EMERGENCY
OPERATIONS FACILITY

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1.0 Functions

The Emergency Operations Facility (EOF) function is for management of Vepco's overall licensee emergency response (including coordination with Federal, State and local officials), coordination of radiological and environmental assessments and determination of recommended public protective actions. The facilities and highly complex data systems and their attendant links are so designed as to provide the EOF with a sophisticated mechanism for adequately responding to and recovering from any plant emergency.

Discussions concerning the Emergency Operations Facility took place with the NRC Staff in a meeting with them on November 13, 1981. As a result of this meeting we have prepared the following EOF plan.

The integrated EOF will consist of a Local EOF at Surry and a Local EOF at North Anna Power Stations and a Central EOF. The Central EOF will be located in the Vepco Corporate Headquarters in Richmond, Virginia and serve Surry and North Anna Power Stations. The Local EOF at Surry Power Station will be in its existing location at the Surry Training Facility. The Local EOF at North Anna Power Station will be located in its present location at the Visitor's Center until such time as the new Training Facility is completed. Once the Training Facility is completed the Local EOF will be housed in that area.

The Recovery Manager, the designated senior licensee official, will have a separate functional area within the Central EOF as well as the Local EOF from which to coordinate the emergency response in the event that the Local EOF becomes uninhabitable. (Ref. Figure 3).

The EOF is a common point for information exchange and response coordination of local, State, Federal and Vepco activities. Representatives from State and Federal agencies are provided space and communication equipment in both the Local EOF's and the Central EOF. The local counties operate and coordinate through the State EOF representative, but have direct contact available with the Recovery Manager and EOF through the Instaphone.

In the event of manning of the Central EOF, the corporate office Security staff will ensure that appropriate access controls are augmented. Additional off-duty Security personnel will be required to report for duty. All access points into the corporate headquarters will be either locked or under the administrative control of the corporate office Security staff. Procedures will be implemented to guarantee that increased access controls are maintained.

The equipment in both the Local EOF's and the Central EOF will be used on a daily basis or tested periodically as set forth in the Station Emergency Plans.

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1.1 Location, Structure and Habitability

The Local EOF's will be located in the existing interim EOF facilities at both the Surry and North Anna Sites. The Surry Local EOF will be located at the Surry Training Facility. The North Anna Local EOF will be located in its present location at the Visitor's Center until such time that the new Training Facility is completed. Once the Training Facility is completed, the Local EOF will be housed in that area. These buildings are constructed in accordance with good building practices and will therefore, offer a considerable amount of protection from radiation. In the event they should become uninhabitable, personnel manning the Local EOF will transfer to the Central EOF which satisfies all criteria for structure and habitability.

The Central EOF complex will be located on the fifth floor of the Vepco orate Headquarters in Richmond, Virginia approximately 43 and 51 miles ance from North Anna and Surry Power Stations respectively. This facility is designed to be capable of performing the prescribed functions of overall strategic direction of licensee on-site and support operations, determination of public protective actions and coordination of Federal, State, and local organizations. (Ref. Figures 2 and 3).

Travel time to either North Anna or Surry Power Stations from the Central EOF is approximately 75 minutes. Travel time to the State Emergency Operations Center (EOC) from the Central EOF is approximately 15 minutes. (Figure 1)

The Central EOF is contained within a modern office building built to City and State Building Code requirements. It is above the "once in a hundred" year flood elevation of the James River.

Due to the availability of a building cafeteria and the normal food services associated with the Richmond Metropolitan area, food supplies to sustain a prolonged activation of the Central EOF are not considered a problem. It should also be noted that individuals involved in an emergency response can be placed on shifts and can easily return to their homes on a rotating basis or find accommodations in one of the nearby hotels.

Byrd International Airport is approximately a 20 minute drive from the corporate offices. It is served by three major airlines and one smaller airline all of which maintain regular schedules. In addition there is an active private, commercial terminal and the State aircraft facility at this location. The Richmond area is also served by regularly scheduled bus and train passenger services.

1.2 Staffing and Training

The EOF will be staffed to provide the overall management of resources and the continuous evaluation and coordination of activities during and after an accident. Upon EOF activation, designated personnel will report directly to the Local EOF to achieve full functional operation within 1 hour.

In the current Corporate Emergency Response Plan, eleven Vepco people man the Interim EOF on a permanent basis during an emergency. In the Local EOF the same number of people will be manning the facility on a permanent basis during an emergency.

The Local EOF will be manned with the designated personnel as depicted in the Corporate Emergency Response Plan with Corporate support personnel manning the Central EOF. In the event that the Local EOF becomes uninhabitable, designated personnel in the Local EOF will relocate to the concurrently functioning Central EOF.

The EOF staff will participate in EOF activation drills, which will be conducted periodically in accordance with Vepco's Corporate Emergency Response Plan. The drills will include operation of all facilities that will be used to perform EOF functions.

1.3 Size

The Central EOF has been sized to comply with the guidelines set forth in Section 4.4 of NUREG-0696 to allow sufficient working space for those assigned positions currently planned with the potential for adding additional work stations in the future should needs dictate such.

The Local EOF's are presently sized to allow sufficient working space for those positions assigned with the potential for adding additional space as the needs dictate. (Ref. Figures 4 and 5 for the Surry Local EOF and Figures 6 and 7 for the North Anna Local EOF).

1.4 Radiological Monitoring

Due to the relative position of the Central EOF in relation to the plant sites, radiological monitoring will not be required.

At each Local EOF, portable radiation detection equipment capable of continuously monitoring dose rates and airborne radioactivity concentrations will be provided through the on-site Health Physics Department.

1.5 Communications

The communications at both the Central and Local EOF's will be the same as those currently provided for in Vepco's interim EOF's. These communications channels will meet the requirements of NUREG-0696 including the HPN and ENS phones and OPX phones designated for NRC and State use.

In the Central EOF all work stations are equipped with standard telephone extensions. Necessary intercommunications have been provided between functional areas of the EOF complex and between functional areas of the EOF center. Communication equipment to be provided in the Central EOF includes several standard telephone extensions (each with access to the Bell System lines, WATS lines, and Vepco tie-lines), two Instaphones, two TSC ringdowns, one NRC HP network, two State Emergency Telephone Systems, six CRT's, two printers, four video copiers, and radio communications. (Figure 3)

All stations in each Local EOF are equipped with standard telephone extensions. Necessary intercommunications have been provided between functional areas of the Local EOF. Communication equipment to be provided in the EOF includes several standard telephone extensions (each with access to the Bell System lines and Vepco tie lines), two Instaphones, one TSC ringdown, one Central EOF ringdown, one NRC-HP network, one State Emergency Telephone System, six CRT's, one printer, five video copiers, and radio communications. (Figures 5 and 7)

At the Surry Local EOF, communications will also include ringdown phones to James City County and Surry County.

At the North Anna Local EOF, communications will also include ringdown phones to Louisa and Spotsylvania Counties.

1.6 Records Availability and Management

The Central and Local EOF's will have ready access to up-to-date plant records, procedures, and emergency plans needed to exercise the overall management of the emergency response resources. The records available at each EOF will meet the requirements set forth in section 4.9 of NUREG-0696.

1.7 Instrumentation, Data System Equipment and Power Supplies

The following provides a description of the Vepco EOF Emergency Response Facility Input/Output (ERFIO) Processor Functions. Reference Figure 8A and 8B for functional one line diagrams for these systems.

The ERFIO processor located in the Central EOF will consist of a functionally redundant computer system designed to meet an unavailability goal of 0.002 which is well within the 0.01 unavailability requirement of NUREG-0696.

Data will be received by the Central EOF ERFIO processor from the Data Communications Processors (DCP's) located in each station's TSC. This data will be transmitted from each DCP via a set of redundant serial data links. The DCP's will gather data required by NUREG 0696 from the intelligent remote multiplexor system. Supplemental data will also be collected from the plant computer system. All this data will be transmitted to the Central EOF ERFIO processor. Therefore, all data available in the TSC will be available in the Central EOF. The accuracy of the Central EOF data will be equal to the accuracy of the data available in the TSC. The historical data storage function will be provided on the DCP's. At a minimum, a capability of recording 2 hours of pre-event data and 12 hours of post-event data will be available. Longer term data storage with reduced time resolution will be provided. These historical data files will be available in the Central EOF via the above mentioned data links.

In each Local EOF a ERFIO Processor will receive data from the ERFIO computer system in the TSC. This will allow all required data to be passed to the Local EOF ERFIO Processor which will drive the required color graphic peripherals and printers. The accuracy of the Local EOF data will be equal to the accuracy of the data available in the TSC and the Central EOF.

EOF personnel will interact with the ERFIO processor via color graphic display consoles. The consoles which will be provided and their functions are as follows:

Central EOF

1. Recovery Manager's Display Console - Console consists of 1 color graphic CRT and 1 keyboard. This console allows the EOF manager to obtain the information necessary to coordinate the overall activities of EOF personnel.

2. Rad/Met Console (Health Physics Console) - Console consists of 1 color graphic CRT and 1 keyboard. This console is a dedicated display device to allow EOF dose assessment personnel to monitor plant radiological and meteorological data.

3. General Purpose Display Consoles (Display & Recorder Consoles) - These 2 consoles each consist of 2 color graphic CRT's and 1 keyboard. These consoles allow corporate EOF personnel and NRC EOF personnel to monitor plant data as required.

Local EOF's

1. Recovery Manager's Display Console - Console consists of 1 color graphic CRT and 1 keyboard. This console allows the EOF manager to obtain the information necessary to coordinate the overall activities of EOF personnel.

2. Rad/Met Console (Health Physics Console) - Console consists of 1 color graphic CRT and 1 keyboard. This console is a dedicated display device to allow EOF dose assessment personnel to monitor plant radiological and meteorological data.

3. General Purpose Display Console - Console consists of 2 color graphic CRT's and 1 keyboard. This console allows NRC EOF personnel to monitor plant data as required.

4. General Purpose Display Console - Console consists of 1 color graphic CRT and 1 keyboard. This console allows state EOF personnel to monitor plant data as required.

5. General Purpose Display Console - Console consists of 1 color graphic CRT and 1 keyboard. This console allows EOF personnel in the service support and special assignment area to monitor plant data as required.

All EOF color graphic display consoles will provide the ability, at a minimum, to:

1. Display a parameter's current or time rate-of-change value.

2. Trend a parameter's current or time rate-of-change value. (Simulated strip chart recording, X-Y plotting, and bar charts (both horizontal and vertical)).

3. Assign any parameter to a group for subsequent display.

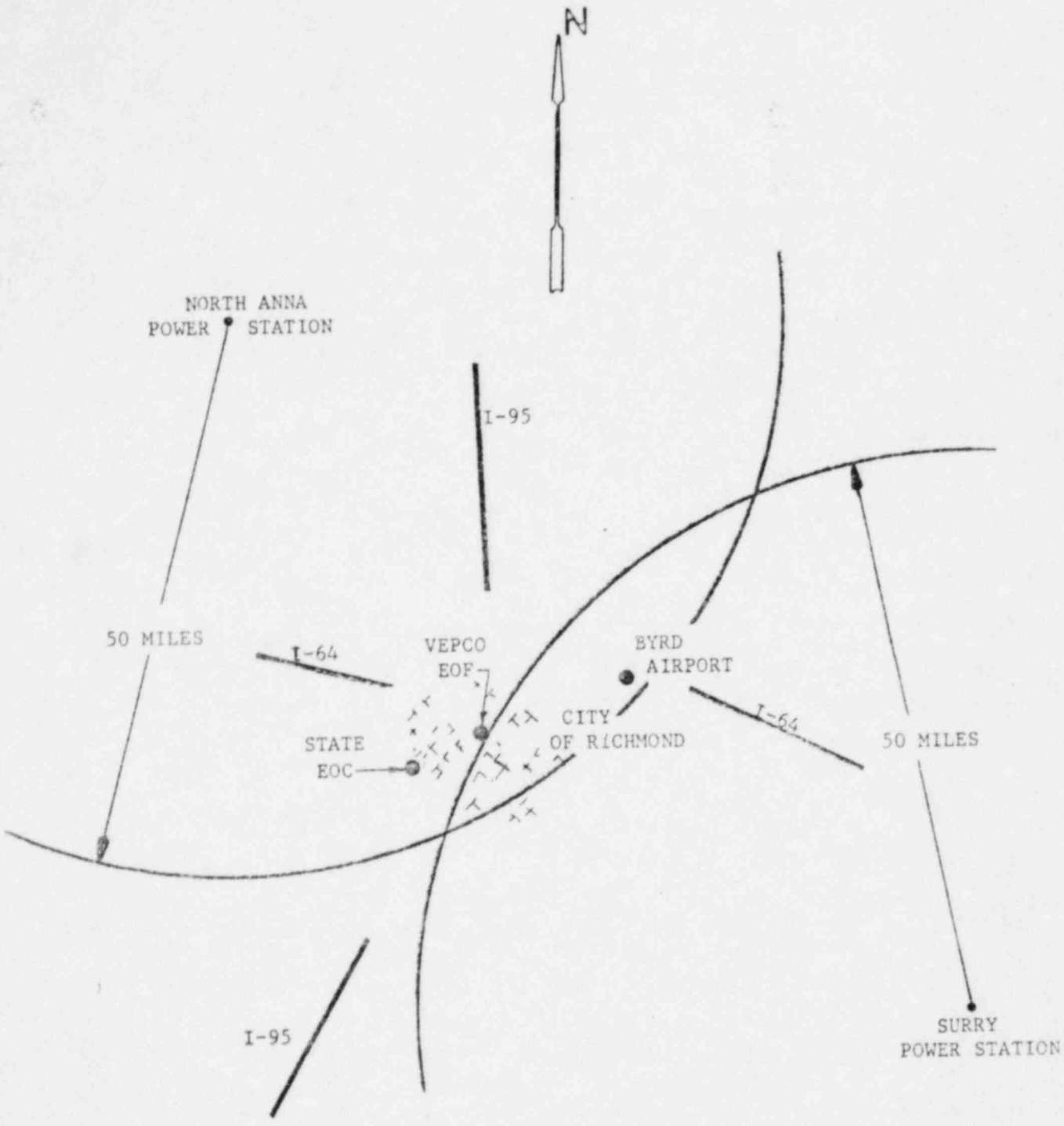
4. Display the current values of any previously defined group of parameters.

5. Display any pre-defined color graphic diagram and its associated parameter data. (Those displays related directly to the console purpose will be available for call-up with a minium of keystrokes).

6. Replay pre-event and post-event historical data.

In addition to the graphic capability, gray scale video copiers will be provided to obtain a hard copy of any color CRT screen desired. Also, "receive only" (RO) printers will be provided to allow printed logs, trends, etc. to be recorded.

No dedicated SPDS color graphic CRT's will be provided. However, capability will be provided to display (on a call-up basis) any unit's SPDS graphic displays on any EOF color CRT. The SPDS graphic displays and information content available in the EOF will be identical, with the dedicated SPDS displays in the TSC's and control rooms.



TRAVEL TIME TO
EITHER POWER STATION
FROM VEPCO EOF is 75 minutes.

Figure 1

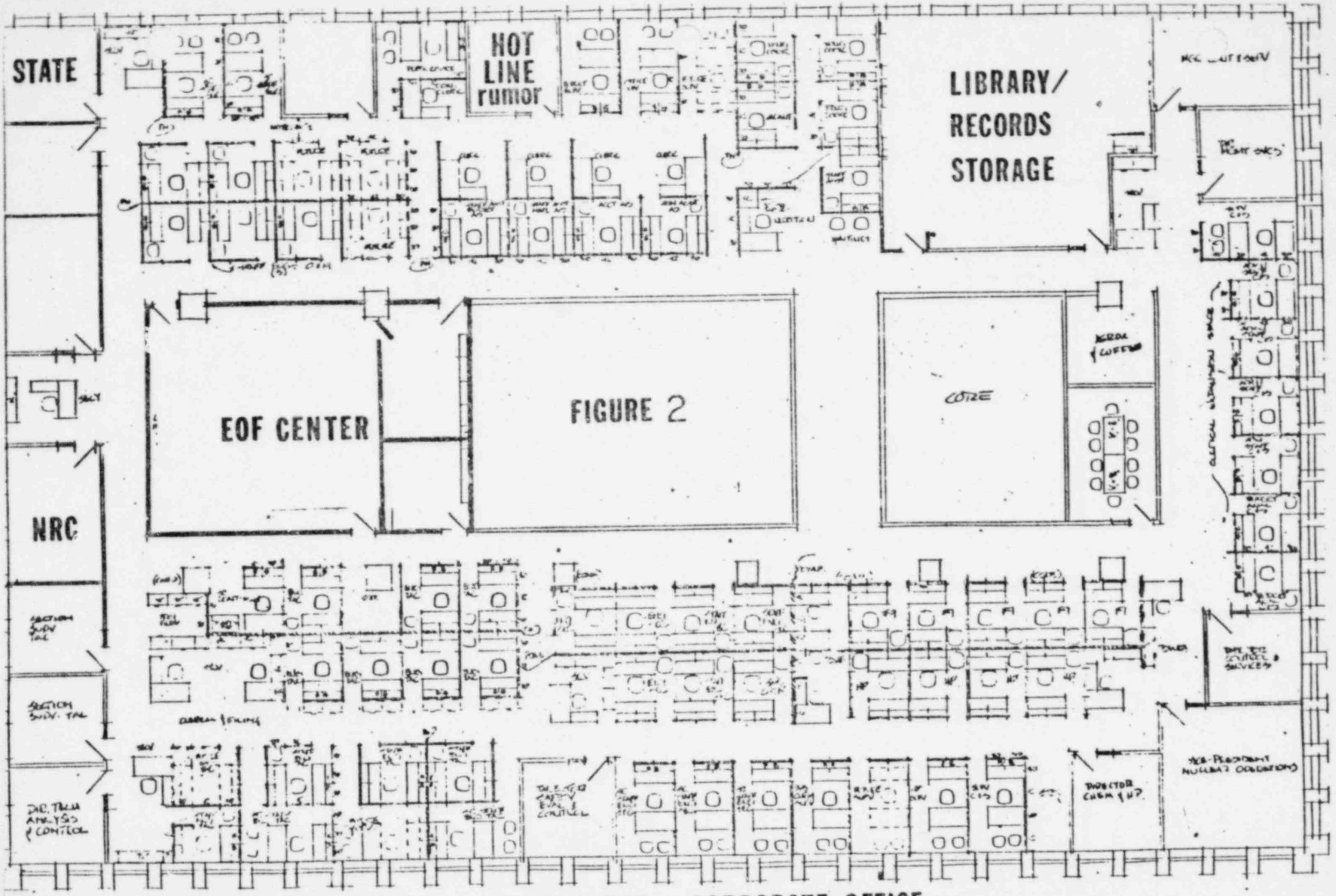
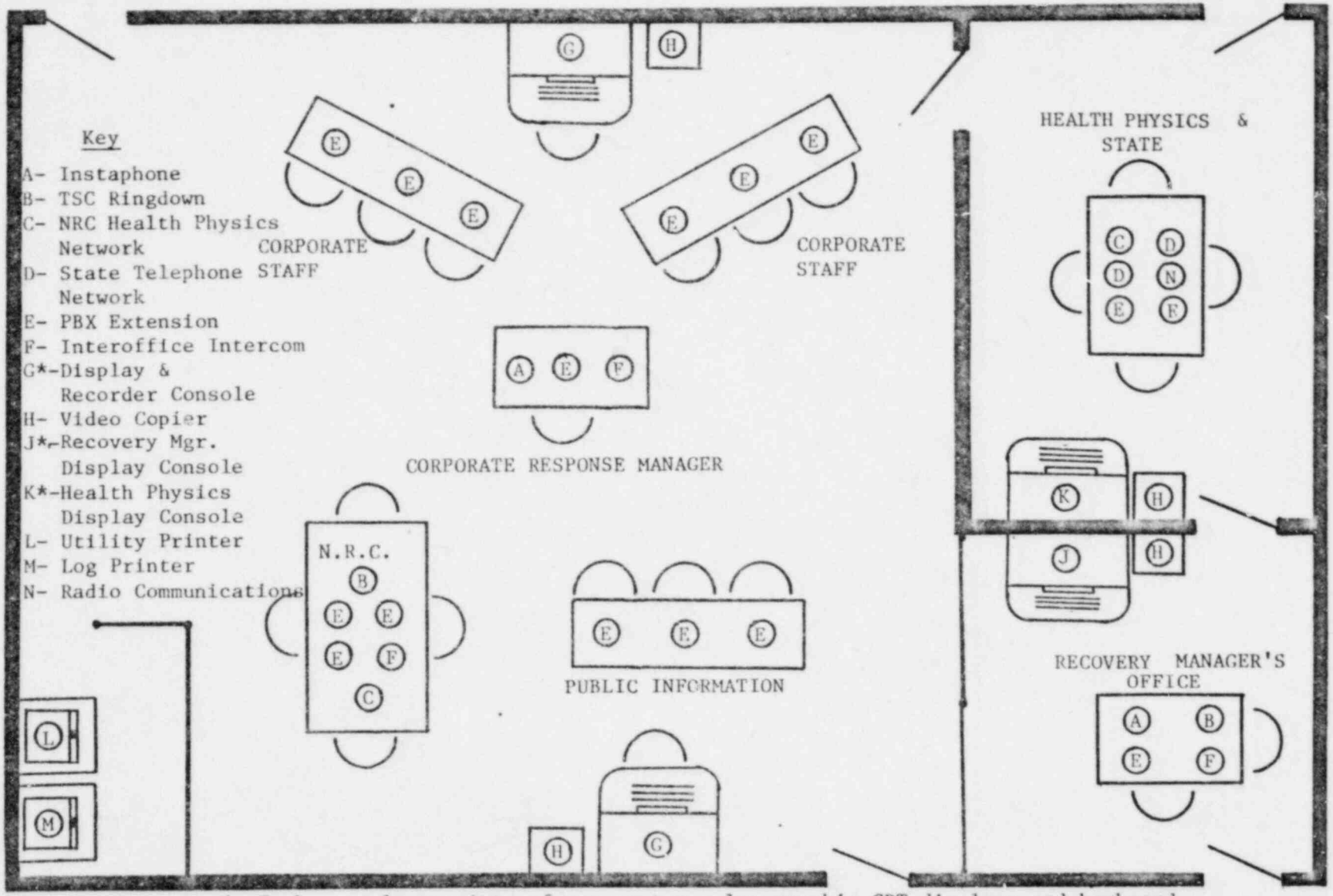

STATE
HOT LINE rumor
LIBRARY/ RECORDS STORAGE
EOF CENTER
FIGURE 2
NRC
CORE
EOF COMPLEX
FIFTH FLOOR
CORPORATE OFFICE

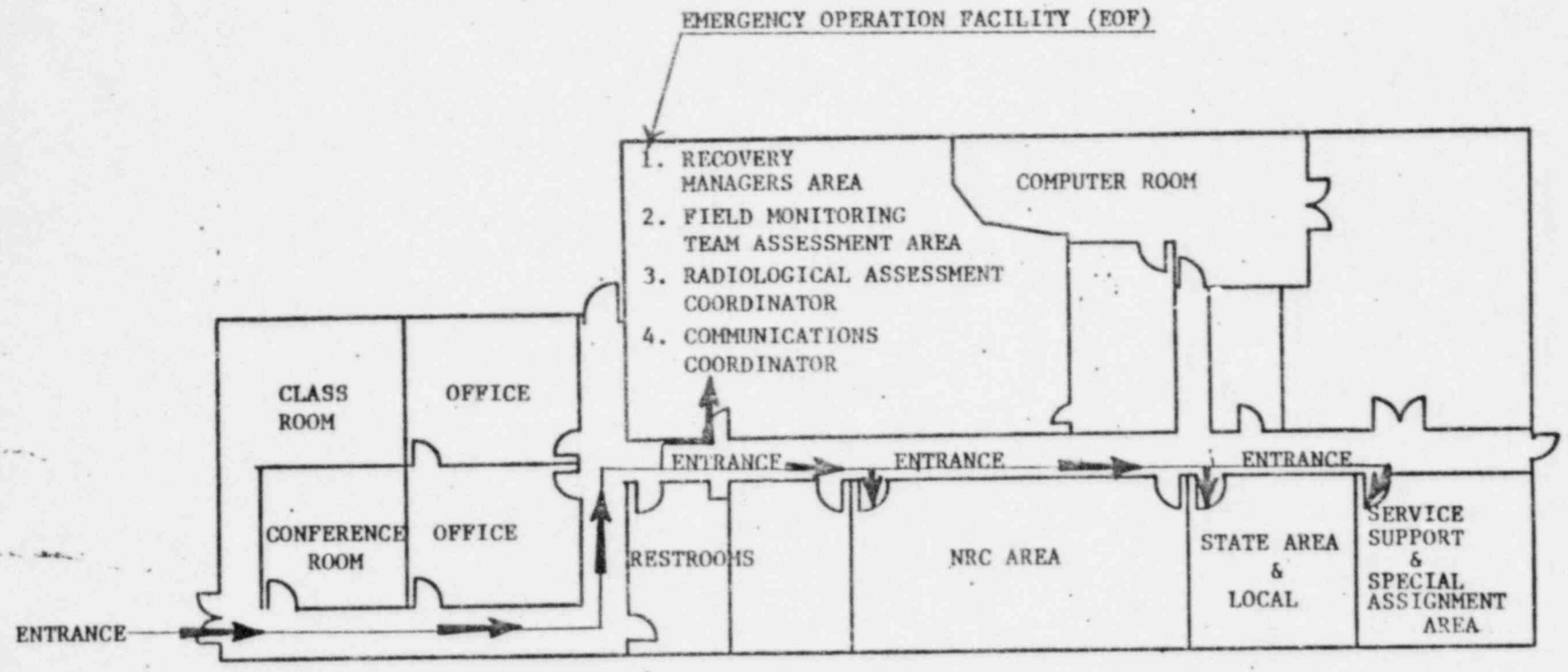
FIGURE 2

CENTRAL EOF



* Each console consists of one or two color graphic CRT displays and keyboard.

FIGURE 3



SURRY POWER STATION

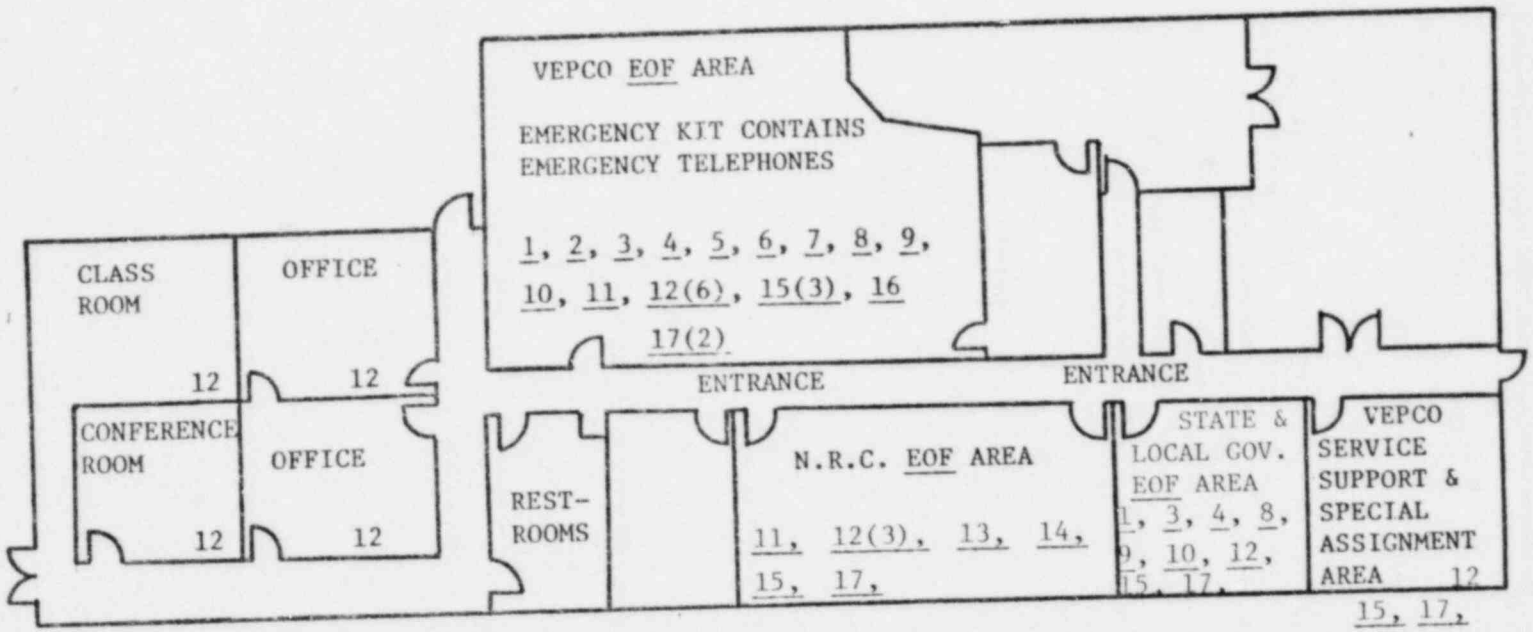
EMERGENCY OPERATION FACILITY (EOF) FLOOR PLAN
TEAM AND COORDINATOR FLOOR ASSIGNMENTS

FIGURE 4

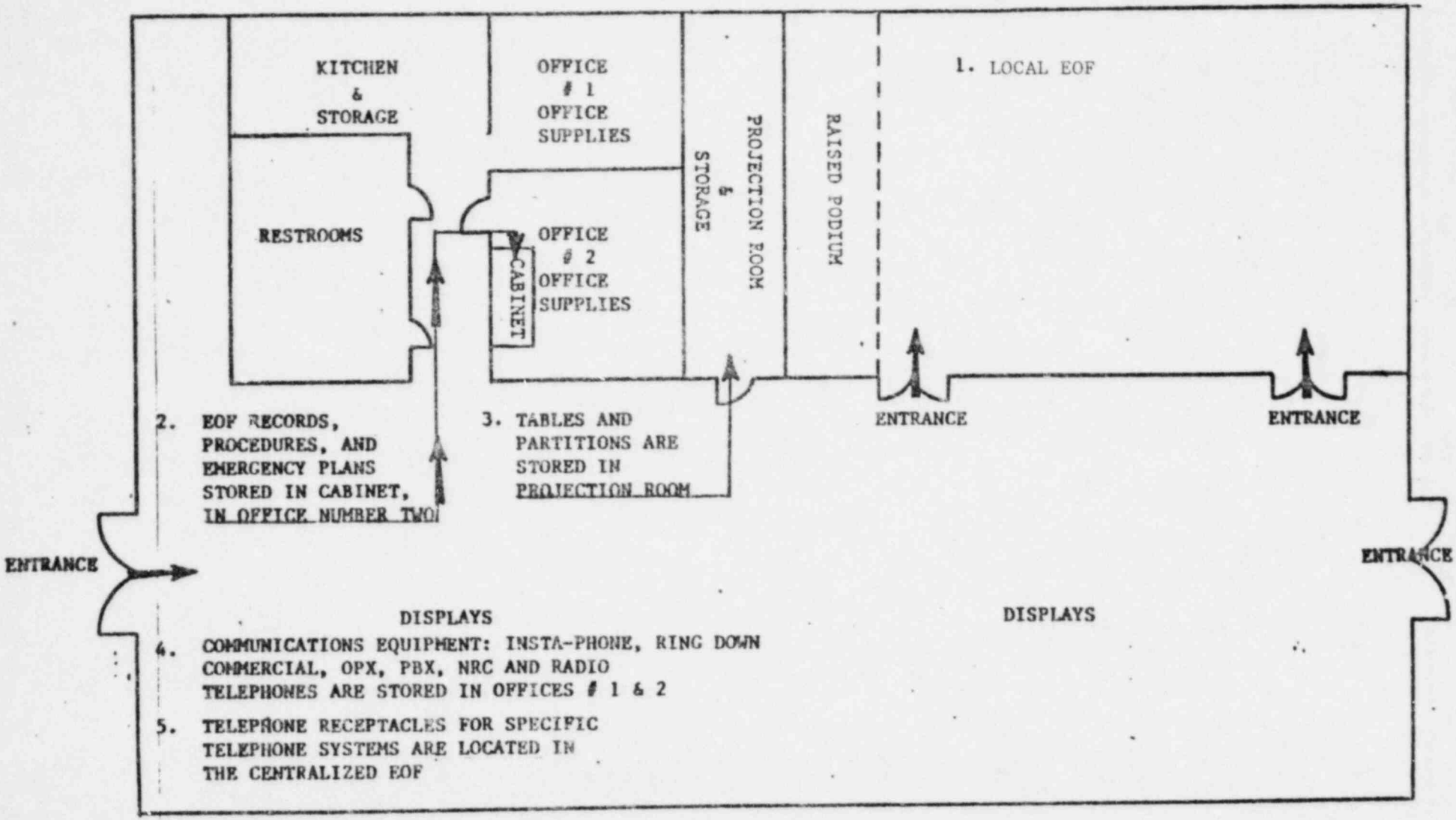
AVAILABLE COMMUNICATIONS

NUMBER INDEX

1. STATE OEES (RINGDOWN)
2. EOF TO CENTRAL EOF (RINGDOWN)
3. EOF TO JAMES CITY COUNTY EOC - (RINGDOWN)
4. EOF TO SURRY COUNTY EOF - (RINGDOWN)
5. EOF TO TSC (RINGDOWN)
6. EOF TO CONTROL ROOM (RINGDOWN)
7. EOF TO PNC (RINGDOWN)
8. SCAT LINE
9. RADIOPHONE
10. INSTAPHONE
11. C.O. LINE (COMMERCIAL)
12. STATION PBX
13. NRC - ENS
14. NRC - HPN
15. CRT WITH KEYBOARD
16. UTILITY PRINTER
17. VIDEO COPIER



SURRY POWER STATIONS
EOF
COMMUNICATIONS SYSTEMS
FLOOR PLAN
FIGURE 5

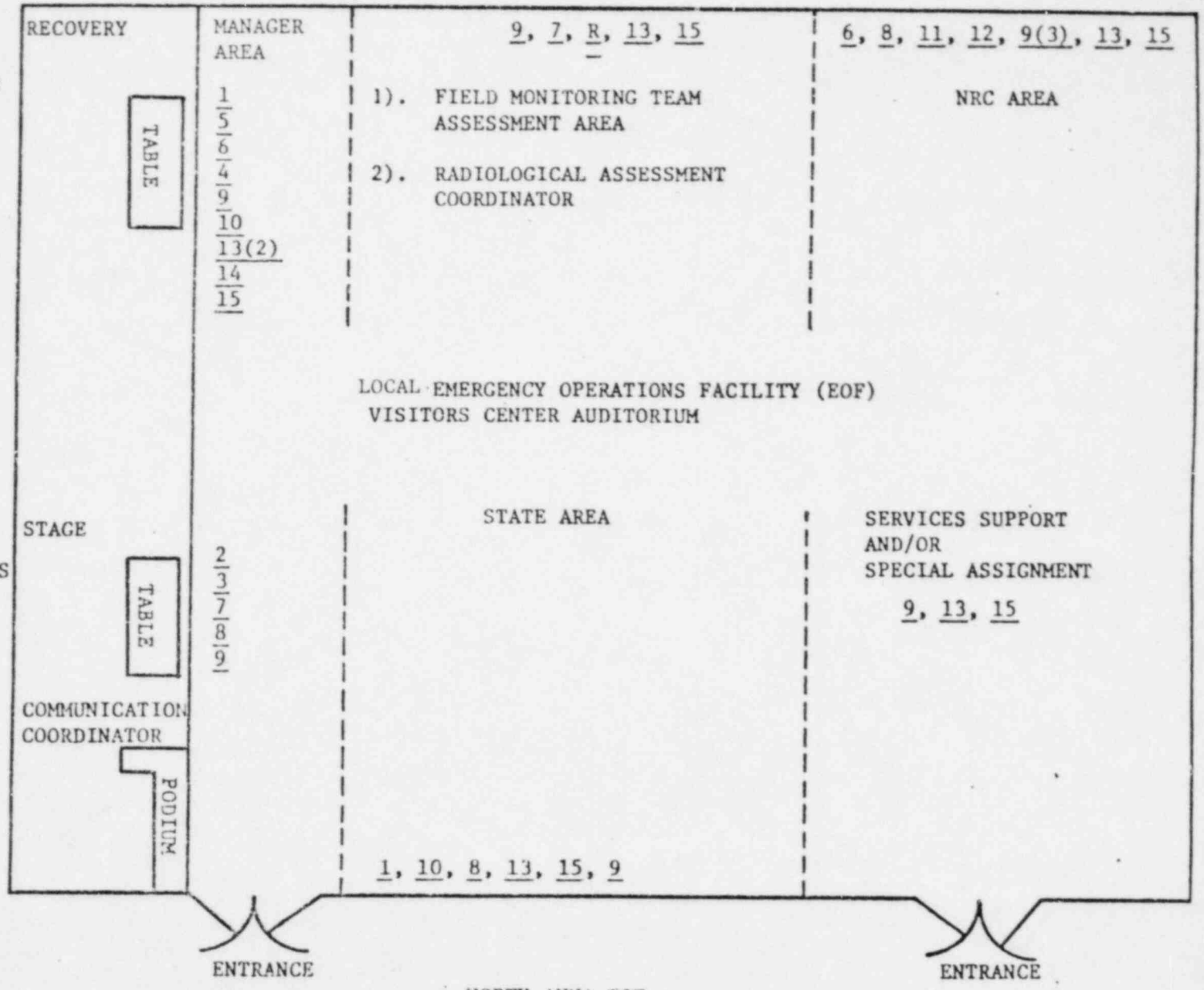


CORPORATE EMERGENCY RESPONSE PLAN
NORTH ANNA POWER STATION'S VISITORS CENTER - EOF
FLOOR PLAN
FIGURE 6

AVAILABLE COMMUNICATIONS

INDEX FOR NUMBERS

1. STATE OEE DEDICATED LINE
2. LOUISA COUNTY DEDICATED LINE
3. SPOTSYLVANIA COUNTY EOC-DEDICATED LINE
4. EOF TO TSC
5. EOF TO CENTRAL EOF (OJRP)
6. NRC LINE
7. OPX
8. BELL
9. STATION PBX
10. INSTAPHONE
R. RADIO PHONE W/PORTABLE RADIOS
11. NRC-ENS
12. NRC-HPN
13. CRT WITH KEYBOARD
14. UTILITY PRINTER
15. VIDEO COPIER



NORTH ANNA EOF
COMMUNICATIONS SYSTEMS FLOOR PLAN
FIGURE 7

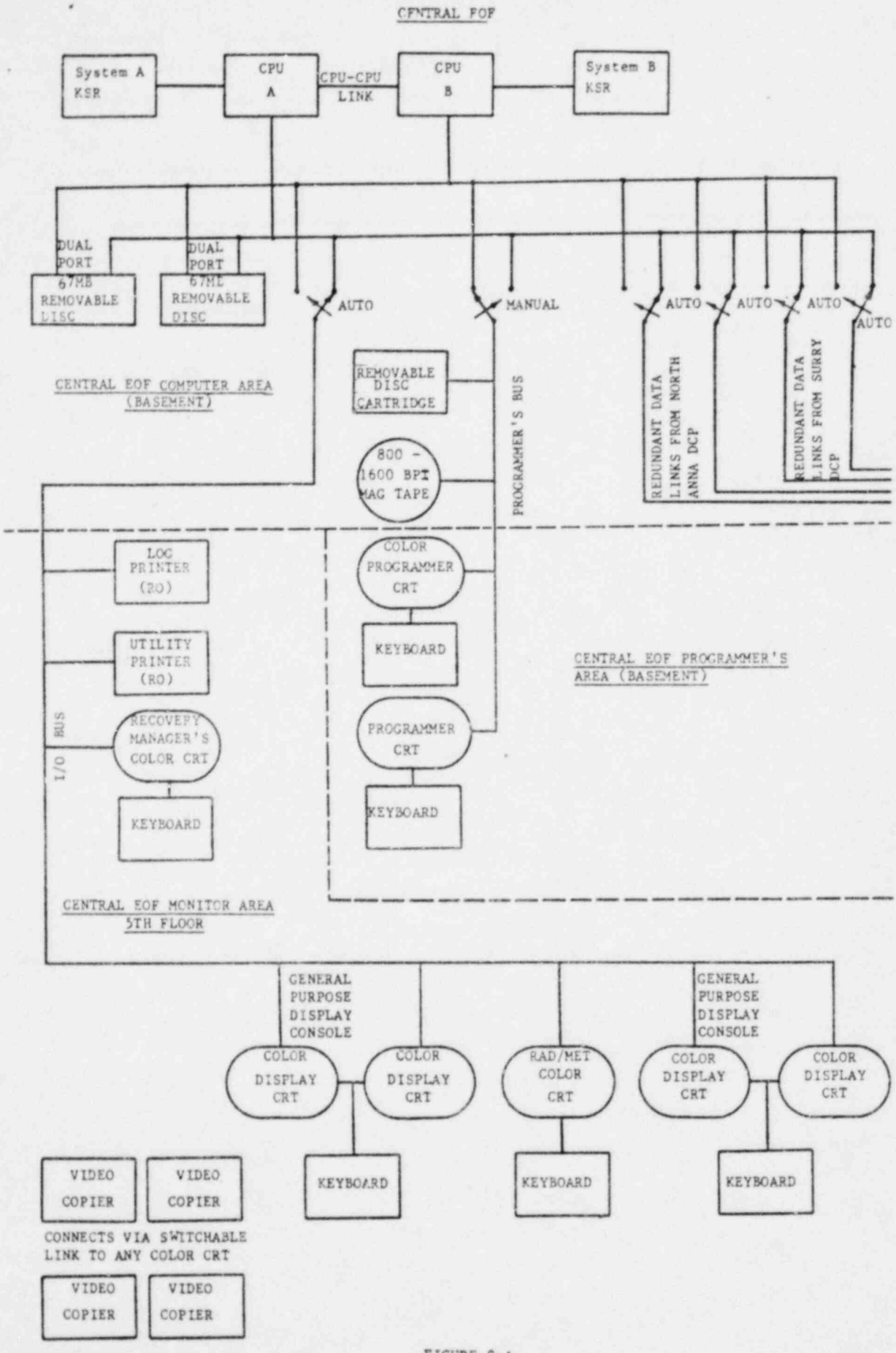

CENTRAL EOF
System A KSR
CPU A
CPU-CPU LINK
CPU B
System B KSR
DUAL PORT 67MB REMOVABLE DISC
DUAL PORT 67MB REMOVABLE DISC
AUTO
MANUAL
AUTO
AUTO
AUTO
AUTO
CENTRAL EOF COMPUTER AREA (BASEMENT)
REMOVABLE DISC CARTRIDGE
800 - 1600 BPI MAG TAPE
PROGRAMMER'S BUS
REDUNDANT DATA LINKS FROM NORTH ANNA DCP
REDUNDANT DATA LINKS FROM SURRY DCP
LOG PRINTER (RO)
UTILITY PRINTER (RO)
I/O BUS
RECOVERY MANAGER'S COLOR CRT
KEYBOARD
COLOR PROGRAMMER CRT
KEYBOARD
PROGRAMMER CRT
KEYBOARD
CENTRAL EOF PROGRAMMER'S AREA (BASEMENT)
CENTRAL EOF MONITOR AREA 5TH FLOOR
GENERAL PURPOSE DISPLAY CONSOLE
COLOR DISPLAY CRT
COLOR DISPLAY CRT
KEYBOARD
RAD/MET COLOR CRT
KEYBOARD
GENERAL PURPOSE DISPLAY CONSOLE
COLOR DISPLAY CRT
COLOR DISPLAY CRT
KEYBOARD
VIDEO COPIER
VIDEO COPIER
CONNECTS VIA SWITCHABLE LINK TO ANY COLOR CRT
VIDEO COPIER
VIDEO COPIER

FIGURE 8-A

LOCAL EOF

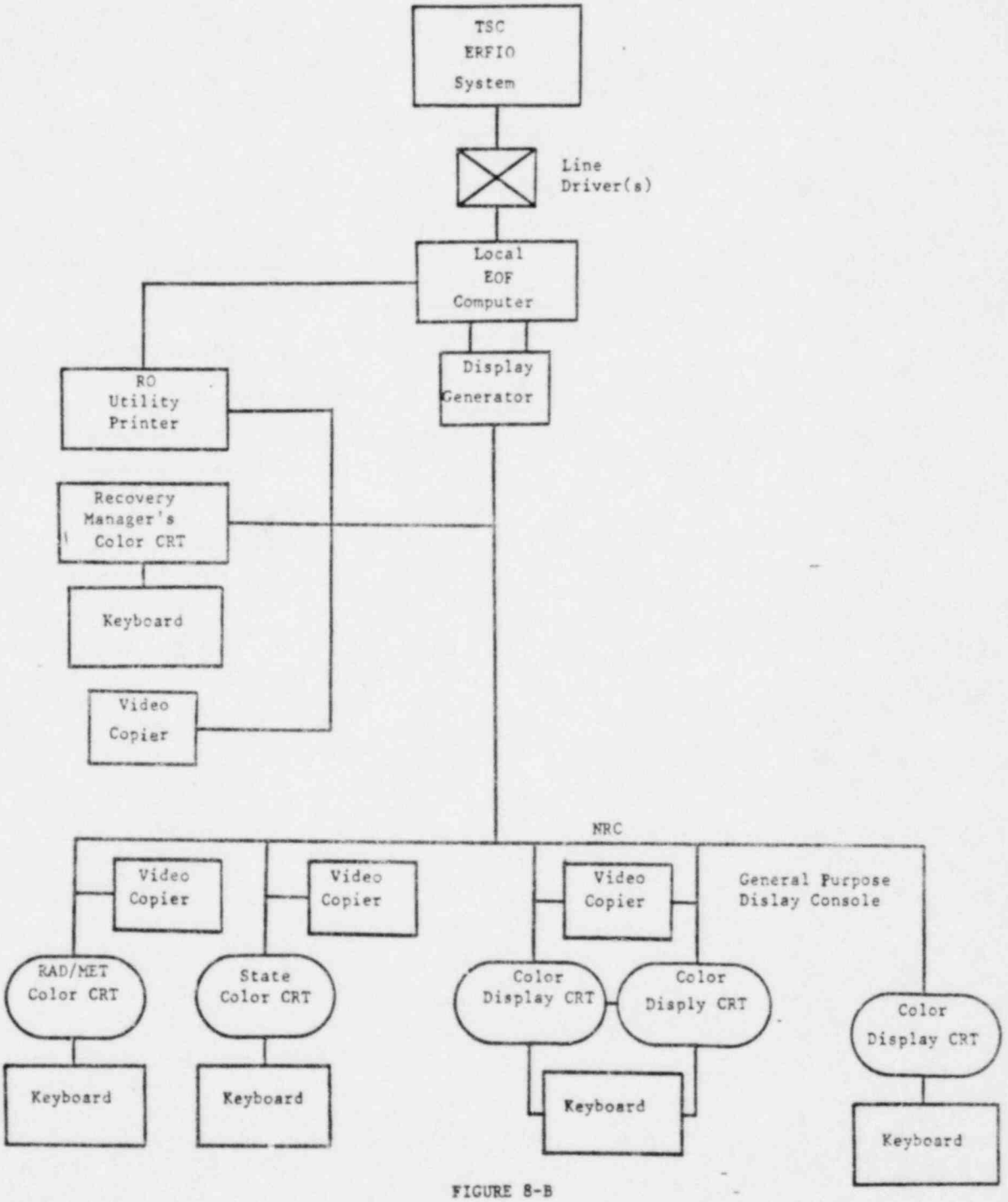


FIGURE 8-B