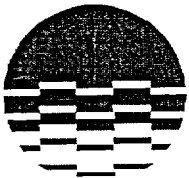


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1	PLANT MANAGER'S OFFICE	UNIT 3 (UNIT 3/IPEC ONLY)	45-3-B
2	EP/TRAINING ADMINISTRATOR	TRAINING (ALL EP'S)	#48
3	RES DEPARTMENT MANAGER	RES (UNIT 3/IPEC ONLY)	45-4-A
4	REFERENCE LIBRARY	REC/TRN (UNIT 3/IPEC ONLY)	45-3-F
9	JOINT NEWS CENTER	EMER PLN (ALL EP'S)	EOF
10	SHIFT MGR. (LUB-001-GEN)	OPS (UNIT 3/IPEC ONLY)	IP3
11	CONTROL ROOM & MASTER	OPS (3PT-D001/6 (U3/IPEC)	IP3 (ONLY)
14	EOF	E-PLAN (ALL EP'S)	EOF
16	AEOF/A.GROSJEAN (ALL EP'S)	E-PLAN (EOP'S ONLY)	WPO-12D
19	NUC ENGINEERING LIBRARY	DOC (UNIT 3/IPEC ONLY)	WPO/7A
21	TSC	RECORDS	45-3-F
22	RESIDENT INSPECTOR	US NRC (UNIT 3/IPEC ONLY)	45-2-B
23	SILK DAVID	NRC (ALL EP'S)	OFFSITE
24	SILK DAVID	NRC (ALL EP'S)	OFFSITE
25	DOCUMENT CONTROL DESK	NRC (ALL EP'S)	OFFSITE
28	AVRAKOTOS N	J A (UNIT 3/IPEC ONLY)	OFFSITE
29	E-PLAN STAFF	E-PLAN (ALL EP'S)	EOF
30	E-PLAN STAFF	E-PLAN (ALL EP'S)	EOF
31	BARANSKI J (VOLUME I ONLY)	ST. EMERG. MGMT. OFFICE	OFFSITE
32	SUTTON A - (VOLUME I ONLY)	DISASTER & EMERGENCY	WESTCHESTR
33	LONGO N (VOLUME I ONLY)	EMERGENCY SERVICES	ROCKLAND
34	GREENE D (VOLUME I ONLY)	DISASTER & CIVIL DEFENSE	ORANGE
35	RAMPOLLA M (VOLUME I ONLY)	OFFICE OF EMERG MANAGE	PUTNAM
41	SIMULATOR	TRAIN (UNIT 3/IPEC ONLY)	48-2-A
107	QA MANAGER	QA (UNIT 3/IPEC)	TRL #2A
319	C.STELLATO (NRQ-OPS TRN)	NRQ (UNIT 3/IPEC ONLY)	#48
354	L.GRANT (LRQ-OPS/TRAIN)	LRQ (UNIT 3/IPEC ONLY)	#48
376	E-PLAN STAFF	E-PLAN (ALL EP'S)	EOF
424	J.CHIUSANO (OPS INSTR)	(UNIT 3/IPEC ONLY)	#48
510	L.GRANT (LRQ-OPS/TRAIN)	LRQ (UNIT 3/IPEC ONLY)	#48
511	L.GRANT (LRQ-OPS/TRAIN)	LRQ (UNIT 3/IPEC ONLY)	#48
512	C.STELLATO (NRQ-OPS TRN)	NRQ (UNIT 3/IPEC ONLY)	#48
513	C.STELLATO (NRQ-OPS TRN)	NRQ (UNIT 3/IPEC ONLY)	#48
517	PLANT MANAGER'S OFFICE	ADMIN/ (UNIT 2/IPEC ONLY)	IP2
518	DOCUMENT CONTROL	UNIT 2 (UNIT 2/IPEC ONLY)	IP2
520	CONTROL ROOM (UNIT 2)	OPS (UNIT 2 & IPEC ONLY)	IP2
521	SIMULATOR	TRAIN (UNIT 2/IPEC ONLY)	IP2
522	NRC RESIDENT	US NRC (UNIT 2/IPEC ONLY)	IP2
523	ROBERT VOGLE (UNIT 2)	TRAIN/LIB (ALL EP'S)	TODDVILLE
524	JOHN MCCANN (UNIT 2)	NUC SAFETY/LIC (ALL EP'S)	IP2

A045



Entergy

Indian Point 3

AP-18.2
Revision 10

Attachment 1
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		CONTROLLED DOCUMENT TRANSMITTAL FORM	
TO: DISTRIBUTION		DATE 12/23/2002	TRANSMITTAL NO: 27554
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<p>The Document(s) identified below are forwarded for use. In accordance with AP-18.2, please review to verify receipt, incorporate the document(s) into your controlled document file, properly disposition superseded, void, or inactive document(s). Sign and return the receipt acknowledgement below within fifteen (15) working days.</p>			
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SUBJECT: Emergency Planning Document Update

Date: 12/16/02

Please update your controlled copy of the documents listed below as specified with the copy(s) attached. It is requested that the update be completed within 3 days of the effective date shown on the document cover page.

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Entergy Nuclear
Indian Point Nuclear Generating Station
Emergency Planning Department
Buchanan Service Center
Broadway & Bleakley Aves.
Buchanan, NY 10511
Attn: Document Custodian

Document #	Document Name	New Rev. #/ Date	Old Rev. #/ Date	Instructions
TOC	IP3 Emergency Plan Implementing Procedures Volume II Table of Contents	12/16/02	9/30/02	Replace entire document
TOC	IP3 Emergency Plan Implementing Procedures Volume III Table of Contents	12/16/02	9/30/02	Replace entire document
IP-1027	Emergency Personnel Exposure	12/16/02	4 12/16/97	Remove document insert entire document
IP-2209	OSC H.P. Technician	12/16/02	12 12/16/97	Remove document insert entire document

Update completed as specified:

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ENTERGY NUCLEAR NORTHEAST
 INDIAN POINT NO. 3 NUCLEAR POWER PLANT
 EMERGENCY PLAN - VOLUME II
 EMERGENCY RESPONSE ACTIVATION

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<u>CONTROL ROOM</u>				
IP-2000	Emergency Activation of the Control Room (CR)	4	-	09/98
IP-2001	Emergency Director (ED), Plant Operations Manager (POM), Shift Manager (SM) Procedure	16	-	08/02
IP-2002	CR Health Physics Technician	3	-	02/99
IP-2003	CR Watch Chemist	6	-	07/02
IP-2004	CR Clerk	3	-	09/00
IP-2005	CR Offsite Communicator	2	-	06/01
IP-2006	CR Direct-Line Communicator	4	-	10/99
<u>TECHNICAL SUPPORT CENTER (TSC)</u>				
IP-2100	Emergency Activation of the Technical Support Center (TSC)	4	-	11/00
IP-2101	Technical Support Center (TSC) Manager	9	-	02/01
IP-2102	TSC Communicator(s)	3	-	12/98
IP-2103	TSC SPDS Computer Operator	4	-	08/99
IP-2104	TSC Video Operator	2	-	06/01
IP-2105	TSC Accountability Officer	VOID	-	N/A
IP-2106	TSC Clerk	5	-	06/99
<u>OPERATIONS SUPPORT CENTER (OSC)</u>				
IP-2200	Emergency Activation of the Operations Support Center (OSC)	7	-	8/02
IP-2201	Operations Support Center (OSC) Manager	9	-	08/02
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IP-2203	OSC Dispatcher	3	-	07/02
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IP-2205	OSC H.P. Team Leader	8	-	10/99
IP-2206	OSC Accountability Officer	VOID	-	N/A
IP-2207	OSC Clerk	5	-	06/99
IP-2208	OSC Security Team Leader	4	-	03/02
IP-2209	OSC H.P. Technician	5	-	12/02
IP-2210	OSC Dosimetry Technician	3	-	06/98
IP-2211	OSC Chemistry Team Leader	2	-	03/00

ENTERGY NUCLEAR NORTHEAST
INDIAN POINT NO. 3 NUCLEAR POWER PLANT
EMERGENCY PLAN - VOLUME II
EMERGENCY RESPONSE ACTIVATION

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IP-2300	Emergency Activation of the Emergency Operations Facility (EOF)	5	-	11/00
IP-2301	Emergency Director Replaced by IP-EP-255	VOID	-	N/A
IP-2302	EOF Technical Advisor and Information Liaison	10	-	07/02
IP-2303	EOF Radiological Assessment Team Leader (RATL)	5	-	11/00
IP-2304	EOF Dose Assessment Health Physicist	5	-	07/02
IP-2305	EOF MIDAS Operator	4	-	03/00
IP-2306	EOF Security Officer	7	-	12/98
IP-2307	EOF Clerk	5	-	10/99
IP-2308	EOF Direct-Line Communicator	4	-	03/00
IP-2309	EOF Offsite Communicator	4	-	09/00
IP-2310	EOF Onsite Radiological Communicator	4	-	08/02
IP-2311	EOF Offsite Radiological Communicator	4	-	06/99
IP-2312	EOF Public Relations Liaison	VOID	-	N/A
IP-2313	EOF Public Relations Technical Advisor	VOID	-	N/A
IP-2314	EOF Radiological Assessment Monitor	VOID	-	N/A
<u>ALTERNATE EMERGENCY OPERATIONS FACILITY (AEOF)</u>				
IP-2400	Emergency Activation of the Alternate Emergency Operations Facility (AEOF) Replaced by IP-EP-251	VOID	-	N/A
<u>SECURITY ACTIVATION</u>				
IP-2500	Security Emergency Activation Responsibilities	12	-	08/02
<u>RECOVERY/TERMINATION</u>				
IP-2600	Emergency Termination and Transition to Recovery Replaced by IP-EP-610	VOID	-	N/A
IP-2601	Recovery Manager Replaced by IP-EP-610	VOID	-	N/A
IP-2602	Development of a Recovery Action Plan Replaced by IP-EP-610	VOID	-	N/A
IP-2603	Recovery Support Group Manager	1	-	07/02
EP-FORMS SECTION	- Index			07/02
APPENDIX 'A'	- ROSTER I			07/02
	ROSTER II			07/02
	ROSTER III			06/02
APPENDIX 'B'	- Emergency Offsite Telephone List			06/02
APPENDIX 'C'	- Emergency Response Facility Telephone List			06/02



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EMERGENCY PLAN PROCEDURES

PROCEDURE NO. IP-2209

REV. 5

TITLE: OSC H.P. TECHNICIAN

THIS PROCEDURE IS TSR /

THIS PROCEDURE IS NOT TSR —

WRITTEN BY: Wain Weaver 12/16/02
SIGNATURE/DATE

REVIEWED BY: ST [Signature] 12/16/02
SIGNATURE/DATE

APPROVED BY: [Signature] 12/16/02
SIGNATURE/DATE

EFFECTIVE DATE: 12/16/02

PROCEDURE USE IS
REFERENCE

OSC H.P. TECHNICIAN

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5.0	Attachments	
5.1	OSC/TSC Interlocking Doors	

IP-2209

OSC H.P. TECHNICIAN

1.0 PURPOSE

1.1 The purpose of this procedure is to provide instructions to the Health Physics Technicians (referred to as OSC H.P. TECHNICIAN) providing radiological controls in the Operations Support Center (OSC) and Technical Support Center (TSC).

2.0 RESPONSIBILITIES

2.1 OSC H.P. Technicians report to the OSC H.P. TEAM LEADER and provide radiological controls within the OSC/TSC in accordance with this procedure.

2.2 The steps of this procedure may be carried out by several H.P. Technicians. The OSC H.P. Team Leader is responsible for ensuring all applicable steps of this procedure are followed.

3.0 REFERENCES

- 3.1 IP-1012, "Emergency Airborne Activity Determination"
- 3.2 EP-Form #18, "OSC Emergency Briefing Form"
- 3.3 EP-Form #20, "OSC/TSC Survey Map"

4.0 PROCEDURE

NOTE:

The steps in this procedure are not required to be performed in sequence.

Initial the blank lines upon completion of the designated steps.

4.1 ENSURE the following equipment has been brought from the 4th Floor Administration Building to the OSC:

- TLD racks from the 4th Floor Control Point (as needed); _____
- If ProRad Program is not available, acquire a Margin Check Exposure Printout and Respirator Qualification Report. _____

4.2 SET UP the OSC/TSC Control Point as follows:

- A. OBTAIN emergency TLDs, dosimeters, and chargers from the OSC H.P. emergency lockers. _____
- B. PLUG IN telephone and VERIFY operation. _____
- C. SYNCHRONIZE your time with OSC clock. _____

4.3 MAINTAIN the Control Point as follows (similar to normal HP Control Point watch operations):

- A. For Teams to be dispatched, RECEIVE EP-Form #18, "OSC Emergency Briefing Form" from the H.P. Team Leader.
- B. ISSUE dosimetry as required to team members.
- C. Using Log Sheets, SIGN personnel in/out as they enter/leave the OSC/TSC.
- D. USING EP-Form #18, "OSC Emergency Briefing Form", RECORD exposure received by team members as they return to the OSC.
 - 1. AFTER exposure is recorded, GIVE a copy of EP-Form #18, "OSC Emergency Briefing Form" to the Dosimetry Technician.
 - 2. GIVE completed EP-Form #18, "OSC Emergency Briefing Form" to the H.P. Team Leader.
- E. ENSURE proper dosimetry, anti-Cs, and respirators are worn by personnel dispatched from the OSC as per EP-Form #18, "OSC Emergency Briefing Form"
- F. If required, ENSURE personnel returning to the OSC/TSC frisk.
- G. DOCUMENT significant events on log sheets.

4.4 IF a radiological release is in progress or anticipated, OR if directed by the OSC H.P Team leader, THEN PERFORM the following:

A. HANG signs as follows:

1. "Do Not Enter" at entrance to HVAC Room. _____
2. "No Entry - Must Enter Through OSC Control Point" on the Boiler Room door opposite the Central Planning Office. _____
3. "Use Other Exit" inside the TSC door near the elevator. _____
4. "Use Other Entrance" outside the TSC door near the elevator. _____

B. SET UP frisker at OSC entrance. _____

C. PLACE step-off pad in the entrance hallway. _____

D. ESTABLISH the airlock doors using Attachment 5.1, "OSC/TSC Interlocking Doors". _____

E. PLACE control TLDs and dosimeters at chest level in the following areas:

1. Each TSC and OSC entrance _____
2. TSC Communications Room _____
3. OSC _____
4. TSC _____
5. TLD rack _____

F. START Continuous Air Monitor and MARK strip chart with date and time. _____

G. BEGIN air sample with grab air sampler. _____

H. SET UP air sample counter(s) per IP-1012 "Emergency Airborne Activity Determination". _____

- I. COUNT air samples at intervals as directed by the H.P. Team Leader.
- J. PERFORM initial radiation and contamination surveys, then routinely at intervals as directed by the OSC H.P. Team Leader.
 - \$ RECORD results on EP-FORM #20, OSC/TSC Survey Map.
 - \$ RECORD readings from the Victoreen instruments in the TSC Communications Room and remote readouts if available.

5.0 ATTACHMENTS

5.1 OSC/TSC Interlocking Doors

END OF TEXT

ATTACHMENT 5.1

Page 1 of 2

OSC/TSC INTERLOCKING DOORS

NOTE

The interlocking door circuit breaker is located in Lighting Panel LP-OTSC-2D in the OSC/TSC hallway across from the TSC Communications Room.

ENERGIZING THE INTERLOCKING DOOR SYSTEM

1. TURN the switches on the Air Lock Doors Monitoring Panel CP-45 in the TSC Communications Room to "Energy".
2. CLOSE all doors entering the OSC and TSC (3 doors per entrance).
3. CHECK operability of the interlock:
 - A. The OSC (TSC) inner door should only open if the 2 doors leading into the 2nd Floor Admin. Building and stairwell are closed.
 - b. The 2 doors leading into the 2nd Floor Admin. Building/stairwell should only open if the OSC (TSC) inner door is closed.

DE-ENERGIZING THE INTERLOCKING DOOR SYSTEM:

1. TURN switches on the Air Lock Doors Monitoring Panel CP-45 in the TSC Communications Room to "OFF".
2. ENSURE all doors can be opened simultaneously.

NOTE:

- IF system does not de-energize, THEN ensure R-44A and R-44B on the Radiation Panel CP-42 are in the "Alert" mode. The system will not de-energize until the alarms are cleared.
- IF R-44A and R-44B are not in "Alert" mode and the system does not de-energize, THEN go to the HVAC Room Control Panel #CP-41. PUSH the Annunciator ACK (black button) and then the RESET button on the bottom row left.

ATTACHMENT 5.1, Continued

Page 2 of 2

EMERGENCY CONDITION:

1. The Interlocking Door System will automatically energize when R-44A and R-44B alarm. Doors must then be closed to initiate the interlock mechanisms.
2. Each door has an emergency 'unlock'. IF there is a need to override the interlock system, THEN pull down the fire alarm liner (inside TSC door between Documents Vault and Westinghouse Office) and open the door. This must then be reported to the OSC Manager.

ENTERGY NUCLEAR NORTHEAST
 INDIAN POINT NO. 3 NUCLEAR POWER PLANT
 EMERGENCY PLAN - VOLUME III
IMPLEMENTING PROCEDURES

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IP-1001	Determining the Magnitude of Release Replaced by IP-EP-310	VOID	N/A
IP-1002	Post-Accident Monitoring of Noble Gas Concentration in Plant Vent	4	02/99
IP-1003	Obtaining Meteorological Data Replaced by IP-EP-510	VOID	N/A
IP-1004	Midas Computer System Replaced by IP-EP-510	VOID	N/A
<u>Environmental Monitoring</u>			
IP-1011	Offsite Monitoring/Site Perimeter Surveys	24	05/99
IP-1012	Emergency Airborne Activity Determination	4	02/99
IP-1015	Post-Accident Environmental Sampling and Counting	7	12/98
<u>Protective Actions</u>			
IP-1017	Protective Action Recommendations for the Offsite Population Replaced by IP-EP-410	VOID	N/A
IP-1019	Emergency Use of Potassium Iodide (KI)	9	11/97
<u>Personnel Injury</u>			
IP-1021	Radiological Medical Emergency	25	06/98
IP-1023	Use and Set Up of the IP3 Personnel Decon Suite	VOID	N/A
<u>Damage Assessment</u>			
IP-1025	Repair and Corrective Action Teams	12	12/98
IP-1027	Emergency Personnel Exposure	13	12/02
IP-1028	Core Damage Assessment	9	06/98
<u>Notification and Communication</u>			
IP-1038	Offsite Emergency Notifications	26	09/01
IP-1039	Emergency Response Data System (ERDS) Activation and Testing	4	02/01

ENTERGY NUCLEAR NORTHEAST
 INDIAN POINT NO. 3 NUCLEAR POWER PLANT
 EMERGENCY PLAN - VOLUME III
IMPLEMENTING PROCEDURES

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IP-1041	Personnel Monitoring for EOF, TSC, OSC and Control Room Personnel	VOID	N/A
<u>Accountability and Evacuation</u>			
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IP-1052	Hazardous Waste Emergency	8	07/02
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IP-1056	Directing Fire Fighting Personnel in Controlled Area	VOID	N/A
IP-1057	Natural Phenomena Emergency	8	10/01
IP-1058	Earthquake Emergency	VOID	N/A
IP-1059	Air Raid Alert	7	05/01
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IP-1060	Personnel Radiological Check and Decontamination	11	02/98
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IP-1070	Periodic Inventory of Emergency Plan Equipment	31	02/01
IP-1076	Roster Notification Methods	26	05/02
IP-1080	Conduct of Emergency Exercises and Drills	VOID	N/A
IP-1085	Maintenance of Emergency Preparedness at IP-3	VOID	N/A



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EMERGENCY PLAN PROCEDURES

PROCEDURE NO. IP-1027 REV. 13

TITLE: EMERGENCY PERSONNEL EXPOSURE

THIS PROCEDURE IS TSR

THIS PROCEDURE IS NOT TSR

WRITTEN BY: Dawn Weaver 12/16/02
SIGNATURE/DATE

REVIEWED BY: [Signature] 12/16/02
SIGNATURE/DATE

APPROVED BY: [Signature] 12/16/02
SIGNATURE/DATE

EFFECTIVE DATE: 12/16/02

PROCEDURE USE IS
REFERENCE

EMERGENCY PERSONNEL EXPOSURE

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	None	

IP-1027

EMERGENCY PERSONNEL EXPOSURE

1.0 PURPOSE

- 1.1 This procedure provides guidance for emergency personnel exposure limits and authorization for exceeding normal administrative and 10CFR20 criteria during emergencies.
- 1.2 This procedure is intended to act as a reference document when using EP-FORM #7, "Authorization for Personnel to Receive Emergency Exposure Above 10CFR20 Limits".

2.0 RESPONSIBILITY

- 2.1 The Emergency Director (ED) is responsible for authorizing exposures in excess of 10CFR20 limits. The authority of the ED is limited to onsite emergency actions and Indian Point emergency workers outside the Protected Area.
- 2.2 The Plant Operations Manager- (POM) is responsible for authorizing exposures in excess of 10CFR20 limits. The authority of the POM is limited to onsite emergency actions and Indian Point emergency workers inside the Protected Area.
- 2.3 The Radiological Assessment Team Leader (RATL) is responsible for:
 - A. Assessing the potential exposures to Indian Point 3 emergency workers.
 - B. Advising the ED on appropriate exposure limits.
- 2.4 The Operations Support Center (OSC) Health Physics Team Leader (HPTL) is responsible for ensuring proper exposure limits are assigned to teams dispatched from the OSC.

3.0 REFERENCES

- 3.1 10CFR20, "Standards for Protection Against Radiation"
- 3.2 EPA 400-R-92-001, "Manual of Protective Action Guides and Protective Actions for Nuclear Incidents"
- 3.3 International Council on Radiation Protection Report 41 (ICRP 41)
- 3.4 National Research Council Biological Effects of Ionizing Radiation Report 5 (BEIR V)
- 3.5 EP-Form #7 "Authorization for Personnel to Receive Emergency Exposure Above 10CFR20 Limits"

4.0 PROCEDURE

4.1 Applicable Dose Limits:

A. Routine IP-3 Administrative Dose Limits:

1. IP3 has established administrative dose limits which apply during all non-emergency situations.
2. The administrative dose limits can be found in Radiological and Environmental Services (RES) procedures.

B. 10CFR20 Dose Limits:

1. The federal government has established dose limits in 10CFR20 to protect personnel against radiation.
2. The 10CFR20 limits pertinent to an IP-3 emergency are as follows:

Whole Body (TEDE - Total Effective Dose Equivalent)	5 Rem/yr
Thyroid (TODE - Total Organ Dose Equivalent)	50 Rem/yr
Lens of the eye (LDE - Lens Dose Equivalent)	15 Rem/yr
Skin or Extremity (SDE - Shallow Dose Equivalent)	50 Rem/yr

C. Emergency Worker Dose Limits:

1. The Environmental Protection Agency (EPA) has established guidelines on dose limits for workers performing emergency services.
2. The EPA emergency worker dose limits are as follows:

Whole Body (TEDE) Limit (REM)	Activity	Condition
5 - 10	Protecting valuable property	Lower dose not practicable
10 - 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 for persons fully aware of the risks involved

* Sum of external effective dose equivalent and committed effective dose equivalent to non-pregnant 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

4 2 Implementation of Dose Limits:

- A. At all times during an emergency, the following shall be followed to the best extent practicable:
1. Use applicable emergency procedures when dispatching personnel.
 2. Make every effort to maintain doses As Low As Reasonably Achievable (ALARA) through:
 - a. minimization of exposure times,
 - b. rotation of personnel,
 - c. use of potassium iodide (KI),
 - d. use of protective clothing, and
 - e. use of respiratory protection.
- B. During a Notice of Unusual Event (NUE) or Alert emergency, the administrative dose limits should remain in place.
- C. During a Site Area Emergency (SAE) or General Emergency (GE), the 10CFR20 dose limits may be used without formal approval.

WARNING

Emergency worker exposure limits are NOT TO BE APPLIED to minors or pregnant adults.

- D. If required, the 10CFR20 dose limits may be exceeded to protect the health and safety of the public or to save a life as follows:
1. When prior planning time is available, the ED shall authorize exposures that exceed the limits of 10CFR20 outside the protected area and the POM shall authorize exposures that exceed the limits of 10CFR20 inside the protected area.
 2. If practicable, EP-FORM #7, "Authorization for Personnel to Receive Emergency Exposure Above 10CFR20 Limits", shall be used to authorize these exposures.

3. Personnel who are selected to receive exposures in excess of 10CFR20 limits shall be volunteers who are aware of the risks associated with the exposure. A summary of the risks associated with high levels of radiation exposure can be found at the end of this procedure.
4. It is recognized that an extreme lifesaving situation may occur in which there is little or no time to obtain permission or fill out authorizations. In these situations, the rescuer shall be briefed, if possible, by health physics personnel regarding the area radiation fields and projected exposure. The priority for authorization in these situations is as follows:
 - a. ED
 - b. Plant Operations Manager (POM)
 - c. Most senior health physics individual available
5. In any case where a 10CFR20 limit has been exceeded, the ED shall be notified as soon as possible.

4.3 Effects from High Levels of Radiation Exposure:

Radiation injury depends on numerous factors such as the type of radiation involved, the parts of the body exposed, the rate and duration of exposure, the number of exposures and the age and sex of the irradiated person. There are short and long term effects from high levels of radiation exposure.

Short Term Effects:

Whole Body Effects:

15 to 50 Rem	-	No symptoms, blood test may show some slight changes
50 to 200 Rem	-	Some nausea, vomiting, and slight decrease in blood count, no deaths expected.
200 to 450 Rem	-	Most have nausea, vomiting, and feel flu symptoms. Most have hair loss, infection likely, 10-50% deaths.
450 to 600 Rem	-	Flu, bleeding from mouth and throat, infections likely, 50-90% deaths.
600 to 1000 Rem	-	Symptoms worse than above, 90-100% deaths.

Radiation Injury to the Skin:

Less than 1000 Rem	-	First degree thermal burn (similar to sunburn)
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- 1000 to 5000 Rem - Blisters form and break open
- 3000 to 5000 Rem - Similar to scalding or chemical burn
- Over 5000 Rem - Ulceration and major skin damage

Potential Long Term Effects: Based on information from the National Research Council (BEIR V).

Cancer Probability: The normal chance of contracting fatal cancer for a group of people with no radiation exposure in the United States is 20%. If this group of people were each exposed to 100 Rem, the chance of any person contracting fatal cancer would increase to 28%

Genetic Effects: A 100 Rem exposure to radiation is estimated to increase the chance of a genetic effect from 0.25% for the average person with no radiation exposure to 0.5%.

Fertility Effects: An exposure to the gonads of 250 Rem may cause reduced fertility, and an exposure of 600 Rem may cause permanent sterility.

Cataracts: (Cloudiness or darkening in the lens of the eye.) 200 Rem to the eyes may cause cataracts (ICRP 41).

5.0 ATTACHMENTS

None