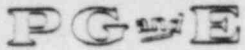


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IMPLEMENTING PROCEDURES
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DEPARTMENT OF NUCLEAR PLANT OPERATIONS
DIABLO CANYON POWER PLANT UNIT NO(S) 1 AND 2

TITLE: EMERGENCY PROCEDURE
CHLORINE RELEASE

APPROVED: R C Rowley 9/13/82
PLANT MANAGER DATE

SCOPE

This procedure discusses actions to be taken in the event of a major chlorine release, such as gross failure of a storage container. Minor chlorine leaks are not considered to be an emergency, and would be corrected as part of normal operator and maintenance personnel duties.

GENERAL

Chlorine is used for treating the circulating water system to reduce biological fouling. Chlorine gas is extremely irritating to the mucous membranes of the eyes and respiratory tract and may be fatal if inhaled in very high concentrations.

A detectable odor is produced at concentrations of 3.5 ppm in air; 15 ppm causes immediate irritation of the throat and concentrations above 50 ppm are dangerous for even short exposures.

A total of eight chlorine detectors are installed at the plant. Two chlorine detectors, CEL-19 and 20, are installed in the intake ducts to each Unit's control room ventilation system. The air intake ducts of the Control Room Pressurization System also have two chlorine detectors on the North and South ends of the Turbine Building (North end: CEL-101 and 102; South End: Cel-103 and 104). In the event of high chlorine level (2 ppm) on any of the detectors, the ventilation system automatically transfers to Mode 3 (internal recirculation).

SYMPTOMS

1. A major chlorine leak is observed at the chlorinator equipment.
2. The odor of chlorine is detected by plant personnel.
3. The following main annunciators may sound:
 - a. "Intake Auxiliary System" (PK13-02).
 - b. "Control Room Ventilation" (PK15-06).

AUTOMATIC ACTIONS

The control room ventilation system may transfer to Mode 3.

TITLE: CHLORINE RELEASE

IMMEDIATE ACTIONS

1. Notify the Shift Foreman (Interim Site Emergency Coordinator) of the situation.
2. Alert personnel downwind of the chlorine leak to stay clear of the area.
3. Transfer the control room ventilation system to Mode 3 if the odor of chlorine is detected within plant structures.
4. Inflate door seals on access doors to the control room if transfer of the ventilation system to Mode 3 is required.

SUBSEQUENT ACTIONS

1. Render all necessary first aid (Refer to EP M-1 or EP M-2).
2. If the leak is at the intake structure, and at least two personnel are present, they should don the self-contained breathing apparatus (SCBA) stored at the intake structure, protect skin surfaces, and attempt to isolate the leak if the following conditions are met:
 - a. Both are qualified and able to use the respirators.
 - b. At least one is sufficiently familiar with the chlorine system to be competent to isolate the leak.
 - c. All necessary first aid or rescue actions have been completed.
3. Use Appendix Z for guidance to classify the emergency, and perform the actions required by the classification.
4. As soon as possible, send at least two men equipped with self-contained respiratory equipment, protective clothing and a portable radio to the area of the release to attempt to isolate the leak.

TITLE: CHLORINE RELEASE

- a. If the main annunciator PK15-06, "Control Room Ventilation," has sounded, the chlorine bottles may have already been emptied. As a precaution, the men to be dispatched to the intake must wear their SCBA before leaving the control room. Attempt to approach the leak upwind from the source. Have extra air supply bottles available prior to entering the area of the leak.
3. After the plume has dissipated, the following actions should be taken:
 - a. Restore normal ventilation to the control room, if required.
 - b. Release inflatable door seals on access doors to control room, if required.
 - c. Investigate the area of the release for residual chlorine. Investigating teams should take a portable radio with them. Chlorine gas is heavier than air and will accumulate in low areas. If chlorine gas is found, a portable blower should be rigged to take suction at the low point of the affected area and exhaust to atmosphere.

NOTE: Airborne chlorine concentrations can be ascertained with a chlorine detector tube used with an air sampler. The presence of chlorine can also be detected by exposing ammonium hydroxide to the atmosphere. Chlorine reacts with ammonium hydroxide to form the white precipitate ammonium chloride. Ammonium hydroxide can be obtained from the chemistry lab. Air samplers are also in the chemistry lab.

CAUTION: The investigation must be conducted by at least two persons who are equipped with appropriate respiratory equipment and protective clothing.

4. Close out with verbal summary to offsite agencies, and complete the following written reports:
 - a. Plant Problem Report (see Nuclear Plant Administrative Procedure C-12).
 - b. Written summary to NRC within 24 hours for an Unusual Event or 8 hours for an Alert or Higher Classification.

DIABLO CANYON POWER PLANT UNIT NO(S) 1 AND 2

NUMBER EP M-3
REVISION 5
DATE 7/21/82
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TITLE: CHLORINE RELEASE

REFERENCES

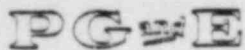
1. PGandE Steam Generation Department General Operating Orders, Sections 10.113 to 10.115.
2. PGandE Accident Prevention Rules, Rule 1023.
3. Emergency Procedure G-1 "Accident Classification and Emergency Plant Activation."
4. Emergency Procedure G-2 "Establishment of the Onsite Emergency Organization."
5. Emergency Procedure G-3 "Notification of Offsite Organizations."

TITLE: CHLORINE RELEASE

APPENDIX Z

EMERGENCY PROCEDURE NOTIFICATION INSTRUCTIONS

1. When this emergency procedure has been implemented and upon direction from the Shift Foreman, proceed as follows:
 - a. Designate this event a Notification of Unusual Event for any chlorine release to atmosphere which is detectable outside the intake structure (but not within other plant structures). Notify plant staff and response organizations required for this classification by implementing Emergency Procedures G-2 "Establishment of the Onsite Emergency Organization" and G-3 "Notification of Offsite Organizations" in accordance with Emergency Procedure G-1 "Accident Classification and Emergency Plan Activation."
 - b. Designate this event an ALERT if chlorine is detected within plant structures in the protected area, other than the intake structure. Notify plant staff and response organizations required by EP G-2 and EP G-3 in accordance with EP G-1.
 - c. Designate this event a Site Area Emergency if chlorine is detected in a vital area where lack of access to the area constitutes a safety problem (i.e. Control Room, hot shutdown panel, or other area where a plant manipulation required for safe shutdown must be entered). Notify plant staff and response organizations required by EP G-2 and EP G-3 in accordance with EP G-1.



DEPARTMENT OF NUCLEAR PLANT OPERATIONS

DIABLO CANYON POWER PLANT UNIT NO(S) 1 / ID 2

EMERGENCY PROCEDURE
TITLE: TSUNAMI WARNING

APPROVED: _____

R. C. T. *T. T. T.*
PLANT MANAGER8/26/82
DATESCOPE

This procedure discusses actions to be taken in the event that a tsunami warning is received at the site and/or a tsunami is experienced at the site.

DISCUSSION

A tsunami is a large sea wave caused by an undersea earthquake. A tsunami at Diablo Canyon could result from a local earthquake, or from an earthquake hundreds of miles away. Tsunamis may affect the plant by interfering with the normal seawater supply to the circulating water and auxiliary saltwater systems.

A tsunami consists of a low water period (drawdown) and a high water period (runup). Normally, drawdown precedes runup, although the reverse may also be true depending upon factors such as the location of the earthquake. Generally there are two or more runup and drawdown periods although the first two are normally the largest. The periods of runup and drawdown may last as long as 10 minutes each and may be spaced 30 to 40 minutes apart.

During drawdown, the concern is that the circulators and ASW pumps could lose suction. However, analysis of the maximum tsunami considered credible for this site indicates that both sets of pumps will continue to pump water throughout the occurrence. If they lose suction, it should be of short duration (less than 5 minutes). During runup, the concern of flooding is not expected to occur with any likely tsunami, although the maximum credible tsunami does crest the main deck of the intake structure, and could flood the circulators. However, the ASW pumps are protected by the watertight doors (assuming they are closed) and by the elevated opening on the ventilation shaft. Since the opening of the ventilation shaft is higher than the water level which results from a maximum credible tsunami, no flooding of the ASW pumps is ever expected to occur.

The California Office of Emergency Services in Sacramento transmits tsunami warnings to the Company. The System Dispatcher in San Francisco will notify the Control Operator at Diablo Canyon and inform him of the estimated time of arrival of the tsunami at Diablo Canyon.

DIABLO CANYON POWER PLANT UNIT NO(S) 1 AND 2

NUMBER EP M-5
REVISION 5
DATE 8/16/82
PAGE 2 OF 4

TITLE: TSUNAMI WARNING

In addition, other agencies such as the Coast Guard, National Weather Service, or the National Oceanic and Atmospheric Administration may notify the plant before the Dispatcher. Therefore, the probability of a tsunami striking Diablo Canyon without warning is very small. If the source of the tsunami is local, ground motion will alert the operator of the possibility of a tsunami.

SYMPTOM

The Control Room is notified by the System Dispatcher, or a cognizant governmental agency, of the time of arrival of a predicted tsunami in the plant area, or strong ground motion indicative of a local earthquake is detected (Refer to Emergency Procedure M-4 "Earthquake").

AUTOMATIC ACTIONS

The following main annunciators may activate when the tsunami arrives:

1. "Auxiliary Saltwater System" (PK01-01).
2. "Auxiliary Saltwater Pumps Room" (PK01-02).
3. "Auxiliary Saltwater Pumps" (PK01-03).

IMMEDIATE ACTIONS

1. Notify the Shift Foreman (Interim Site Emergency Coordinator).
2. Verify the Tsunami warning with the system dispatcher, if time permits.
3. Request the Security Shift Supervisor to evacuate the intake structure and instruct all personnel to remain on high ground (+85' or above) until the threat has passed. Any entry below the +85' level requires Site Emergency Coordinator approval while the warning is in effect.
4. If PK01-02 (AUX SALT WTR PPS. ROOM) is in alarm and indicates an Aux. Salt Water Pump Room door is open and time permits, go to the Intake Structure to close the ASW Pump Room watertight door.

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DIABLO CANYON POWER PLANT UNIT NO(S) 1 AND 2

NUMBER EP M-5
REVISION 5
DATE 8/16/82
PAGE 3 OF 4

TITLE: TSUNAMI WARNING

SUBSEQUENT ACTIONS

1. Perform the notifications required by Appendix Z.
2. Send an operator with a radio to the top of the road overlooking the intake structure to act as observer. Establish communications between the observer and the control room.
3. Monitor ASW pump motor amps as an indicator of ASW flow, use CCW heat exchanger delta P as a back-up source of ASW flow indication.
 - a. If motor amps read erratically low, indicating that the pump is losing suction, turn the standby ASW pump to MANUAL to prevent it from starting on low discharge header pressure. This will prevent any damage to the standby pump due to dry operation.
 - b. If motor amps remain low on the operating pump, it should be stopped and restarted in about 1 minute. Repeat this, if necessary until flow is regained.

NOTE: Limit pump restarts to 3 in any 30 minute period (15 minute period if the pump runs for 10 minutes during the 15 minutes). If the pump does not have suction (i.e. no load) each start may be counted as one-half start. Switch pumps, if required, to remain within the pump start limitations. If the ASW pump trips on overcurrent following restart, count this as 2 starts.
 - c. Begin a controlled load reduction, to reduce heat load, if ASW flow is not immediately restored.
4. Trip the affected reactor if any of the following occur:
 - a. One or both ASW pumps trip on overcurrent, and flow cannot be immediately restored.
 - b. The C-9 interlock activates, which indicates:
 - 1) Both circulator breakers are open, or
 - 2) Low vacuum in the condenser.
 - c. Flooding of the intake structure is reported from the observer.

TITLE: TSUNAMI WARNING

5. After the tsunami warning is lifted or the tsunami has passed:
 - a. Inspect the intake structure for any abnormal conditions as soon as it is safe to do so.
 - b. Notify the System Dispatcher that the tsunami has passed, and its effects, if applicable.
 - c. Return all pumps to their normal operating status. If any pumps have potentially operated dry, or their motors have been wetted, check them for damage.
6. Refer to Technical Specification 3.7.4.1 for requirements for ASW operability.
7. Close out with verbal summary to offsite agencies, followed by a written report to NRC within 24 hours for an unusual event or 8 hours for an alert or higher classification.

SUPPORTING PROCEDURES

EP M-4 "Earthquake"
EP G-1 "Accident Classification and Emergency Plan Activation"
EP G-2 "Establishment of the Onsite Emergency Organization"
EP G-3 "Notification of Offsite Emergency Organizations"
EP OP-10 "Loss of Auxiliary Salt Water"
OP E-5I Auxiliary Salt Water System - Make Available

PGandE General Operating Orders for Steam Electric Power Plants -
Operating Order 12.108 "Motor Starting Frequency"

ATTACHMENTS

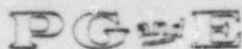
1. Appendix Z, Emergency Procedure Notification Instructions

PACIFIC GAS AND ELECTRIC COMPANY
DEPARTMENT OF NUCLEAR PLANT OPERATIONS
DIABLO CANYON POWER PLANT UNIT NOS. 1 AND 2

APPENDIX Z

EMERGENCY PROCEDURE NOTIFICATION INSTRUCTIONS

1. When this emergency procedure has been implemented, and upon direction from the Shift Foreman, proceed as follows:
 - a. Designate this event a Notification of Unusual Event if a warning of a significant tsunami is received from a verified source, or if low water indicative of a tsunami is observed at the intake structure. Notify plant staff and response organizations required for this classification by implementing Emergency Procedures G-2 "Establishment of the Onsite Emergency Organization" and G-3 "Notification of Offsite Organizations" in accordance with Emergency Procedure G-1 "Accident Classification and Emergency Plan Activation."
 - b. Designate this event an Alert if a tsunami, or other wave, approaches the design wave height of 20 feet (or alternately which overtops the main lock of the intake structure which is at (+) 20' MLLW) or low water level at the intake structure causes temporary shutdown of both ASW pumps. Notify plant staff and response organizations required by EP G-2 and EP G-3 in accordance with EP G-1.
 - c. Designate this event a Site Area Emergency if a tsunami, or other wave, causes flooding of an ASW pump compartment or if low water causes shutdown of both ASW pumps for more than 15 minutes. Notify plant staff and response organizations required by EP G-2 and EP G-3 in accordance with EP G-1.



DEPARTMENT OF NUCLEAR PLANT OPERATIONS

DIABLO CANYON POWER PLANT UNIT NO(S) 1 AND 2

EMERGENCY PROCEDURE

TITLE: CONTAINMENT EMERGENCY PERSONNEL HATCH

APPROVED: _____

PLANT MANAGER

9/2/82

DATE

SCOPE

This procedure describes the purpose and basic description of the emergency personnel hatch, operational instructions, how to enter and leave the hatch from containment, and atmosphere in the event of an accident. A description of the interlocking system how to defeat and reset when required.

DISCUSSION

Purpose and Basic Description:

The personnel hatch is designed to permit a speedy escape from the containment vessel during an accident.

Pulling the door operating handle through its arc will equalize the pressure across the bulkhead, unlock the door and swing the door open.

Once inside the hatch, moving a second lever reverses the operation, closing the door, locking it and closing the valve.

The exact same procedure will cycle the atmosphere door and close it again.

A mechanical interlocking system prevents both doors from being opened at the same time and in fact will prevent the closed door from being cycled if one door is left open accidentally.

If the door operating handle is found to be locked and sufficient time for other personnel to clear the hatch is allowed, the open door can be closed by means of the remote door operation handwheel. Rotation of the handwheel will close the remote door, latch it and close the vent valve, leaving the interlock system clear.

To operate any of the four door operation handles, a force of approximately thirty-five pounds must be applied to it.

CAUTION: This force should never be exceeded.

Remember, if the handle does not move easily, the interlock is in force and excessive force may damage the mechanism.

TITLE: CONTAINMENT EMERGENCY PERSONNEL HATCH

Each handle station is provided with a mechanical indicator which will show at a glance what state each door is in.

Movement of the pointers will show whether or not anyone is in the process of going through the hatch.

In addition to the pointers, there are annunciating lights on the exterior surfaces of the bulkheads which, when lit, indicate that the hatch is in use.

It can be assumed that the interlock is in force if the handle remains locked for more than one minute and that remote operation will be required. Always cycle the operating handle until the annunciating lights go out when leaving the hatch.

PROCEDURE

1. To enter hatch, containment or atmosphere.
 - a. Check annunciating lights, if lit or out.
 - b. If lit, secure atmospheric door by operating remote operating mechanism, until lights are out.
 - c. Check bulkhead differential gage. Gage must read zero before opening door.
 - d. Pull bulkhead operating handle down until indicator pointer reaches "valve open" position.
 - e. Wait until differential gage reads zero.
 - f. Pull handle until a mechanical stop is felt. The door will automatically unlatch and swing open.

CAUTION: When pulling operating handle through its arc, do not exceed 35 lbs. force. Excessive force will cause door to open fast and bang against the door stops, causing damage to bulkhead door angle gear units.

- g. Enter hatch.
2. Securing containment bulkhead door from inside of hatch.
 - a. Move door operating handle through its arc to close the door, latch it, and close the pressure equalizing valve.

TITLE: CONTAINMENT EMERGENCY PERSONNEL HATCH

- b. Make sure handle pointer reaches "valve closed" position.
- c. An incomplete cycle will leave the interlock in force. If so the atmospheric door will not open.
- d. If mechanical failure should occur, the interlock mechanism can be defeated to allow opening of atmospheric door. By tripping lever at interlock mechanism unit.

CAUTION: Interlock mechanism should only be defeated when absolutely necessary.

3. Leaving the emergency personnel hatch through atmospheric door.
 - a. Pull bulkhead door handle through its arc to "door open" indicator position.
 - b. The pressure equalizing valve will open, unlatch the door, and swing the door open automatically.
4. After leaving hatch.
 - a. Move door operating handle through its arc to close the door, latch it, and close the pressure equalizing valve.
 - b. An incomplete cycle will leave the interlock in force. Cycle until annunciating lights are out. If not completed the next user will be required to use the remote operating mechanism to fully close door for entry.

NOTE 1: (Differential pressure across the bulkheads) If a differential pressure across the bulkheads exists, it is possible to complete the door opening cycle with the high side of the pressure differential in the hatch barrel, but only two or three PSI will tend to force the door open.

NOTE 2: If the high side of the pressure differential is in the containment vessel, a resistance will be felt at the operating handle. If a high enough differential exists, it will not be possible to open the door.

5. Defeating the interlock system.
 - a. Purpose of interlocking system to prevent both airlock doors from being opened at the same time.

TITLE: CONTAINMENT EMERGENCY PERSONNEL HATCH

- b. It may be necessary to have both doors opened at the same time.
Such as:
- 1) Passing a long object into containment.
 - 2) Personnel trapped inside hatch, due to equipment mechanical failure.
 - 3) Or, carrying an injured person on a stretcher through the hatch.
6. Location of interlock.
- a. Located approximately mid-way between the atmosphere and containment bulkheads.
 - b. On the right side as one faces the containment bulkhead.
7. How to defeat interlocking system.
- NOTE: Notify Shift Foreman
- NOTE: Refer to Attachments 2 and 3 for numerical reference.
- a. Interlocking mechanism is mounted inside a metal box.
 - b. Remove the lead security seal and wire that secures the clamp knob (metal lid) and raise the hinged cover.
 - c. By hand, grasp the lugs on the cam yoke (#38) and pull up to rotate the cam yoke nose away from the upper interlocking disc (#39).
- NOTE: It is possible for the shafts to be in some position other than shown on Attachment 2 so that a push may be required rather than a pull.
- d. As the cam nose moves away from the upper interlock disc, a spring (#44) fastened to the interlock disc shaft (#42) will force the disc to move out of engagement with the lower interlock disc (#45).
 - e. At this point, a limit switch (#40) will activate a remote signal to indicate that the airlock interlock has been violated.
 - f. The switch is triggered by the movement of the upper interlock disc. either door, if operational can now be opened.

TITLE: CONTAINMENT EMERGENCY PERSONNEL HATCH

- g. The interlocking mechanism can be defeated and carried out with one door open, but it is suggested that both doors be fully closed, latched, and the vent valve closed when this procedure is carried out.
8. How to reset interlock.
- a. To re-establish the interlock from within the airlock, close the containment bulkhead door to fully closed position using operating handle #2.
- NOTE: Operating handles are numbered from inside containment out. (1, 2, 3, & 4)
- b. Press down on the cam yoke so that it lays along the axis of the shaft.
- c. The upper interlock disc will be forced along the axis of the shaft.
- d. The upper interlock disc will be forced back into proper engagement, with the lower interlock disc, and reset the limit switch.
- e. A new lead security seal should be placed on the clamp knob after closing the cover.

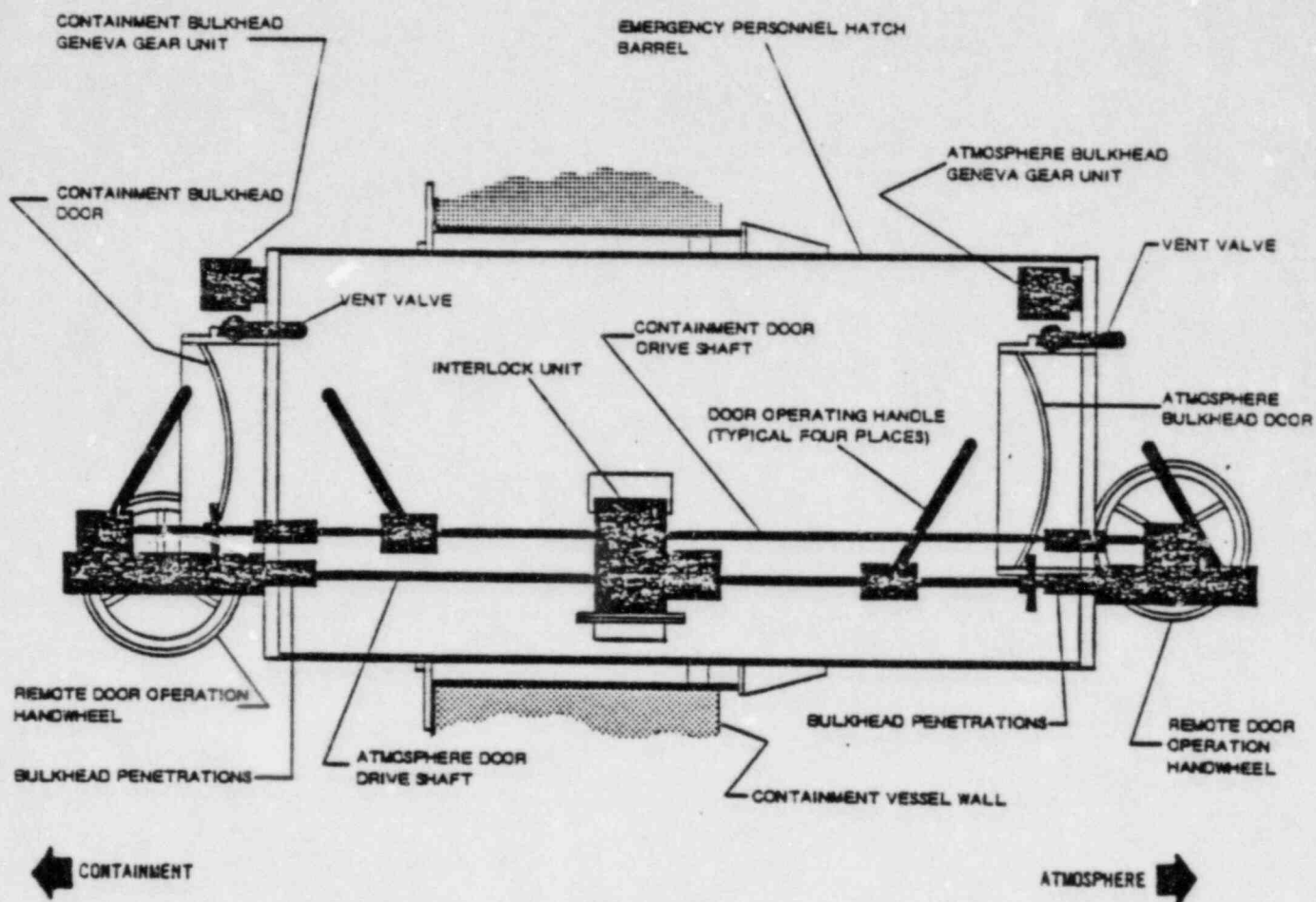
REFERENCES

1. Operation and Maintenance Manual, 663075-905-1

ATTACHMENTS

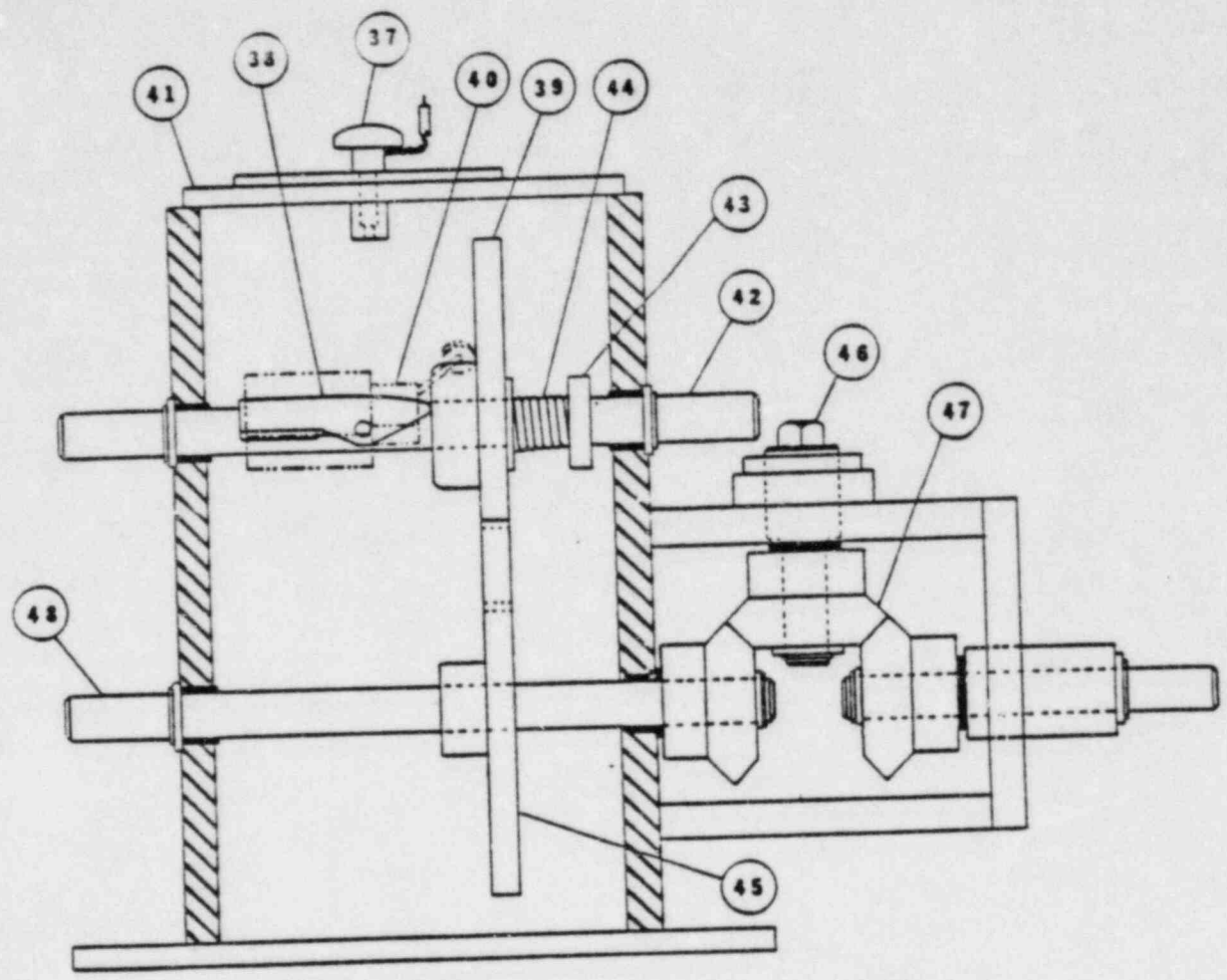
1. Emergency Personnel Hatch
2. Interlock Engagement
3. Interlock Disengagement

ATTACHMENT 1



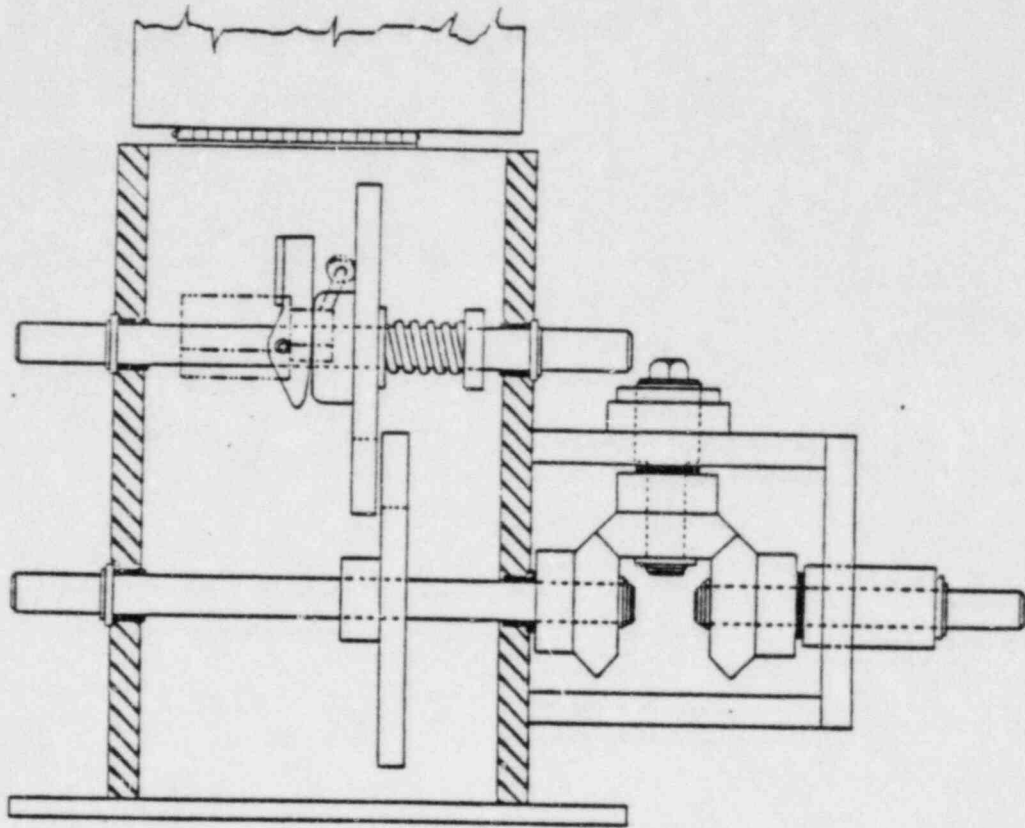
EMERGENCY PERSONNEL HATCH

ATTACHMENT 2



INTERLOCK ENGAGEMENT

ATTACHMENT 3



INTERLOCK DISENGAGED

CURRENT
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IMPLEMENTING PROCEDURES

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DEPARTMENT OF NUCLEAR PLANT OPERATIONS

DIABLO CANYON POWER PLANT UNIT NO(S) 1 AND 2

TITLE: EMERGENCY OPERATING PROCEDURE
RELEASE OF INFORMATION TO THE PUBLIC

APPROVED: R. C. Thonberg 9-2-82
PLANT MANAGER DATE

SCOPE

This procedure describes the requirements for releasing information to the public concerning an Alert, Site Area, or General Emergency experienced at the Diablo Canyon Power Plant.

GENERAL

1. Any information released to the news media during an emergency situation at the Diablo Canyon Power Plant must be accurate and informative. For this reason, all official PGandE news releases will be issued after being reviewed for technical accuracy and approved by the Recovery Manager, or in his absence, the Site Emergency Coordinator.
2. Normal news releases which do not involve an Alert, Site Area, or General Emergency situation shall be made in accordance with Administrative Procedure A-9, "Public Announcements Involving Nuclear Plant Operations."
3. When possible, the appropriate federal, state and local agencies involved in the response, shall be informed of the content of all PGandE official releases before they are made.
4. The Public Information Recovery Manager (PIRM) should cooperate in the preparation of all news releases originating from federal, state or local agencies involved in the emergency.
5. Any news media personnel who arrive at the plant site shall be denied access unless their presence is specifically approved by the Site Emergency Coordinator, the Recovery Manager and the Public Information Recovery Manager. Security force personnel shall direct the news media to the Media Briefing Center.

INITIATING CONDITIONS

The Shift Foreman declares that the plant is in an Alert, Site Area, or General Emergency condition as defined in Emergency Procedure G-1, "Accident Classification and Emergency Plan Activation" and initiates the actions described in Emergency Procedure G-2 "Establishment of the Onsite Emergency Organization."

TITLE: RELEASE OF INFORMATION TO THE PUBLIC

IMMEDIATE ACTIONS

1. Upon activation of the emergency plan, the Advisor to the County Emergency Organization (ACEO) and his staff will activate the Emergency Operations Facility (EOF) in accordance with Emergency Procedure EF-3, "Activation of the Emergency Operations Facility."

SUBSEQUENT ACTIONS

1. The Site Emergency Coordinator shall be responsible for approving all Company releases to the news media until arrival of the Recovery Manager at the EOF. The Recovery Manager will assume responsibility for approving all releases to the news media after arrival at the EOF.
2. All releases should be provided to the San Luis Obispo County Public Information Officer, if available, prior to release.
3. If the Site Emergency Coordinator or the Recovery Manager directs that the news media are to be contacted, the interim PIRM may notify the news media listed on Attachment 1, "Media Notification List," or other bonafide media contacts, and may read the appropriate prepared message from Attachment 2, "Prepared Messages for News Media," or prepare a special release.
4. Once news briefings have been authorized, the interim PIRM or the TAPI shall:
 - a. Notify the Public Information Officer of the San Luis Obispo County Emergency Organization of the news release and its content, and coordinate a joint release, if possible.
 - b. Notify the news media listed on Attachment 1, "Media Notification List" or other bonafide media contacts that a statement is forthcoming and inform them that the Cuesta College Auditorium "Media Center" will be opened, if necessary.
 - c. Direct the Media Center Manager, or his alternate, to proceed to the Media Briefing Center, open it, and prepare for the meeting with the media.

DIABLO CANYON POWER PLANT UNIT NO(S) 1 AND 2

NUMBER EP OR-2
REVISION 1
DATE 7/28/82
PAGE 3 OF 3

TITLE: RELEASE OF INFORMATION TO THE PUBLIC

SUPPORTING PROCEDURES

AP A-9, "Public Announcements Involving Nuclear Operations"

EP G-1, "Accident Classification and Emergency Plan Activation"

EP G-2, "Establishment of the Onsite Emergency Organization"

EP EF-3, "Activation of the Emergency Operations Facility"

Corporate Emergency Response Plan Implementing Procedure 3.2, "Public Relations"

ATTACHMENTS

1. Media Notification List
2. Prepared Messages for News Media

ATTACHMENT 1
MEDIA NOTIFICATION LIST

Radio and Television Stations

KVEC Radio-E.B.S Input Days (San Luis Obispo)	(805) 543-8830	
KSBY Television (San Luis Obispo)	(805) 544-2224	
KCOY Television (Santa Maria)	(805) 922-5384	
KEYT Television (Santa Barbara)	(805) 965-8533	
KSLY Radio-E.B.S Input Nights (San Luis Obispo) (Also KUNA-FM)	(805) 543-9400	
KATY Radio-E.B.S. Backup (San Luis Obispo)	(805) 543-1340	
KCBX-FM Radio (San Luis Obispo)	(805) 541-1295	+
KZOZ-FM Radio (San Luis Obispo)	(805) 544-5093	+
KBAI Radio (Morro Bay)	(805) 772-2263	+
KPRL Radio (Paso Robles) (Also KPRA-FM)	(805) 238-1230	
KKAL Radio (Arroyo Grande)	(805) 489-1280	
KIQO Radio FM (Atascadero)	(805) 466-6511	

Newspapers

Daily Press (Paso Robles)	(805) 238-0330	+
Santa Maria Times	(805) 925-2691	+
Telegram-Tribune	(805) 543-1901	+
Santa Barbara News Press	(805) 966-3911	

Wire Services

AP	(415) 621-7432 or (213) 746-1200
UPI	(415) 552-5900 or (213) 620-1230

ATTACHMENT 2 (Continued)DRAFT NEWS BULLETIN - CLOSE OUT EVENT

Pacific Gas and Electric Company, in agreement with Federal State and County officials, rescinded the emergency status declaration for Diablo Canyon Nuclear Power Plant at _____ (time) on _____ (date) .

The 2.2 million kilowatt Nuclear Power Plant near San Luis Obispo, California, is (operating normally, at safe shutdown).

Complete details will be given to the news media as they become available.

###

ATTACHMENT 2 (Continued)NEWS RELEASE GUIDELINES

- I. Obtain details of the emergency from the Site Emergency Coordinator or Recovery Manager. Consult with Technical Advisor.
- II. Include:
 - A. Time and date of news release.
 - B. Time of notification of County and State officials.
 - C. Principal actions being taken at the plant.
 - D. Assistance being given by County or State.
 - E. Radioactivity release.
 1. Wind direction
 2. Dose estimates: site, offsite.
 3. Deployment of PGandE radiological monitoring teams.
 - F. Injuries.
 1. How many.
 2. What kind.
 - G. Number of workers on site when emergency declared.
- III. Work in important general information (plant location, generating capacity, construction costs, etc.) where appropriate.
- IV. Attribute all information to either Pacific Gas and Electric Company or designated company spokespersons.
 - A. When naming PGandE employees, identify them by corporate title and explain their emergency duties and title.

###

ATTACHMENT 2 (Continued)

EMERGENCY CLASSIFICATION DEFINITIONS

UNUSUAL EVENT:

As required by the NRC, an "Unusual Event" is declared for an other-than-normal plant condition not requiring an emergency response for the county, state or general public.

ALERT:

As required by the NRC, an "Alert" is declared for an actual or potential degradation of plant safety systems. Any release of radioactivity would be small and undetectable beyond a one-half mile radius of the plant.

SITE AREA EMERGENCY:

As required by the NRC, a "Site Area Emergency" is declared for actual or potential failure of major plant functions needed to protect the public. Any release of radioactivity may affect areas around a one-half mile radius of the plant.

GENERAL EMERGENCY:

As required by the NRC, a "General Emergency" is declared for actual or imminent releases of radioactivity which may require protection actions by the general public.

###

ATTACHMENT 2 (Continued)

GENERAL INFORMATION

The Diablo Canyon Nuclear Power Plant occupies 735 acres of coastal property about 12 miles southwest of San Luis Obispo on California's central coast.

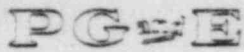
The Diablo Canyon Nuclear Power Plant is situated on the California coast about midway between San Francisco and Los Angeles.

The Atomic Energy Commission licensed construction of Diablo Canyon Unit 1 in April 1968 and Unit 2 in December, 1970. The two power plants have been in operation since (date and date) respectively.

The Diablo Canyon plant uses a Westinghouse pressurized water reactor. During normal operation, the water in the reactor is under about 2,200 pounds per square inch pressure, which prevents the water from boiling even though it is heated to above 600 degrees Fahrenheit.

###

4



DEPARTMENT OF NUCLEAR PLANT OPERATIONS

DIABLO CANYON POWER PLANT UNIT NO(S) 1 AND 2
EMERGENCY PROCEDURE

TITLE: OPERATING PROCEDURES FOR EARS 9845C
CONTROLLING STATIONS

APPROVED: R. C. Thompson 9-2-82
PLANT MANAGER DATE

SCOPE

This procedure provides startup instructions and operating flow diagrams for any HP 9845C station capable of functioning as a controlling station for the Emergency Assessment and Response System (EARS). These EARS stations include the Control Room (CR), Technical Support Center (TSC), and Emergency Offsite Facility (EOF).

In addition a discussion of the terminology used, and a brief overview of some of the support software and data file contents and structure used in the EARS is included.

For detailed instructions on operation of the major EARS software for the HP-9845C's see the Operator's Manual (Applied Physical Technology, Inc. Operator's Manual for Emergency Assessment and Response System EARS/9845C, June, 1982).

Startup and operating instructions for the EARS TSC HP-1000F computer are contained in procedure EP EF-8.

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 CONTROL STATIONS

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DISCUSSION

The purpose of the EARS is to assist the PG&E Emergency Response Organization in quantifying the offsite radiological consequences of an atmospheric radiological release resulting from an accident at the DCPP. The system gathers data (including meteorological, essential plant parameters, onsite and offsite real time radiation monitor readings), performs dispersion computations, disseminates information and displays data at various onsite and offsite stations. These include the Control Room, the Technical Support Center, the Emergency Offsite Facility, the Corporate Incident Response Center (CIRC), and the State Office of Emergency Services (OES) stations.

The CR, TSC, and EOF are all capable of being the controlling station; although only one may be the controller at any one time. Any station that is not functioning as the controller can receive real time calculational information from the EARAUT (EARS automatic) program via communication links. If the links become interrupted during the course of an emergency, EARS can still function by means of the manual EARS program (EARMAN), using data obtained via voice communication with the controlling station operator.

This procedure together with the Operator's Manual provides the necessary information for CR, TSC, and EOF operators to power up the EARS computer hardware and run the three primary EARS programs (STATUS, EARAUT, EARMAN) on the HP-9845C desktop computer at the respective station.

The structures and contents of all EARS data files at the CR, TSC, and EOF EARS stations is given in Procedure DPP HP-3.

PROCEDURE

1. EARS Hardware at Controlling Stations

All HP hardware at the CR, TSC and EOF is covered by a service maintenance agreement with Hewlett-Packard, Inc. (see Appendix A for a complete list of hardware). In case of any hardware failure, contact the Systems Manager of the EARS and explain your problems to him. If the Systems Manager or his alternate cannot be contacted, the EARS operator may call

TITLE: OPERATING PROCEDURES FOR EARS 9845C
CONTROL STATIONS

Hewlett-Packard service directly. During regular hours (8 a.m. to 5 p.m. Monday thru Friday) [805] 964-3390, at other times [213] 708-0299.

The Trilog printer is covered under a similar agreement with Group-III Electronics, Inc. If the Trilog Printer has a hardware failure contact the Systems Manager of the EARS system or his alternate. If the Systems Manager or his alternate cannot be contacted, the EARS operator may call Group-III Electronics directly by calling [213] 328-2872.

2. Start-Up Procedures

The following start-up procedures assume that all power to the computer hardware is off when the EARS operator arrives at an EARS station.

- a. Set the power strip switch on. All of the equipment at each station is connected to one power strip which is located on the back of the desk console, except at the TSC-CC where it is attached to the console underneath the HP-9845C. This should turn everything on if the station was left in proper order, with all of the individual component switches set to the "ON" or "1" position. Check to see that all of the switches on all of the components are set to "ON" or "1" at this point.
- b. If you are at the Technical Support Center turn the Colorplot printer power switch (on the left side of the printer) to "1" or "ON". The "POWER INDICATOR" key should be lit and the printer self-test starts (winding and rewinding of the ribbon). When the self-test is completed (ribbon motion stops), press the "ON-LINE" button.
- c. Check to see that the 7906 disc drive RUN/STOP switch is set to "RUN". After about one minute the front panel of the 7906 should display 'DRIVE READY'.
- d. Check to see that the HP-9845C computer power switch (on the right side of the computer) is set to "1". The CRT should beep and begin a self-test ("MEMORY TEST IN PROGRESS" message should appear on the CRT). When the self-test is completed, the "9845 READY FOR USE" message and a flashing cursor will appear on the CRT indicating the computer is ready for use.
- e. After the entire system at this station is turned on, check the paper reserve in both the HP-9845C internal printer and the Colorplot paper basket (if present). Instructions on how to load a new roll of thermal paper into the HP-9845C internal printer is given in Appendix A. Instructions to load paper into the Colorplot printer are printed on the inside of the printer cover.

TITLE: OPERATING PROCEDURES FOR EARS 9845C
CONTROL STATIONS

3. Shut-Down Procedures

- a. Place the 7906 disc drive RUN/STOP switch to the STOP position, and wait for the 'DOOR UNLOCKED' light to appear on the front panel of the disc.
- b. Turn the power strip switch to the off position. This should turn off all of the equipment except the Colorplot printer.
- c. Press the "ON-LINE" key on the Colorplot printer then press the "TOP OF FORM" key to eject any printed or partially printed page out of the printer. Turn the power switch to "0" or "OFF".

4. Power Failure

Should the power to the system be lost during operation, the system should be shut-down as described in section 3. before the power is restored.

- a. Any data in the computer memory will be erased at power failure.
- b. Any printed page inside the Colorplot printer has to be manually wound out.

5. EARS Software and Flow Diagrams

There are three primary EARS programs stored on the HP-7906 disc drive (select code: C:12): 1) "STATUS: for non-emergency (or idle) mode operations; 2) "EARAUT" automatic EARS program; and 3) "EARMAN" - manual EARS program for emergency mode operations.

There are two basic modes in which the EARAUT program can be operated: CONTROL and NON-CONTROL. Only the CR and the TSC EARS stations at DCP, and the EOF EARS station at the Sheriff's Office in San Luis Obispo can be operated in the CONTROLLING mode. Only one station may serve as the controller at any one time. Data is transmitted to all or selected NON-CONTROL stations in a fixed data string containing information about the accident, instrument readings, calculated dose results, and messages.

In the event of a real emergency you should start the EARS station by running the STATUS program. If the emergency mode of the EARS has already been established at another controlling station, but EARAUT program will automatically be loaded from the disc and be run on the HP-9845C.

The flow diagrams following each program description are intended to give an EARS operator a general overview of the operator logic flow for each of the three main EARS programs. When used in conjunction with the Operator's Manual, they provide a comprehensive instruction set

TITLE: OPERATING PROCEDURES FOR EARS 9845C
CONTROL STATIONS

for the programs described. The numbers in the flow diagrams reference other "KEY SETS" within the same program, whereas the letters reference specific entry points within the same or other programs.

a. STATUS

When the EARS is not operated in the emergency mode, this program allows all HP-9845C stations to log onto the system for data polling purposes. As long as this station stays 'logged on' to the system, it can be 'scheduled' automatically to go into emergency mode by a CONTROL station when an emergency is declared.

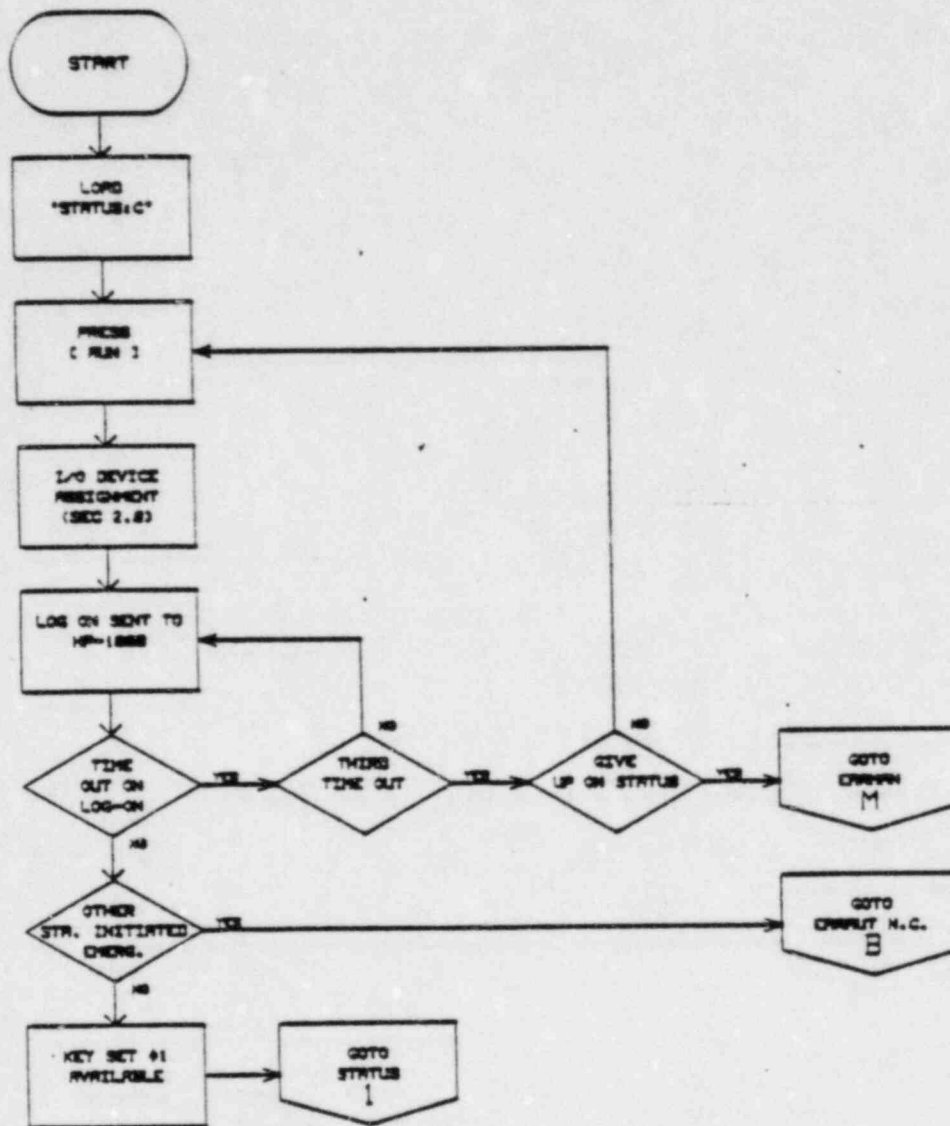
When 'logged on', this program allows the operator to poll the HP-1000 at the TSC for current 15-minute averaged meteorology (MET), plant radiation monitors (RMS), or pressurized ion chambers (PIC) data. It also allows the operator to determine the system network status, such as which stations are currently logged on the system, and when they logged on or off. In addition, the site and area maps can be displayed and 'dumped' to the thermal printer on the HP-9845C.

Once logged on the operator can initiate the emergency mode of EARS by pressing the key under the CRT labeled **EMERGENCY**. This will load EARAUT and thereby begin the actual assessment of the emergency.

- 1) After the computer system at this station is up and running STATUS can be loaded and run by entering the following commands from the HP-9845C keyboard.
 - a) Type in 'SCRATCH A', press [EXECUTE].
 - b) Type in 'SCRATCH C', press [EXECUTE].
 - c) Type 'LOAD "STATUS: C"' and press [EXECUTE] key.
 - d) Wait for the run light on the lower-right corner of the CRT to go off.
 - e) Press the [RUN] key.

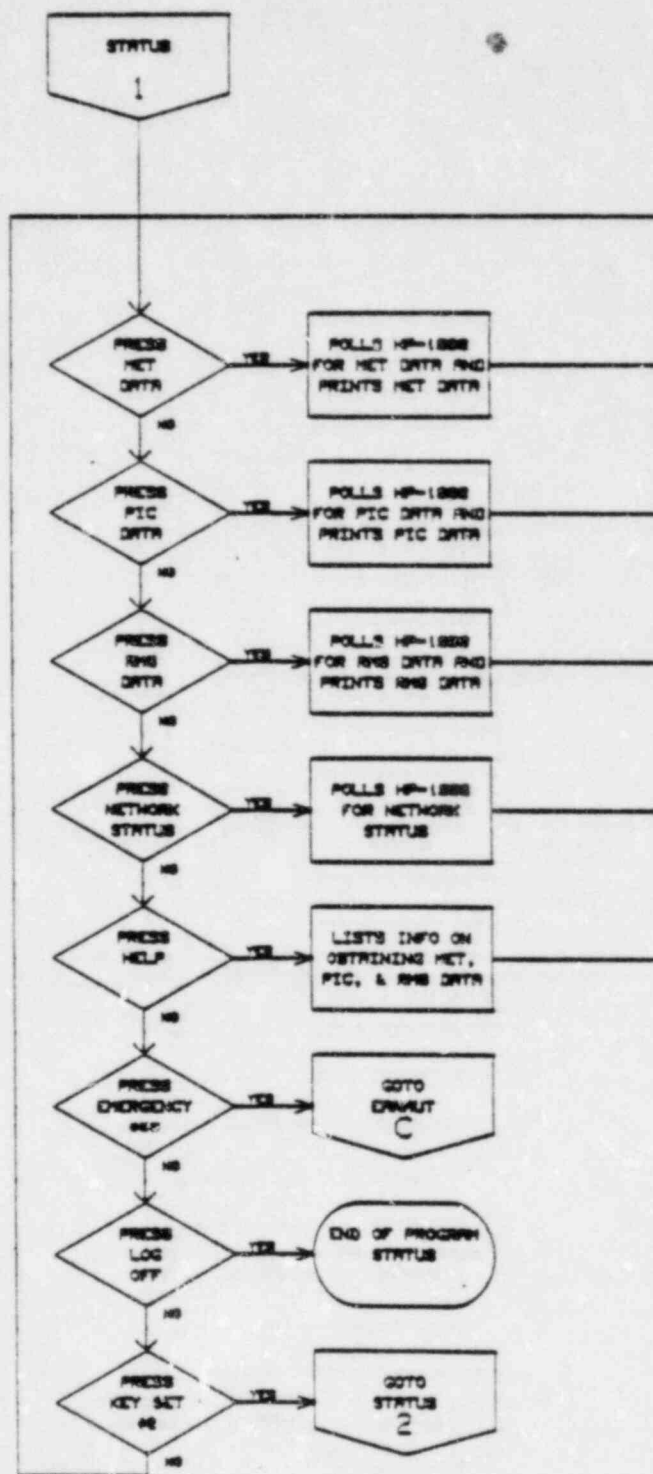
TITLE: OPERATING PROCEDURES FOR EARS 9845C
CONTROL STATIONS

STATUS



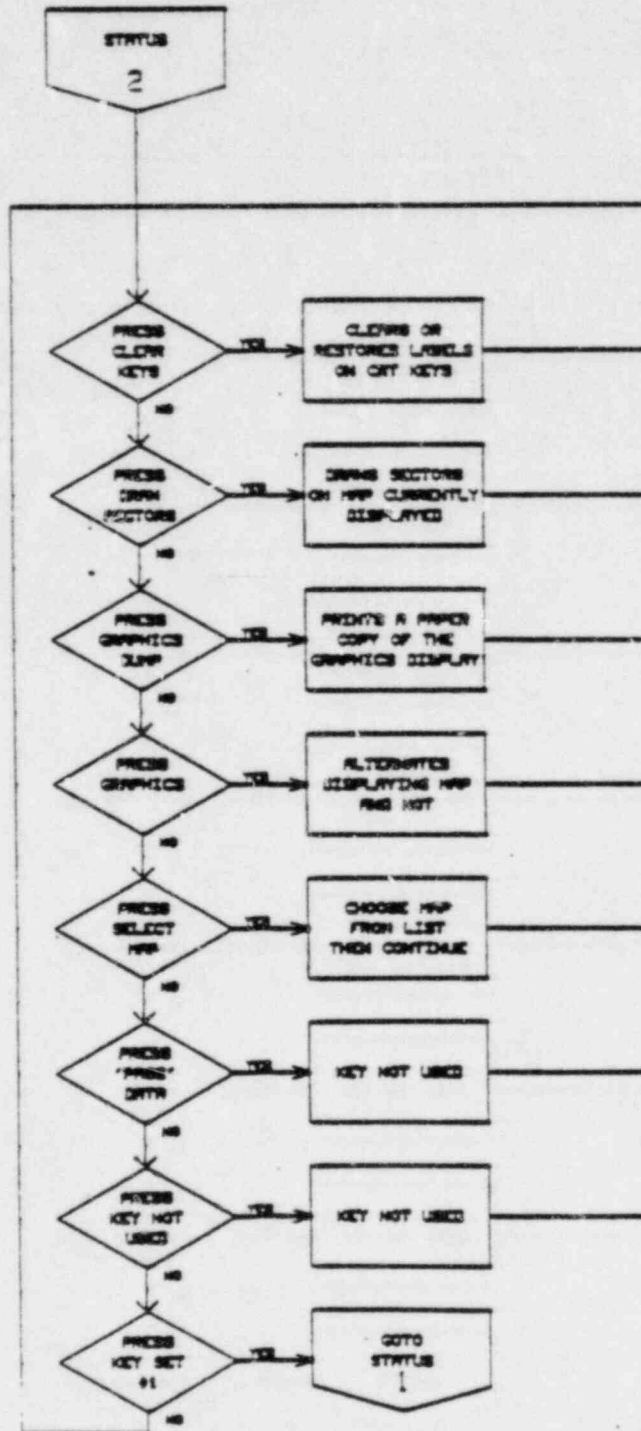
TITLE: OPERATING PROCEDURES FOR EARS 9845C
CONTROL STATIONS

STATUS KEY SET #1



TITLE: OPERATING PROCEDURES FOR EARS 9845C
CONTROL STATIONS

STATUS KEY SET #2



TITLE: OPERATING PROCEDURES FOR EARS 9845C
CONTROL STATIONSb. EARAUT PROGRAM (Controller)

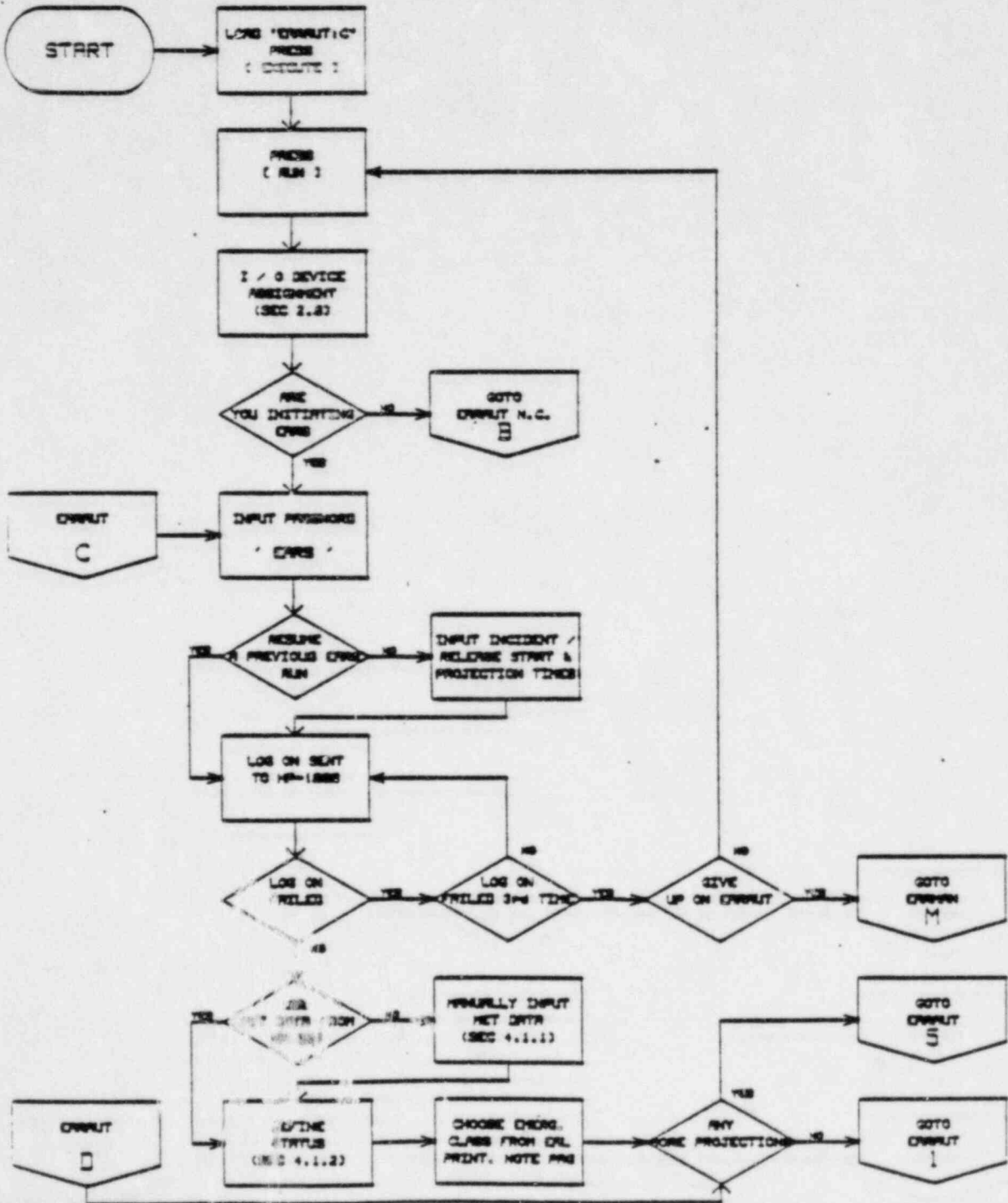
The EARS automatic (EARAUT) controller program consists of four subprograms: EARADC (Central processing program for Controlling Stations), EARgdc (Graphics subprograms), EARrdc (Release rate calculation subprogram), and EARedc (EAL & PAG calculation subprogram), in addition to the EARAUT main entry program. These subprograms are loaded in and out of the HP-9845C as they are needed, and is one of the primary contributors to the processing time for the EARS.

EARAUT can be loaded and run as the CONTROLLING station either by pressing the '**EMERGENCY**' softkey in the STATUS program, or by manually loading the program from disc and running it. Should you load EARAUT with the intentions of becoming the CONTROLLER, and someone else has already assumed that function from another station, you will automatically be logged on as NON-CONTROLLER when you run the program.

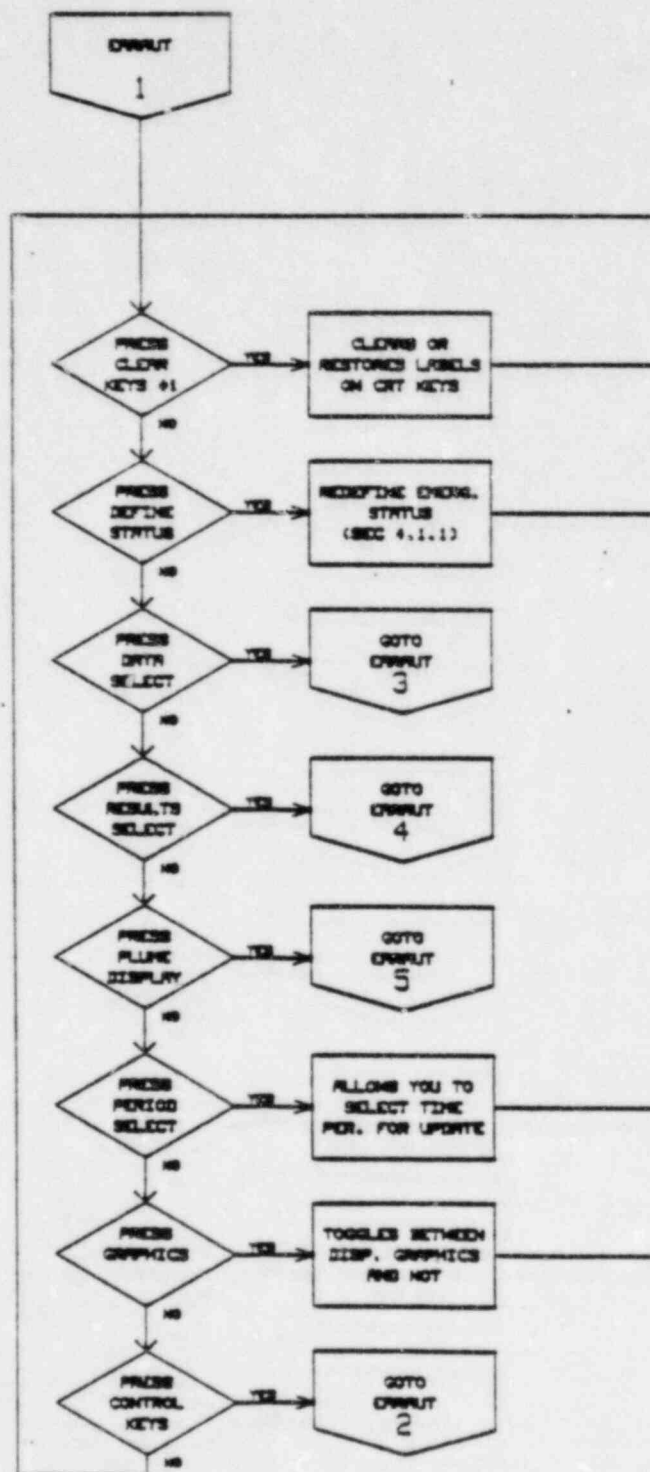
1. After the computer system at this station has been started up EARAUT can be loaded and run by entering the following commands from the HP-9845C keyboard.
 - a. Type in 'SCRATCH A', press [EXECUTE].
 - b. Type in 'SCRATCH C', press [EXECUTE].
 - c. Type "LOAD "EARAUT: C"" and press the [EXECUTE] key.
 - d. Wait for the run light in the lower right corner of the CRT to go off.
 - e. Press the [RUN] key.

See Operator's Manual for detailed instructions, etc.

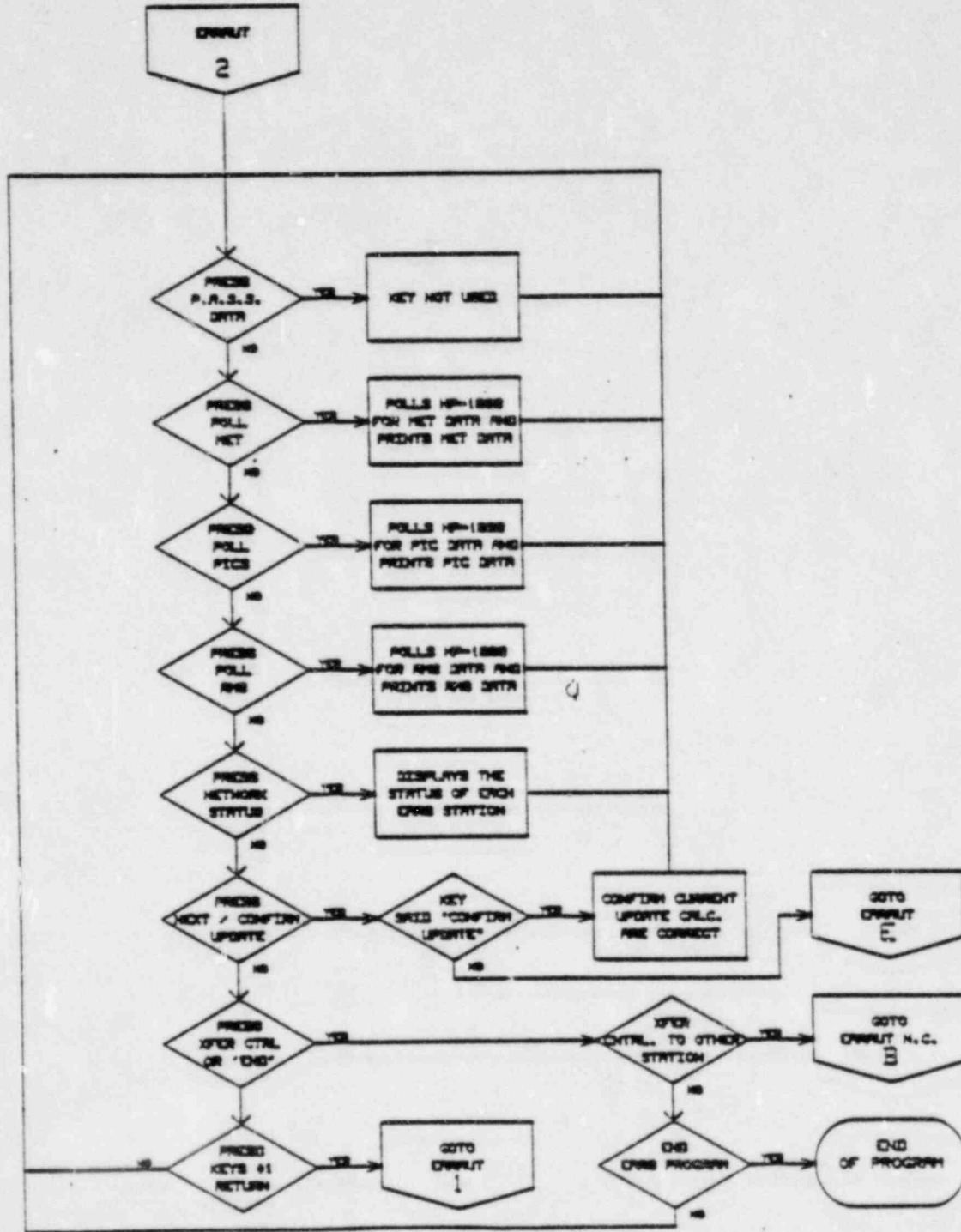
EARRAUT FOR CONTROLLING STATIONS



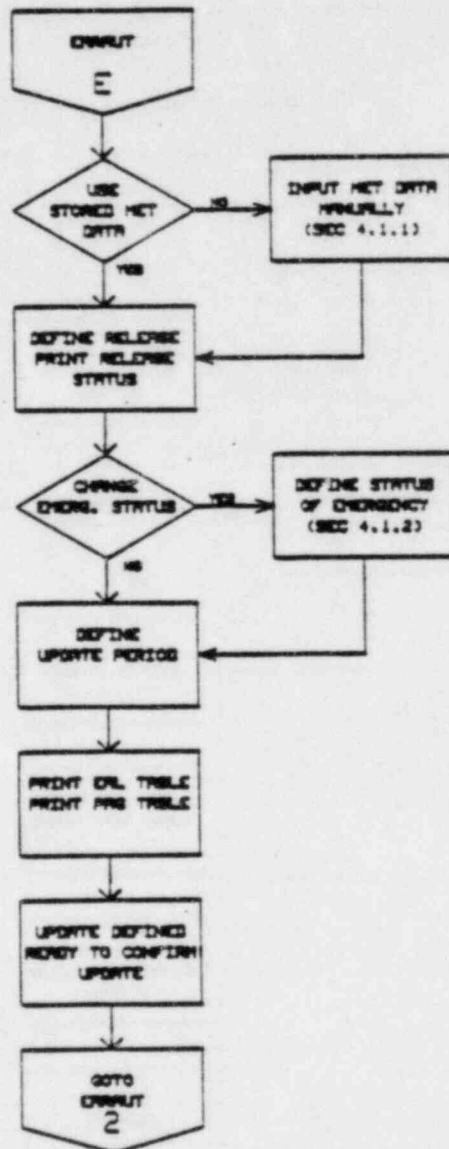
EARRAUT CONTROL KEY SET #1



EARRAUT CONTROL KEY SET #2

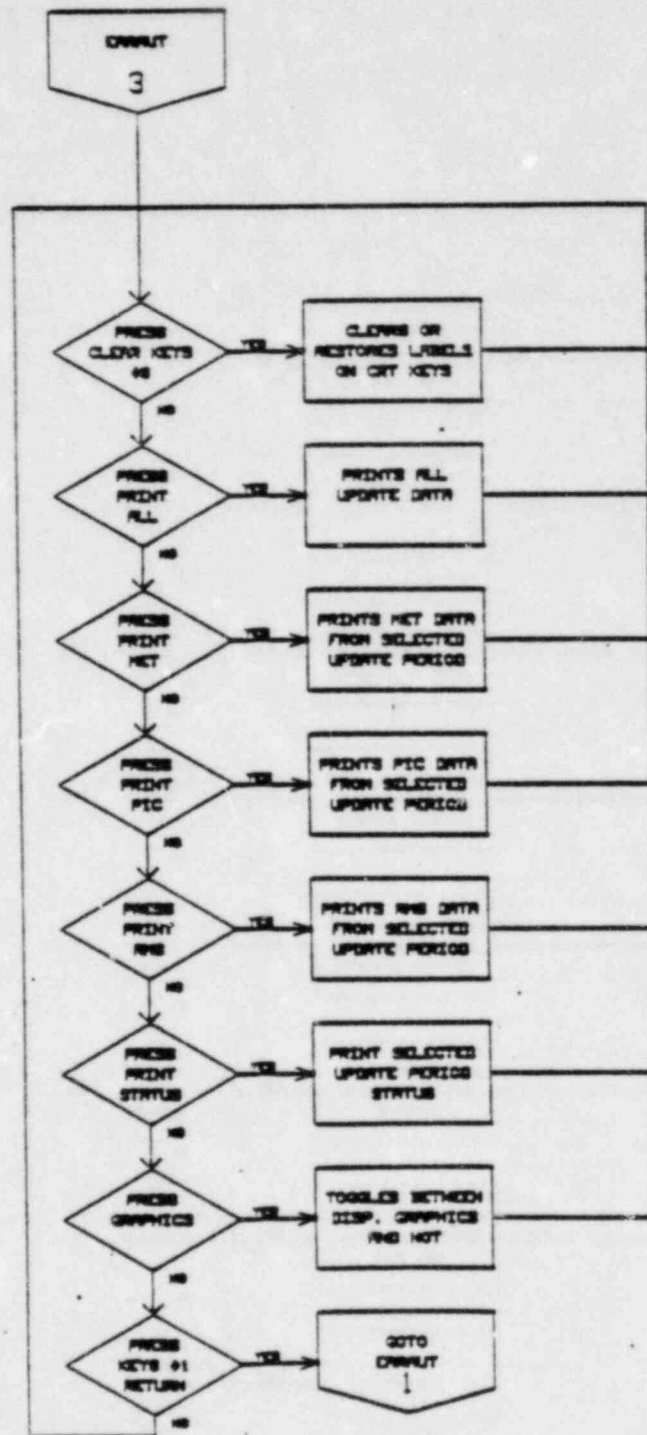


ERRAUT CONTROL NEXT UPDATE



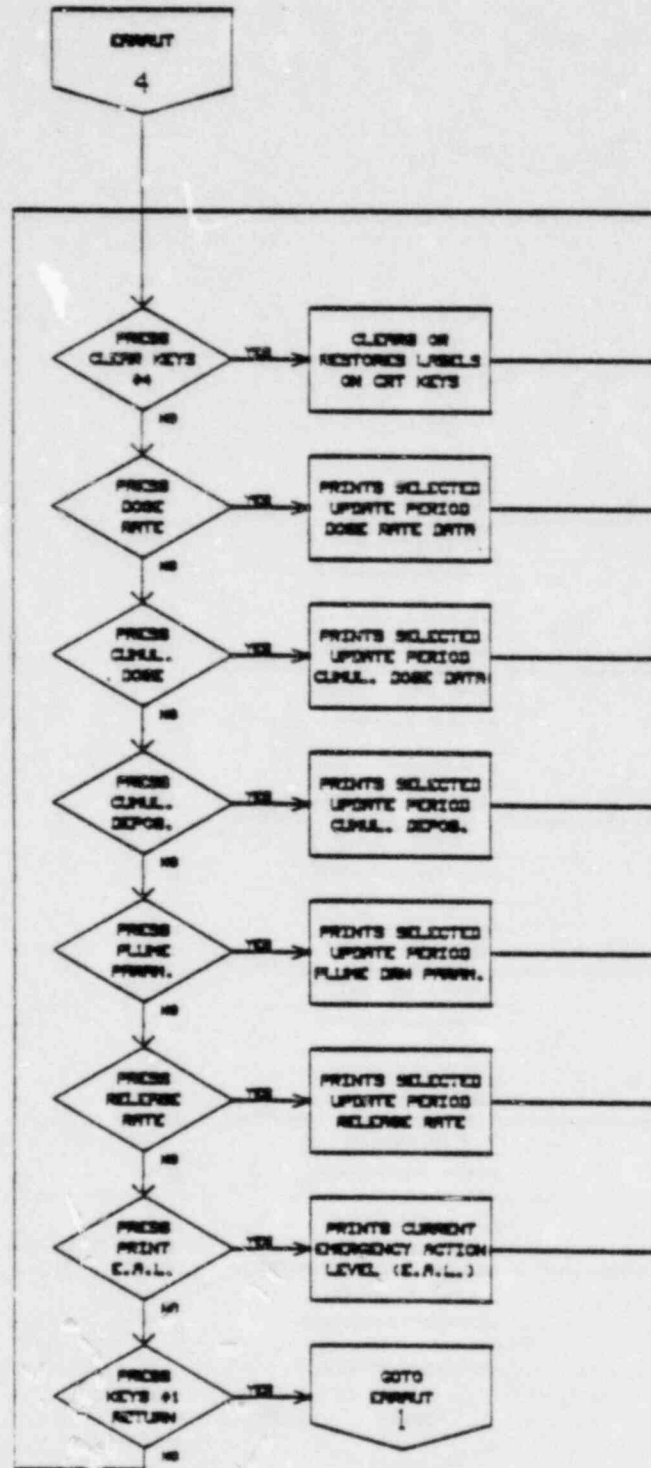
TITLE: OPERATING PROCEDURES FOR EARS 9845C
CONTROL STATIONS

EARRAUT CONTROL KEY SET #3



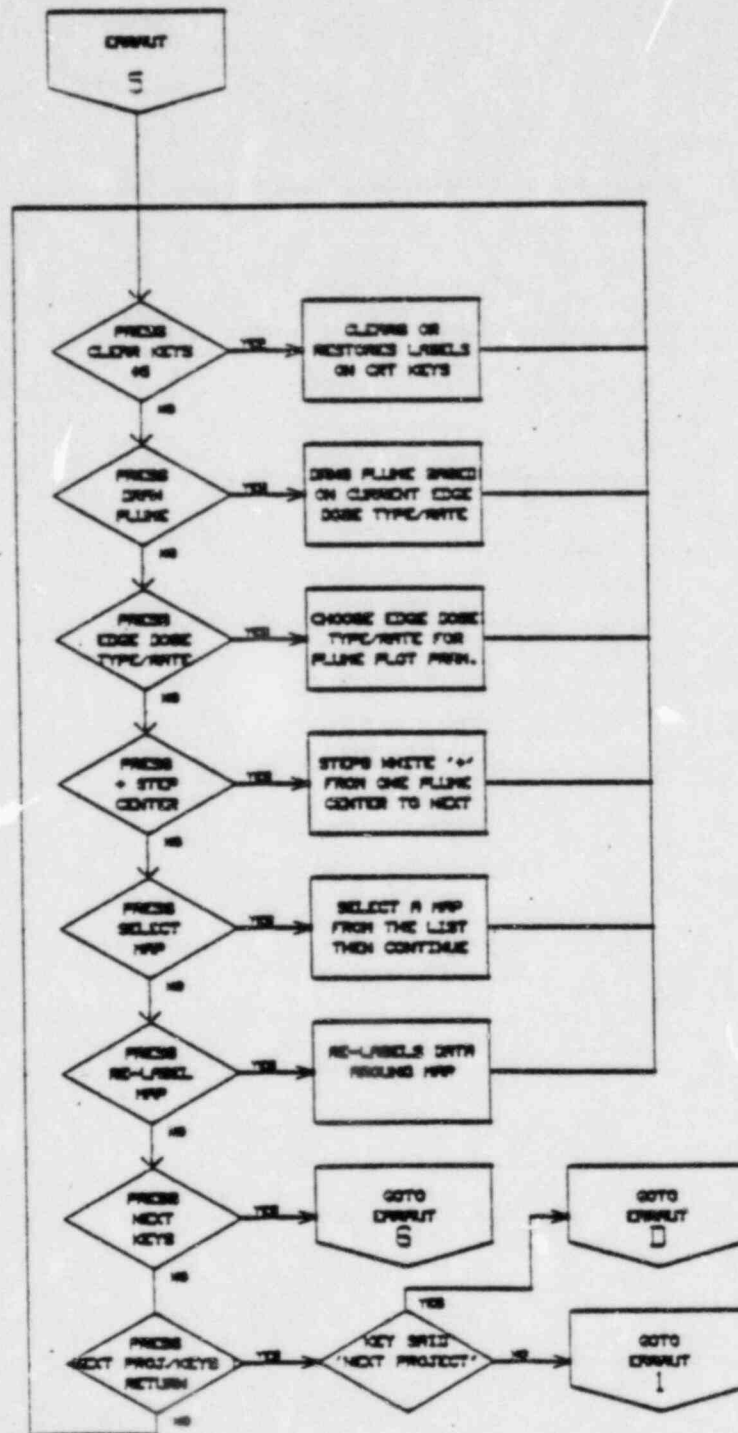
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CONTROL STATIONS

EARRUT CONTROL KEY SET #4



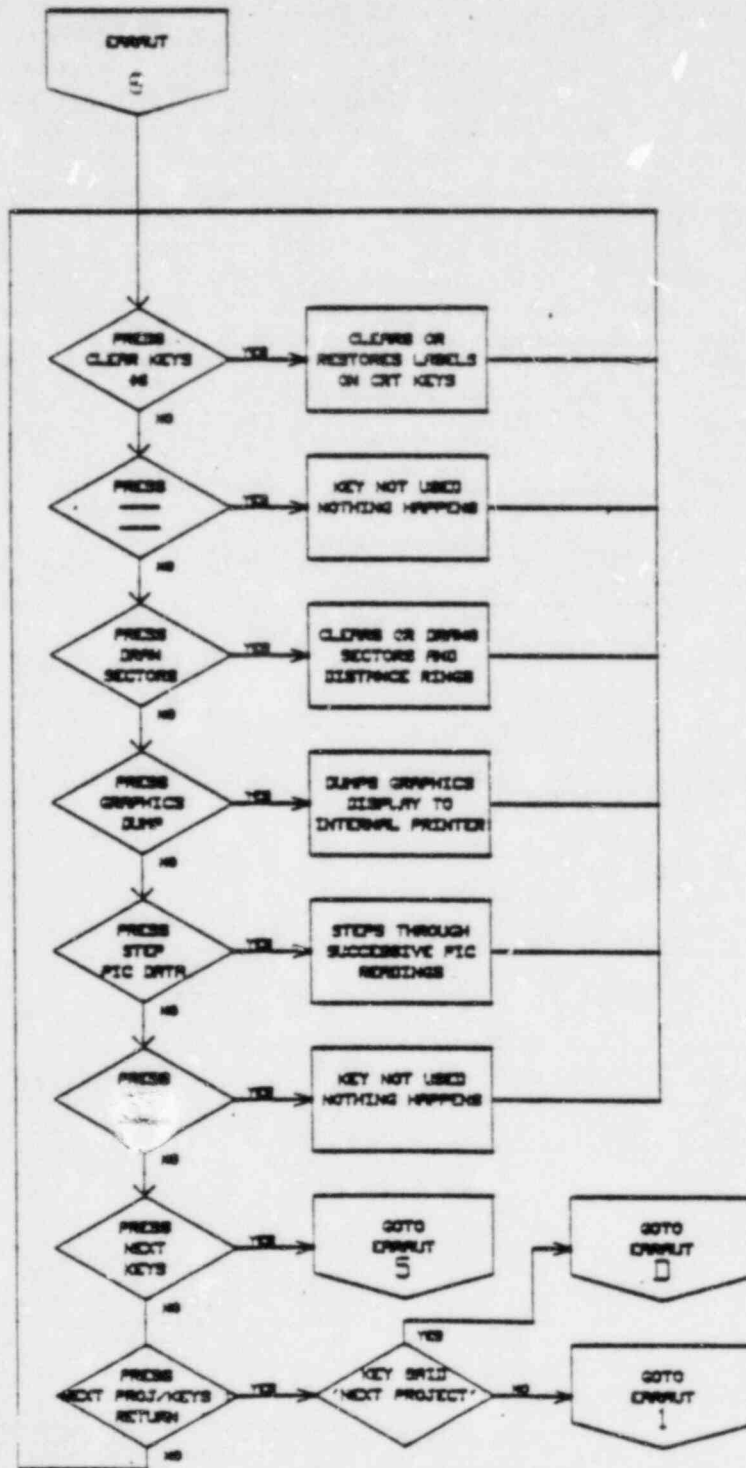
TITLE: OPERATING PROCEDURES FOR EARS 9845C
 CONTROL STATIONS

EARRAUT CONTROL KEY SET #5



TITLE: OPERATING PROCEDURES FOR EARS 9845C
CONTROL STATIONS

ERRAUT CONTROL KEY SET #6



TITLE: OPERATING PROCEDURES FOR EARS 9845C
CONTROL STATIONSc. EARAUT PROGRAM (Non-Controller)

The EARS automatic (EARAUT) non-controller program consists of four subprograms: EARNDC (Central processing program for Non-Controlling stations), EARgdc (Graphics subprogram), EARrdc (Release rate calculation subprogram), and EAR edc (EAL &PAG calculation subprogram), in addition to the EARAUT main entry program. These subprograms are loaded in and out of the HP-9845C as they are needed, and are for the most part transparent to the user.

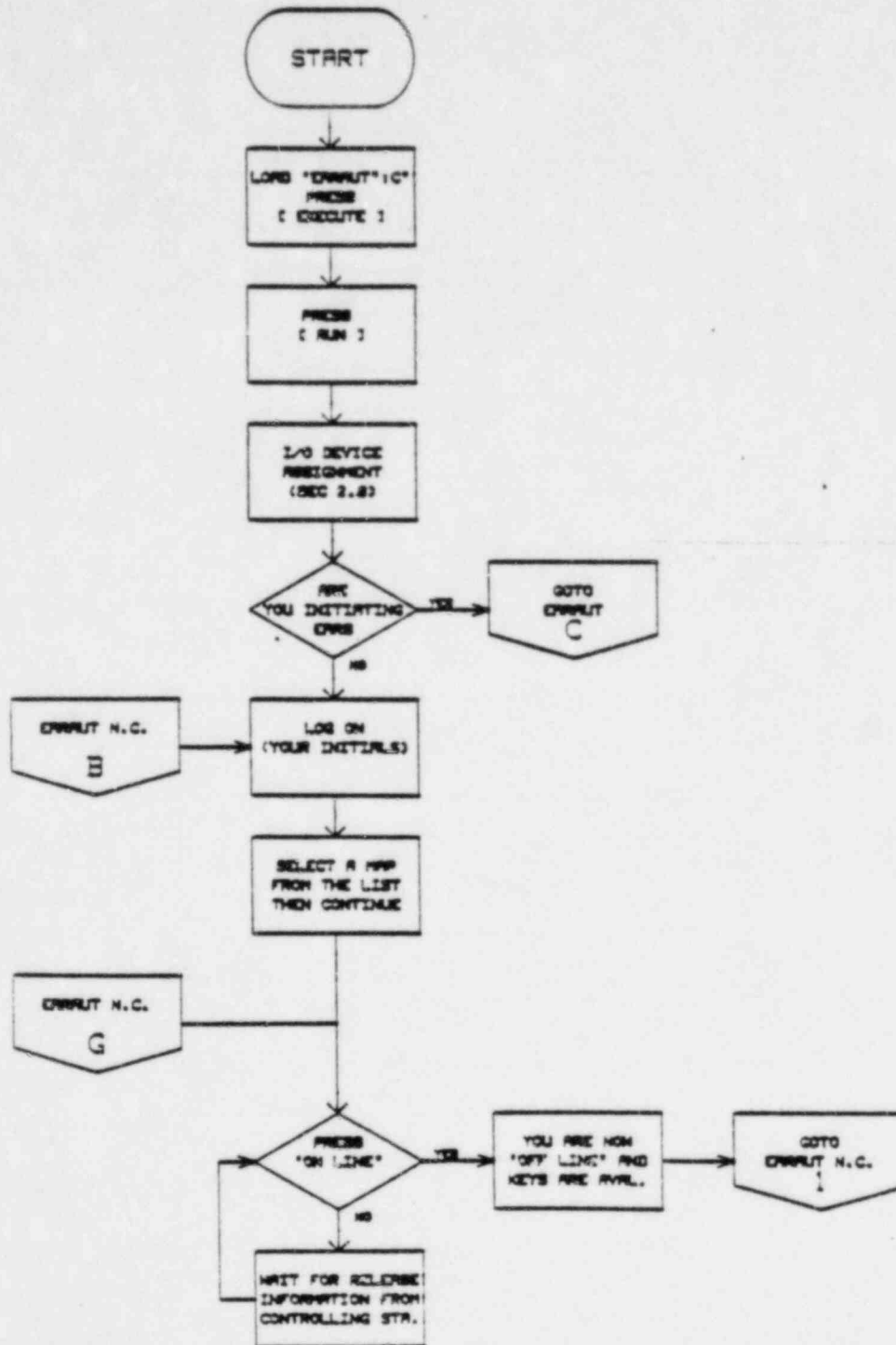
The function of EARAUT as a non-controller is to receive projections and periodic updates of plant release parameters, and observe the resulting plume displays, as based on inputs from the EARS controlling station.

EARAUT (Non-controller) can be run in either one of two ways. The user can load the STATUS program (see Section 3 of the Operator's Manual) and wait for one of the EARS 'CONTROLLING' stations to log on as the 'CONTROLLER', or the user can load the EARAUT program and specify a non-controlling mode (see Section 4.2 of the Operator's Manual).

1. After the computer system at this station has been started up EARAUT can be loaded and run independently of the 'STATUS' program by entering the following commands from the HP-9845C keyboard.
 - a. Type in 'SCRATCH A', press [EXECUTE].
 - b. Type in 'SCRATCH C', press [EXECUTE].
 - c. Type in 'LOAD "EARAUT:C"' and press the [EXECUTE] key.
 - d. Wait for the run light in the lower right corner of the CRT to go off.
 - e. Press the [RUN] key.

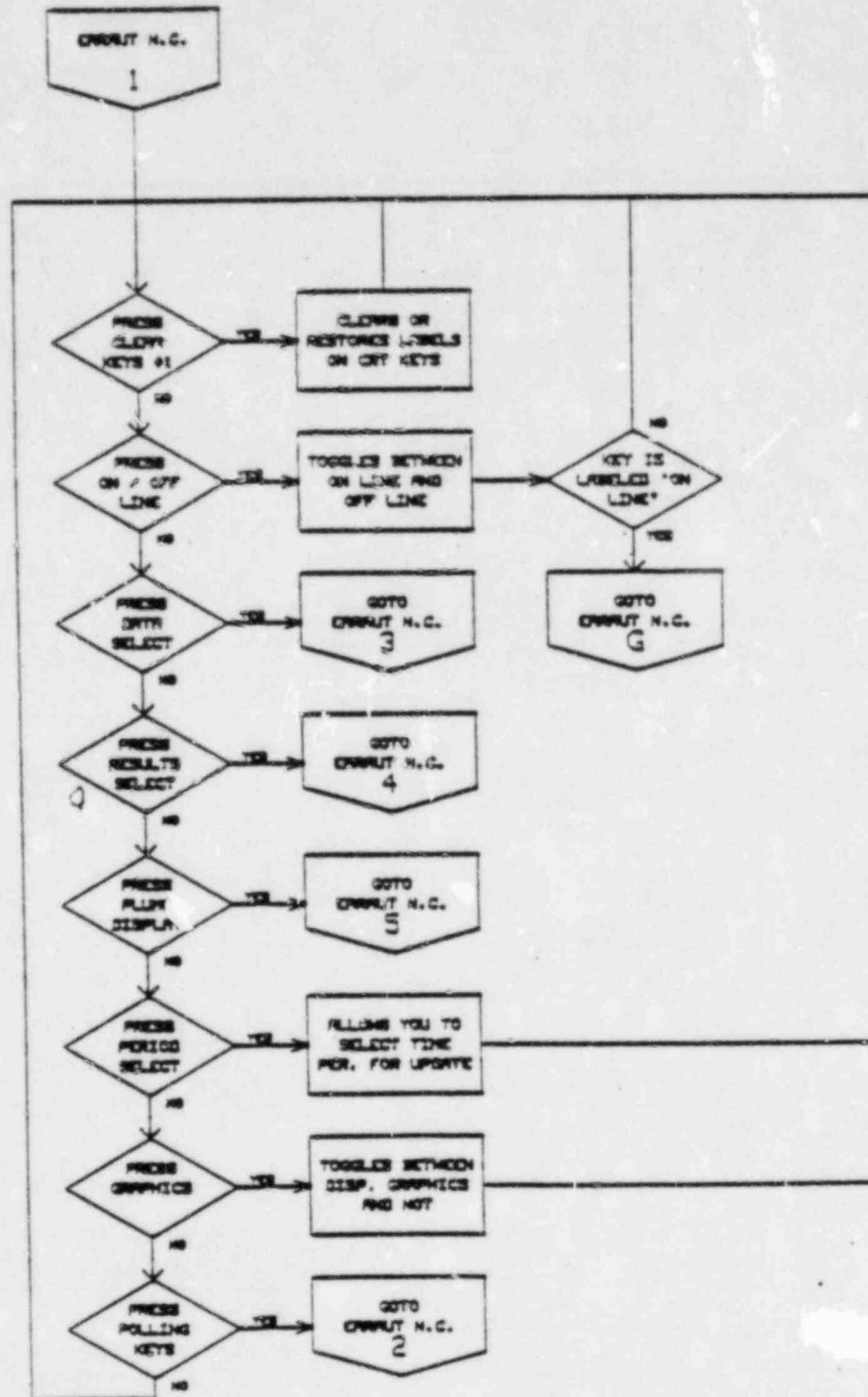
See the Operator's Manual for detailed instructions.

ERRAUT FOR NON-CONTROL STATIONS

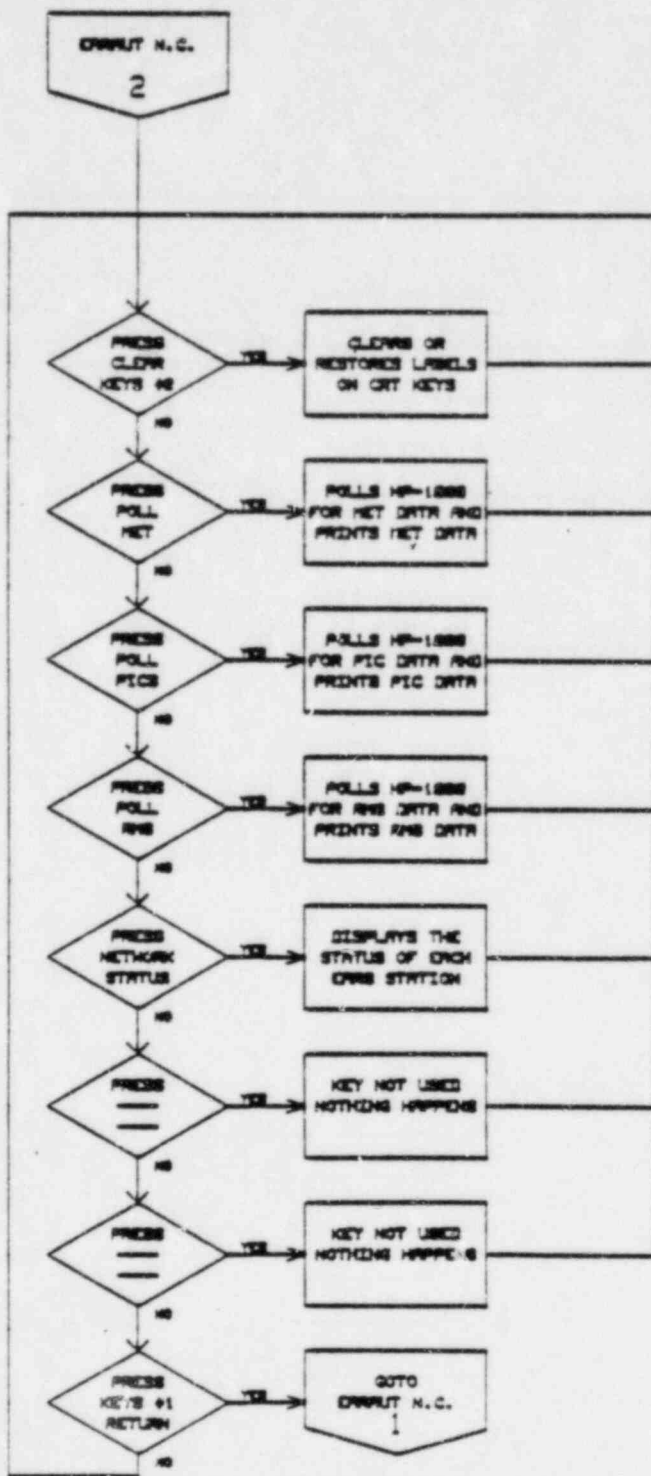


TITLE: OPERATING PROCEDURES FOR EARS 9845C
CONTROL STATIONS

ERRAUT NON-CONTROL KEY SET #1

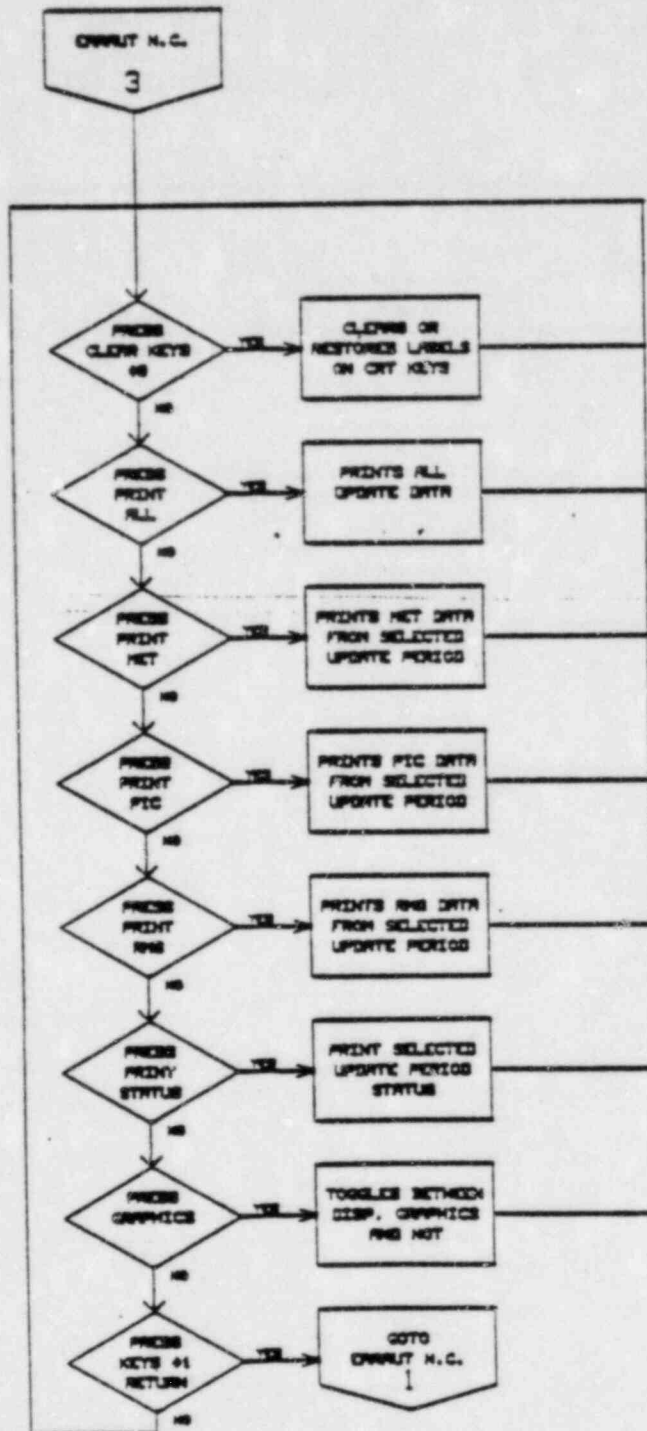


ERRAUT NON-CONTROL KEY SET #2

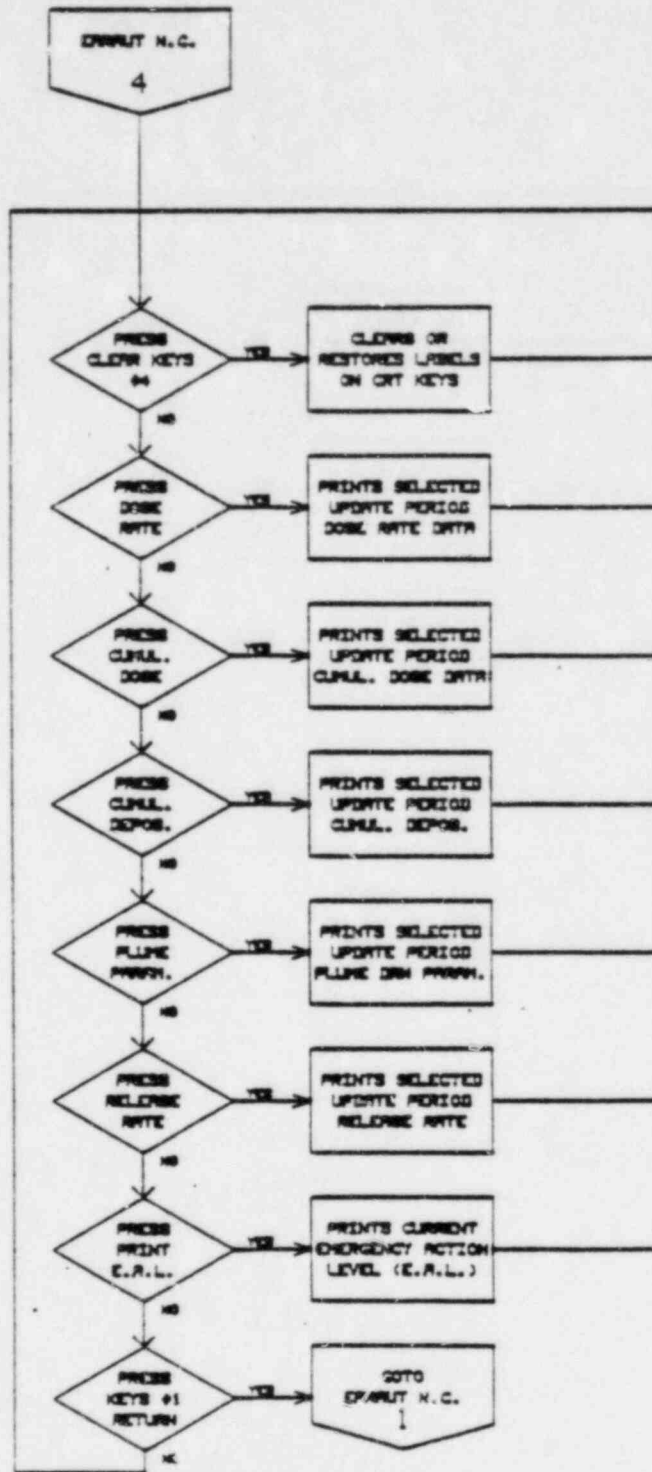


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CONTROL STATIONS

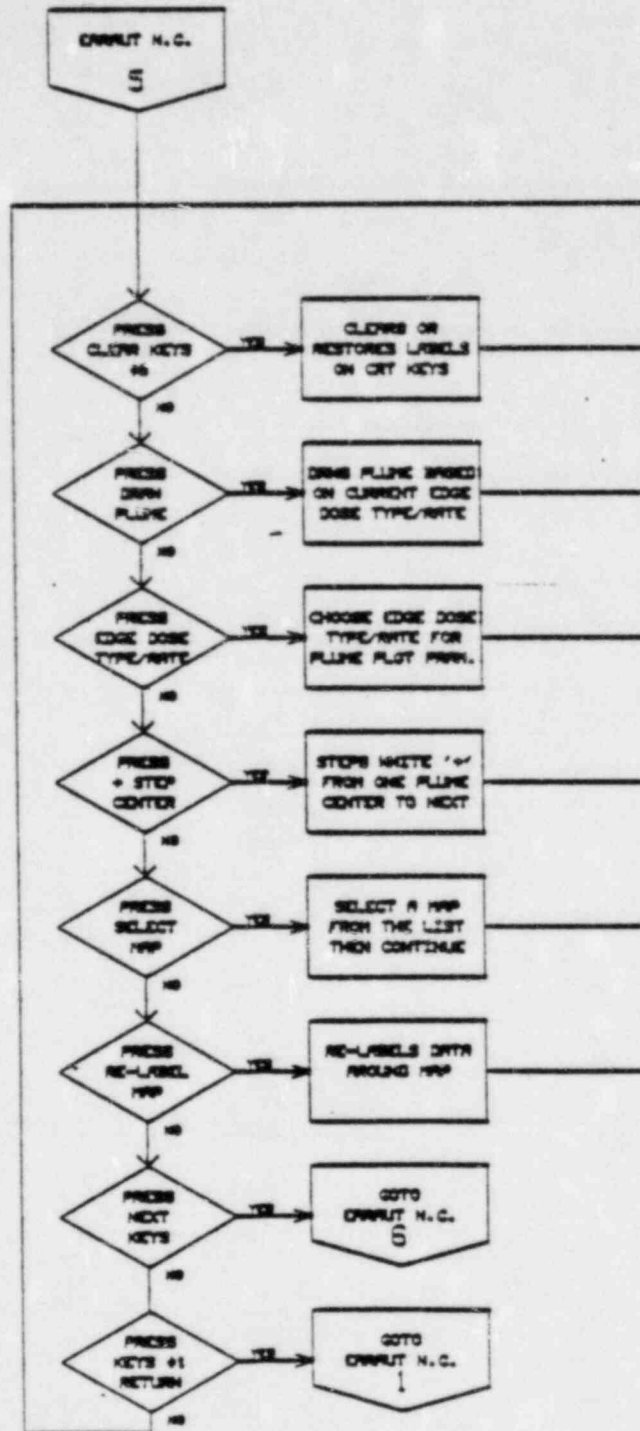
EARRAUT NON-CONTROL KEY SET #3



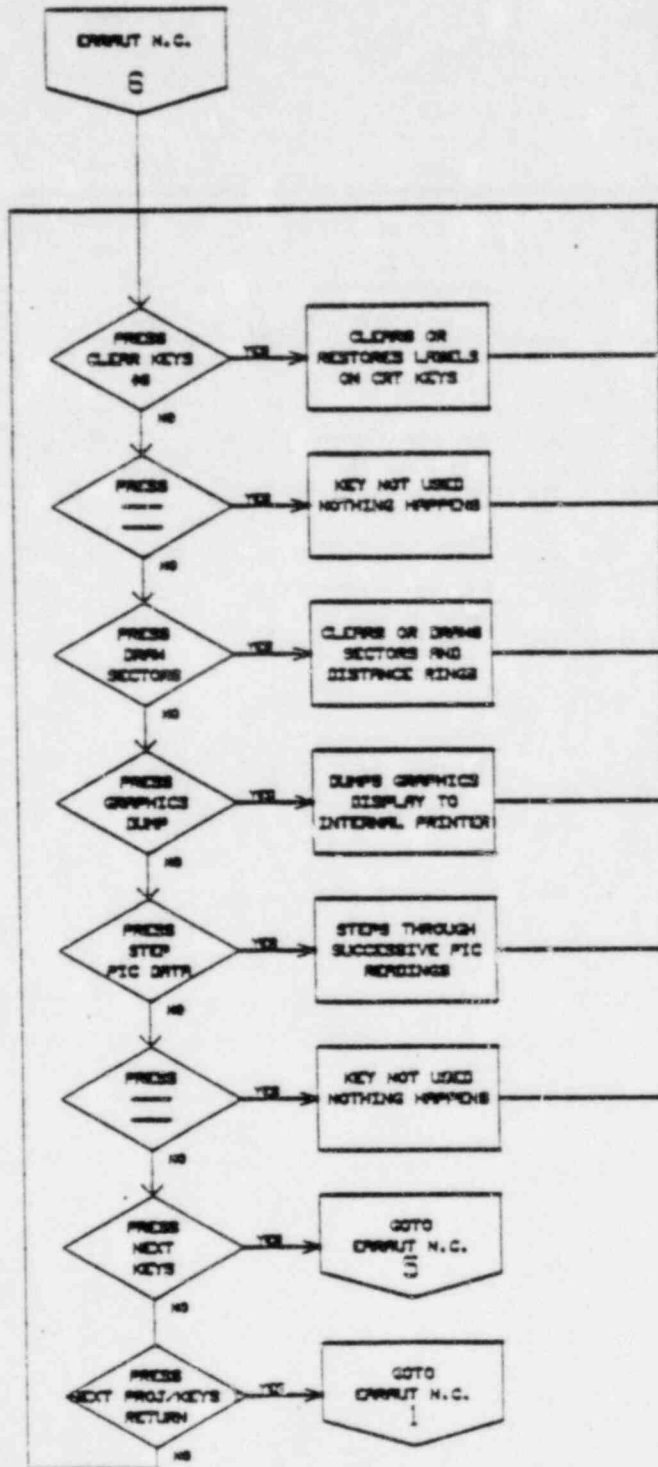
ERRAUT NON-CONTROL KEY SET #4



EARRAUT NON-CONTROL KEY SET #5



ERRAUT NON-CONTROL KEY SET #6



TITLE: OPERATING PROCEDURES FOR EARS 9845C
CONTROL STATIONSd. EARMAN PROGRAMS

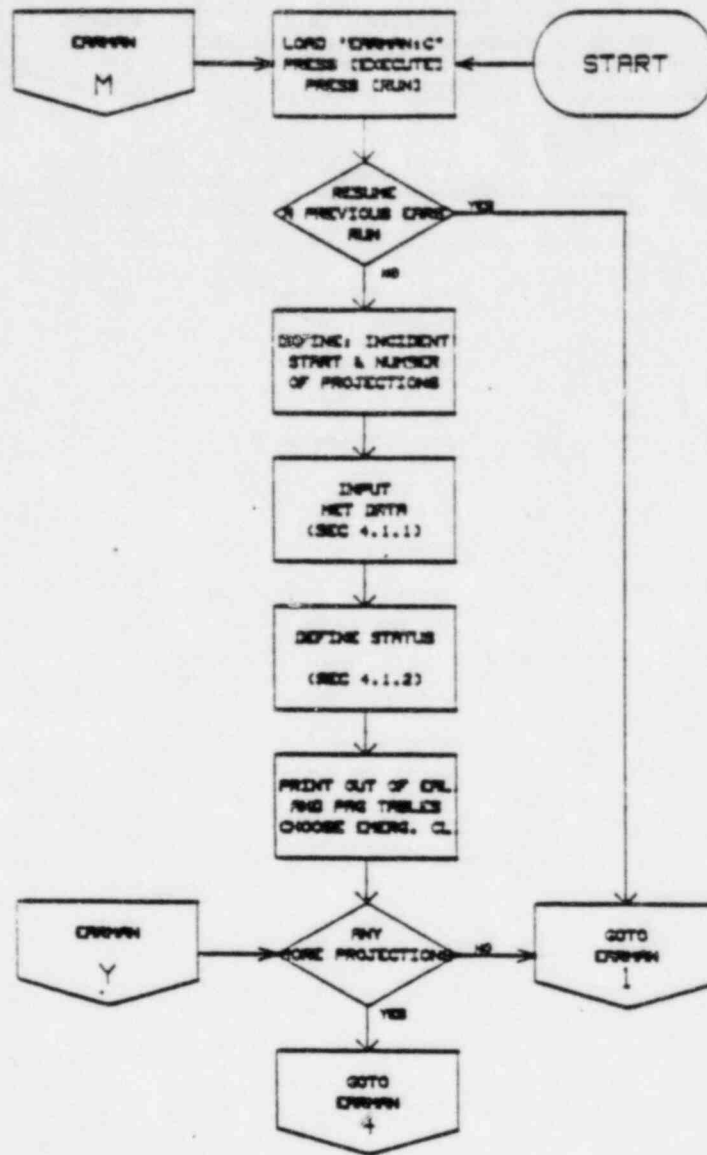
The EARS Manual (EARMAN) program is the manual version of the EARS programs. All of its functions are performed at the individual HP-9845C stations independent of the operation of the other stations and the HP-1000 at the TSC. Any data input such as MET data or source term data is manually entered from the keyboard. In addition no data is transmitted to or from a station that is operating EARMAN. The operation of this program is similar to that of EARAUT (see Section 4 of the Operator's Manual). EARMAN consists of four separate subprograms: EARMDE (Core subprogram), EARGDC (Graphics subprogram), EARRDC (Release rate definition subprogram), and EAREDC (EAL & PAC subprogram), in addition to the initial entry program EARMAN.

In the event of a 'fata.' hardware failure on the HP-1000 at the TSC and/or the loss of communications between various HP-9845C EARS stations and the HP-1000, the EARMAN program can be initiated. Essential data can be obtained by telephone communication via PG&E or PT&T lines with EARS operators at the other 'CONTROLLING STATIONS' (CR, TSC, and EOF).

1. To load and run the EARMAN program type in the following commands from the keyboard.
 - a. Type in 'SCRATCH A', press [EXECUTE].
 - b. Type in 'SCRATCH C', press [EXECUTE].
 - c. Type in 'LOAD "EARMAN:C"', and press [EXECUTE].
 - d. Wait for the run light in the lower right corner of the CRT to go out.
 - e. Press [RUN].

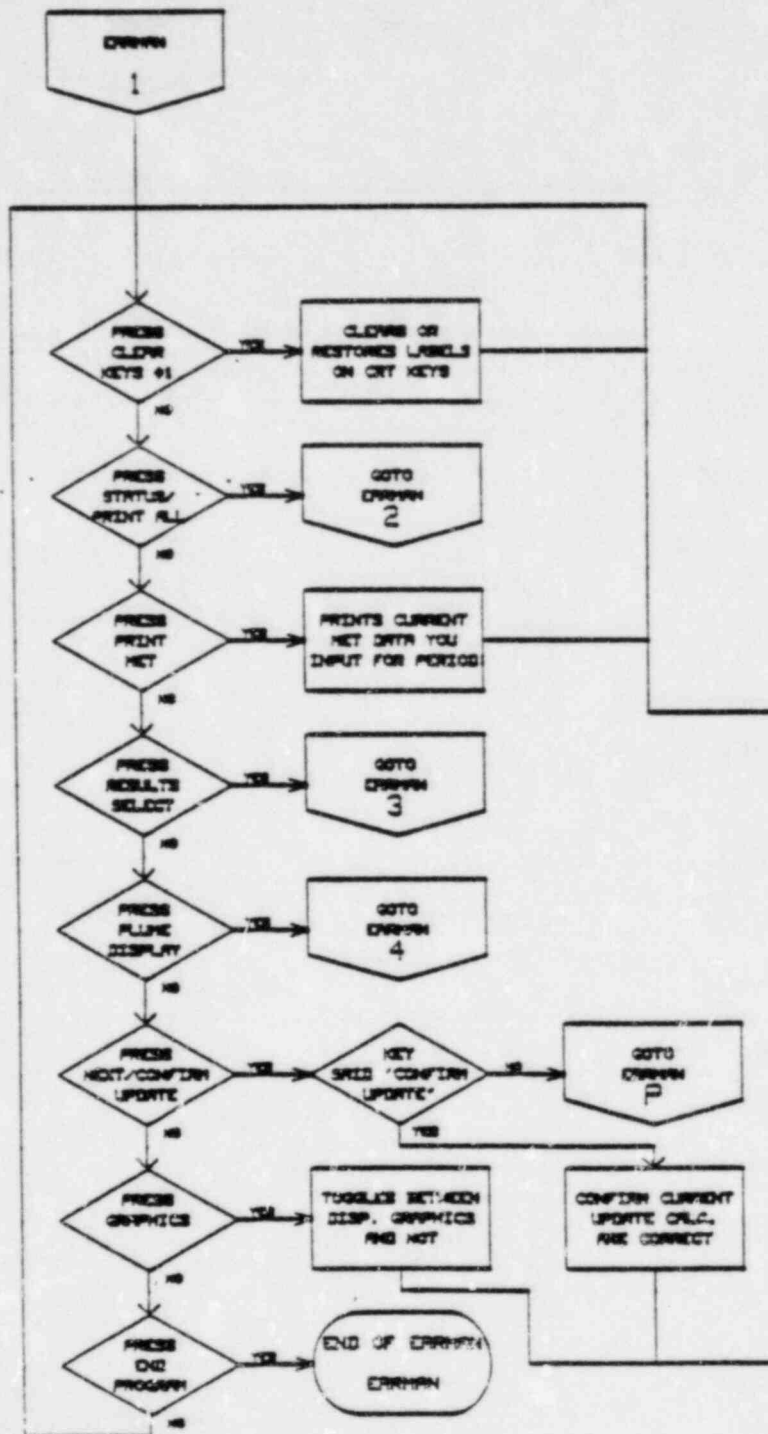
TITLE: OPERATING PROCEDURES FOR EARS 9845C
 CONTROL STATIONS

EARMAN



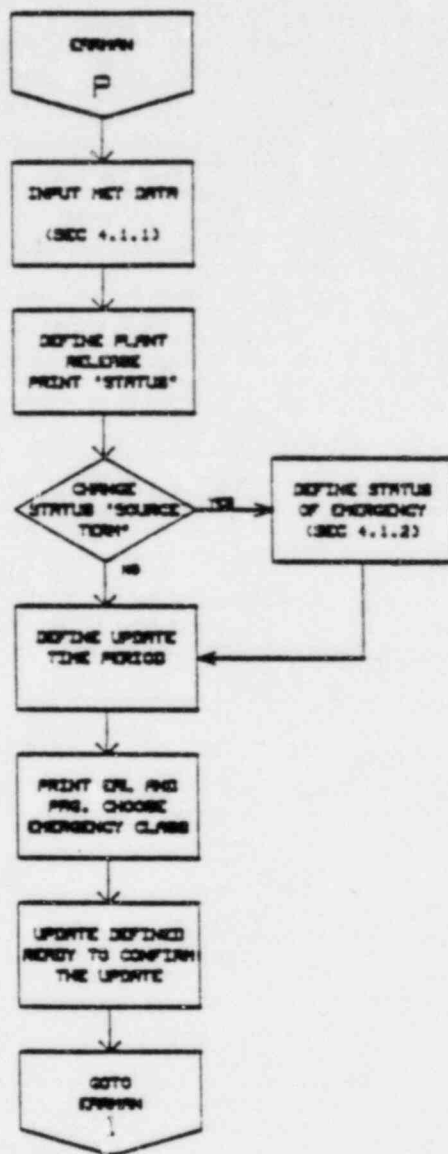
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CONTROL STATIONS

EARMAN KEY SET #1

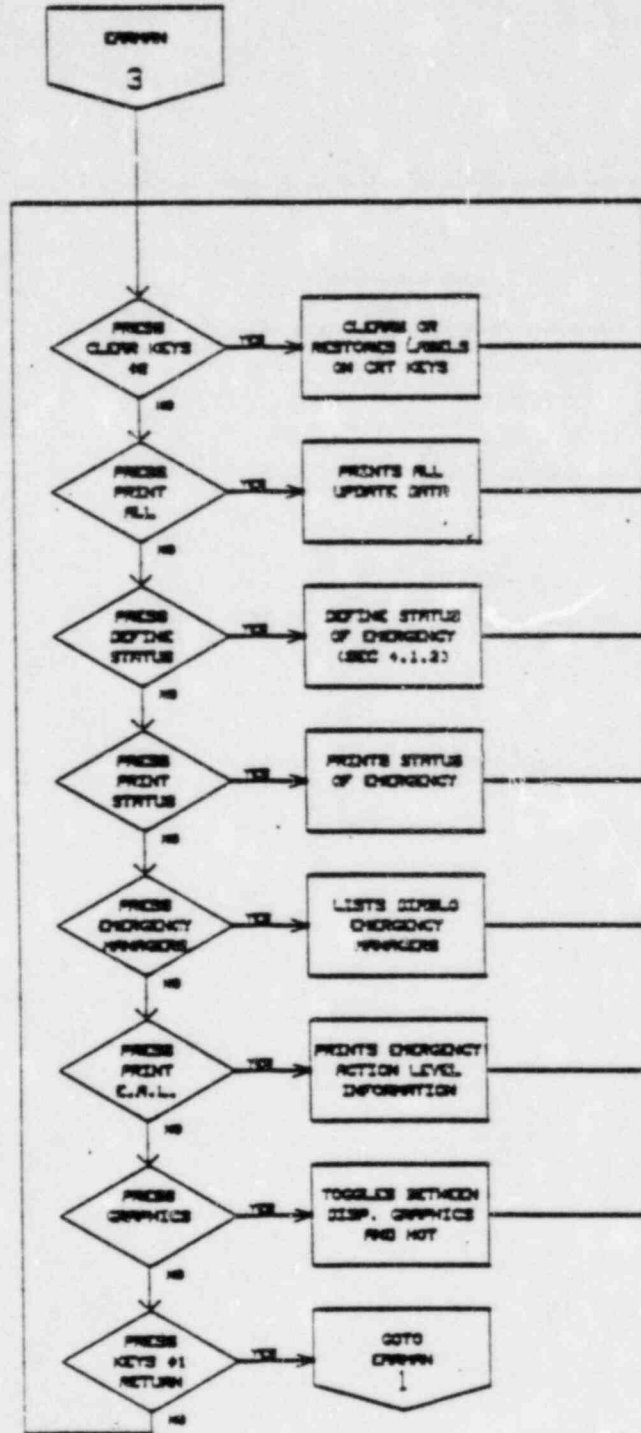


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CONTROL STATIONS

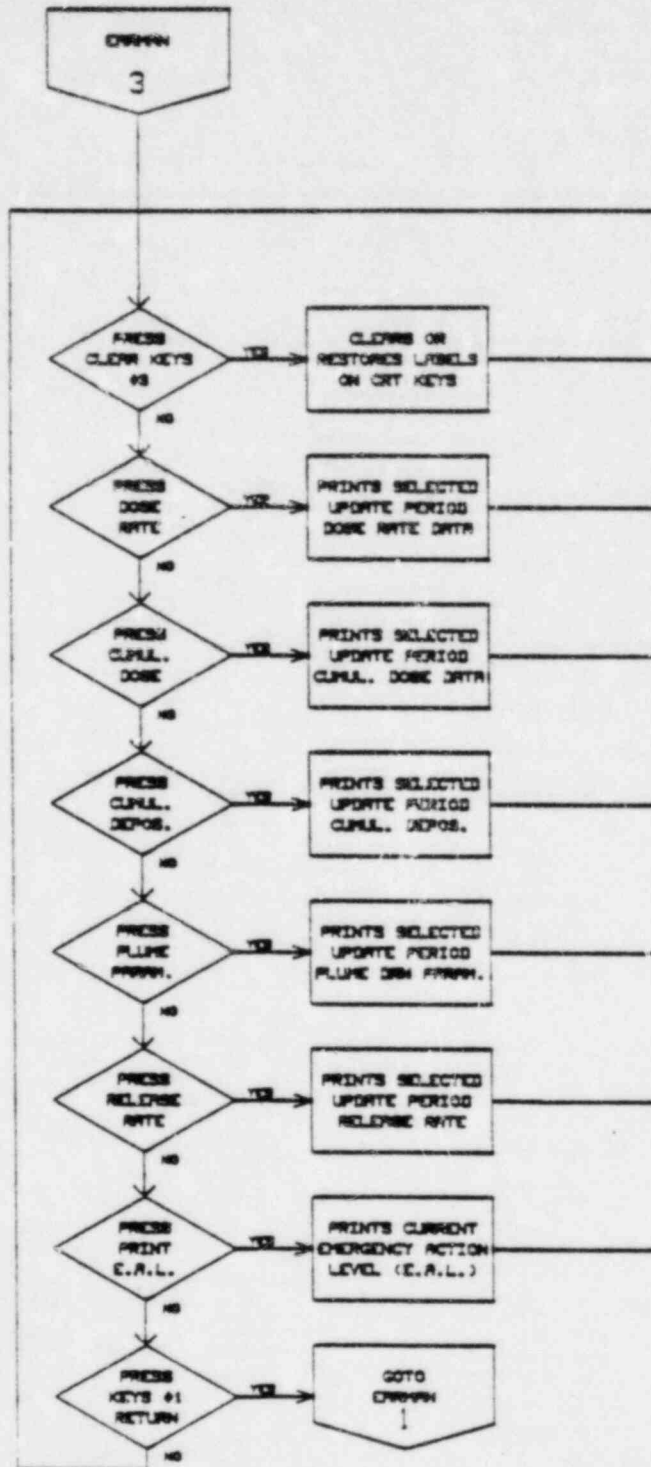
EARMAN NEXT UPDATE



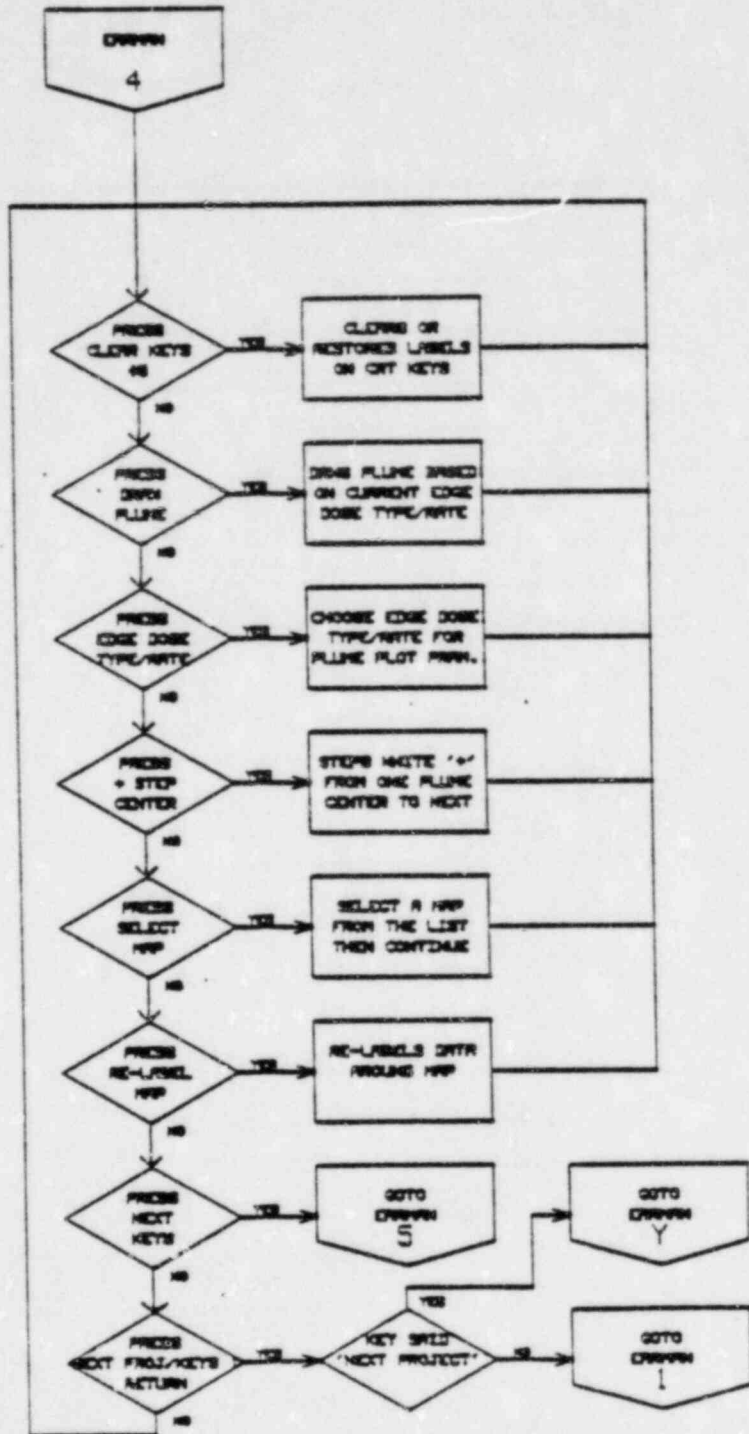
EARMAN KEY SET #2



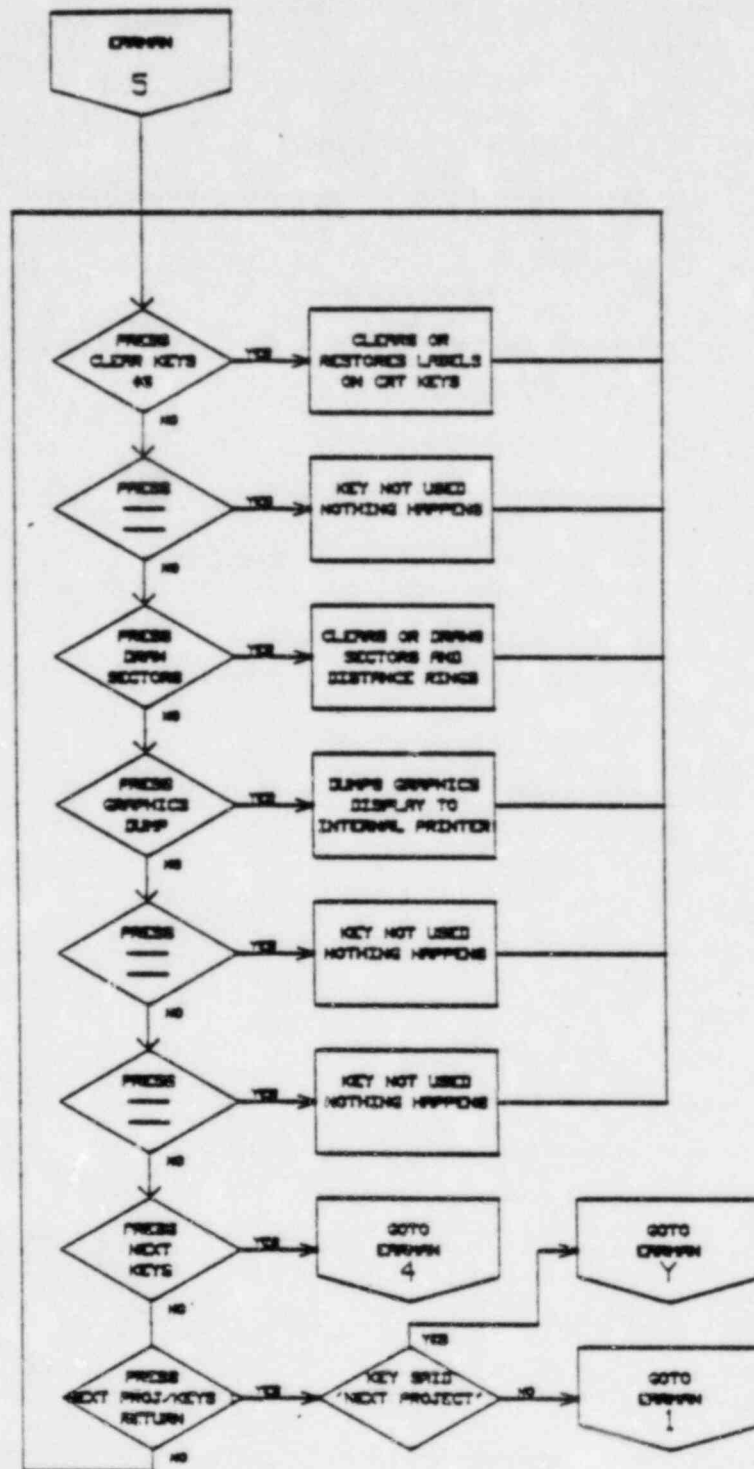
EARMAN KEY SET #3



EARMAN KEY SET #4



EARMAN KEY SET #5



TITLE: OPERATING PROCEDURES FOR EARS 9845C
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6. Terms Common to EARAUT and EARMAN

Meteorological Data Input

Meteorological data from the primary and secondary MET towers are obtained on a continuous basis through a polling program on the HP-1000 computer in the TSC. The EARAUT program can 'poll' the HP-1000 for several forms of MET data (averaged, previous or current), all of them consisting of a data string containing wind direction, wind speed, lapse rate, Chi/Q, and mixing height. The Chi/Q dispersion value at 800 meters is used by the EARS programs to calculate site boundary doses used in the initial Emergency Action Level (EAL) classification, and initial dose projections.

If the EARMAN program is run, the operator is required to enter all MET data manually from the keyboard. For detailed instructions on inputting MET data (see Section 4.1.1 of the Operator's Manual).

Release Estimate

The DCCP Emergency Procedure RB-9 (Ref. 3) is the technical basis for the EARS release rate calculations. The radionuclide distribution, release rate and accident classification are determined by the appropriate software running on the HP-1000 and/or the HP-9845C, using one or more of the following techniques:

1. Isotopic analyses of selected plant containers and systems performed prior to or during the accident:

- Manual Release Rate Definition
- Tank or Building Inventory from Sample Analysis

2. Final Safety Analysis Report (FSAR)(Ref. 4) accident scenarios:

- Steam Generator Tube Rupture Accident
- Loss of Coolant Accident (LOCA)
- Fuel Handling Accident
- Control Rod Ejection Accident
- Locked Pump Rotor Accident
- Loss of Offsite Power Accident
- Steam Line Break Accident
- Volume Control Tank Rupture Accident
- Waste Gas Decay Tank Rupture Accident
- Liquid Holdup Tank Rupture Accident

When using the FSAR cases, the operator must exercise judgement as to determine whether the 'expected case' or the 'design basis' estimates are appropriate. The DCCP Emergency Procedure RB-11 (Ref. 5) indicates that unless actual release data is available, the operator should initially choose the 'design basis' (more conservative) values in determining initial accident classification.

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3. If no FSAR accident type is appropriate, the 'Manually Specified Release Rate' or 'Tank or Building Inventory' permits manual entry of radionuclide release data, either by isotope or in total noble gases and iodines, via the HP-9845C keyboard.

EAL Table

The EAL classification for radiological purposes is based on site boundary (800 m) exposure rates calculated using actual MET data. The printed EAL table lists the DCPD specific Emergency Action Level based on radiological criteria only. An Emergency Action Level is classified in one of the following categories: Unusual Event, Alert, Site Emergency, General Emergency. The current calculated estimate of exposure rate and projected integrated exposure at the site boundary is also given. In addition the estimated plume travel time to the site boundary 10-mile radius (Plume Emergency Planning Zone (EPZ)), and 50-mile radius (Ingestion EPZ), and the EARS suggested current radiological action level is given. This table is printed at the start of every update period.

The 'Tech Spec Whole Body' dose type listed in the table includes the dose from airborne noble gas isotopes only, in accordance with the Technical Specification limits. The 'NUREG-0654 (Ref. 6) Whole Body' dose, on the other hand, includes the dose from airborne noble gas isotopes plus those from all other non-noble gas activities, together with the dose from any ground plane deposition which has occurred up to that point.

The EAL table only offers guidance to the operator as to the EAL determination. The results listed are only part of the many example initiating conditions listed in the NUREG-0654 and the DCPD Emergency Procedure G-1 (Ref. 7). Accordingly, the operators judgement is still necessary as to the overall plant status to correctly identify the EAL.

P.A.G. Table

The Protective Action Guide (PAG) criteria used in the EARS programs are from table 5.1 of Reference 8. They apply to the total dose (or dose commitment) projected for 'N' hours of persistent conditions from the update time. The criteria are:

1. No action needed if Whole Body < 1 rem and Thyroid < 5 rem.
2. Sheltering recommended if Whole Body ≥ 1 rem and Whole Body ≤ 5 rem, or Thyroid ≥ 5 rem and Thyroid < 25 rem.
3. Evacuation recommended if Whole Body ≥ 5 rem or Thyroid ≥ 25 rem.

The dose values which are compared to these criteria have two components:

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1. Dose, either whole body or thyroid, at each sector element centroid accumulated in all previous updates.
2. Centerline plume exposure (including inhalation, but not ground plane) from a straight line plume from 'N' hours of persistence of current conditions, but not including the additional dose from previously emitted plume segments.

The P.A.G. table showing the results of the comparison between calculated dose values and the criteria, is printed at the beginning of each projection and update. The protective actions for each sector are given for both Whole Body and Thyroid doses.

Projections and Updates

After the initial Basis for Release Rate, Source Term Values, Site Boundary Dose Calculations and Initial Accident Classification determination are given, more detailed calculations including a graphics display of plume dispersion and offsite class A dose estimates are presented.

It is possible to run up to five class A 'dose projections' and forty segmented Gaussian modeled, 'real-time' dose up-dates. A 'projection' is made over a specified time period from release start time assuming no change in the initial release rate or dispersion condition. A maximum of five projections are allowed, although none are required to proceed in the programs. It is generally best to limit the number of projections to one or two, of one to two hours each, due to the unreliability of longer projections and the amount of time needed to run them.

An 'update' is a complete set of dose calculations initiated either from a CONTROL station by polling the HP-1000 for most recent real time MET data as in the EARAUT operation, or entering the most recent MET data via your HP-9845C keyboard as in the EARMAN operation.

Edge Dose Rate

The edge dose rate is the plume exposure rate at the edge of the plume as displayed for the dose type (thyroid, whole body or lung) selected. This is displayed on the right-side of the CRT graphics area. If The edge dose rate value chosen is greater than the plume center dose rate, message "Edge dose rate > Centerline dose rate" is displayed. When a new edge dose rate is chosen, a plume with this new dose rate will be drawn. This is to prevent confusion regarding the parameters selected and the particular plume displayed.

The edge dose rate is always in mrem/hr. The default value in the EARS is .06 mrem/hr which corresponds to approximately 500-mrem/yr. It can be changed by pressing the EDGE DOSE TYPE/RATE soft key and entering a new edge dose rate.

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Three different dose types can be selected: thyroid, whole body, or lung. Whenever a new dose type is selected and a previous plume is already displayed, the new plume will be redrawn for the new dose type.

Radius and Plume Center

The value displayed as '+Radius' on the right-side of the CRT graphics area is the minimum distance in meters from the plume segment center (denoted by a small white cross on the graphics) to the edge of the plume for a given edge dose rate. This marker is used to indicate the 'centers' of the plume segments, starting from the earliest segment (generally the outermost segment) to the latest segment (generally the innermost or closest to the site). The plume center-line dose rate is indicated in mrem/hr under the '+Center Dose Rate' label on the right-side of the CRT graphics area.

Each time the STEP CENTER soft key is pressed, the white cross will move to the next plume segment center and the corresponding center-line dose rate and radius will change accordingly, cycling from the earliest segment to the latest.

Sector Element

The dose rate, cumulative dose and cumulative deposition data are listed for each of 16 sectors in each of 5 'sector elements'.

A sector element is an area bounded by a division of the compass into 16 sectors (from number 1 centered on North to number 16 on NNW) with radial distances as site boundary to 2 miles, 2 to 5 miles, 5 to 10 miles, 10 to 15 miles, and 15 to 20 miles.

Data tabulated at the site boundary is calculated 800 meters from the site center in a given sector. Values for all other radial distances outside the site boundary are calculated at the mid-point of the range specified (the geometric center of a particular sector). Results will be printed as an asterisk if less than $10^{(-10)}$ mrem/hr.

Cumulative Deposition

The cumulative deposition listed as Ci/m² of 'Cs-137 equivalents' is the quantity of Cs-137 which would yield a direct radiation exposure rate from ground plane deposition equal to the decay-corrected sum of all deposition which has occurred for that period. Due to large uncertainties involved in calculating both wet and dry deposition, this information is meant just to provide guidance to field survey teams as to where deposition is likely to have occurred. The values listed have relatively large uncertainties determining appropriate protective actions.

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7. Support EARS Software

The function of the EARS support programs is to initialize, edit or review the EARS data files. These programs include EARED, EARSED, EARSDP, EAREVU, EARKSP, EARKDC and EARDOC, and are all stored on the HP-7906 disc drive at the stations. These programs are not normally used during Emergency conditions.

EARED - Data File Edit Program

The EARED program is used to setup, edit, or print the data files used by the EARS for system parameters, isotope specific parameters, FSAR release rate data, site boundary locations, fixed PIC locations, RMS parameters, etc. This program can also duplicate from one msus to another all of the data files used by the EARS.

The data files accessed by this program are ERDSYS, ERNCLS, ERNRMS, ERNMGR, ERDISO, ERNRPT, ERBN DY, ERPLOC, ERNMAP, ERDMET, ERNSTN, ERNMAP, ERDGRD and ERSTDC.

EARSED - Data String File Edit Program

The EARSED program allows the operator to access the data base to print, edit or initialize the projection and update string data stored on ERDSTA and ERDSTR, respectively. Rather than decoding the strings, this program edits or prints the ASCII characters of the string for each of the parameters.

EARSDP - Calculational Parameters Plot Program

The EARSDP program allows the operator to print or plot coefficients used in calculating certain values for the EARS calculations. Data files accessed by this program are ERDSIG, ERDDEP and ERDIMR.

EAREVU - Updates Review Program

The EAREVU program allows the operator to review the results of previous EARMAN or EARAUT runs. The operator can select any updates or projections previously run and stored on mass storage media for data printouts or plume plots.

EARKSP - Soft Key Functions Defining Program

The EARKSP program is used to create and edit the soft key labels used in EARAUT, EARMAN, STATUS and EAREVU programs. Labels for the soft keys are stored in a string array that is read from a data file on the program mass storage media (7906 disc cartridge).

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Data files EARSKY, EARACK, EARLEU, EARVKY are used in program; STATUS, EARAUT, EARMAN, EAREVU, respectively.

EARKDC - Graphics Documentation Program

The EARKDC program is a documentation program used to describe the CRT screen layout and soft key functions of the EARMAN, EARAUT and EAREVU programs.

EARDOC - File Documentation Program

The EARDOC is a documentation program that lists all types of data files in the HP-9845C software. For each data file or type of data file, the file name, size, contents and general purpose can be listed.

8. Recovery From Accidental Halts in EARS Programs

If for some reason the EARS program you are running stops (e.g., you accidentally hit the stop key or you run out of paper, and the run light goes off), you may perform the following operation:

- a. Type in "CONT RECOVER".
- b. Press the 'EXECUTE' key.

NOTE: There is no guarantee this operation will work but if it does, you will be back in the EARS run you left, near where it halted. If this operation fails continue with section 5. a in this procedure.

REFERENCES

1. Hewlett-Packard: "HP-9845C Installation, Operation & Test", 2nd Ed.; July, 1981.
2. PG&E "Corporate Emergency Response Plan", Rev. 1; May, 1981.
3. PG&E: "DCPP Emergency Procedure RB-9 - Determination of Release Rates", Rev. 0.
4. PG&E: "DCPP Final Safety Analysis Report", Chapter 15".
5. PG&E: "DCPP Emergency Procedure RB-11 - Emergency Offsite Dose Calculations", Rev. 0.
6. USNRC: "NUREG-0654/FEMA-REP-1; Criteria for Preparation and Evaluation of Radiological Emergency Response Plans and Preparedness in Support of Nuclear Power Plants", Rev. 1; November, 1980.
7. PG&E: "DCPP Emergency Procedure G-1 - Accident Classification and Emergency Plan Activation", Rev. 0.
8. EPA: "Manual of Protective Action Guides and Protective Actions for Nuclear Incidents"; 1975.
9. APT-ND: "Operator's Manual for Emergency Assessment and Response System, EARS/9845C"; June, 1982.
10. PG&E "DCPP Data Processing Procedure HP-3 - EARS 9845C Data File Structure", Rev. 0.

TITLE: OPERATING PROCEDURES FOR EARS 9845C
CONTROL STATIONSAPPENDIX AEARS HARDWARE

The EARS computer hardware at CR, TSC, and EOF EARS stations includes:

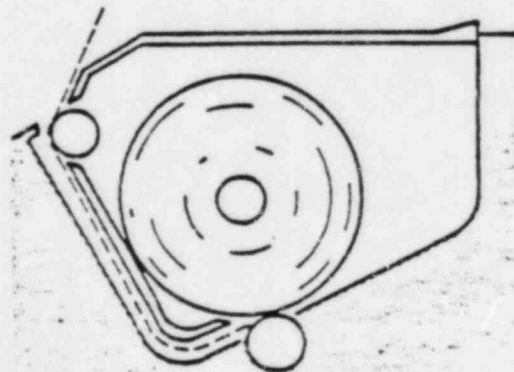
MODEL

HP-9845C	Desktop Computer w/graphics ROM, I/O ROMs, Mass storage ROM, Assembly execution ROM	EARS graphics computer at this station
HP-7906	Disc Drive	Mass storage unit
HP-98041A	Disc Interface	Interface the 9845C with the 7906
HP-13037C	Disc Controller	Controls 7906 operation
HP-98035A	Real Time Clock for 9845C (select code 9)	Not used in the EARS software
HP-98036A	Serial Interface (select code 5)	Interface the 9845C with the modem to the TSC
HP-98032A	Parallel Interface (select code 2) (TSC-CC ONLY)	Interface the 9845C with the Colorplot
C-100	Trilog Colorplot Printer (TSC-CC ONLY)	Color graphics dump

TITLE: OPERATING PROCEDURES FOR EARS 9845C
CONTROL STATIONSAPPENDIX AEARS HARDWARE (Cont.)LOADING PRINTER PAPER

Printer paper is loaded by using the following procedure. To perform the following steps, the computer must be switched "ON".

1. Lift or remove the access cover on the top of the printer by pushing down on the raised surface at the rear of the door. The door can be removed by lifting up and pulling it toward you. It is reinstalled by placing it on the hinge pins and pushing until it snaps into place.
2. Remove and discard the paper core of any previous roll. If the remaining roll is small and a new roll is to be used, remove the old roll by:
 - a. Unrolling and lifting it upwards until the roll is above the printer, then,
 - b. Holding the roll firmly and pulling it upward and forward; the paper guide will tear the paper off.
3. If any paper remains in the printer mechanism, remove it by pressing the PAPER ADVANCE key until the paper stops moving.
4. Remove the first layer of paper from a new roll. Be sure the paper has a cleanly torn or cut edge, as paper with a ragged edge may not load properly. The corners can be folded back to form a point for easier loading.
5. Insert the new roll such that the free end is positioned as shown. Press the PAPER ADVANCE key until paper appears at the front of the printer, then close the access door.





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EMERGENCY PROCEDURE

TITLE: EARS OPERATING PROCEDURES FOR TSC-CC HP-1000
STATION

APPROVED: _____

PLANT MANAGER

DATE

9/8/82

SCOPE

The purpose of this procedure is to give general instructions on the operations of the Technical Support Center Computation Center (TSC-CC), Emergency Assessment and Response System (EARS) HP-1000 computation and display station. This procedure assumes some prior knowledge of the HP-1000 and its operating system.

DISCUSSION

This procedure instructs and illustrates TSC-CC EARS operator(s) on how to turn on the TSC-CC HP-1000 and related equipment (7925 Disc Drive), 2608 Printer etc.,) and how to run the major EARS programs.

RESPONSIBILITIES

1. In case of a radiological emergency at DCP, or when the DCP Emergency Procedures (Ref. 1) is activated, the TSC-CC EARS operator(s) is responsible for performing the instructions given in this procedure, and to ensure the smooth operating of the TSC-CC station.
2. During normal operation of DCP, or when the DCP Emergency Procedures are not in effect, the TSC-CC EARS System Manager is responsible for performing periodic testing, calling for necessary maintenance on the system, as well as to revise this procedure when necessary.
3. The Senior Nuclear Generation Engineer in charge of radiation projects and support in the Personnel and Environment Safety section at NPO is responsible for providing technical support.

INSTRUCTIONS

1. EARS Hardware at TSC-CC

a. Hardware at TSC-CC

Service contract exists with Hewlett-Packard. In case of equipment failure, contact the System Manager for EAR system. If no one is available, contact Hewlett-Packard at (805) 964-3390 during regular business hours (8-5), and (213) 708-0299 at other times.

b. Turn-on Procedures

The following procedures are used in "start-up of the station when no equipment is running.

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- 1) Set the 7925M disc drive power switch (on lower portion of the back panel) to "ON". The "DOOR UNLOCKED" sign on the front panel should light up. Make sure the drive lid is closed. Turn the run switch to "RUN". After about 30 seconds the "DRIVE READY" light should come on.
- 2) Set the HP-2608A line printer power switch (on the back panel) to "ON". Press the "ON LINE" button on the front panel to enable the printer. Check the paper reserve in the paper box underneath the printer.

If it becomes necessary to replace the paper, extra boxes of paper are stored in the TSC-CC closet against the west wall of the TSC-CC. Paper is loaded by opening the top cover and releasing the platen release lever on the left side of the printer. Next release the paper guide mechanisms and remove any remaining paper. Open the front door to the paper holder and insert the paper box, making sure the paper is oriented in the correct direction. Next feed the paper up through the slot in the top of the paper box and align it with the guide mechanisms on the top of the printer. Once the paper is aligned correctly, push the platen release lever in and press the "UP" or "DOWN" button on the "FORMS ADJUST" to line up the paper folds with the appropriate markings printed on the upper left of the printer (e.g. 11" paper would line-up with the 11).

- 3) Set the HP-2648A terminal power switch (on the rear panel) to "ON". Make sure the terminals "REMOVE" and "CAPS LOCK" buttons are engaged. After the terminal completes its self-test, the "TERMINAL READY" message, and a flashing cursor should appear on the CRT.
- 4) Set the HP-2621P terminal power switch (on the rear panel) to "ON". After the terminal completes its self-test, the "TERMINAL READY" message, and a flashing cursor should appear on the CRT.
- 5) Flip the PDT-3010 Power Distributor master power switch (on the lower front panel) to "ON". Press the "RESET" button. The "POWER LOAD" indicator should light up and all equipment on the rack (HP-2117F, HP-12990B, HP-7970E, HP-1297B and HP-37201A's) should power up. Follow the procedures in section 2 of this procedure to boot-up the HP-1000 computer.

c. Turn-off Procedures

Since the HP-1000 computer is required to be in continuous operation, the following procedures should be used only before scheduled maintenance or unscheduled repairs.

NOTE: All data in the HP-1000 memory will be erased, and all programs terminated.

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- 1) Make sure any programs running "SESSION" are "OFFED", and all accounts closed. Press the "HALT" button on the front panel of the HP-1000 main processor. Flip the PDT-3010 Power Distributor master power switch to "OFF". The "POWER LOAD" indicator will go off and all equipment in the rack will be shut-off.

NOTE: To shut down the remainder of the system continue with the following procedures.

- 2) Flip the "RUN/STOP" switch of the 7925M disc drive to "STOP". When the "DOOR UNLOCKED" sign comes on, set the power switch to "OFF".
- 3) Set the HP-2621P terminal power switch to "OFF".
- 4) Set the HP-2648A terminal power switch to "OFF".
- 5) Press the "ON LINE/OFF LINE" button on the 2608A to "OFF LINE". Press the "FORM FEED" button to eject any printed pages out of the printer. Set the power switch to "OFF".

d. Power Failure

In the case of power failure.

- 1) Flip the PDT-3010 Power Distributor master power switch to "OFF".
- 2) Set the "RUN/STOP" switch of the HP-7925M disc drive to "STOP".
- 3) When the power is restored, follow section 1.b of this procedure to bring the system "back-up".

2. EARS Boot-up for TSC-CC HP-1000

- a. Having successfully completed part A. of this procedure, continue with part 2.b, otherwise, consult the System Manager.
- b. With the disc drive at select code 14, display S-register on the front panel of the HP-1000 and set bits 8, 9, 12 and 15. Press STORE, PRESET, IBL/TEST, PRESET and RUN.
- c. At this time, a program called DATIM will be run from the Welcome File and will request the DATE, and TIME at the system console. Enter the date as MM/DD/YY and the time as HH:MM (24 hour clock) and press [RETURN]. The date and time will be redisplayed to allow for changes. If the date and time are correct merely press [RETURN], otherwise make the necessary changes.

TITLE: EARS OPERATING PROCEDURES FOR TSC-CC HP-1000
STATION

3. System Configuration

The EAR system consists of a single HP-1000F mini-computer and 5 HP-9845C's placed at various strategic locations throughout the DCP, San Luis Obispo County, and State. (See Figure 1).

Each HP-9845C has an associated Logical Unit (LU) number and device number. These numbers are used by the HP-1000 as addresses to aid in communicating with the peripheral HP-9845C stations.

The EARS/1000 programs are entitled EAR<N>K, where N is a number between 1 and 9 inclusive, which corresponds to the device number for each peripheral station connected to the HP-1000.

A transfer file AUTO1 automatically starts up these programs at the time of "BOOT-UP". Should it become necessary to halt any or all of the EAR<N>K programs, they can be restarted by a "TR,AUTO1" from the original copy of File Manage outside the Session Monitor from the system console.

. FIGURE 1

<u>Device #</u>	<u>LU#</u>	<u>Program</u>	<u>Location</u>
1	40	EAR1K	Control Room
2	39	EAR2K	Technical Support Center
3	58	EAR3K	Emergency Operations Facility
4	59	EAR4K	Corporate Incident Response Center
5	60	EAR5K	Office of Emergency Services

4. EARS Software for TSC-CC HP-1000

- a. EARST (EARS status). This program can be executed from either the system console outside of Session Monitor, or from a Session Console. EARST will dump to the line printer or to the users console the overall system status; including the date, and time, EMERGENCY status, and the location of the system controller. The device status listing includes for each station:

- 1) Location of the device.
- 2) LU of the device
- 3) Status of the device
- 4) Whether or not the device is "on-line" (only valid in emergency situations).
- 5) Log on/off date and time.
- 6) The last record number of data from "real-time" data base received by this station.
- 7) The last record number of data from the "projected" data base, received by this station.

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FIGURE II

STATUS LISTING OF EARS SYSTEM: 82/07/23 17:39

EMERGENCY

	lu	stat	time on/off	log	log	on line
CONTROL ROOM	48	4	82/07/21 13:29	0	0	0
TECHNICAL SUPPORT CENTER	79	1	82/07/23 17:18	58	24	0
EMERGENCY OPERATIONS FACILITY	01	4	82/07 21 18:15	0	0	0
CORPORATE INCIDENT RESPONSE CTR	79	0	82/07/23 12:03	0	0	0
OFFICE OF EMERGENCY SERVICES	79	1	82/07/17 15:29	0	0	0

THE LATEST DATA IS FROM DATABASES: REAL14 AND PROJ14.

THE STATUSES REFERRED TO ABOVE HAVE THE FOLLOWING MEANINGS:

- 1) LOGGED ON TO THE EMERGENCY PROCEDURES.
- 2) TEMPORARILY OFF-LINE.
- 3) DEVICE IN UNLATE MODE.
- 4) PERMANENTLY LOGGED OFF.
- 5) DEVICE IS DOWN.
- 6) DEVICE LOGGED ON TO "STATUS" MODE.
- 7) DEVICE HAS A PARITY ERROR.
- 8) DEVICE TIMED OUT.

CONTROLLING STATION IS:
TECHNICAL SUPPORT CENTER

TITLE: EARS OPERATING PROCEDURES FOR TSC-CC HP-1000
STATION

To run EARST type: RU,EARST, and press [RETURN].

Upon running EARST the screen will read:

OUTPUT TO LINE PRINTER (=6) OR CONSOLE (=1)??

Enter the appropriate number and press [RETURN]. The status report will appear on the specified device.

- b. EARED (EARS edit). This program can be executed from either the systems console outside of Session Monitor, or from a Session Console. EARED will initialize, add to, or modify the device status table (DTABLE) for the EARS system.

CAUTION: Since DTABLE is responsible for dictating the primary I/O control on a software level for EARS, this program is to be used only by a qualified individual (i.e. EARS System Manager).

EARED is protected by a password, which can only be modified by running EARED to change it. The program will ask for the password first. Commands can only be executed with it and the program will terminate without the correct password. The EARS System Manager has sole control over the password.

To run EARED type: RU,EARED, and press [RETURN].

Upon running EARED the screen will display:

ENTER THE PASSWORD FOR EARED OPERATIONS, PLEASE:

If the incorrect password is entered, EARED will terminate.

Upon entering the correct password, the operator will be asked:

"What would you like to do?"

- 1) EDIT EARS DATABASE 'DTABLE',
- 2) INITIALIZE DTABLE,
- 3) ADD A STATION

Input number of choice (Enter 0 to End):

Any answer out of the range of [0-3] will cause the question to be reissued.

- b.2 EDIT EARS DATABASE 'DTABLE'. There are two subsections to this section. After choosing this section, the console will display:

"Would you like to:"

- 1) EDIT THE HEADER
- 2) EDIT A DEVICE RECORD

TITLE: EARS OPERATING PROCEDURES FOR TSC-CC HP-1000
STATION

Enter the number of your choice (Enter 0 to End):

b.2.1 EDIT THE HEADER. The console will now display:

- 1) # of DB for current or next emergency.
- 2) LU # for RTDAP Databases.
- 3) # of devices in DTABLE.
- 4) Emergency flag (=1 if emergency in progress).
- 5) LU # of default controlling device.
- 6) LU for EARS' Databases.
- 7) LU # of current controller.
- 8) =1 if control to be switched to LU in field 7.
- 9) Password for EARS.
- 10) =1 if drill Database to be used.
- 11) The EAL data string available flag.

Modifying #1 above also modifies work 10 in the header.

Enter number of item to be changed (Enter 0 to End):

A description of each of the above by number follows:

- 1) This refers to the REAL and PROJECTED databases which will archive the update and projected plume segment data during an emergency. There are 20 pairs of these databases (REAL00 - REAL19, PROJ00 - PROJ05) on the EARS database logical unit. By selecting this command and entering a number [0-19], the next emergency run of EARS will utilize the databases selected. EARS automatically increments the number upon termination of an emergency run.
- 2) Upon delivery of the EARS/RTDAP system, the RTDAP databases are located on LU21. This LU is sized to the specific needs of the system. This should not be changed without consulting the EARS System Manager.
- 3) This indicates how many EARS stations are configured in DTABLE.
- 4) If an emergency run of EARS is in progress, this flag is set. If not, the flag = 0.
- 5) This is a flag used mainly in the event of a control shift between stations. It contains the LU of the controller trying to perform the switch.
- 6) This is set to LU13 and should not be changed without consulting with the EARS System Manager.
- 7) This flag is used mainly in the event of a control shift. It then contains the LU of the station to which control is being shifted.

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- 8) During a control shift, this flag is set, indicating that the LU in 7) above is the object of the switch.
- 9) This is the four (4) character password which is input through an EARS station to start-up the emergency operations. This is also the password for executing EARED. The "delivered" password is 'EARS', and should be changed by the system manager as soon as possible after delivery.
- 10) This flag is set in either of the emergency or status (quiescent) modes through a station. It indicates whether (=1) or not (=0) to use the scenario data on the disc for EARS operations.
- 11) This flag indicates that the controlling station has made Emergency Action Levels data available to the stations. Each station has its own EAL flag.

After a selection is made, the old value is displayed and EARED prompts the operator for a new value. Upon input of the replacement value, a verification is requested. A 'NO' response to any verification message during this phase will cause EARED to restart.

- b.2.2 EDIT A DEVICE RECORD. The console will now display the stations now configured in the Device Status Table. The first station will be listed as #2 (as opposed to #1), because it is the second record in DTABLE (the header is #1). Chose the station to be edited by selecting and entering its respective record number. You will be asked to verify your choice.

The following will be displayed on the console screen:

- 1) LU of device.
- 2) Status of device.
- 3) Location of device.
- 4) =1 if device can be controller.
- 5) Last record received from REALXX Database.
- 6) Last record received from PROJXX Database.
- 7) The Station on-line flag.
- 8) The station emergency flag.
- 9) The EAL data received flag (=1 if data not (!) received)

"Which would you like to modify (Enter 0 to End):

A description of each of the above by number follows:

- 1) This is the LU of this particular station. This should change only if the device's MUX port has changed or a new system generation has been installed.

NOTE: Changing the device LU will impact the MUX configuration transfer file.

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2) This is the EARS status for this station.

The Status is set up as follows:

<u>STATUS</u>	<u>MEANING</u>
0	No initial log on
1	Logged on (EAR1K)
2	Temporarily off-line
3	Device in update mode
4	Permanently logged off
5	Device down
6	Logged on (status)
7	A parity error occured on read from device
8	Device timed out

3) This is the 32 character station location.

4) If the device can be a controller, this flag =1. If not, =0.

5) This is used during emergency operations for automatic update purposes.

6) Same as 5), above.

7) This flag =1 if a non-controlling station is available to receive automatically transmitted data.

8) This flag =1 if the station is in emergency operations.

9) This flag =1 if the EAL date has not been received by this station =0 otherwise.

After a selection is made, the old value is displayed and EARED prompts the operator for a new value. Upon input of the replacement value, a verification is requested. A 'NO' response to any verification message during this phase will cause EARED to restart.

b.3 INITIALIZE DTABLE. This section leads the operator through a series of questions designed to set up DTABLE to the system manager's specifications. The questions fall into two categories:

- 1) System parameters.
- 2) Station parameters.

After all questions are asked, the AUTO1 transfer file is created and setup to clone and run all EAR<N>K programs from boot-up. DTABLE is also created and the header and all station records are configured according to the responses to the following prompts.

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b.3.1 SYSTEM PARAMETERS. The screen will display the following instructions:

PLEASE ANSWER THE FOLLOWING QUESTIONS TO INITIALIZE THE DEVICE
STATUS TABLE HEADER RECORD:

WHAT IS THE LU (BETWEEN 10 AND 25) FOR THE RTDAP DATABASES?

Always answer this with the number "21" (There are no default answers to any of these questions).

WHAT IS THE LU FOR THE EARS DATABASES?

Always answer "13".

INPUT EXACTLY 4 CHARACTERS (INCLUDING BLANKS) FOR THE EARS START-UP
PASSWORD:

Any four characters will suffice.

The screen will then clear and all responses will be printed out for verification.

ARE THESE CORRECT? ('YE' OR 'NO').

If the response is 'NO', all questions are reasked.

b.3.2 STATION PARAMETERS. Up to 20 stations may now be entered into DTABLE.
Station # <N>.

WHAT IS THE LU OF THIS STATION (RANGE 25-64)?

Enter the station logical unit number.

WHAT IS THE LOCATION OF THIS STATION (UP TO 32 CHARACTERS)?

Enter unique location identifier.

CAN THIS DEVICE BE A CONTROLLING STATION DURING AN EMERGENCY
(1=YES, 0=NO)?

After a short pause, the screen will clear and all responses in regard to this station will be printed to the console. No verification of the data is requested. If any data is incorrectly entered, it may be changed through the editing portion of EARED.

DO YOU WISH TO ADD ANOTHER STATION (1=YES, 0=NO)?

If the response is '1' (YES), the previous station questions will be asked for station N+1. If N+1 is greater than 20, the screen will display:

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ONLY 20 DEVICES ARE ALLOWED.

At this time, AUTO1 will be created and the commands to set-up the EARS system are entered into it. EARED now terminates.

NOTE: If DTABLE and/or AUTO1 are already on the system, they will be purged during the DTABLE initialization phase before being recreated.

- b.4 ADD A RECORD. If 20 stations are already configured, a message will be printed to the screen and EARED will terminate.

YOU WILL BE ADDING STATION # <N>.
THERE IS A MAXIMUM OF 20 DEVICES FOR 'DTABLE'.
PLEASE INPUT UP TO 32 CHARACTERS FOR THE DEVICE LOCATION:

Enter a unique location identifier.

LU OF DEVICE

Enter the logical unit number.

CAN THIS DEVICE BE A CONTROLLER (1=YES, 0=NO)?:

After a response to this question is entered, the screen is cleared and all responses regarding this station are printed and a verification is requested. If the response is 'NO', EARED restarts. If an affirmative response is input, AUTO1 is updated and EARED restarts.

REFERENCES

1. Pacific Gas and Electric Company; DCPD Plant Manual Vol. 3A and 3B: Emergency Procedures.
2. NDP, Inc.; PDT-3010 Protected Power Distributor Operations Manual
3. Mclean Engineering Midwest; LO-BOY Air Conditioner Instruction Manual, July 1977.
4. HP: 2621P Interactive Terminal Owner's Manual
5. HP: 2621P Interactive Terminal User's Manual
6. HP; 7925M Disc Drive User's Manual
7. HP; 2117F Installation and Service Manual
8. HP; 2648A Graphics Terminal User's Manual
9. HP; 7970E Magnetic Tape Drive Operations Manual
10. Applied Physical Technology, Inc., Emergency Assessment and Response System EARS/1000 Operator's Manual

DIABLO CANYON POWER PLANT UNIT NO(S) 1 AND 2

NUMBER EP EF-8
REVISION 0
DATE 8/13/82
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APPENDIX A

List of EARS HP-1000 Hardware

<u>Model</u>	<u>Description</u>	<u>Quantity</u>
1) HP-2117F	HP-1000 mini-computer with floating point processor	1
2) HP-12990B	Memory Extender	1
3) HP-7970E	1600 cpi Mag. Tape Drive	1
4) HP-12979B	I/O Expander	1
5) HP-37201A	HP-IB Extender	3
6) PDT-3010	Protected Power Distributor	1
7) HP-7925M	Disc Drive	1
8) HP-2608A	Line Printer	1
9) HP-2648A	Graphics Terminal	1
10) HP-2621P	Interactive Terminal	1

DIABLO CANYON POWER PLANT
PROCEDURE ON-THE-SPOT CHANGE

Procedure No. EP-RB-8 Rev. 1 Unit No. 1 2 1 & 2

Title Emergency Offsite Radiological Environmental Monitoring

Type of Change: PERMANENT (green) TEMPORARY (yellow); Expiration Date _____

Requesting Department Chem & Rad Protection Originator H Fong

Proposed Change: (Does this alter the intent of original procedure? Yes No)
(Does it constitute an unreviewed safety/environmental question? YES NO)

- 1) pp. 13 .b-1)a) Change wording "1-2 cm from top of vegetation" to "1-2 cm from base of vegetation"
- 2) pp 15 equation (3) change "Table 5" to "Table 7"
- 3) pp 39 Table 10 change " E_1 (Ci/m²/cpm)" to " E_1 (uCi/m²/cpm)"
- 4) pp 39 Table 10 change "HP-280" to "HP-210"
- 5) pp 39 Table 10 change "0.0041" to "0.0042"

ORIGINATOR

Reason for Change: 1) Typographical errors on first changes

Authorizations: W. A. O. L. A. Mikulish 9/9/82
(Plant Management Staff) (Plant Management Staff w/SRO License) Date

Immediate distribution to the Control Room and affected work areas required? YES NO Initial Distribution By: H Fong
Distributed To: Control Room Others C&RP only #16

DOCUMENT CONTROL

Date Received by Document Control 9/9/82
PSRC Review and Plant Manager's approval no later than 9/23/82 Date above *plus 14 days

PSRC POST CHANGE REVIEW

Review Date _____
PSRC recommends approval Yes No
Meeting Number -
Plant Manager's Approval N/A

Follow-up To Rejected On-the-Spot Change Additional Information

Action Taken/Remarks:

REQ'D DEPT.

DISTRIBUTION: Same as Original Procedure Distribution Others _____ Please see additional sheets