

TROJAN NUCLEAR PLANT
 PLANT OPERATING MANUAL
 RADIOLOGICAL EMERGENCY RESPONSE PLAN IMPLEMENTING PROCEDURES
 Volume 4, Section 3

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*Safety Related

RADIOLOGICAL EMERGENCY RESPONSE PLAN IMPLEMENTING PROCEDURE

EP-19.2

SAFETY-RELATED

OPERATION OF DEDICATED TELEPHONE SYSTEM

Approved By

CP Yundt

Date

11-10-82

A. PURPOSE

This procedure describes the operation of the dedicated telephone system, consisting of the Selective Signaling (SS) telephone, the Automatic Ringdown (ARD) telephone, the Hard Copy Data Transmission System (HDT), and the selective signaling Public Information (PI) telephone.

B. DESCRIPTION OF CHANGE

1. Selective Signaling (SS) Telephone (Green Telephone)

a. The SS telephone system is a dedicated party-line telephone with three-digit telephone numbers to the following locations:

- | | | |
|-----|---|-----|
| 1) | Trojan Emergency Operations Facility (EOF) | 142 |
| 2) | Trojan Control Room | 141 |
| 3) | Trojan Technical Support Center (TSC) | 143 |
| 4) | Columbia County Emergency Operations Center (EOC), St. Helens | 131 |
| 5) | PGE St. Helens Office (alternate EOF) | 132 |
| 6) | Company Support Center (CSC), Portland | 121 |
| 7) | Oregon State Health Division Agency Operations Center (AOC) | 122 |
| 8) | Oregon State EOC, Salem | 111 |
| 9) | Cowlitz County EOC, Kelso | 211 |
| 10) | Cowlitz County Alternate EOC, Castle Rock | 212 |
| 11) | Washington State EOC, Olympia | 221 |
| 12) | All Call. | 5*# |

- b. The telephones in the Trojan control room and TSC are equipped with a switch to disconnect the telephone bell.

2. Automatic Ringdown (ARD) Telephone (Beige Phone)

- a. The ARD telephone system is a dedicated party-line telephone to the following locations:

- 1) Trojan EOF.
- 2) Trojan Control Room.
- 3) Trojan TSC.
- 4) Columbia County EOC.
- 5) PGE St. Helens Office (Alternate EOF).
- 6) CSC, Portland.
- 7) Oregon State Health Division AOC.
- 8) Oregon State EOC.
- 9) Cowlitz County EOC.
- 10) Cowlitz County Alternate EOC.
- 11) Washington State EOC.

- b. The telephones in the Trojan Control Room and TSC are equipped with a switch to disconnect the telephone bell.

3. Hard Copy Transmission (HDT) System (when installed)

- a. The HDT System is a dedicated party-line telephone with selective signaling (3-digit numbers) and a telecopier at each of the following locations:

- 1) Trojan EOF
- 2) PGE St. Helens Office (Alternate EOF)
- 3) Columbia County EOC
- 4) Oregon State EOC
- 5) Cowlitz County EOC
- 6) Cowlitz County Alternate EOC
- 7) Washington State EOC
- 8) All Call.

- b. The alternate EOF and Cowlitz County Alternate EOC have the HDT telephone only, no telecopier. The telecopier is transported to the alternate facility when the primary facility is evacuated.

4. Public Information (PI) Telephone (Blue Telephone)

- a. The PI telephone system is a dedicated party-line telephone with selective signaling (3-digit numbers) to the following locations:

- 1) Trojan EOF
- 2) PGE St. Helens Office (Alternate EOF)
- 3) CSC, Portland
- 4) PGE Public Relations Department, Portland
- 5) Columbia County EOC
- 6) Oregon State EOC
- 7) Cowlitz County EOC
- 8) Cowlitz County Alternate EOC
- 9) Washington State EOC
- 10) Emergency News Center, St. Helens
- 11) All Call.

- b. The HDT System at State and County EOCs can also be used to transmit public information statements.

C. OPERATION OF SYSTEM

1. Selective Signaling Telephone

- a. The SS telephone is used for technical discussions about Plant status and offsite dose assessment.
- b. To call a location, lift the handset and touch tone the number of the station you desire. Signaling is a continuous ring. The remote station will ring until answered or will stop ringing after 30 sec if unanswered.
- c. To call all the stations at once, lift the handset and touch tone the All Call number 5*#. All the remote stations will ring until answered or will stop ringing after 30 sec if unanswered.

- d. If two stations are talking to each other and a third station lifts his handset, he will be tied into the conversation. It is a party line.
- e. If two stations are talking to each other and either one wants to add on another station, just touch tone of the desired station number to call it.
- f. When answering the call, wait until the line is clear and then state your location name.
- g. If a desired location does not respond, touch tone the location number one more time. If the location still does not respond, either contact the location via other communications systems or wait and place the call again later.
- h. The bell on the SS telephone in the control room will be activated upon declaration of an Alert, Site Area Emergency or General Emergency. The bell will normally be disconnected when the Trojan EOF or TSC is activated. If the ODOE Resident Engineer is present in the control room, he may activate the bell. The ODOE Resident Engineer will disconnect the bell upon leaving the control room.

2. Automatic Ringdown Telephone

- a. The ARD telephone is used to announce, discuss and agree upon protective action recommendations, and to transmit important information concerning the emergency (eg, change of emergency classification).
- b. To call any location, lift the handset. All the remote stations will ring until answered or will stop ringing at 30 sec if unanswered. Signaling is a continuous ring.

CAUTION: Do not lift handset unless you intend to call all stations.

- c. When answering the call, wait until the line is clear and then state your location name.
- d. If possible, the following five locations should be on the ARD together to assure coordination of protective action decisions:
 - 1) Trojan EOF, alternate EOF, TSC, or control room.
 - 2) Columbia County EOC.
 - 3) Oregon State EOC.
 - 4) Cowlitz County EOC (or alternate EOC).
 - 5) Washington State EOC.

- e. The bell on the control room ARD will be activated upon declaration of an Alert, Site Area Emergency or General Emergency. The bell will be disconnected once the TSC or EOF is operational. The bell on the TSC ARD will be disconnected once the EOF is operational.
- f. The Trojan EOF, TSC or control room announces protective action recommendations, the general basis for them, and significant changes in the emergency and obtains EOCs' decisions on protective actions over the ARD.

3. Hard Copy Data Transmission System

- a. The HDT System is used to transmit hard copy information between the EOF and the State and County EOCs.
- b. The HDT System operates over a selective signaling-type telephone system. The HDT telephone system operation is identical to the SS telephone described in C.1 above.
- c. Before Operation:

Step I

Verify that the red POWER light at the left of the display panel is illuminated. If not, check that the unit is plugged in and that the ON/OFF switch at the rear of the unit is on.

Step II

Check the paper-level indicator at the left of the machine. The pointer should be in the gray or yellow area. If the pointer is in the red area, replace the nearly-empty paper roll with a new roll.

Step III

Verify that the AUTO RESP light is on. If not, push the AUTO RESP switch under the front cover to "On".

- d. To Send a Page:

Step I

Insert the page or pages into the hopper, face down. Slide the guides to the edges of the paper. Up to 40 pages can be sent together. The page at the bottom of the face-down stack will be sent first. The GIII light will come on when the paper is inserted properly. The TSI light should also illuminate. If not, depress the TSI button under the front cover until the TSI light comes on.

Step II

The resolution mode (QUALITY) will normally be AUTO. If fine detail is desired, press the QUALITY button until the light beside the word FINE illuminates.

Step III

The NORMAL-LIGHT/COLORED light should normally be on NORMAL. Set the ORIGINAL CONTRAST to the LIGHT/COLORED if the document to be sent is written in light pencil or if the document is on a colored page. The ORIGINAL CONTRAST control button is under the front control lid, beneath the NORMAL-LIGHT/COLORED button.

Step IV

Pick up the telephone hand set. Verify that the channel is idle by listening for a quiet line. Dial the desired location. If a document is to be sent to all locations simultaneously, dial the broadcast code,

Step V

Press the START button as soon as the steady tone is heard from the receiving unit.

Step VI

The page to be transmitted will automatically pass through the facsimile scanner in about 30 seconds if the receiving machine is operating properly. If no error messages are displayed on the front control panel, it can be assumed that the document was received in its entirety. However, if a page is being broadcast, the diagnostic lights only indicate failure to receive at Columbia County. Other sites must have their receipt of the documents verified verbally by telephone. This will normally be done over the SS phone.

e. To Receive a Page:

Step I

Be sure that the AUTO RESP light is illuminated on the front panel. If not, move the AUTO RESP switch under the front panel cover to the ON position.

Step II

The facsimile unit will turn on automatically and receive documents without operator intervention. The machine will chirp when it is through receiving a document or group of documents.

Step III

If the unit chirps and no page is present, or the TIME-OUT light is illuminated, a page was sent to you, but not received. If this occurs, determine who was sending the document and request a retransmission.

f. Miscellaneous Items:

A printed log of all documents sent and received can be obtained by pressing the LOG button under the front cover. This log will occur automatically each time a full page of logged activity is stored.

If trouble is encountered, see the NEFAX III-T Operation Manual (stored with the machine) for assistance, or contact the Communications Advisor in the PGE Company Support Center.

- g. The HDT machine can be used with any telephone system, including the ARD, SS, PI or commercial system. To switch telephones, unplug the modular jack connecting the machine to the telephone, and reconnect to the new telephone. Make SURE THAT ALL RECEIVING MACHINES ARE USING THE SAME TELEPHONE SYSTEM. Note that the HDT system will not broadcast to more than one receiver if the commercial telephone system is used.

4. Public Information Telephone

- a. The PI telephone is used by PGE, State and County Public Information Representatives to coordinate public information activities.
- b. The PI telephone system is a selective signaling circuit similar to the SS telephone. Operation of the system is identical to the operation of the SS telephone, described in C.1 above.

RADIOLOGICAL EMERGENCY RESPONSE PLAN IMPLEMENTING PROCEDURE

EP-24.22

SAFETY-RELATED

TECHNICAL REPRESENTATIVE AT COWLITZ COUNTY EOC

Approved By CP Jundt
General Manager

Date 11-10-82

Approved By Bowithers
Vice President Nuclear

Date 11/18/82

A. PURPOSE

To describe the authority, responsibilities, and duties of the Technical Representative at the Cowlitz County Emergency Operations Center (EOC) in the Long-Term Emergency Organization.

B. AUTHORITY

The Technical Representative at the Cowlitz County EOC reports to the Emergency Response Manager.

C. RESPONSIBILITIES

The Technical Representative at the Cowlitz County EOC is responsible for providing technical advice to the Cowlitz County EOC Staff concerning the Trojan Plant and the emergency situation.

D. DUTIES

1. Provide technical advice to the Cowlitz County EOC Staff concerning the Trojan Plant, the emergency situation, and protective actions recommended by the EOF.
2. Interpret technical communications from the Emergency Operations Facility (EOF) and the Company Support Center (CSC) for the Cowlitz County EOC staff.
3. At the request of the Cowlitz County EOC, utilize the SS telephone to obtain clarification of technical data concerning the emergency. Commercial telephone is also available for communications to the EOF and CSC.

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RADIOLOGICAL EMERGENCY RESPONSE PLAN IMPLEMENTING PROCEDURE

EP-25.20

SAFETY-RELATED

CORPORATE SECURITY DIRECTOR

Approved By CP Jund Date 11-10-82
General Manager

Approved By ADW Date 11/18/82
Vice President Nuclear

A. PURPOSE

To describe the authority, responsibilities, and duties of the Corporate Security Director in the Company Support Center (CSC).

B. AUTHORITY

The Corporate Security Director reports to the Emergency Response Manager.

C. RESPONSIBILITIES

The Corporate Security Director is responsible for coordinating security aspects of the emergency with Federal, State, and local law enforcement agencies, and Federal and State regulatory agencies.

D. DUTIES

1. Direct the PGE Security Department staff efforts in support of emergency response actions.
2. Provide support to the Duty Branch Manager, Nuclear Security in coordinating local law enforcement response requirements.
3. Provide coordination of security efforts and security consultation to members of the CSC staff.

RADIOLOGICAL EMERGENCY RESPONSE PLAN IMPLEMENTING PROCEDURE

EP-29.1

SAFETY-RELATED

INSTRUCTIONS FOR USE OF COMPUTER TERMINAL

Approved by _____

CPJ

Date

11-10-82

A. PURPOSE

The purpose of this procedure is to describe the procedure for logging on the computer terminal and executing the dose assessment programs.

B. COMPUTER PREPARATION

1. Visitors Information Center Computer Terminal

- a. Ensure the "HS" (High Speed) button is depressed on the Dataphone. All other buttons on the Dataphone should not be depressed.
- b. Turn the computer terminal ON (the switch is located below the keyboard on the left side of the front panel) and wait approximately 2 seconds for terminals to perform self test.
- c. Ensure the computer terminal is in the on-line mode by checking the ON LINE light on the keyboard. If the terminal is in the local mode, depress the button labeled "LINE/LOCAL" to return to the on-line mode.
- d. Ensure the key labeled "CAPS/LOCK" is depressed.

2. TSC Computer Terminal

- a. Ensure the "HS" (High Speed) button is depressed on the Dataphone. All other buttons on the Dataphone should not be depressed.
- b. Turn the computer terminal ON (the TSC terminal is usually on, however the switch is on the back of the terminal on the left). The power on light on the left of the keyboard will indicate terminal power.
- c. Adjust the switches on the right front of the terminal to "HALF" and "120".
- d. Ensure the key labeled "ALL CAPS" on the left of the keyboard is depressed.

3. Texas Instrument Silent 700 With Build-In Modem

- a. Turn terminal on (switch is located on right rear of machine top).
- b. Set proper configuration.
 - 1) Press "CMD" button and wait for "Prompt".
 - 2) Press "C". This lists the terminal configuration.
 - 3) Press "09", then "Return".
 - 4) Press "82", then "Return", then "Enter".
 - 5) If the "On Line" light at the bottom of the keyboard is not on, depress the adjacent switch to activate it.

C. LOGON PROCEDURE

1. Lift telephone handset from telephone cradle and depress the button labeled "TALK". The depressed TALK button will not be illuminated at this time.
2. Dial one of the following telephone numbers. If a carrier tone is not received after the number is dialed, hang up and dial an alternate number.

<u>Terminal</u>	<u>Primary Number</u>	<u>First Alternate</u>	<u>Second Alternate</u>
EOF Terminal			

TSC Terminal
OR
TI Silent
(on Trojan Ext)

3. When a carrier tone commences, depress the red button labeled "DATA" and hang up the telephone. At this time the TALK button will be illuminated. For the TI Silent 700, place the handset in the acoustic coupler with the cord to the left. When a connection is made, the terminal will print "Connected".
4. When responding to prompting from the computer, always use the "RETURN" key (noted as (CR) in this procedure) following the typing of data.
5. Type the character S ten (10) consecutive times, (CR).

6. a. When the computer responds, type MM (CR) .
b. If the computer responds with a message that Center M is unavailable, type RR (CR) .
7. When the computer responds, type GPS (CR) .
8. When the computer responds, type KFX019,UDAC,RERP (CR) .
9. When the computer responds with the data, time and other miscellaneous data and an exclamation symbol (!) is printed, the computer is ready to process computer programs.
10. To run a program, type the program name (ie, SUBIN, INGEST, LIQUID) (CR) .
11. To correct mistypes before input, use the BACKSPACE or "+" key.
12. If the computer code terminates execution, go to Step 14.
13. To interrupt program output, use the BREAK key; no RETURN key is necessary following the BREAK key. The computer will respond with a !, and any code can be initiated by going to Step 14 (on the TSC computer terminal, use the "INTERRUPT" key instead of "BREAK").
14. To log off, type OFF (CR) .

RADIOLOGICAL EMERGENCY RESPONSE PLAN IMPLEMENTING PROCEDURE

EP-29.2

SAFETY-RELATED

USE OF THE SUBIN COMPUTER CODE

Approved By _____

CP Fundt

Date

11-10-82

A. PURPOSE

To provide a rapid calculation of external skin, whole body and inhalation thyroid doses due to accidental airborne releases of radioactive material.

B. DESCRIPTION OF CODE

The computer code SUBIN calculates radiation doses via the airborne pathways of inhalation and immersion in a semi-infinite cloud. Up to 17 isotopes of iodine, krypton and xenon are considered, and doses at up to 10 downwind distances from the Plant (ranging from 0.1 to 20 miles) may be calculated simultaneously.

C. OPERATION OF CODE

1. Input Parameters:

After typing in the command "SUBIN", which calls and begins execution of the program, an introduction is printed (along with optional instructions) followed by a list of input categories:

- L=1, INSTRUCTIONS
- L=2, ENTER SOURCE TERMS
- L=3, ENTER RELEASE DURATION
- L=4, ENTER DOWNWIND DISTANCES
- L=5, ENTER WINDSPEED
- L=6, ENTER WIND DIRECTION
- L=7, ENTER ATMOSPHERIC STABILITY DATA
- L=8, ENTER STRUCTURE SHIELDING FACTORS
- L=9, CALCULATE
- L=10, DATA USED IN LAST CALCULATION
- L=11, QUIT
- L=12, STANDARD RUN

The user is then prompted to input the integer associated with the category desired. If the option selected is an input variable,

the user is prompted to enter the value of that parameter. Failure of the user to input a numerical parameter causes a default value of zero to be taken by the program. For subsequent executions, individual input categories may be modified without altering data in the other categories.

Input options include the choice between entering nuclide source terms recorded at the Plant (release rates, effluent stream concentrations, PRM readings, ARM readings, exposure rate measured outside Containment at contact or steam generator tube rupture source data and offsite field monitoring data (dose rates and I-131 concentrations). The type of atmospheric stability data input is also optional (ΔT or $\sigma\theta$). The wind direction (L=6) is entered as wind toward.

The option to include structure shielding factors (L=8) allows the user to enter factors both for shielding from external gamma radiation and for reduction of thyroid dose due to shutting doors and windows. When the option is chosen, the user is asked whether he wishes to use the default of no credit for structures (factors = 1.0), use conservatively calculated values for average western homes (gamma factor = 0.75, thyroid factor = 0.65) or enter his own factors.

2. Calculational and Output Options:

When the "CALCULATE" option (L=9) is selected, the user is immediately prompted with "OUTPUT OPTION (0 = DETAILED OUTPUT, 1 = SUMMARY OUTPUT) =". Selection of the "summary output" option causes a tabular output to be printed which lists whole body and thyroid total dose rates and doses vs distance. The input wind direction (toward) is included in the table heading, along with the wind speed and Pasquill Class. The computer code uses terrain correction factors to calculate dose rates, dose receptor direction(s) and plume width(s) for each downwind distance to include the effects of the local terrain features and wind patterns near the Trojan site. In addition, the interpolated distance at which Protective Action Guide (PAG) doses are exceeded is printed. This option is recommended when a quick output for more than one downwind distance is desired.

Selection of the "detailed output" option causes a separate tabular printout to be generated for each of the (up to 10) downwind distances entered plus the distance at which PAG doses are exceeded. This table includes dose rates and doses for each individual nuclide for which data has been entered, along with a listing of input parameters and calculated parameters (χ/Q , plume depletion and Pasquill stability class), and protective action recommendations. The input wind direction and resulting receptor direction(s) and plume width(s) are included in the heading of each table set of dose rate (rem/hr) and total dose (rem) for each downwind distance. Terrain correction factors are used

by the computer code to calculate the dose and dose rate data to include the effects of the local terrain features and wind patterns near the Trojan site.

It should be noted that when either field data or PRM readings are input, the code models the releases as consisting entirely of I-131 and Xe-133; no other isotopes are considered.

After each calculation or when L=10 is selected, a listing of all input parameters used in the previous calculation is printed.

3. Standard Run:

Should a standard run (L=12) be selected, the user will be prompted for all information required. The program will assume no shielding in its calculations and produce a summary output at the exclusion area boundary for the given wind direction, at 2.5, 5.0, and 10.0 miles.