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June 20, 1989

Dr. Thomas E. Murley, Director
Office of Nuclear Reactor Regulation
U.S. Nuclear Regulatory Commission
Washington, DC 20555

Subject: Dresden Station Units 2 and 3
Revised Fire Protection Procedure for
Opposite Unit Safe Shutdown Equipment
Out-of-Service
NRC Docket Nos. 50-237 and 50-249

- References (a): Letter from J.A. Silady to T.E. Murley dated February 22, 1989, transmitting Proposed License Amendment on Fire Protection per Generic Letter 88-12
- (b): Letter from J.A. Silady to T.E. Murley dated March 1, 1989, concerning inaccessible area Fire Protection with Opposite Unit SSD Equipment Out-of-Service
- (c): May 24, 1989, Conference Call between CECO (J. Silady, R. Whalen, M. Schreim, et al.) and NRC (B. Siegel, D. Kubicki).

Dr. Murley:

Reference (a) contained CECO's draft Dresden Administrative Technical Requirements (DATRs) for fire protection surveillances and associated limitations on the out-of-service (OOS) periods for required safe shutdown equipment. The DATRs specified actions needed if the procedural LCO time-frames were exceeded. All plant areas were addressed by the DATRs except for inaccessible, high radiation areas.

Reference (b) documented additional compensatory measures for high radiation areas agreed to by CECO and NRR during a conference call on February 2, 1989. The proposed measures were the installation of linear thermal detection in and around cable trays and risers in the inaccessible areas which contain cables for a certain SSD path using the same unit's equipment. This safe shutdown path was intended to be used when the opposite unit SSD equipment is out-of-service, in lieu of fire watches in the inaccessible area.

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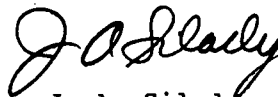
During the final engineering of the above modification, additional equipment has been identified which will perform the function of the OOS equipment of concern. If this redundant equipment is operable, the LCO identified in the DATRs will not need to be entered by the station. If both the primary and the redundant safe shutdown equipment or their support equipment is OOS, CECO will enter the LCO timeframe identified in the DATRs. Although it is expected that this degree of equipment unavailability will be an infrequent occurrence (especially for extended OOS periods), the fire watch provisions of the DATRs will be established in accordance with the DATRs if the LCO timeframe is exceeded. This will include the temporary placement of a video camera(s) in inaccessible areas (high and low pressure heater bays) to monitor the appropriate areas as specified by the Station Fire Marshall.

The above approach was discussed with your Staff in the Reference (c) conference call. It was agreed that, with appropriate revisions to the DATRs and the Safe Shutdown Report, this eliminates the need for adding linear thermal detection. The DATR changes are attached and the Safe Shutdown Report changes are being prepared.

In another matter related to the Reference (a) amendment request, your staff requested CECO to pursue a more detailed means of referencing key fire protection documents in the Updated FSAR. The most recent FSAR update includes direct references to the DATRs, the Dresden Fire Protection Program, Dresden Administrative Procedure DAP 3-1, and numerous references to the Fire Protection Program Documentation Package (FPPDP). The FPPDP is a comprehensive, multiple volume document which includes the Safe Shutdown Report, the Fire Hazards Analysis, NRC SERs, supporting letters, and other fire protection related documents containing NRC commitments. CECO will, however, consider the addition of any other appropriate references in preparing the FSAR update for the calendar year 1989. This update would be submitted in mid-1990 according to the normal schedule and 10 CFR 50.71(e).

Please contact this office should further information be required.

Very truly yours,



J. A. Silady

Nuclear Licensing Administrator

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Attachment

cc: A.B. Davis - Regional Administrator, RIII
B.L. Siegel - Project Manager, NRR
S.G. DuPont - Senior Resident Inspector, Dresden

3/4.2.2 SAFE SHUTDOWN EQUIPMENT AFFECTING UNIT 3 FIRE SAFE SHUTDOWN
LIMITING CONDITION FOR OPERATION

3.2.2.1 The equipment listed on Table 3.2.2-1a is required to implement Dresden Safe Shutdown Procedures (DSSPs) for Unit 3 and shall be OPERABLE.

APPLICABILITY Whenever the Unit 3 reactor water temperature is greater than 212°F.

ACTION:

- a. The equipment listed in Table 3.2.2-1a shall remain inoperable for no longer than seven days unless the alternate equipment listed in Table 3.2.2-1b is operable [Note A]. During this period operable detection instrumentation or automatic suppression systems are required in the Unit 2 fire areas that utilize the inoperable equipment in order to obtain post fire safe shutdown conditions [Note B].
- b. If the equipment in Table 3.2.2-1a and its alternate equipment in Table 3.2.2-1b is inoperable and detection or automatic suppression systems in the Unit 2 fire areas that utilize the inoperable equipment in order to obtain post fire safe shutdown conditions are inoperable:
 - 1) A dedicated continuous 15 minute fire watch [Note D] shall be established within one hour in the non-high radiation areas protected by the suppression or detection systems,
 - 2) A temporary video camera(s) will be installed in the high and low pressure heater bays as directed by Fire Marshal, within 1 hour. Monitors will be located in non-high radiation areas and will be monitored by the dedicated continuous 15 minute fire watch.
 - 3) The inoperable equipment shall remain inoperable for no longer than 67 days or Unit 2 must be in hot shutdown in the next 12 hours and in cold shutdown in the next 24 hours.
- c. If the equipment in Table 3.2.2-1a or the alternate equipment listed in Table 3.2.2-1b cannot be returned to service in 7 days:
 - 1) The Unit 2 fire areas that utilize the inoperable equipment in order to obtain post fire safe shutdown conditions shall contain operable detection or automatic suppression equipment [Note B],
 - 2) A dedicated once per hour fire inspection [Note C] shall be established within one hour in the above non-high radiation areas,
 - 3) A temporary video camera(s) will be installed in the high and low pressure heater bays as directed by Fire Marshal, within 1 hour. Monitors will be located in non-high radiation areas and will be monitored by the dedicated once per hour fire inspection.

4) The inoperable equipment shall remain inoperable for no longer than 67 days or Unit 2 must be in hot shutdown in the next 12 hours and cold shutdown in the next 24 hours.

NOTES:

- A. The flowpath for a pump is considered to consist of the pump, powered from an electrical bus with its associated emergency diesel generator, the associated water supply and the delivery system.
- B. Detection in the Reactor and Turbine Buildings is listed in Table 3.2.2-2 and is considered operable if the listed requirements are satisfied. Suppression systems listed in Table 3.2.2-3 are considered operable if the isolation valve is verified open.
- C. A dedicated roving fire inspection is defined as a person that is performing fire inspections such that the areas under observation are inspected at least once per hour (± 10 minutes). The fire inspections must be established within one hour of the discovery of the degraded condition. The fire inspection individual does not have to remain in one plant zone; however, he will not have any other work assignments.
- D. A dedicated continuous fire watch is defined as a person that is performing fire inspections such that the areas under observation are inspected at least once every 15 minutes (± 5 minutes). The fire watch must be established within one hour of the discovery of the degraded condition. The fire watch individual does not have to remain in one plant fire zone; however, he will not have any other work assignments and must continually tour the areas that have been identified.

SURVEILLANCE REQUIREMENTS

- 4.2.2.1 The safe shutdown systems shall be demonstrated operable:
- a. Quarterly by verifying that the local pressure gauges, local level gauges, flow gauges, access ladders and valve handwheels exist and are accessible.
 - b. Once per operating cycle by cycling manual valves in the flow path, verification of local isolation and control switch capability, and operation of motor-operated valves and diesel generator auxiliaries through the use of the alternate feeds.
 - c. Weekly by verifying that the combined total of water in the Unit 1, Unit 2/3A and Unit 2/3B condensate storage tanks is:
 - 1) at least 260,000 gallons for dual unit operation
 - 2) at least 130,000 gallons for single unit operation.

TABLE 3.2.2-1a

1. Equipment required to support Unit 3 Safe Shutdown.

<u>EQUIPMENT</u>	<u>SHUTDOWN PATH</u>	<u>FIRE WATCH AREA</u>
Unit 2/3 Diesel Generator	A1	Note 1
Unit 3 Isolation Condenser	A1	Note 1
Condensate Transfer Pump 2A	A1	Note 1
Control Rod Drive Pump 2A	A1	Note 1
Service Water Pump 2A	A1	Note 1
4KV Bus 23 and 23-1	A1	Note 1
480V Bus 28	A1	Note 1
480V MCC 28-1, 28-2, 28-3	A1	Note 1

NOTES:

1. A fire inspection will be established throughout the Unit 3 Reactor Building except for the refuel floor, the Isolation Condenser floor (Elevation 589 feet), the Isolation Condenser Pipe Chase (Elevations 570 feet and 545 feet 6 inches), the Traversing In-core Probe (TIP) Room (Elevation 517 feet 6 inches) and high radiation areas located in the Unit 3 Reactor Building. In addition, a fire inspection will be established in the Unit 3 Turbine Building (Elevations 469 feet, 495 feet, 517 feet 6 inches, and 538 feet and the cable tunnel) except for high radiation areas and the area of the Turbine Building which is common between Unit 2 and Unit 3 located on Elevation 517 feet 6 inches and Elevation 538 feet.

TABLE 3.2.2-1b

Alternate Unit 2 Equipment.

Unit 2 Diesel Generator
Unit 3 Isolation Condenser
Condensate Transfer Pump 2B
Control Rod Drive Pump 2B
Service Water Pump 2B
4KV Bus 24 and 24-1
480V Bus 29
480V MCC 29-2

TABLE 3.2.2-2

Unit 3 Fire Detection Instruments/Zones

<u>DETECTION INSTRUMENT COVERAGE BY FIRE AREA</u>	<u>DETECTION INSTRUMENT LOOP(S) OPERABLE</u>	<u>MINIMUM INSTRUMENTS OPERABLE PER LOOP (PERCENT)*</u>
Unit 3 Reactor Building Fire area RB3-II	1-1	50
	1-3	50
	1-5	50
	1-7	50
Unit 3 Turbine Building Fire Area TB-III	2-1	50
	2-3	50
	2-5	50
	7-1	50
	7-2	50
	7-3	50
	7-4	50
	7-5	50
7-6	50	
	7-7	50

* No two adjacent detectors may be inoperable at any time.

TABLE 3.2.2-3

SUPPRESSION SYSTEM COVERAGE

Unit 3 Reactor Building Suppression Systems

No area coverage

Unit 3 Turbine Building Suppression Systems

<u>Elevation</u>	<u>Coverage</u>
469 feet 6 inches	Entire Area
495 feet	Entire Area
502 feet	Unit 3 Cable Tunnel*
517 feet 6 inches	Reactor Feed Pump Room, Trackway, Common Corridor*
538 feet	High Pressure Heater Bay**, Low Pressure Heater Bay**, Turbine Pipeway**

* Detection system also present.

** Suppression systems located in high radiation areas.

3/4.2 POST FIRE SAFE SHUTDOWN EQUIPMENT

3/4.2.1 SAFE SHUTDOWN EQUIPMENT AFFECTING UNIT 2 POST FIRE SAFE SHUTDOWN LIMITING CONDITION FOR OPERATION

3.2.1.1 The equipment listed on Table 3.2.1-1a is required to implement Dresden Safe Shutdown Procedures (DSSPs) for Unit 2 and shall be OPERABLE.

APPLICABILITY: Whenever the Unit 2 reactor water temperature is greater than 212°F.

ACTION:

- a. The equipment listed in Table 3.2.1-1a shall remain inoperable for no longer than seven days unless the alternate equipment listed in Table 3.2.1-1b is operable [Note A]. During this period operable detection instrumentation or automatic suppression systems are required in the Unit 2 fire areas that utilize the inoperable equipment in order to obtain post fire safe shutdown conditions [Note B].
- b. If the equipment in Table 3.2.1-1a and its alternate equipment in Table 3.2.1-1b is inoperable and detection or automatic suppression systems in the Unit 2 fire areas that utilize the inoperable equipment in order to obtain post fire safe shutdown conditions are inoperable:
 - 1) A dedicated continuous 15 minute fire watch [Note D] shall be established within one hour in the non-high radiation areas protected by the suppression or detection systems,
 - 2) A temporary video camera(s) will be installed in the high and low pressure heater bays as directed by Fire Marshal, within 1 hour. Monitors will be located in non-high radiation areas and will be monitored by the dedicated continuous 15 minute fire watch.
 - 3) The inoperable equipment shall remain inoperable for no longer than 67 days or Unit 2 must be in hot shutdown in the next 12 hours and in cold shutdown in the next 24 hours.
- c. If the equipment in Table 3.2.1-1 or the alternate equipment listed in Table 3.2.1-1b cannot be returned to service in 7 days:
 - 1) The Unit 2 fire areas that utilize the inoperable equipment in order to obtain post fire safe shutdown conditions shall contain operable detection or automatic suppression equipment [Note B],
 - 2) A dedicated once per hour fire inspection [Note C] shall be established within one hour in the above non-high radiation areas,
 - 3) A temporary video camera(s) will be installed in the high and low pressure heater bays as directed by Fire Marshal, within 1 hour. Monitors will be located in non-high radiation areas and will be monitored by the dedicated once per hour fire inspection.

4) The inoperable equipment shall remain inoperable for no longer than 67 days or Unit 2 must be in hot shutdown in the next 12 hours and cold shutdown in the next 24 hours.

NOTES:

- A. The flowpath for a pump is considered to consist of the pump, powered from an electrical bus with its associated emergency diesel generator, the associated water supply and the delivery system.
- B. Detection in the Reactor and Turbine Buildings is listed in Table 3.2.1-2 and is considered operable if the listed requirements are satisfied. Suppression systems listed in Table 3.2.1-3 are considered operable if the isolation valve is verified open.
- C. A dedicated roving fire inspection is defined as a person that is performing fire inspections such that the areas under observation are inspected at least once per hour (± 10 minutes). The fire inspections must be established within one hour of the discovery of the degraded condition. The fire inspection individual does not have to remain in one plant zone; however, he will not have any other work assignments.
- D. A dedicated continuous fire watch is defined as a person that is performing fire inspections such that the areas under observation are inspected at least once every 15 minutes (± 5 minutes). The fire watch must be established within one hour of the discovery of the degraded condition. The fire watch individual does not have to remain in one plant fire zone; however, he will not have any other work assignments and must continually tour the areas that have been identified.

SURVEILLANCE REQUIREMENTS

4.2.1.1 The safe shutdown systems shall be demonstrated operable:

- a. Quarterly by verifying that the local pressure gauges, local level gauges, flow gauges, access ladders and valve handwheels exist and are accessible.
- b. Once per operating cycle by cycling manual valves in the flow path, verification of local isolation and control switch capability, and operation of motor-operated valves and diesel generator auxiliaries through the use of the alternate feeds.
- c. Weekly by verifying that the combined total of water in the Unit 1, Unit 2/3A, and Unit 2/3B condensate storage tanks is:
 - 1) at least 260,000 gallons for dual unit operation
 - 2) at least 130,000 gallons for single unit operation.

TABLE 3.2.1-1a

1. Equipment required to support Unit 2 Safe Shutdown.

<u>EQUIPMENT</u>	<u>SHUTDOWN PATH</u>	<u>FIRE WATCH AREA</u>
Unit 2/3 Diesel Generator	B1	Note 1
Unit 2 Isolation Condenser	B1	Note 1
Condensate Transfer Pump 3A	B1	Note 1
Control Rod Drive Pump 3A	B1	Note 1
Service Water Pump 3A	B1	Note 1
4KV Bus 33 and 33-1	B1	Note 1
480V Bus 38	B1	Note 1
480V MCC 38-1, 38-2	B1	Note 1

NOTES:

1. A fire inspection will be established throughout the Unit 2 Reactor Building except for the refuel floor, the Isolation Condenser floor (Elevation 589 feet), the Isolation Condenser Pipe Chase (Elevations 570 feet and 545 feet 6 inches), the Shutdown Cooling Pump (SDC) Room (Elevation 517 feet 6 inches) and high radiation areas located in the Unit 2 Reactor Building. In addition, a fire inspection will be established in the Unit 2 Turbine Building (Elevations 469 feet, 495 feet, 517 feet 6 inches, and 534/538 feet) except for high radiation areas and the area of the Turbine Building which is common between Unit 2 and Unit 3 located on Elevation 517 feet 6 inches and Elevation 538 feet.

TABLE 3.2.1-1b

Alternate Unit 3 Equipment

Unit 3 Diesel Generator
Unit 2 Isolation Condenser
Condensate Transfer Pump 3B
Control Rod Drive Pump 3B
Service Water Pump 3B
4KV Bus 34 and 34-1
480V Bus 39
480V MCC 39-2

TABLE 3.2.1-2

Unit 2 Fire Detection Instruments/Zones

<u>DETECTION INSTRUMENT COVERAGE BY FIRE AREA</u>	<u>DETECTION INSTRUMENT LOOP(S) OPERABLE</u>	<u>MINIMUM INSTRUMENTS OPERABLE PER LOOP (PERCENT)*</u>
Unit 2 Reactor Building	1-2	50
Fire area RB2-II	1-4	50
	1-6	50
	1-7	50
Unit 2 Turbine Building	2-1	50
Fire Area TB-I	2-2	50
	2-3	50
	2-5	50
	2-6	50
	2-7	50
	2-8	50
	5-4	50

* No two adjacent detectors may be inoperable at any time.

TABLE 3.2.1-3

SUPPRESSION SYSTEM COVERAGE

Unit 2 Reactor Building Suppression Systems

No area coverage

Unit 2 Turbine Building Suppression Systems

<u>Elevation</u>	<u>Coverage</u>
469 feet 6 inches	Entire Area
495 feet	Entire Area
517 feet 6 inches	Reactor Feed Pump Room, Trackway, Instrument Air Compressor, Common Corridor*
534/538 feet	Cable Concentration Area*, High Pressure Heater Bay**, Low Pressure Heater Bay**, Turbine Pipeway**

* Detection system also present.

** Suppression systems located in high radiation areas.

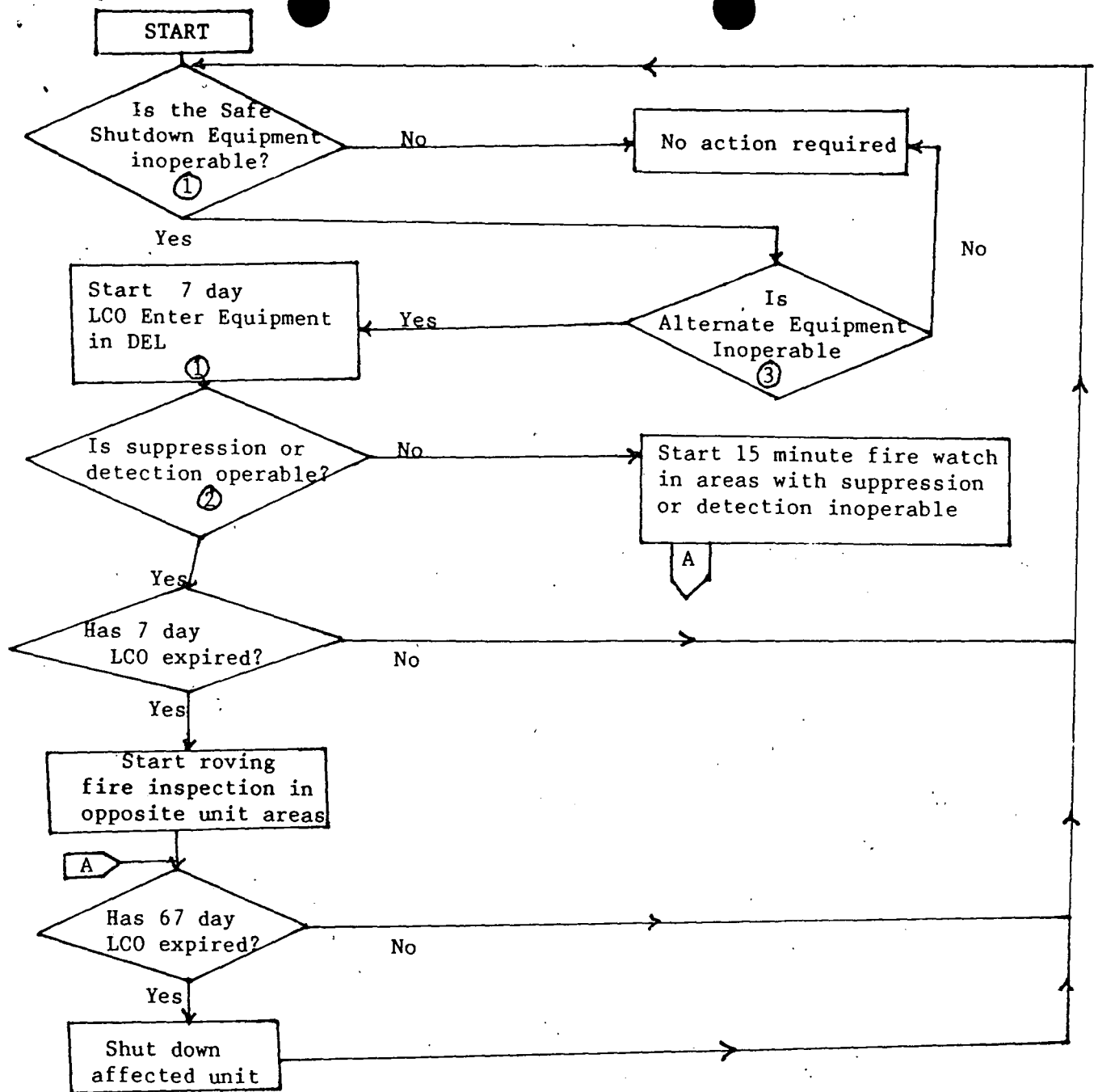


FIGURE 3.2.2-1
 INOPERABLE OPPOSITE UNIT SAFE SHUTDOWN EQUIPMENT FLOW DIAGRAM

- NOTES: 1 Refer to Table 3.2.2-1a
 2 Refer to Tables 3.2.2-2 and 3.2.2-3
 3 Refer to Table 3.2.2-1b

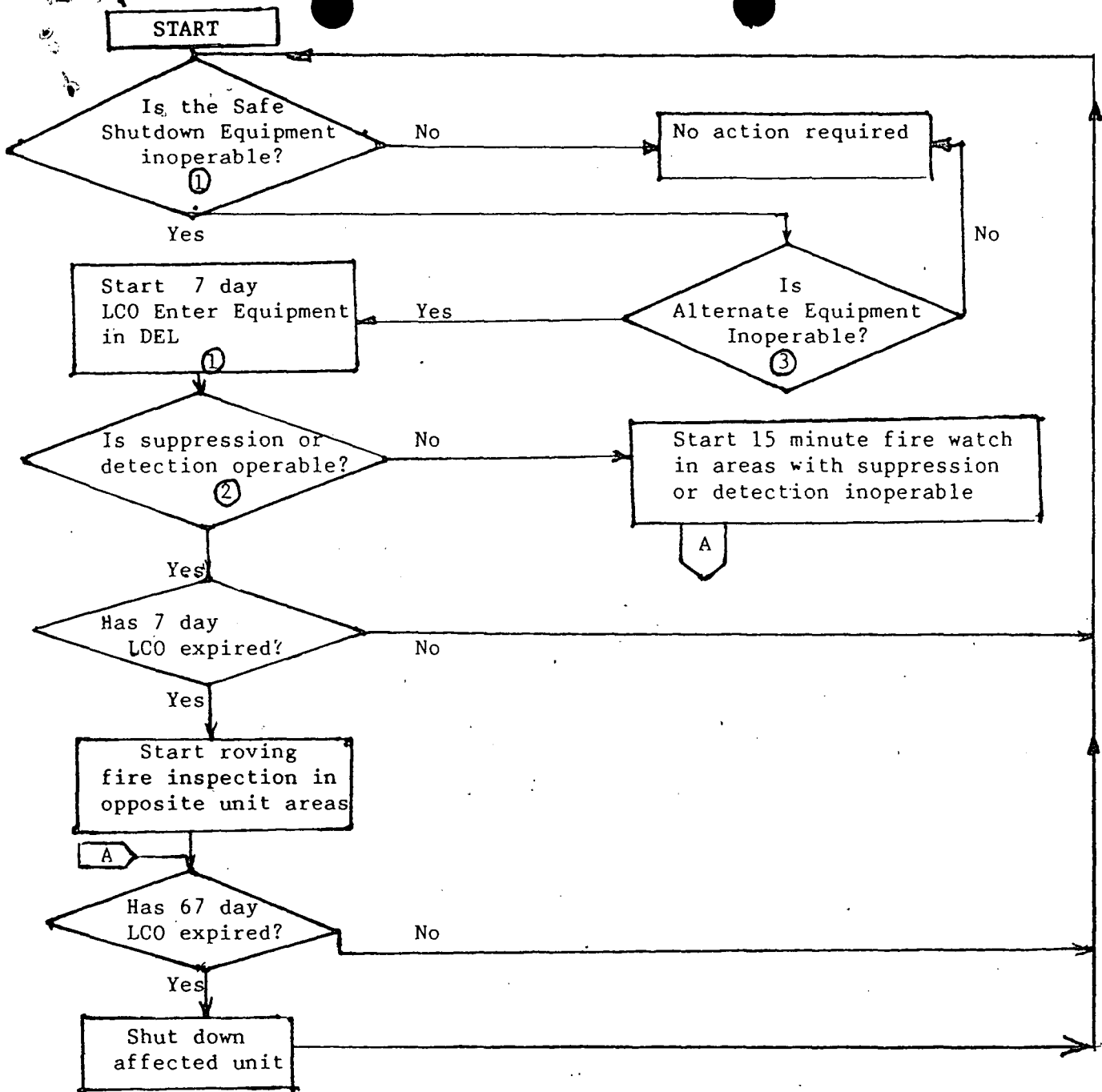


FIGURE 3.2.1-1
 INOPERABLE OPPOSITE UNIT SAFE SHUTDOWN EQUIPMENT FLOW DIAGRAM

- NOTES: 1 Refer to Table 3.2.1-1a
 2 Refer to Tables 3.2.1-2 and 3.2.1-3
 3 Refer to Table 3.2.1-1b