

BRIEFING MATERIALS

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STRONG POINTS ABOUT EMERGENCY OPERATING PROCEDURES

OP-0 OP-1 OP-2 OP-3A

1. Operating room human engineered well. That takes the pressure off the procedures. They don't have to compensate for weakness in hardware design.
2. Procedures are clean in appearance and free of proofing error. This prevents distraction over trivial points. ^{relatively}
3. The idea of distinguishing between immediate and subsequent actions is good. This helps the operator prioritize his response.
4. Procedures make consistent use of action statements. This makes the instructions directive in nature.
6. References to other procedures are handled well. They maintain a good balance between on-line and off-line information sources.
5. Statements are typically held to a reasonable length. This makes them easier to follow than long, complex sentences.
7. Procedures clearly identify what exist. Emergency procedure manual in a convenient form.

Page 43

OPERATING PROCEDURE PROBLEMS

OP-0 OP-1 OP-2 OP-3A

1. Nomenclature in procedures sometimes disagrees with that shown on placards and labels. (See Sample List A.)

2. Nomenclature usually is not capitalized, thus making it hard to locate quickly in text.

3. Procedures give insufficient information about location of its location. (See Suggested Remedy for This Location Problem.)

4. Some operating actions imply that a particular condition may not exist; yet, they give no recourse directions. (See Sample List B.)

5. Comments often contain information important enough to be located in the action columns.

6. Some appendices offer possibility of confusion due to telling scheme. (See Appendix Information Analysis.)

SAMPLE LIST A

LOSS OF COOLANT ACCIDENT (LOCA)

REF	PROCEDURE DESCRIPTION	INSTRUMENT
4	CONDENSATE SUMP LEVEL	CNT BEGAL/SUMP/PI-971 90% FW LEAD
5	STEAM GENERATOR LEVEL	SG LEVEL/ PI-108
6	CONDENSATE STORAGE TANK	CDS STG/TAOR 21/LI-148
7 (FB)	CONDENSATE STORAGE TANK	
	RCS PRESSURE	2-METERS 1) PRIMARY LOOP/PRESS/PI-971 DIFFERENTIALS 2) RC PRESS/PI-105
8	PRR LEVEL	PRR LEVEL
06	* RCP SEAL FLOW	CHARGING HEADER/VALVE INCU-142
07	* AC TURBINE BEARING OIL PUMP	BEARING OIL PUMP
08	* HI PRESSURE SEAL OIL PUMP	BACK-UP SEAL OIL PUMP
09	* OIL PRESSURE (INSTRUMENT)	1) GEN. SEAL/OIL/PI-848 2) TURB BEG. OIL/PI-846
15	* CHARGING PUMP SPEED	POS DISA CHG/PUMP SPEED CONT
CF4	75 GPM LETDOWN ORIFICE VALVE	LTDN ORIFICE/STOP VALV

SUGGESTED REMEDY FOR ITEM LOCATION PROBLEM

Problem: 1. Procedures contain little information on location of particular control/display items in Control Room.

2. Training program provides no systematic way of teaching item location.

3. Students take an abnormally long time to learn the location of each item.

Suggested Remedy: 1. Prepare location diagrams that show the name, appearance, and location of every control/display item.

2. Use the diagrams as engineering drawings that a student could find in the Electrical Part I Book (II. Control and Relay Block Arrangements).

3. Use the diagrams as training aids.

SIMPLE LIST B

ACTIONS THAT IMPLY A CONDITION MIGHT NOT EXIST
BUT GIVE NO RECURSE DIRECTION

OP-1. TYPICAL EXAMPLES

Page

Stop

4

1

5

f (1)

5

6

11 *recursion even that in (k, n, m, p)*

8

30 2

APPENDIX A

13

9

14

13

14

21

14

23

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APPENDIX INFORMATION ANALYSIS

Appendix A

OP-0 Blackout with Safety Injection Emergency Loading of Vital Busses

OP-1 LOCA Injection/Recirculation Changeover Procedure } Different titles;
OP-2 SI Injection/Recirculation Changeover Procedure } same text.

OP-3A Auxiliary Feed Pump Suction Supply from Fire Water Tank

Appendix B

OP-0 Determination of Adequate Core Cooling

OP-1 Cold Leg Recirculation/Hot Leg Recirculation Changeover Procedure

OP-2 Loss of Off-Site Power During LOCA with Loss of Diesel Generator

OP-3A ---

Appendix C

OP-0 ---

OP-1 Auxiliary Feed Pump Suction Supply from Fire Water Tank } Same title.
OP-2 Auxiliary Feed Pump Suction Supply from Fire Water Tank } Same text
OP-3A --- } as Appendix B
OP-3A: OP-3A:

APPENDIX INFORMATION (Continued)

Appendix D

OP-0 --

OP-1 RHR Train/Component Failure

OP-2 RHR Train/Component Failure

OP-3A --

Same text. However, in each case, A. and B. have confusing titles

Appendix E

OP-0 --

OP-2 --

OP-3A --

OP-1 Loss of Off-Site Power with Loss of Diesel Generator

↓
Same title's
different coverage

OP-1 Appendix E

OP-2 Appendix B

A

A

B

B

1 a-d Diesel Gen. 1-1 Failure

1 a-d

2 a-f

1 a-d Diesel Gen. 1-2 Failure

1 a-d

2 a-g

1 a-d Diesel Gen. 1-3 Failure

1 a-d

2 a-c

APPENDIX INFORMATION (Continued)

Appendix F

OP-0 --

OP-1 Determination of Adequate Core Cooling)

Same text as
Appendix B,
OP-0

OP-2 --

OP-3A --