

# CATEGORY 1

## REGULATORY INFORMATION DISTRIBUTION SYSTEM (RIDS)

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 50-251 Turkey Point Plant, Unit 4, Florida Power and Light C    05000251  
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 HOVEY, R.J.    Florida Power & Light Co.  
 RECIP. NAME    RECIPIENT AFFILIATION  
 EBNETER, S.D.    Region 2 (Post 820201)

SUBJECT: Forwards comments on four of questions, part of NRC  
 site-specific written exam administered at plant on 960614,  
 per NUREG-1021. Procedures encl.

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JUN 28 1996

L-96-171

Mr. Stewart D. Ebnetter  
Regional Administrator, Region II  
U. S. Nuclear Regulatory Commission  
101 Marietta St., N.W., Suite 2900  
Atlanta, GA 30323

Dear Mr. Ebnetter:

Re: Turkey Point Units 3 and 4  
Docket Nos. 50-250 and 50-251  
SRO/RO License Examination Comments

In accordance with the provisions of NUREG-1021, Operator Licensing Examiner Standards, Examiner Standards ES-402, Attachment 3, Policies for Facility Review of Written Examinations, enclosed are Florida Power and Light Co. (FPL) comments on four of the questions which were part of the NRC site-specific written examination administered at Turkey Point on June 14, 1996. These comments and recommendations were discussed with the NRC Chief Examiner and are being submitted for your review.

Should there be any questions, please contact R. W. Lindsey at (305) 246-6649.

Very truly yours,

R. J. Hovey  
Vice President  
Turkey Point Plant

OIH

Enclosure

cc: T. A. Peebles, Chief, Operations Branch, Region II, USNRC  
G. T. Hopper, Chief Examiner, Region II, USNRC  
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COMMENTS FROM  
U.S. NUCLEAR REGULATORY COMMISSION SITE-SPECIFIC WRITTEN EXAM

EXAM DATE: June 14, 1996

LICENSE LEVEL: SRO (RO)

FACILITY: Turkey Point

We respectfully request you review the following written exam questions:

43 (69),

44 (70),

68 (94),

95,

[please see attached].

**SRO QUESTION 43 (69)**

Which ONE of the following conditions will sound an audible alarm on the main fire panel in the control room?

**ANSWER:**

C. - Any red fire alarm lamp or yellow trouble lamp lights.

**REFERENCE:**

SD-153 Fire Protection, Alternate Safe Shutdown and Safe Shutdown Systems, page 39.  
E.O. 6 of LP 6902143

**COMMENT:**

An Audible Alarm is also caused by improper condition of battery or charger, please see Pyrotronics vendor material (attached).

**RECOMMENDATION:**

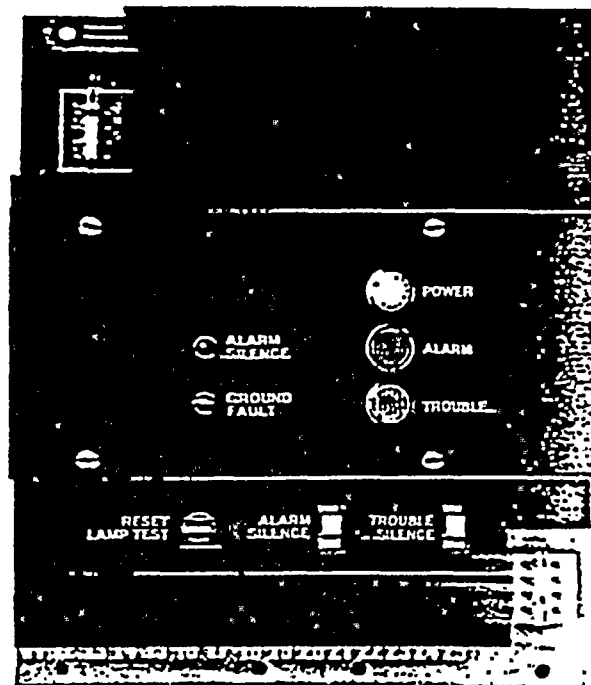
Accept answer A as an additional correct answer.

A. - The battery power supply to the panel fails.

B053

# Pyr-A-Larm® System 3

Universal Alarm Control



## MODEL CP-31 CONTROL PANEL

INSTALLATION AND MAINTENANCE INSTRUCTIONS



**Pyrotronics**

A Baker Industries Company

8 Ridgedale Avenue, Cedar Knolls, New Jersey 07927

Part No. 315-021386

practically any size and type system demand. A wide variety of input, output, and control modules are available to satisfy the most exacting and meticulous building control, security, and alarm specifications.

Three (3) main visual system indicators are mounted on the face of the CP-31, a white "Power" lamp, a red "Alarm" lamp, and a yellow "Trouble" lamp. A red LED "Alarm Silence" indicator and a yellow LED "Ground Fault" indicator are also supplied.

Three (3) momentary contact manual switches are mounted on the CP-31, one serving as a combination "Reset/Lamp Test" function, a second permits "Trouble Silence" and a third permits "Alarm Silence".

Note: When battery standby is used, audible power is 24 Vdc.

Four (4) receptacles are provided, one for the system module bus system, a second for the input power from the power supply. The third accommodates a battery charger/transfer module or a program plug, while the fourth provides chassis ground disconnect.

### Power

The Model CP-31 operates from a three-wire, 120 V, 60 Hz. supply consisting of a main power phase, a trouble phase, and a common neutral. Low voltage system power is provided by the PS-31 power supply module via a pin type connector. Battery standby is available as an option. A white system power lamp is illuminated to show that power is normal.

Loss of the main operating power on Line 1 is signaled by the system audible and yellow visual trouble indicators. Restoration of main operating power returns the panel to normal condition. When battery standby is specified, loss of main operating power results in a visual trouble signal, and the batteries provide power to the system.

The CP-31 provides terminals for either 120 Vac or 24 Vdc audible alarm device power. The choice of power is determined by a program plug supplied with the control panel.

### Alarm

An alarm signal at the CP-31 panel is initiated by any system module designed for alarm monitoring functions (such as a Model ZN-30, ZN-31, or ZA-30 Zone Module). The alarm signal is triggered via the alarm circuit of the module bus system. When this occurs, the red system "Alarm" lamp is illuminated and two alarm output circuits (one silenceable and one non-silenceable) are energized.

The silenceable alarm output circuit can be opened (silenced) by operating the momentary "Alarm Silence" switch. A red "Alarm Silence" LED is then illuminated and remains lit until the Model CP-31 is reset by operating the momentary "Reset/Lamp Test" switch.

Terminals for remote control of alarm silencing are provided in addition to a set of alarm operated SPDT contacts (rated 120 Vac, 3 amp).

An alarm signal will override a trouble condition.

### Trouble

A trouble condition, which will illuminate the yellow system "Trouble" lamp and sound the built-in audible trouble signal will be caused by any of the following:

- removal of or trouble associated with a system bus connected module
- an open in the CP-31 alarm relay coil
- loss of main operating power
- a ground fault on any external line or dc power
- improper condition of battery or charger

A ground fault condition is additionally indicated by a yellow "Ground Fault" LED.

Terminals for 24 Vdc connection to a remote visual annunciator are provided together with a set of trouble operated SPDT contacts (rated 120 Vac, 3 amp).

Note: When the panel is on emergency battery operation, the individual module and ground fault indicators are inoperative.

### Features

The use of the Pyr-A-Larm Control Panel, Model CP-31 (with power supply PS-31) provides the basis of a control system that can meet a wide variety of functional demands. Implementing the modular building block concept, a multiple-operation system can be supplied that will accommodate a combination of any of the following options, provided the total current demand does not exceed 10 amp. in alarm condition. (Refer to the applicable module catalog sheet to determine exact requirements.) For systems with greater current demands, alternate or additional power supplies are available.

- 2-stage alarm
- Multiple alarm priorities
- Master code
- Municipal tie with disconnect light and switch
- Remote station connection with disconnect light and switch
- Time limit cutout with indicator
- Supplementary relays
- Battery standby
- Double supervision, power failure annunciation
- Security circuits
- Non-fire monitoring
- Subsequent alarm
- Confirmation
- Class A detector and audible signal circuits
- Disconnect switch
- Selective manual audible signal silence
- Multiple zones
- Extinguishing system release

### Architect's Specifications

The control panel for the alarm system shall be a Pyr-A-Larm Model CP-31. It shall be listed by Underwriters Laboratories Inc. for service in accordance with NFPA Standards 72F 72B, 72C, and 72D.

It shall include lamps for system alarm, trouble, and ground detection. Momentary contact switches shall be provided for "Reset/Lamp Test", "Trouble Silence", and "Alarm Silence". The trouble silence switch shall silence the internal trouble signal sounding device. The alarm silence switch shall silence audible signal appliances connected to supervised audible signal circuits. The ground detection light shall be illuminated by a single ground fault on any detector circuit, audible signal circuit, or DC power line within the system. A single ground fault shall not prevent proper operation of the system. A means to conveniently isolate the ground detection circuit from ground shall be provided for ease of trouble shooting.

Alarm receipt shall override trouble indications. Trouble indications shall reappear upon resetting of the alarm condition. Trouble indications shall be self-restoring upon correction of the fault condition.

The Pyr-A-Larm Model CP-31 shall control any quantity of detection devices, audible signal appliances, input modules, and output modules. It shall be compatible with any combination of system control modules. It shall not be necessary to remove or exchange the control panel in order to expand the system or add functions such as, but not limited to:

- multi-stage alarm
- multiple alarm priorities
- coding
- time-in or time-out control
- confirmation of alarm
- double supervision, power failure annunciation
- disconnect switches
- remote annunciation
- security circuits
- battery standby power

The control panel shall have one set of SPDT alarm operated relay contacts and one set of SPDT trouble operated relay contacts. All contacts shall be rated at 120 Vac, 3 amp.

Terminals shall be provided for connection of remote trouble silence units containing a switch plus audible and visual trouble indicators. The control panel shall also be compatible with remote alarm silence and drill units.

Audible and visual trouble indications shall be caused by any of the following:

- removal of a detection device from a detector circuit
- an open or ground fault in a detector circuit
- an open, short, or ground fault in an audible signal circuit
- a ground fault on any DC line
- an open in the circuit connection to a local emergency municipal box
- removal of system input, output, or control module(s)
- improper condition of battery or charger

DC power shall be provided by a system power supply from a three-wire 120/240 Vac supply with grounded neutral, with battery standby as an option.

The Model CP-31 shall permit expansion of system capability to incorporate any combination of Pyr-A-Larm System 3 modules not exceeding a maximum current demand of 10 amp.

Power Requirement: 120/240 Vac, 60 Hz, three-wire 6 amp.

### Ordering Information

The Model CP-31 (with power supply Model PS-31, catalog sheet 3052) occupies space normally taken by six (6) modules and must be located in the upper right-hand position of any type EA enclosure. This should be considered when sizing the enclosure. Also specify whether the CP-31 is to be factory adjusted for ac or dc audible signaling by adding suffix "A" for ac or "D" for dc. When a BC-31 Battery Charger/Transfer module is used, audible signals must be 24 Vdc units and the CP-31 should be ordered with no suffix letter.

The Model CP-31 is normally mounted on rail/brackets, separately priced, for installation in the EA enclosures. Each enclosure requires a rail/bracket assembly kit of appropriate size. The size of the enclosure therefore must be noted at the time of order. Rail/bracket assembly kits are shown below. Also refer to catalog sheet 3325.

| Model No. | Description  | Shipping Weight    |
|-----------|--|--------------------|
| CP-31     | Control Panel  | 3.5 lbs. (1.59 kg) |
| CP-31A    | Control Panel (for ac audible signals, includes Jumper Plug, Model JP-3) | 3.5 lbs. (1.59 kg) |
| CP-31D    | Control Panel (for dc audible signals, includes Jumper Plug, Model JP-4) | 3.5 lbs. (1.59 kg) |

| Rail/Bracket Assembly Kit | Enclosure | Kit Shipping Weight |
|---------------------------|-----------|---------------------|
| EK-30                     | EA-30     | 5 lbs. (2.27 kg)    |
| EK-31                     | EA-31     | 6 lbs. (2.72 kg)    |
| EK-32                     | EA-32     | 10 lbs. (4.54 kg)   |
| EK-33                     | EA-33     | 14 lbs. (6.36 kg)   |
| EK-35                     | EA-35     | 18 lbs. (8.17 kg)   |

QUESTION: 042 (1.00)

Plant conditions:

- A loss of off-site power has occurred; simultaneously power to 120V vital instrument panel 3P07 was lost.
- Both Unit 3 EDGs have started.

Which ONE of the following actions must the operator perform under the above conditions?

- a. Control 3B steam generator water level by manual control of main feed bypass regulating valve.
- b. Manually perform bus stripping on 4KV bus 3B only.
- c. Manually close failed open Train 1 AFW flow control valves only.
- d. Manually sequence ESF loads onto EDG 3A.

QUESTION: 043 (1.00) (RC 69)

Which ONE of the following conditions will sound an audible alarm on the main fire panel in the control room?

- a. The battery power supply to the panel fails.
- b. Any deluge system is removed from service.
- c. Any red fire alarm lamp or yellow trouble lamp lights.
- d. The RCO sounds the Fire Horn.



ANSWER: 043 (1.00)

(Ro 57)

c.

REFERENCE:

SD-153, Fire Protection, Alternate Safe Shutdown and Safe Shutdown Systems, page 39.

E.O. 6 of LP 6902143

Item used on Turkey Point 1992/04/20 SRO exam.

000067A106 [3.5/3.7]

000067A106 ..(KA's)

ANSWER: 044 (1.00)

b.

REFERENCE:

0-ONOP-105, Control Room Evacuation, pages 8 and 48.

E.O. of LP-6902252

000068K202 [3.7/3.9]

000068G010 [4.1/4.2]

000068G010 000068K202 ..(KA's)

ANSWER: 045 (1.00)

u.

REFERENCE:

3-ONOP-053, Loss of Containment Integrity, page 4

E.O. 3 of LP-6902126

Item used on Turkey Point 1991/09/30 SRO exam.

000069A201 [3.7/4.3]

000069A201 ..(KA's)

ANSWER: 046 (1.00)

c.

REFERENCE:

3-BD-EOP-FR-C.1, Response to Inadequate Core Cooling Basis Document,

page 33.

E.O. 4 of LP-6902347

000074K311 [4.0/4.4]

000074K311 ..(KA's)



**SRO QUESTION 44 (70)**

Which one of the following IMMEDIATE actions is required to be performed by the Unit 3 Reactor Control Operator in the event of a fire burning out of control on the Control Room roof?

**ANSWER:**

B. - Declare the control room uninhabitable, trip the reactor and evacuate the Control Room.

**REFERENCE:**

ONOP-105, Control Room Evacuation, pages 8 and 48.  
E.O. of LP 6902252

**COMMENT:**

Immediate actions of 0-ONOP-016.10, Pre-Fire Plan Guidelines and Safe Shutdown Manual Actions, require dispatch of the Fire Brigade to the fire via the plant page system. This would be done prior to the NPS making the decision to evacuate the Control Room (see attached copy of 0-ONOP-016.10).

**RECOMMENDATION:**

Accept answer D as an additional correct answer.

D. - Dispatch the Fire Brigade to the Control Room roof via the Plant PA system.