental Assessment and Dose Projection capability
An environmental assessment and dose projection area, located in the EOF area, provides the capability to perform dose projection and offsite radiological assessment functions. 15-minute average print-outs of meteorological parameters is available in the dose assessment area. The Site meteorological monitoring system or other appropriate data acquisition systems will provide data needed for determination of meteorological conditions in the vicinity of BVPS and capability to access and monitor actual or potential offsite consequences of a release during a radiological condition. NRC/HPN, BVPS radio transceiver, and extensions to the DEP/BRP phones are available.

7.1.5 Joint Information Center (JIC)

The Joint Information Center (JIC) will serve as the focal point for all Nuclear Communications activities. All media communications by Licensee personnel, including press conferences, will be coordinated through the JIC. The location of the JIC is in the Pittsburgh Airport Business Park, Spring Run Road, Coraopolis, PA. This facility provides working space for the press and for Licensee Communications personnel. A briefing area to seat 300 persons is available. Adequate parking for cars and trailers is available.

The Implementing Procedures provides for staffing and operation of this facility. If the facility is unavailable due to radiological conditions, the activities of the JIC will be transferred to the Corporate Headquarters.

7.2 EMERGENCY SUPPLIES

Emergency supplies are located at onsite and offsite locations to provide a ready supply of equipment and material necessary to meet the short-term needs for performing emergency functions. The emergency supplies include portable communication equipment, protective equipment, monitoring equipment, and applicable procedures. Additional, and/or replacement equipment and materials are available at the Station, or can be readily obtained from offsite sources to support longer term emergency measures or the recovery effort. Appendix D provides a typical inventory by general category.

In addition, BVPS maintains an inventory of contamination control material at The Heritage Valley Beaver Hospital for minimizing the spread of contamination while handling contaminated injured personnel.

The emergency kits are inspected and inventoried at least quarterly and after each use.

7.3 COUNTY AND STATE EMERGENCY CENTERS

7.3.1 County Emergency Centers

The 10-mile emergency planning zone for the Beaver Valley Power Station includes areas and populations in Beaver County, PA; Columbiana County, OH; and Hancock County, WVA. Each of these county jurisdictions has Emergency Operations Centers, which meet or exceed the minimum Federal criteria for sufficient space, communications, warning systems, and self-sufficiency in supplies and accommodations. All three counties maintain employees to coordinate emergency planning and execution, and have made provision for 24-hour per day communications coverage.

Location of the county Emergency Operations Centers are:

- Beaver County Emergency Operations Center
  Beaver County Emergency Management Agency
  Beaver County Emergency Services Center
  351 14th Street
  Ambridge, Pennsylvania

- Columbiana County Emergency Operations Center
  Columbiana County Emergency Management Agency
  215 South Market Street
  Lisbon, Ohio

- Hancock County Emergency Operations Center
  Hancock County Office of Emergency Management C47
  82 Emergency Drive
  New Cumberland, West Virginia

7.3.2 State Emergency Operations Center

The 10-mile Emergency Planning Zone (EPZ) for the Beaver Valley Power Station includes areas and populations in Pennsylvania, Ohio, and West Virginia. All of the states maintain full-time employees to coordinate emergency planning and execution, and have made provision for 24-hour per day communications coverage.

The Pennsylvania Emergency Operations Center is located at the PEMA headquarters in Harrisburg, PA. This center is equipped with a reliable communications system, which ties all area and county emergency operations centers with PEMA headquarters. During an emergency, the State will assemble at the State Emergency Operations Center to manage and support the emergency response activities.

The Ohio Emergency Operations Center is located at the Ohio Emergency Management Agency headquarters in Worthington, Ohio (near Columbus). This center is equipped with extensive communications capability, which ties all area and county emergency operations centers with the OEMA headquarters. During an emergency, representatives from designated State agencies will assemble at the State Emergency Operations Center to manage and support the emergency response activities.

The West Virginia Emergency Operations Center is located at the West Virginia National Guard Headquarters in Charleston, West Virginia. An integral Emergency Communications center provides communication support for the emergency response effort. Communications and warning links connect all area and county emergency operations centers with the State EOC. During an emergency, the State EOC is staffed by personnel from each of the major State departments and agencies.

7.4 ASSESSMENT FACILITIES

The primary emergency assessment facility is the site Control Room. Supplementary and complimentary assessment functions are performed in the TSC. This section discusses the assessment facilities provided for both initial and continuing assessment of emergency conditions.

7.4.1 Radiological Monitors

Radiological monitoring equipment has been provided at the Beaver Valley Power Station for the detection and assessment of emergency conditions. Radiological monitors include the process, effluent, and area radiation monitors included in the Radiation Monitoring System; portable radiation, contamination, and airborne activity sampling and measuring equipment; radiological laboratory equipment; radiological environmental monitors; and accident monitors. These monitors are summarized below. More detailed information is found in the BVPS Final Safety Analysis Report (FSAR), the BVPS Health Physics Manual, the BVPS Operating Manual, and Appendix D to this Plan.

.1 Radiation Monitoring System/Digital Radiation Monitoring System - This onsite system, consisting of effluent monitors, continuous air monitors, area radiation monitors, and process monitors, contributes to personnel protection, equipment monitoring and accident assessment by measuring and recording radiation levels and concentrations of radioactive material at strategically selected locations throughout the station.

Each potential radioactivity release path has been provided with appropriate radiation monitors. These monitors, which provide for radioactivity detection and measurement during normal operations, are tabulated in Appendix D.

.2 Portable Instrumentation

Portable radiological sampling and measuring equipment is provided as part of the Beaver Valley Power Station Radiation Controls Program, as established in the BVPS Health Physics Manual. Appropriate gamma survey instruments, contamination monitoring equipment, and air sampling equipment are reserved in emergency kits for emergency use. With few exceptions, this equipment is battery operated. The reserved equipment is supplemented by the instruments provided for routine use. Appendix D tabulates, by type, the instruments available. The selection of instruments and sampling media, and the methodology established in Emergency Implementing Procedures, provides for a minimum field detection capability of at least 1 E-7 uCi/cc of Iodine-131 in the presence of radioactive noble gases.

.3 Radiological Laboratory Equipment

Appropriate radiological counting equipment is provided in support of routine operations. This equipment is available for use during emergencies. Equipment includes, beta counter, liquid scintillation counters, and gamma spectrometers.

Laboratory support from outside the Site can be requested through the Brookhaven D.O.E. Bettis Atomic Power Labs, located approximately one hour away by car is the nearest D.O.E. facility.[C1] A laboratory is included in the Emergency Response Facility.

Laboratory support for environmental sample analyses are available from the environmental contractor. [C31]

.4 Environmental Monitors

The primary functions of the environmental radiological monitoring program are to establish the pre-operational background levels, detect any gradual build-up of long-lived radionuclides and verify that operation of the plant has no detrimental effect on the health and safety of the public or the environment. Field thermoluminescent dosimeters (TLDs) and sampling media from environmental monitoring locations may, however, be utilized to obtain valuable assessment data in the event of an accident involving the release of a significant amount of radioactive material.

.5 Accident Monitors

Several radiological monitors have been provided for assessment of radiological conditions or radiological release rates in the wake of a significant accident. These monitors generally supplement the monitors in the Radiation Monitoring System by extending the range of radiation measurements. Such monitors are provided for each of the major radioactivity release paths to the atmosphere and in the Containment Building. The range of the effluent monitors is about 1 E-7 to 1 E5 uCi/cc (Xe-133), and the range of the Containment area radiation monitor is about 1 R/hour to 1 E7 R/hour.

7.4.2 Fire Detection Systems

Fire protection at the Beaver Valley Power Station is provided by a complete network of fire suppression and extinguishing systems. These systems include a central alarm system (with an annunciator panel located in the Control Rooms) which is activated by a variety of fire and smoke detection devices which are located throughout the plant. Although the suppression and extinguishing systems for BV-2 are similar to BV-1 they are not identical. These fire detection systems are identified in the BVPS Fire Protection Plans.

7.4.3 Geophysical Phenomena Monitors

Monitors are provided for detecting and recording geophysical phenomena parameters related to meteorology and seismic events.

.1 Meteorology

The Beaver Valley Power Station maintains an onsite Meteorological Measurements Program. This program is comprised of equipment and procedures which provide for indication and recording of meteorological measurements necessary to perform dose projections based on atmospheric dispersion of a radioactivity release from the station. Meteorological sensors are provided on a meteorology tower located near the site to measure and record the following parameters:

- Wind direction at three altitudes
- Wind speed at three altitudes
- Vertical temperature difference
- Ambient temperature
- Precipitation

There are two (2) redundant trains of sensors located on this tower. The output from the two sets of sensors is processed and recorded by instrumentation in a shelter located near the tower. Two redundant communication links transmit the processed data to the Site meteorological monitoring system. The Site meteorological monitoring system information is located in the Emergency Response Facility and is accessible at the Emergency Operations Facility. The Site meteorological monitoring system samples the parameters every five (5) seconds and calculates and records an average value every fifteen (15) minutes and once every hour. This information is also available on the PI system at the EOF. A minimum of one (1) month of historical hourly data and two (2) weeks of historical quarter hour data is available online at any time. This data is available on request at any Site meteorological monitoring system computer. Meteorological data is available to the States via electronic data transfer methods (example: Edata, internet-based, etc).[C49]

The instrumentation in the meteorological shelter and the tower sensors have an automatic backup power supply. The Site meteorological monitoring system is powered by the Emergency Response Facility uninterruptible power supply (UPS). Backup meteorological information is available through the National Weather Service.

.2 Seismic Equipment

Appropriate seismic instrumentation is provided at the Station to monitor and record the motion and peak shock imparted to critical elements of the Station (structures and components) due to an earthquake. Alarms are provided for peak accelerations and mechanical/electrical devices record the extent of the acceleration for subsequent evaluation to determine if maximum allowable accelerations have been exceeded and if any plant corrective actions are necessary.

The seismic instrumentation is categorized into two separate subsystems: C70

- Seismic Monitoring System C70

  This system is continuously monitoring in standby. It consists of a Central Controller, Recorder panels connected to triaxial accelerometer sensors, Alarm Panel, and Uninterruptible Power Supply (UPS). The Central Controller provides recording and sounds an annunciator in the Control Room at an acceleration of 0.01g. In the event of system activation, the Central Controller will provide a common trigger for all connected accelerometers to ensure an event is properly recorded by all associated field sensors within the same time frame. For Unit 1: Three independent triaxial sensors are provided--two in the containment, and one in the Auxiliary Building. Four passive triaxial recorders are provided in the Control Room. For Unit 2, sensors are provided in containment and also in the Switchyard. The operator will obtain and assess the results from the recorder using the BVPS Operating Manual.

- Peak Recording Accelerometers C70

  The Central Controller will provide the recording and analysis function for recording triaxial accelerometers. This is accomplished via post seismic event data processing with the Central Controller based on information recorded by the Triaxial Force Balance Accelerometers located in the Control Room, Auxiliary Building, and Containment. For Unit 1: Four peak recording triaxial accelerometers are provided--three in the containment and one in the Auxiliary Building. For Unit 2, sensors are also provided in containment and the Auxiliary Bldg. The

containment Triaxial Force-Balance Accelerometer will activate annunciators located in the Control Room via the Central Controller at accelerations equivalent to 70% of the Operational Basis Earthquake (OBE) and 100% OBE.

.3 Hydrologic Data

Data on the river flow in the Ohio River is available from two sources. The Lockmaster at the Montgomery Dam, located upriver in Industry, PA., is the primary source. The US Army Corps of Engineers provide 24-hour coverage at this location. The National Weather Service, River Forecasting Section, Pittsburgh is a source of river flow data during normal work hours, and during emergency periods of high river levels.

7.4.4 Process Monitoring Equipment

Process monitoring instrumentation is provided in the Station Control Rooms to provide the operator with necessary data on plant status to operate the plant under normal and emergency situations. This instrumentation generally includes instruments that:

- Provide information required to take pre-planned manual actions.
- Provide information to monitor the process of accomplishing critical safety functions.
- Indicate the potential for damage, or actual damage, to fission product barriers.
- Indicate the effectiveness of individual safety systems.
- Provide information for use in determining the magnitude of the release of radioactive materials, as described in Section 7.4.1.

In addition to the instrumentation described above, additional process parameter instrumentation systems are installed. These systems are the Safety Parameter Display System (SPDS) Computer, and the Inplant Process Computer (IPC) and Plant Safety Monitoring System (PSMS).

.1 Safety Parameter Display System

The Safety Parameter Display Systems (SPDS) provide displays of essential plant parameters from which the safety status of operations may be assessed. The primary function of the SPDS is to help Control Room personnel make quick assessments of plant safety. Displays for this system are provided in the BVPS Control Rooms and the Technical Support Center (TSC). The plant data display in the EOF provides plant data through a link with the plant computers.

.2 Inplant Process Computer and Bypassed & Inoperable Status Indication System

The Inplant Process Computer (IPC) is designed to obtain data from the reactor control, reactor protection, the environmental monitor racks, and other transducers in the plant and provide access to these indications in the Technical Support Center (TSC), the Emergency Operations Facility (EOF) and in the Control Room. The Bypassed & Inoperable Status Indication (BISI) System provides an indication in the Control Room of bypassed or inoperable equipment in the facility to assist the operators in operating the plant.

.3 The Plant Safety Monitoring System (PSMS) is located in Unit 2 Control Room. The PSMS will monitor plant conditions such as incore thermocouples, rod positions, Reactor vessel water level, etc.

7.4.5 Emergency Response Data System (ERDS)

The BVPS Emergency Response Data System (ERDS) collects and transmits data as specified by the Nuclear Regulatory Commission (NRC). The system is tested for both Units 1 and 2 on a schedule specified by the NRC.

7.5 PROTECTIVE FACILITIES

Facilities and designated assembly locations are provided which ensure adequate radiological protection for personnel assigned to emergency duties in the plant, and for the accommodation of other personnel evacuated from areas that may be affected by radiation and/or airborne radioactivity.

7.5.1 Station Control Rooms

In addition to serving as the first-line control for emergency situations, the station Control Rooms have the following features which provide protection for personnel who may have emergency or operational duties throughout the course of any emergency:

- Adequate shielding by concrete walls to permit continuous occupancy under severe accident conditions
- An independent emergency air supply system, equipped with absolute and activated charcoal filters
- Continuous monitoring of radiation levels in the Control Room and throughout the plant by the RMS/DRMS system, with readout in the Control Room
- Emergency lighting and power, supplied by a 125 V DC system
- Basic protection equipment for emergency teams (Appendix D), and listings of emergency supplies/equipment, and their locations within the station
- Communications systems, as described in Section 7.6

7.5.2 Site Assembly Areas

Specific locations are designated for assembly of personnel at the site in the event of a Site Assembly or a Site Accountability. These areas provide space to accommodate all personnel who may be at the station. They are located on the basis of logical access routes and physical separation from likely areas of radiation and/or airborne radioactivity. The locations and the individuals assigned are:

.1 Primary Assembly Area (Unit 1 Service Building-Locker Room Area, South Office Shops Building - Locker Room Area and Nuclear Construction Office and Shops)

Personnel without emergency assignments within the BVPS protected areas will report to these areas. This includes BVPS employees, visitors, and contractor groups not covered by a specific evacuation plan. The responsibility to ensure that a visitor reports to the proper area is that of the individual accompanying the visitor at the time evacuation occurs.

.2 Unit 1/Unit 2 Contractor Personnel

Construction and contractor personnel are covered by the BVPS procedures, which provides instructions for assembly, accountability and evacuation. Personnel are instructed on these areas upon arrival at the BVPS site.

.3 Personnel Access Facility

Members of the Security Section assemble in accordance with the Beaver Valley Power Station Security Procedures.

.4 Training Building and other out-buildings designated in the Implementing Procedures. [C19, C25]

These buildings are located outside of the protected area. Personnel and visitors outside of the Unit 1-2 protected areas, will assemble in these buildings and await further instructions.

7.5.3 Remote Assembly Areas

These areas are designated for assembly of personnel from within the site in the event of a Site Evacuation. The locations are the Beaver County Community College Golden Dome and the Hookstown Grange. The Beaver County Community College Golden Dome is located approximately 9.8 miles from the site in the SE sector. The Hookstown Grange is located approximately 3.5 miles from the site in the SW sector. There are telephone links between each of these locations and the Control Room/TSC/EOF. [C48]

The BVPS Emergency Coordinator will direct personnel to the appropriate area based on the direction of plume travel. If, based on radiological measurements at the Remote Assembly Areas and/or data from the Control Room, neither of these locations is deemed by the BVPS Emergency Coordinator to be appropriate, the BVPS Emergency Coordinator in cooperation with management and State and county agencies will direct personnel to another location.

Since accountability and radiological monitoring would be performed prior to exiting the site, no provisions are made for inclement weather. If weather conditions make use of the facilities impracticable, evacuated personnel will be sent home (or to their assigned Mass Care Center, identified in the county emergency plans). In cases of extreme weather conditions, non-essential Site personnel would be sent home prior to roads becoming impassable, and thus would not be onsite when the emergency was declared.

7.6 COMMUNICATIONS SYSTEMS

Communications are essential for effective activation and implementation of the Emergency Preparedness Plan. Beaver Valley Power Station has five independent systems for outside communication to Federal, state, county authorities, to corporate management, and to offsite support groups. These systems are the Commercial telephone system, the PAX system, the dedicated "hot lines", the Beaver Valley Emergency Response System and the Industrial Radio System. Onsite, the plant alarm system and the Station paging system provides communication/notification for Site personnel. Radio contact with the State agencies is via relay through their respective County[C2].

These multiple systems and redundancies ensure the performance of vital functions in transmitting and receiving information throughout the course of the emergency. Systems available at the various emergency facility locations are:

7.6.1 Commercial Telephone System

The Beaver Valley Power Station site is provided with telephone service by Verizon. All lines entering the site are direct connections with the telephone exchange (724-643/682) in Midland, (724-775) Rochester or (330-315) in Akron, Ohio. There are numerous direct lines, all of which can be used simultaneously. Power supply redundancy is provided for by emergency power supplies.

Emergency facilities served by direct lines:

- Control Rooms
- Technical Support Center (TSC)
- Emergency Operations Facility (EOF)
- BVPS Unit 1/2

The Commercial systems are routinely used by station personnel performing routine station activities, thus, periodic testing is not necessary.

7.6.2 PAX System

The PAX System includes automatic switchboards in the SOSB and the ERF. These switchboards are connected to each other and connected via T1 carrier and fiber optic trunks to a digital switchboard at Akron, Ohio which in turn is connected to the public telephone network as well as to other switchboards. The ERF and SOSB switchboards also has direct trunks to the public telephone network.

The PAX System has Direct Inward Dial capability for all telephone lines connected to any of the Company switchboards (724-682-xxxx). These telephone lines also have the capability of calling any other telephone line on the PAX System as well as Direct Dial calling anywhere on the public telephone network.

The PAX systems are routinely used by shift operations personnel performing routine station activities, thus periodic testing is not necessary.

7.6.3 Remote Shelve Connection

The Remote Shelve connection provides a similar communication link to the PAX from the EOF to the public telephone network.

7.6.4 DEP/BRP and NRC Communications

The DEP/BRP auto-dialer phone located in the Dose Assessment area of the EOF is used to provide radiological data. The DEP/BRP auto-dialer phone located in the Control Room and is used to provide technical data. The DEP/BRP does not have 24-hour per day coverage on this phone, but will activate the DEP/BRP staff upon notification from PEMA that an event has occurred. This phone is tested monthly.

The ENS (Emergency Notification System) is used to make the initial notification of an emergency declaration as well as providing ongoing information on plant status, systems and parameters to the NRC. The **E**mergency **T**elephone **S**ystem (ETS) is a designated set of phones on the commercial phone system that **DOES NOT** go through either of the Beaver Valley Phone Switches but goes directly to Akron, Ohio for switching. This is to meet the requirements for dissimilar vulnerability to assure contact with the NRC during a declared emergency at Beaver Valley Power Station should the local phone switches become overloaded. The ETS operates in the same manner as the commercial phone systems when placing a long distance call. Simply lift the receiver, wait for a dial tone and dial "9" then "1" before dialing the ten digit phone number. ENS phones are located in the following locations:

- Control Room – Communications Console in the Administrative Assistant Area C31
- Control Room – Unit 1 Communications Console C31
- Technical Support Center
- Emergency Operations Facility
- NRC EOC

The HPN (Health Physics Network) phone, utilized to communicate radiological and meteorological conditions to the NRC, is also accessed by the ETS. These phones are located at:

- Operations Support Center
- Emergency Operations Facility (Dose Assessment Area)
- Technical Support Center (Rad Protection Coord.)
- NRC EOC

Other phones associated with the ETS and dedicated to NRC Communications are located in the ERF and EOF are described as follows:

- Reactor Safety Counterpart Link (RSCL)
- Protective Measures Counterpart Link (PMCL)
- Emergency Response Data System (ERDS) Channels (2) (Data transmission only)
- Management Counterpart Link (MCL)
- Local Area Network (LAN) Access

The Control Room ENS phone is tested daily, while the others are tested monthly.

7.6.5 Beaver Valley Power Station Industrial Radio

BVPS operates a radio communications network on two frequency bands. [C36] This service is used by BVPS, the DLC Power Stations Department, and other corporate groups. Tone-operated squelch prevents standby emergency stations from receiving routine operational transmissions.

There are six fixed base station transceivers associated with Beaver Valley Power Station (there are others serving other divisions within DLC). [C36] These are located at:

- Columbiana County Communications Center (CCEMA)

There are operating consoles for this base station located at the Sheriff's Dispatcher, the Ohio Highway Patrol, and at CCEMA.

- Hancock County Communication Center (HCOEM) [C47]
- Pennsylvania State Police
- Remote Relay Station on Shippingport hill SW from BVPS
- Beaver County Emergency Services Center
- Community College of Beaver County

The remote relay station is operated from the Control Room SM communications console via a UHF radio link or a dedicated telephone line. This station has power redundancy supplied by batteries connected to a battery charger. Remote consoles are located at:

- US area in the Control Room (BV-1) (Both frequencies)
- U1 Plant Shutdown Panel
- U2 Plant Shutdown Panel
- Control Room Office (shared BV 1-2) (Both frequencies)
- Dose Assessment Area (EOF) [C36]
- TSC - Radiological Controls Area [C36]

The offsite monitoring teams are provided with radios capable of communicating with the site.

The industrial radio system is operated routinely by shift operations and security personnel and the base stations are tested by substations and shops. The communications links between the Control Room, the risk counties, and the State Police are tested weekly. Portable transceivers maintained in the Control Room are used daily as part of the normal plant operations.

7.6.6 Beaver Valley Emergency Response System

The Beaver Valley Emergency Response System (BVERS) is a mass ERO notification system capable of contacting the Emergency Response Organization. The system will alert the BVPS Emergency Response Organization in the event of an emergency declaration, provide personnel with a recorded reporting message, and record response information from each responder. BVERS will be tested monthly.

7.6.7 Station Page Party Telephone System

A Station page party telephone system is used for onsite communications and notifications. There are five party lines available at each transceiver location. Power supply redundance is provided by connection into the vital AC distribution, and by backup batteries.

The page party system is the primary means for alerting and providing instructions to Station personnel.

7.6.8 Personal Electronic Devices

Personnel in the emergency organizations use Personal Electronic Devices (Cell Phones, Satellite Phones, Pagers, etc.) that are programmed in BVERS to activate when emergency notifications are required.

7.6.9 Station Emergency Alarm System

A plant emergency alarm system provides audible warning of emergency conditions to station personnel. The emergency alarms are sounded over the station page system. The system is powered from the vital AC distribution.

7.6.10 Satellite Phones

Satellite phones are provided as an alternate means of communications in the event that normal communication systems become unavailable. These phones are located in specific facilities and are clearly marked as satellite phones.

7.6.11 Gold Executive Conference Line

The Gold Executive Conference Line provides capability for a conferencing line to provide protective action recommendations to state and county EOCs and the PA DEP/BRP. Conferencing lines also provide capability for upper level management discussions.

7.7 DAMAGE CONTROL EQUIPMENT

Damage control equipment consists of normal and special purpose tools and devices used for maintenance functions throughout the station. Personnel assigned to damage control teams are cognizant of the locations of specific equipment, which may be required in an emergency. Control Room staff have access to keys for maintenance tool cribs, shops and other locations where appropriate damage control equipment may be stored.

Implementing Procedures provide guidance for emergency teams, and include locations for designated emergency equipment.

SECTION 9

RE-ENTRY AND RECOVERY

Section 9

RE-ENTRY AND RECOVERY

Table of Contents

9.0 RE-ENTRY AND RECOVERY

Actions taken during an emergency situation can be categorized into two general phases: Response and Recovery. Response actions are assessment, corrective, and protective measures taken to mitigate the consequences of the event and to place the emergency under control. Recovery actions are the longer-term actions taken to restore the Site, as nearly as possible, to its pre-emergency condition.

9.1 TRANSITION FROM RESPONSE TO TERMINATION AND/OR RECOVERY

The extent and nature of the corrective and protective actions and the extent of recovery operations will depend on the emergency conditions at hand and the status of Site areas and equipment. In many emergency situations, the condition may be resolved without significant plant damage, and thus, the Site can be restored to a normal operation mode without a definitive recovery phase and without extensive outside assistance. In the event of a more extensive damage, a long-term recovery will require the establishment of a recovery organization.

At the onset of an emergency condition, response actions to mitigate the consequences of the accident take precedence over recovery actions. The Emergency Director may initiate some limited recovery operations during the response phase. Gradually as the response effort begins to abate the emergency classifications are terminated, recovery efforts gain more importance. Criteria for terminating emergency classifications are included in site procedures. Finally, a point is reached where the emergency situation has decreased to the extent that it can be considered, for all practical purposes, to be resolved. At this point, the emergency can be declared to be terminated, and a recovery organization implemented as necessary.

If following the termination, the emergency situation recurs, then the Emergency Director will re-activate the onsite emergency organizations, and if necessary, the offsite emergency organizations. Recovery efforts will be suspended until the Emergency Director allows them to resume.

9.2 TERMINATION CRITERIA

An emergency condition can be considered resolved, and a recovery organization established (if necessary) when the specific guidelines have been met. Some of the guidelines are:

.1 In-plant radiation levels are stable or are decreasing below acceptable levels with time.

.2 The release of radioactive material to the environment, greater than Technical Specifications, is under control or has ceased.

.3 Any fire, flooding, earthquake, or similar emergency conditions are under control or have ceased.

Termination from an emergency condition will be through joint evaluation by the organizations involved. In the case of a severe emergency involving offsite consequences, this would include the Emergency Director, Emergency Coordinator, the three states involved, and NRC. All emergency response and support organizations shall be notified of the termination of the emergency, and/or the initiation of recovery operations, in the same manner as was used for initial notification

9.3 RE-ENTRY

During the emergency response, it may become necessary for Site personnel to re-enter previously evacuated areas. In many cases the radiological conditions in these areas will be unknown. There may also be other unknown conditions in these areas which could place re-entry personnel at additional risk. The control of re-entry to these areas will depend on the nature of the initiating events, the extent of the affected area, and the radiological conditions and other hazards present. Emergency Implementing Procedures have been developed and implemented to provide guidance for re-entry activities. The Re-entry Emergency Implementing Procedure is divided into (a) re-entry team personnel and (b) necessary plant personnel. Re-entry of plant personnel will depend on information obtained by re-entry teams and present and future plant conditions. Significant provisions relative to re-entry to affected areas include:

.1 Re-entry will be by two-men (or more) teams. These personnel are directed to remain in voice or visual contact with each other while in the affected area. At least one individual in the team will be a Radcon Technician, or another individual appropriately qualified in radiation control procedures.

.2 With the exception of re-entries made for the purpose of saving human life, or performing necessary corrective actions, the exposure of re-entry personnel shall be limited to the occupational standards for radiation exposure established in 10 CFR 20.

9.4 RECOVERY

The Beaver Valley Power Station emergency organization shall continue to provide appropriate emergency response functions until such time as the emergency is terminated and/or a recovery organization is established. The Senior Vice President with the concurrence from the Company Nuclear Review Board and with the advice of the BVPS Emergency Director may establish a recovery organization when the criteria of Section 9.2 have been met.

Although planning for recovery will vary according to the nature of the specific emergency situation, it is not expected that any recovery organization which may be necessary would differ significantly from the structure and staffing of the Nuclear Power Division described in Section 5 of this Plan and illustrated in Figure 5.1. The Nuclear Power Division is structured into functional areas and staffed by personnel competent in the various disciplines necessary for safe operation of the BVPS facilities under normal and emergency conditions. Since the Nuclear Power Division maintains office facilities either onsite or near the site, it is not necessary to identify working space for the recovery organization.

Upon activation of the recovery organization, the Emergency Director, or alternate, will assume the role of Recovery Manager. In this capacity, the Recovery Manager will have the responsibility for directing and coordinating recovery operations. He will draw upon any necessary resources to support the recovery effort.

9.5 RECOVERY OPERATIONS

During recovery operations, the radiation exposure limits of 10 CFR 20 shall apply. Compliance with those limits shall be the responsibility of the Recovery Manager via the Health Physics organization.

At the time of declaring that an emergency has entered the recovery phase, the Recovery Manager shall be responsible for providing notification to all applicable offsite agencies (e.g. Federal, State, and county agencies, etc.) that the emergency has shifted to a recovery phase.

Recovery actions that plan for or may result in radioactive release will be evaluated by the Recovery Manager and his staff as far in advance of the event as possible. Such events and data pertaining to the release will be reported to the appropriate off-site emergency response organizations and agencies.

9.6 POST-ACCIDENT EVALUATION

Following the termination of the response phase of the accident and the commencement of recovery operations, appropriate evaluations to assess Site conditions will be performed. The outcome of these evaluations will form the basis of recovery planning and licensee event reports to the USNRC. The scope of these evaluations will be consistent with the emergency classification, the nature of the initiating events, and the preliminary assessment of Site equipment status.

An integral part of these evaluations will be the periodic estimation of the total population exposure resulting from radioactivity releases during the emergency. Analysis will be performed to estimate population exposure from all applicable exposure pathways identified in Regulatory Guide 1.109 and the analysis will utilize monitoring and sampling data obtained during the incident and actual meteorology. The methodology for performing these analysis is provided in the environmental monitoring program described in the Offsite Dose Calculation Manual as it relates to compliance with 10 CFR 50 Appendix I requirements. Emergency Implementing Procedures provide guidance and methods for performing these analysis.

Attachment 3
Emergency Response Organization (ERO) Change Summary
(18 pages follow)

Beaver Valley
ERO Change Summary

EOF Position Changes		
Current Position	**Proposed Position**	**Change**
Emergency/Recovery Manager	Emergency Director	Title change only
Assistant Emergency/Recovery Manager	EOF Manager	Title change only
Environmental Coordinator	FMT Coordinator	Title change only
EA&DP Coordinator (EOF)	Dose Assessment Coordinator	Title change only
Communications and Records Coordinator (TSC)	State/Local Communicator (EOF)	Position changes discussed below
EOF Operations Coordinator	EOF Operations Communicator	Position changes discussed below
None	Dose Assessor	New position discussed below
None	HPN Communicator	New position discussed below
Support Services Manager	None	Deleted position discussed below
Nuclear Communications Manager	None	Deleted position discussed below
Nuclear Comm. Technical Advisor	None	Deleted position discussed below
CR/TSC/OSC Position Changes		
Current Position	**Proposed Position**	**Change**
Operations Coordinator (CR)	None	Deleted position described below
Security Coordinator (CR)	None	Deleted position described below
Emergency Director	Emergency Coordinator	Title change only
Assistant Emergency Director	TSC Manager	Title change only
Radiological Controls Coordinator	Radiation Protection (RP) Coordinator	Title change only
Technical Support Personnel (generic term)	Core Hydraulic Engineer	Position changes discussed below
	Mechanical Engineer	Position changes discussed below
	Electrical Engineer	Position changes discussed below
None	ENS Communicator	New position discussed below
Technical Support Coordinator	None	Deleted position discussed below
Chemistry Coordinator	None	Deleted position discussed below
Computer Coordinator	None	Deleted position discussed below
EA&DP Coordinator (TSC)	None	Deleted position discussed below
Environmental Coordinator	None	Deleted position discussed below
Ohio EMA Liaison	None	Deleted position discussed below
None	Mechanical Maintenance Coordinator	New position discussed below
None	Electrical Maintenance Coordinator	New position discussed below
None	I&C Coordinator	New position discussed below
JIC Position Changes		
Current Position	**Proposed Position**	**Change**
Chief Company Spokesperson	Company Spokesperson	Title change only
JPIC Manager	JIC Manager	Title change only
Information Manager	Information Coordinator	Title Change only
Nuclear Communications Manager	Nuclear Communications Coordinator	Position changes discussed below
Nuclear Communications Writer		
JPIC Technical Advisor	JIC Technical Advisor	Position changes discussed below
Technical Briefer		
Media Monitor	Media Monitor / Rumor Control	Position changes discussed below
Rumor Control Coordinator		
Customer Services		
Media Contact	Media Relations Coordinator	Position changes discussed below
EMA Contact Representative	Logistics Coordinator	Position changes discussed below
Engineering Comm. Rep	None	Deleted position discussed below
Administrative Support	None	Deleted position discussed below
Security Coordinator	None	Deleted position discussed below

Current Performer / Functions	Proposed Performer / Functions
Communications and Records Coordinator (TSC) - Coordinate and ensure proper notification to key emergency coordinators and offsite organizations - Function as liaison for emergency-related communications between the Emergency Director and onsite and offsite emergency groups - Maintain records concerning the emergency	**State/local Communicator (EOF)** - Initial and follow up notifications to state, local and county officials of changes in classification, release status and PARs - Coordinate and ensure proper notification to offsite organizations - Function as liaison for emergency-related communications between the Emergency Director and offsite emergency groups - Maintain records concerning the emergency

Change: Relocation of the state and local communications function from the TSC to the EOF and rename position to State/Local Communicator

Justification

Establishing a common activation timeframe and classification level for the TSC and EOF allows for simultaneous transfer of command and control functions from the control room with onsite activities (Classification, Federal Notification, Exposure Authorization) being transferred to the TSC and offsite responsibilities (State/local Notification, PARs) being transferred to the EOF.

The TSC Communications and Records Coordinator position, responsible for the State/local notification function, is relocated to the EOF and is renamed “State/Local Communicator.” The position will maintain responsibility for performance of offsite notifications to State/local agencies and function as a liaison between EOF leadership and offsite emergency groups. The State/Local Communicator will be a 60-minute response position as described in Section 3.2.3 of this Enclosure.

Separation of onsite and offsite communications between the TSC and EOF allows each facility to better focus on tasks related to the nature of the event response addressed in that facility. The State/local Communicator will have a 60-minute response time.

There is no loss of capability associated with this function as a result of the proposed change.

Current Performer / Functions	Proposed Performer / Functions
Operations Coordinator (EOF) Reports to the Emergency/Recovery Manager in the EOF and advises on matters concerning plant operations.	**Operations Communicator (EOF)** Reports to the EOF Manager and advises on matters concerning plant operations.

Change: Elimination of Operations Coordinator position and addition of the Operations Communicator in the EOF

Justification:
Establishing a common activation timeframe and classification level for the TSC and EOF allows for simultaneous transfer of command and control functions from the control room with onsite activities (Classification, Federal Notification, Exposure Authorization) being transferred to the TSC and offsite responsibilities (State/local Notifications, PARs) being transferred to the EOF.

This alignment also provides for reduction in duplicative staffing positions. The existing Operations Coordinator position in the TSC will continue to maintain responsibility for tracking and communication of plant status and performance of duties associated with event classification as that function will continue to be performed solely by the TSC under the proposed change. Additionally, this position will continue to be engaged in SAMG event response as appropriate. Since the classification function is not performed in the EOF, there is not a need for the EOF Operations Coordinator position in the ERO. The TSC Operations Coordinator position will have a 60-minute response time.

The proposed change adds the position of Operations Communicator to the EOF who will assume the responsibility for communication of plant information and event classification status in support of State/local notifications and PAR development.

Focusing of the on-site effort by the TSC allows the EOF to address offsite responsibilities and maintain awareness of overall event response.

Because the Operations Coordinator position is being maintained in the TSC in support of event classification, there are no adverse impacts to performance of this function as a result of the proposed change.

Current Performer / Functions	Proposed Performer / Functions
None	**Dose Assessor (EOF)** - Performance of dose projections - Coordination of dose projection information with NRC Site Team Members as needed

Change: Addition of a Dose Assessor position in the EOF

Justification:
The proposed change adds this position to the EOF to support the dose assessment/dose projection function initially performed by the Dose Assessment Coordinator. This position will also be available to coordinate dose projections with NRC Site Team members as part of expanded NRC response to the site as needed. The Dose Assessor position will have a 90-minute response time.

There is no loss of capability associated with this function as a result of the proposed change.

Current Performer / Functions	Proposed Performer / Functions
None	**HPN Communicator (EOF)** - Provides onsite and off-site dose and dose rate information, updates on protective action recommendations and implemented protective actions by offsite agencies and results of in-plant and offsite survey information to the NRC via HPN Counterpart Link
Change: **Addition of HPN Communicator position in the EOF** **Justification:** The proposed change adds this position to the EOF to support site response to NRC questions associated with radiological conditions associated with the event. The HPN Communicator position will have a 90-minute response time. The addition of this position establishes a commitment for a resource in the EOF available to provide radiological information to the NRC upon request. There is no loss of capability associated with this function as a result of the proposed change.	

Current Performer / Functions	Proposed Performer / Functions
Support Services Manager (EOF) - Coordinate personnel and work schedules - Coordinate with outside groups in procurement and purchasing resources - Coordinate provisions for transportation, food and other logistical support - Coordinate any needed training with the training department - Provide clerical support as necessary - Interface with corporate supply chain	**None**
Change: **Removal of the Support Services Manager position from the Emergency Plan** **Justification:** The Support Services Manager serves an administrative function in the EOF and does not perform emergency preparedness functions. The proposed change removes this position from the Emergency Plan and maintains the position in site procedures. There is no loss of capability associated with this function as a result of the proposed change.	

Current Performer / Functions	Proposed Performer / Functions
Nuclear Communications Manager (EOF) - Assist in direction of activities of the Emergency Public Information Response Team (PIRT) - Aid in ensuring a continuous flow of information for developing news announcements	**None**

Change: Elimination of the Nuclear Communications Manager position

Justification:
The BVPS EPP previously utilized an incident response team designed to perform initial media response activities in advance of JPIC staffing, which took place at the Site Area or General Emergency classification. The proposed change renames the JPIC as the JIC and directs staffing at the Alert or higher classification, eliminating the need for a separate team to perform media response activities.

Staffing of the JIC at the lower classification level allows for elimination of duplicative positions in the EOF tied to the incident response process and streamlines media response activities. The proposed change eliminates the Nuclear Communications Manager position in the EOF and transitions responsibilities for the associated activities to the Nuclear Communications Coordinator in the JIC.

As a result, there is no loss of capability associated with this function as a result of the proposed change.

Current Performer / Functions	Proposed Performer / Functions
Nuclear Communications Technical Advisor (EOF) - Provide and interpret technical information for the Nuclear Communications Writer - Provide information to the JPIC Technical Advisor for news briefings	**None**

Change: Elimination of the Nuclear Communications Technical Advisor position

Justification:
The proposed plan eliminates the Nuclear Communications Technical Advisor position in the EOF. The re-assignment of technical and plant support activities to the TSC streamlines communications between Emergency Facilities. As a result, the JIC Nuclear Communications Coordinator will obtain needed information from the Technical Advisor in the JIC. The Technical Advisor in the JIC will be in contact with the Operations Communicator in the EOF and will be able to obtain any needed technical or plant status information via that communications link.

These changes support continued performance of communications and public relations information and no longer require a dedicated position in the EOF for performance of these functions.

There is no loss of capability associated with this function as a result of the proposed change.

Current Performer / Functions	Proposed Performer / Functions
Operations Coordinator (CR) - Provide direction and oversight to operating crews on plant manipulation in response to an event	**Performed in accordance with Technical Specifications and Operating Procedures**

Change: **Elimination of the Operations Coordinator as an ERO position in the Control Room**

Justification:
The proposed plan eliminates the reference to the Operations Coordinator as an EP position in the Control Room. This position, as previously noted in EPlan Figures, is filled by the Unit Supervisor. Based on the guidance in NRC Revised Table B-1, the function performed by the Unit Supervisor in this capacity is related to operation of the plant rather than emergency preparedness and is controlled under site Technical Specification. As a result, the proposed change removes the reference to the Control Room Operations Coordinator in the Emergency Plan.

Because the Unit Supervisor is being maintained under site Technical Specifications, removal of the EP title from the Plan does not result in a loss of capability associated with this function as a result of the proposed change.

Current Performer / Functions	Proposed Performer / Functions
Security Coordinator (CR) - Provide oversight and direction to security personnel on-shift - Maintain communications with the Shift manager regarding the status of security issues and/or accountability	**Performed in accordance with the Site Security Plan and procedures**

Change: **Elimination of the Security Coordinator as an ERO position in the Control Room**

Justification:
The proposed plan eliminates the reference to the Security Coordinator as an EP position in the Control Room. This position, as previously noted in EPlan Figures, is filled by the Security Supervisor. Based on the guidance in NRC Revised Table B-1, the function performed by the Security Supervisor in this capacity is related to performance of security duties rather than emergency preparedness and is controlled under site Security Plan. As a result, the proposed change removes the reference to the Control Room Security Coordinator in the Emergency Plan.

Because the Security Supervisor is being maintained under site Security Plan, removal of the EP title from the Plan does not result in a loss of capability associated with this function as a result of the proposed change.

Current Performer / Functions	Proposed Performer / Functions
Technical Support Personnel (TSC) - Analyzing mechanical, electrical, Instrument and control, effluent control, radiation dose rate problems, determining alternate solutions, design and coordination of short-term modifications installation - Analyzing thermohydraulic and thermodynamic problems and developing resolutions - Assisting in the development of EOPs or other procedures for conducting emergency operations - Analyzing conditions and developing guidance for the Emergency Director and operations personnel	**Core Hydraulic, Mechanical, Electrical Engineers (TSC)** - Analyzing mechanical, electrical, Instrument and control, effluent control, radiation dose rate problems, determining alternate solutions, design and coordination of short-term modifications installation - Analyzing thermohydraulic and thermodynamic problems and developing resolutions - Assisting in the development of EOPs or other procedures for conducting emergency operations - Analyzing conditions and developing guidance for the Emergency Coordinator and operations personnel

Change: Replacement of Technical Support Personnel reference to specific positions of Core Hydraulic, Mechanical and Electrical Engineers

Justification:
The proposed change establishes discipline specific engineering positions in the TSC. Duties assigned to these positions include analysis of engineering parameters and troubleshooting support activities, some of which were previously performed by the Technical Support Coordinator. Changes associated with that position are described in detail in pages that follow.

Coordination and direction of engineering personnel in the TSC is currently a function of the Engineering Coordinator in that facility. The proposed change establishes the Engineering Coordinator as a position now supported by the three specific technical disciplines. The remaining functions currently assigned to the Technical Support Coordinator will be assigned to the discipline specific engineers. The Core Hydraulic Engineer in the TSC will be assigned responsibility for thermohydraulic and thermodynamic issue resolution. The 60-minute response time is applied to the discipline specific engineers so that the timing of the transfer of responsibilities from the Control Room is not impacted.

As the proposed change more clearly defines technical support resources in the TSC, there is no loss of capability associated with this function.

Current Performer / Functions	Proposed Performer / Functions
Operations Communicator (TSC) - Serve as the primary communicator for the NRC-ENS phone upon activation of the Emergency Response Organization	**ENS Communicator (TSC)** - Serve as the primary communicator for the NRC-ENS phone upon activation of the Emergency Response Organization - Verify the operability of the Emergency Response Data System (ERDS)
Change: Reassignment of ENS communications function from the Operations Communicator to the ENS Communicator as a standalone position in the TSC **Justification:** The proposed change adds the ENS Communicator position in accordance with the fleet standard organization. The ENS Communicator position is assigned to the TSC so that plant information can be more efficiently provided to the NRC. The ENS Communicator will be a 60-minute response position. The action to verify the ERDS link upon facility staffing is also assigned to the ENS Communicator. The Operations Communicator position will retain all other functions in the TSC.	

Current Performer / Functions	Proposed Performer / Functions
Technical Support Coordinator (TSC) - Coordination and direction of engineering personnel in the TSC - Analyzing mechanical, electrical, Instrument and control, effluent control, radiation dose rate problems, determining alternate solutions, design and coordination of short-term modifications installation - Analyzing thermohydraulic and thermodynamic problems and developing resolutions - Assisting in the development of EOPs or other procedures for conducting emergency operations - Analyzing conditions and developing guidance for the Emergency Director and operations personnel	**None**
Change: Elimination of the Technical Support Coordinator position in the TSC **Justification:** Responsibilities previously performed by the Technical Support Coordinator will be performed by the Core Hydraulics, Electrical and Mechanical Engineers in the TSC. The dedication of these three resources, as well as maintaining of the Engineering Coordinator position as part of the proposed change eliminates the need for the Technical Support Coordinator. There is no loss of capability associated with this function as a result of the proposed change.	

Current Performer / Functions	Proposed Performer / Functions
Chemistry Coordinator (TSC) - Provide technical information to the Emergency Director - Provide Chemistry personnel for analysis of environmental samples - Coordinate chemistry personnel for in plant chemistry sampling and analysis	**None**
Change: Elimination of the Chemistry Coordinator position **Justification:** Chemistry activities are managed through department procedure as required by site Technical Specifications. This position is being removed from the ERO as it does not perform any EP functions. Chemistry functions will continue to be performed at the site in accordance with Technical Specification requirements. This change is aligned with NRC Revised Table B-1 guidance. There is no loss of capability associated with this function as a result of the proposed change.	

Current Performer / Functions	Proposed Performer / Functions
Computer Coordinator (TSC) - Alert the TSC Operations Coordinator of changing conditions as indicated by the computer system - Activate/verify ERDS at an Alert or higher classification - Obtain required historical data (HDSR) - Direct computer personnel in restoration of corrective actions for non-functioning equipment - Restore computers to normal operation modes upon event termination	**None**
Change: Elimination of the Computer Coordinator position **Justification:** The site has upgraded computer systems as noted in Section 3.1.1 of this Enclosure. As a result, plant condition information is readily available on computers in Emergency Response Facilities as well as other key areas of the site. With the increase in accessibility of plant information, there is no longer a need for dedicated computer personnel to access plant status and relay the information manually. The site has also upgraded the ERDS system to VPN which allows for continuous access by the NRC. The action to verify the ERDS link upon facility staffing will be assigned to the ENS Communicator, a position being added to the TSC. There is no loss of capability associated with this function as a result of the proposed change.	

Current Performer / Functions	Proposed Performer / Functions
Environmental Assessment and Dose Projection Coordinator (TSC) - Direct activities of offsite radiological monitoring teams - Coordinate offsite monitoring activities and the exchange of results and other technical data - Provide the Emergency Director with dose projections and evaluations - Provide technical advice to the Emergency Director concerning radiological assessment and recommendations for offsite protective actions	**None**

Change: Relocation of the dose assessment function from the TSC and rename position to Dose Assessment Coordinator in the EOF

Justification:
Establishing a common activation timeframe and classification level for the TSC and EOF allows for simultaneous transfer of command and control functions from the control room with onsite activities being transferred to the TSC (Classification, Federal Notification, Exposure Authorization) and offsite responsibilities (State/local Notification, PARs) being transferred to the EOF.

This alignment allows for reduction in duplicative staffing positions. The existing EA&DP Coordinator position in the EOF will continue to maintain responsibility for direction of offsite radiological monitoring teams, coordination of exchanges of offsite monitoring data and performance of dose assessment duties associated with establishing Protective Action Recommendations as that function will be performed solely by the EOF under the proposed change. Since the PAR function will not be performed in the TSC under the proposed change, there is no longer a need for the TSC EA&DP Coordinator in the ERO. As a result, the EA&DP Coordinator position in the TSC will be eliminated. Additionally, the EOF EA&DP position will be renamed “Dose Assessment Coordinator.” The Dose Assessment Coordinator will be a 60-minute response position as described in Section 3.2.4 of this Enclosure.

Focusing of the on-site effort by the TSC allows the EOF to address offsite responsibilities and maintain awareness of overall event response.

As the dose assessment function will be maintained in the EOF, there is no loss of capability associated with this function as a result of the proposed change.

Current Performer / Functions	Proposed Performer / Functions
Environmental Coordinator (TSC) - Adapt existing environmental monitoring procedures to emergency environmental monitoring - Determine locations and type of sample media based on type of activity released and wind direction - Direct personnel in additional sampling - Review and evaluate sample results	**None**

Change: **Elimination of the Environmental Coordinator position in the TSC**

Justification:
Establishing a common activation timeframe and classification level for the TSC and EOF allows for simultaneous transfer of command and control functions from the control room with onsite activities (Classification, Federal Notification, Exposure Authorization) being transferred to the TSC and offsite responsibilities (State/local Notification, PARs) being transferred to the EOF.

This alignment also provides for reduction in duplicative staffing positions. The existing Environmental Coordinator position in the EOF will continue to maintain responsibility for direction of offsite radiological monitoring teams and coordination of exchanges of offsite monitoring data as that function will be performed solely by the EOF under the proposed change. Since the environmental monitoring function will not be performed in the TSC under the proposed change, there is no longer a need for the TSC Environmental Coordinator position in the ERO. As a result, the Environmental Coordinator position in the TSC will be eliminated. Additionally, the EOF Environmental Coordinator position will be renamed “FMT Coordinator.” The FMT Coordinator will be a 60-minute response position as described in Section 3.2.4 of this Enclosure.

Focusing of the on-site effort by the TSC allows the EOF to address offsite responsibilities and maintain awareness of overall event response.

As the environmental monitoring function is maintained in the EOF, there is no loss of capability associated with this function as a result of the proposed change.

Current Performer / Functions	Proposed Performer / Functions
Ohio Emergency Management Liaison (TSC) - Transfer information to the state via licensee OEMA representative - Respond to questions passed on by the Offsite Agency Liaison in the EOF	**None**

Change: **Elimination of the Ohio Emergency Management Liaison in the TSC**

Justification:
Communication with OEMA is currently performed by positions in both the EOF and the TSC. The proposed change eliminates this position from the TSC and maintains responsibility for this communication by the EOF Offsite Agency Liaison via the EOF Operations Communicator. The position description was added to the Plan in Revision 22 as an enhancement action in response to Condition Report 06-03688 that addressed difficulties in provision of information to Ohio Emergency Management Agency (OEMA) during a drill. The EOF Operations Communicator maintains the qualifications needed to address technical issues and, as they are on an open line with TSC and CR personnel, are able to obtain needed information in a timely manner. Removal of a dedicated position in addition to the CR/TSC and EOF Operations Communicator does not result in a loss of capability associated with this function.

Current Performer / Functions	Proposed Performer / Functions
None	**Mechanical Maintenance Coordinator** - Oversight of mechanical maintenance troubleshooting and corrective actions work in the plant - Call-out of personnel

Change: **Addition of Mechanical Maintenance Coordinator in the OSC**

Justification:
The proposed change adds this position to the OSC to support potential plant repairs associated with the event. The Mechanical Maintenance Coordinator position will have a 90-minute response time.

The position is responsible for oversight of mechanical maintenance troubleshooting and corrective actions work in the plant.

Current Performer / Functions	Proposed Performer / Functions
None	**Electrical Maintenance Coordinator** - Oversight of electrical maintenance troubleshooting and corrective actions work in the plant - Call-out of personnel
Change: Addition of Electrical Maintenance Coordinator in the OSC **Justification:** The proposed change adds this position to the OSC to support potential plant repairs associated with the event. The Electrical Maintenance Coordinator position will have a 90-minute response time. The position is responsible for oversight of electrical maintenance troubleshooting and corrective actions work in the plant.	

Current Performer / Functions	Proposed Performer / Functions
None	**I&C Maintenance Coordinator** - Oversight of I&C maintenance troubleshooting and corrective actions work in the plant - Call-out of personnel
Change: Addition of I&C Coordinator position in the OSC **Justification:** The proposed change adds this position to the OSC to support potential plant repairs associated with the event. The I&C Maintenance Coordinator position will have a 90-minute response time. The position is responsible for oversight of I&C maintenance troubleshooting and corrective actions work in the plant.	

Current Performer / Functions	Proposed Performer / Functions
Nuclear Communications Manager (EOF) - Ensure continuous flow of information for developing news announcements - Serve as the JPIC primary information source **Nuclear Communications Writer (EOF)** - Develop and write news announcements	**Nuclear Communications Coordinator (JIC)** - Ensure continuous flow of information for developing news announcements - Develop and write news announcements - Serve as the JIC primary information source - Provide and interpret technical information

Change: Combining of the Nuclear Communications Manager, Nuclear Communications Writer into a single JIC position, the Nuclear Communications Coordinator

Justification:
The proposed plan combines the Nuclear Communications Manager and Writer positions in the EOF. renames the position as Nuclear Communications Coordinator and assigns the position to the JIC. This change aligns the JIC organization to the fleet standard.

The re-assignment of technical and plant support activities to the TSC reduces the need for EOF leadership to provide technical information to the JIC. As a result, the Nuclear Communications Coordinator is able to obtain needed information from the Technical Advisor in the JIC. Additionally, the Technical Advisor in the JIC will be in contact with the Operations Communicator in the EOF and will be able to obtain any needed technical or plant status information via that communications link.

These changes support continued performance of communications and public relations information and no longer require dedicated positions in the EOF for performance of these functions.

Current Performer / Functions	Proposed Performer / Functions
JPIC Technical Advisor (JPIC) - Maintain contact with the EOF Technical Advisor to obtain plant status information - Provide plant status information to JPIC personnel as needed **Technical Briefer (JPIC)** - Provide, interpret, and clarify generic technical information as requested by the media concerning operation of plant systems - Answers media questions between news briefings concerning descriptions of plant systems	**JIC Technical Advisor** - Maintain contact with the Operations Communicator in the EOF to obtain information on plant status - Provide plant information to JIC personnel as needed - Support clarification of generic technical information regarding plant status and operations as requested

Change: **Elimination of the Technical Briefer position**

Justification:
The proposed change combines several advisor and briefer functions in the JPIC. The existing JPIC Technical Advisor is responsible for providing interpretation and clarification of plant status and actions being taken to achieve plant stability and recovery and performs any necessary coordination and communication functions in the facility. Provision of technical information via the existing JPIC Technical Advisor, renamed "JIC Technical Advisor," adequately supports event response and so there is no loss of capability as a result of the proposed change.

Response to media questions is the responsibility of the Media Relations Coordinator. Transition of this responsibility will not result in a loss of capability for performance of these functions.

Current Performer / Functions	Proposed Performer / Functions
Media Monitor (JPIC) - Responsible for monitoring local radio and TV broadcasts	**Media Monitor/Rumor Control Coordinator (JIC)** - Monitor TV, online sources and social media communications - Report rumor information to the Information Coordinator
Rumor Control (JPIC) - Establishes and maintains contact with customer account services to coordinate rumor information	
Customer Services (JPIC) - Address incoming phone calls to the Company Services Board regarding emergency conditions at the site - Provides direction of callers to JPIC and Local Emergency Management Agency Public Information resources	
Change: Combining the Media Monitor, Rumor Control and Customer Services positions **Justification:** Improvements in JIC processes including the use of social media and internet capability for response to requests from the public have eliminated the need for dedicated Media Monitor, Rumor Control, Media Contact positions in the JIC. Using available internet resources, the Media Monitor/Rumor Control position is able to monitor social and news media and report rumors to JIC Management.	

Current Performer / Functions	Proposed Performer / Functions
Media Contact (JPIC) - Responsible for answering telephone inquiries received at the JPIC from members of the media	**Media Relations Coordinator (JIC)** - Work with news media to meet special requests for interviews with company officials - Direct media crews to designated locations for obtaining photos / film footage - Respond to media inquiries - Answers media questions between news briefings concerning descriptions of plant systems
Change: Combine Media Contact and Media Relations Coordinator Responsibilities **Justification:** In the proposed change, responsibility for coordination of media requests remains with the Media Relations Coordinator and is extended to include phone requests. Expanded use if internet and social media has reduced the need for a dedicated JIC resource responsible for addressing phone inquiries. There is no loss of capability associated with this function as a result of the proposed change.	

Current Performer / Functions	Proposed Performer / Functions
EMA Contact Representative (JPIC) - Act as liaison between State PIOs and JPIC	**Logistics Coordinator (JIC)** - Coordination of administrative support - Coordinate response to State PIO requests
Change: **Combine EMA Contact Representative and JIC Logistics Coordinator positions** **Justification:** The proposed change re-assigns responsibility for coordination of facility support activities from the EMA Contact representative to the Logistics Coordinator and eliminates the EMA Contact Representative Coordinator position. PIO interfaces are an integral part of overall facility logistics and do not require interfacing with a dedicated resource in the JIC.	

Current Performer / Functions	Proposed Performer / Functions
Engineering Communications Representative (JPIC) - Provide technical expertise for set up and maintenance of communications equipment - Serve as primary source for resolving telecommunications problems	**None**
Change: **Elimination of the Engineering Communications Representative position** **Justification:** Improvements in phone systems have resulted in a more robust communication capability at the JIC. As a result, there is no longer a need for an ERO resource dedicated to maintenance, set up and resolution of telecommunications issues. As a result, removal of this augmented ERO position will not result in a loss of communications capability in the JIC.	

Current Performer / Functions	Proposed Performer / Functions
Administrative Support (JPIC) - Coordinate administrative activities for copy and fax equipment	**None**
Change: **Elimination of reference to Administrative Support** **Justification:** The Administrative Support function will be addressed in site procedures. The function is not required for implementation of Emergency Plan requirements and, as a result, may be addressed in lower tier documents. There is no loss of capability associated with this function as a result of the proposed change.	

Current Performer / Functions	Proposed Performer / Functions
Security Coordinator (JPIC) - Establishes security at the JPIC	**None**

Change: **Elimination of reference to Security Coordinator in the JIC**

Justification:
The current BVPS Emergency Plan describes the initial Security Coordinator position as being filled by the Supervisor, Nuclear Security in the Central Alarm Station (CAS). This position is relieved by the Security Coordinator in the TSC, a senior member of the security organization. The TSC Security Coordinator is responsible for ensuring appropriate plant security posture, oversight of the site assembly process, provision of access to the site for offsite emergency response personnel, and oversight of ERF sign-in processes.

The proposed change removes the JPIC Security Coordinator position while maintaining position in the TSC. Responsibilities for the TSC Security Coordinator position are revised to include assignment of additional security resources to ERFs in accordance with Security procedures. This change streamlines assignment and dispatch of security resources through a single point of contact in the TSC and maintains responsibility for security response within the existing security organization.

As a result, removal of this augmented ERO position will not result in a loss of security capability in the JIC.

Attachment 4
Beaver Valley Power Station EPP Table B-1 Comparison Chart
(Five pages follow)

Beaver alley Power Station (B PS) *On-Shift* Table Comparison

Major Functional Area and Tas s	Position Title / E pertise	Rev Table B On shift	B PS Issue Rev On Shift	B PS Rev On Shift	Revised Table B On Shift	B PS Proposed On shift
Plant Operation and Assessment of Operation Aspects	Shift Manager (SRO)	1	1	2	1	2
	Unit Supervisor (SRO)	1	1	2		
	Control Room Operator (RO)	2	2	4		
	Control Room Operator (AO)	2	2	6		
Emergency Direction and Control	Shift Manager (Emergency Director)	1	1	1		
Classification	Classification Advisor				1	
Notification / Communication	Licensee/State/local/Federal	1	1	3	1	1
Radiological Accident Assessment	Senior Manager / Site RP Coordinator					
- Dose Assessment	Dose Assessor		2	1	1	1
- In-Plant/Onsite Surveys	RP Technician	1	1 and 1	2	1	1
- Chemistry / Radiochemistry	Chemistry Technician	1	1	1		
- Protective Actions	RP Technician	2	1 and 2	2	1	1
- Offsite Surveys	RP Technician		2			
Plant System Engineering / Technical Support	Shift Technical Advisor	1	1	1	1	1
	Core/Thermal Hydraulics Engineer			1		
Repair and Corrective Actions	Radwaste Operator					
	Mechanical Maintenance	1	1	1		
	Electrical Maintenance	1	1	1		
	I C Maintenance			1		
Firefighting	Fire Brigade per Tech Specs	Fire Brigade	Emergency Squad	5		
Rescue Operations and First-Aid		2	Emergency Squad	2		
Site Access Control and Personnel Accountability	Security personnel per security plan	Security Plan	Security Plan	1		
Total On Shift						

Overall direction of facility response to be assumed by EOF director when all centers fully manned.
May be provided by shift personnel assigned other functions.
Emergency Squad is comprised of five individuals.

Beaver alley Power Station (B PS) *30 Minute Alert or Greater* Augmented ERO Table Comparison

Major Functional Area	Position Title / E pertise	Rev Table B Augment (min)	B PS Issue Rev (min)	B PS Rev (min)	Revised Table B (min)	B PS Proposed (min)
Command and Control	Emergency Director					
Classification	Classification Advisor					
Notification / Communication	Licensee/State/local/Federal	1	1	1		
Radiological Accident Assessment	Senior Manager / Site RP Coordinator					
- Dose Assessment	Dose Assessor	1	1	1		
- In-Plant/Onsite Surveys	RP Technician	2	2	2		
- Chemistry Radiochemistry	Chemistry Technician					
- Protective Actions	RP Technician	2	2	2		
- Offsite Surveys	FMT Lead and Driver	2	2	2		
Plant System Engineering / Technical Support	Core/Thermal Hydraulics Engineer	1	1	1		
	Engineering Engineer					
	Mechanical Engineer					
Repair and Corrective Actions	Radwaste Operator					
	Mechanical Maintenance					
	Electrical Maintenance	1	1	1		
	I C Technician	1	1	1		
	OSC Supervisor					
	RP Supervisor					
	Mechanical Maintenance Supervisor					
	Electrical Maintenance Supervisor					
	I C Supervisor					
Total Augmented ERO					**N/A**	**N/A**

Beaver alley Power Station (B PS) *60 Minute Alert or Greater* Augmented ERO Table Comparison

Major Functional Area	Position Title / E pertise	Rev Table B Augment (min)	B PS Issue Rev (min)	B PS Rev (min)	Revised Table B (min)	B PS Proposed (min)
Command and Control	Emergency Director		1	1	1	2
Classification	Classification Advisor				1	
Notification / Communication	Licensee/State/local/Federal	2	2	2	2	2
Radiological Accident Assessment	Senior Manager / Site RP Coordinator	1			1	1
- Dose Assessment	Dose Assessor				1	1
- In-Plant/Onsite Surveys	RP Technician	2	2	2	2	1
- Chemistry Radiochemistry	Chemistry Technician	1	1	1		
- Protective Actions	RP Technician	2	2	2	1	2
- Offsite Surveys	FMT Lead and Driver	2	2	2	2	2
Plant System Engineering / Technical Support	Core/Thermal Hydraulics Engineer				1	1
	Electrical Engineer	1	1	1	1	1
	Mechanical Engineer	1	1	1	1	1
Repair and Corrective Actions	Radwaste Operator	1	1	1		
	Mechanical Maintenance	1	1	1	1	1
	Electrical Maintenance	1		1	1	1
	I C Technician					
	Maintenance Coordinator / OSC Coordinator		1		1	1
	RP Coordinator					1
	Mechanical Maintenance Coordinator					
	Electrical Maintenance Coordinator					
	I C Coordinator					
Security	Security Liaison				1	
Total Augmented ERO						

Beaver alley Power Station (B PS) *60 Minute SAE or Greater* Augmented ERO Table Comparison

Major Functional Area	Position Title / E pertise	Rev Table B Augment (min)	B PS Issue Rev (min)	B PS Rev (min)	Revised Table B (min)	B PS Proposed (min)
Command and Control	Emergency Director				1	
Notification / Communication	Licensee/State/local/Federal				1	
Radiological Accident Assessment	Senior Manager / Site RP Coordinator				1	
- Dose Assessment	Dose Assessor				1	
- In-Plant/Onsite Surveys	RP Technician					
- Chemistry Radiochemistry	Chemistry Technician					
- Protective Actions	RP Technician					
- Offsite Surveys	FMT Lead and Driver					
Plant System Engineering / Technical Support	Core/Thermal Hydraulics Engineer					
	Electrical Engineer					
	Mechanical Engineer					
Repair and Corrective Actions	Radwaste Operator					
	Mechanical Maintenance					
	Electrical Maintenance					
	I C Technician					
	OSC Supervisor					
	RP Coordinator					
	Mechanical Maintenance Coordinator					
	Electrical Maintenance Coordinator					
	I C Coordinator					
Security	Security Liaison					
Total Augmented ERO		**N/A**	**N/A**	**N/A**		**N/A**

Beaver alley Power Station (B PS) *90 Minute Alert or Greater* Augmented ERO Table Comparison

Major Functional Area	Position Title / E pertise	Rev Table B Augment (min)	B PS Issue Rev (min)	B PS Rev (min)	Revised Table B (min)	B PS Proposed (min)
Command and Control	Emergency Director					
Notification / Communication	Licensee/State/local/Federal					
Radiological Accident Assessment	Senior Manager / Site RP Coordinator					
- Dose Assessment	Dose Assessor					
- In-Plant/Onsite Surveys	RP Technician				2	1
- Chemistry Radiochemistry	Chemistry Technician					
- Protective Actions	RP Technician				1	2
- Offsite Surveys	FMT Lead and Driver				2	2
Plant System Engineering / Technical Support	Core/Thermal Hydraulics Engineer					
	Engineering Engineer					
	Mechanical Engineer					
Repair and Corrective Actions	Radwaste Operator					
	Mechanical Maintenance					
	Electrical Maintenance					
	I C Technician				1	1
	OSC Supervisor					
	RP Coordinator				1	
	Mechanical Maintenance Coordinator				1	1
	Electrical Maintenance Coordinator				1	1
	I C Coordinator				1	1
Security	Security Liaison					
Total Augmented ERO		**N/A**	**N/A**	**N/A**		