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GAI REPORT NO. 2042

REVIEW OF CABLE INSTALLATION

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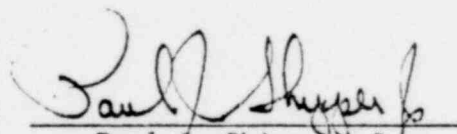
THREE MILE ISLAND NUCLEAR STATION, UNIT 1

Prepared for:

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### APPENDICES

APPENDIX A, "Three Mile Island Nuclear Station - Unit 1 Final Safety Analysis Report", Docket No. 50-289, Sections 8.2.2.10, 8.2.2.11, 8.2.2.12, and 8.2.2.13.

APPENDIX B, "Specification for Electrical Work," SP-5616, Items 1:16, 1:17, and 1:19.

APPENDIX C, Drawings, "Electrical Fire Hazard Analysis Cable Separation Review".

APPENDIX C, Drawings, "Electrical Fire Hazard Analysis Conduit-to-Conduit Separation Review".

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A review of the cable installation at Three Mile Island Nuclear Station, Unit 1 (TMI-1), was performed to verify the effectiveness of the cable installation in preventing the following:

- a. Spread of a tray fire to nearby tray(s) with or without the presence of the interposing nonsafety related cables.
- b. Damage to redundant cables from a possible exposure to fire.

This review also verified the effectiveness of the cable installation in retaining the ability to bring the plant to a cold shutdown and prevent offsite releases.

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The cable/raceway system at TMI 1 was installed in accordance with criteria described in "Three Mile Island Nuclear Station - Unit 1 Final Safety Analysis Report," Docket No. 50-289, Sections 8.2.2.10, 8.2.2.11, 8.2.2.12, and 8.2.2.13, and "Specification for Electrical Work," SP-5616, Items 1:16, 1:17, and 1:19. These sections are included as Appendices A and B, respectively, to this report. In addition, the cable tray installation and conduit layout drawings were prepared based upon the written descriptions presented by the above referenced documents.

The construction craftsmen installed the equipment in accordance with the design documents and the quality control program at TMI 1 assured proper installation of raceway and cable based upon the design documents. The cable was installed in an orderly arrangement with the first layer of cable being placed in the cable tray to avoid interlacing the cable. Additional details of the cable system are addressed in the Appendices to this report.

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### 3.0 DISCUSSION

#### 3.1 GENERAL

The cable tray system at TMI 1 was analyzed based upon an individual tray to tray separation and individual tray to tray separation with an interposing tray bridging the individual trays. Results of the initial survey are shown by the following drawings, included as Appendix C to this report:

- a. SS-FHA-022, Sheets 1 through 19.
- b. SS-FHA-023, Sheet 1.
- c. SS-FHA-024, Sheets 1 through 3.
- d. SS-FHA-025, Sheets 1 through 3.
- e. SS-FHA-034, Sheet 1.
- f. SS-FHA-036, Sheets 1 through 6.
- g. SS-FHA-037, Sheets 1 through 9.

Data to compile the survey drawings were extracted from the cable tray layout drawings which were previously submitted to the U.S. Nuclear Regulatory Commission (NRC). These drawings are referenced in the upper left corner of each sheet of the drawings included in Appendix C.

Only areas containing opposite channel Engineered Safeguard (ES) cable trays were analyzed during this study.

The review was performed using the following procedure:

- a. Individual trays were identified and noted.

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- b. Elevation of each tray was noted.
- c. Tray situation was noted.
- d. Vertical distance was noted.
- e. Horizontal distance was noted.
- f. Category was determined.
- g. Fire barrier installation was noted.
- h. Any clarifying remarks were listed.

Four categories, indicated on the drawings included in Appendix C, have been defined as follows:

a. Category A - Spatial Separation between ES Trays

Category A has been indicated whenever two ES trays of different channels are separated by 3 feet or less, horizontally. Where crossovers occur, the situation has been included regardless of vertical separation.

b. Category B - Spatial Separation between ES and Non-ES Trays

Category B has been indicated whenever an ES and a non-ES tray are separated by 3 feet or less, horizontally. Where crossovers occur, the situation has been included regardless of vertical separation.

In some cases an ES tray is close to two or more non-ES trays. In such instances all non-ES trays are noted.

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c. Category C - Bridging between ES Trays

Category C is indicated whenever two ES trays of different channels are bridged by either an ES tray or a non-ES tray. The horizontal distance between the bridged trays is also indicated.

d. Category D - Bridging between ES and Non-ES Trays

Category D is indicated whenever an ES tray of one channel and a non-ES tray are bridged by an ES tray of different channel. The horizontal distance between the bridged trays is also indicated.

In Categories A and B there are three possible subdivisions: "crosses over"; "is parallel to"; and "is close to". In the "crosses over" case, trays are separated vertically and are perpendicular to each other. In the "parallel to" and "close to" cases, trays may be separated both horizontally and vertically. Separation distances are listed on the drawings included in Appendix C.

After the raw data had been compiled, a detailed analysis was performed. Results of this analysis are presented in Section 3.2.

A second raceway survey was conducted to determine and document the ES conduit within various fire zones in TMI 1. Since conduit is shown schematically on the drawings included as Appendix D, no attempt was made to determine separation distance between redundant circuits. All opposite channel conduits that violate the separation criteria have been subjected to an engineering review and evaluation to assure the ability of the plant to achieve a cold shutdown condition should a fire render circuits in these conduits inoperable. Where the situation existed that Cold Shutdown could possibly be jeopardized, fire barriers were installed to preclude damage to the vulnerable circuits.

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### 3.2 DETAILED AREA ANALYSIS

#### 3.2.1 Fuel Handling and Auxiliary Buildings

The greatest concentration of ES cable tray in the fuel handling and auxiliary buildings is located on elevation 281'. Within this area all specific separation problems are found. The cable tray crossover situation varies from a minimum vertical separation of 10 inches between ES trays to a maximum vertical separation of 7 feet-2 inches. In all cases a fire barrier has been installed in accordance with the instructions delineated by the construction specifications. Horizontal separation between ES trays is as little as 1 foot-3 inches in the same plane. Fire barriers have been installed to assure adequate separation in such cases. Bridging between ES and non-ES trays occurs in a number of locations within this area. In all cases fire barriers have been installed to preclude damage to the opposite channel ES tray. Spatial separation of the bridging varies from a minimum of 1 foot-3 inches to more than 20 feet. The majority of the bridges are separated by at least 3 feet.

The remainder of the areas (elevations 305', 331', 348', and the heat exchanger vault) has separation greater than 1 foot between opposite channel ES trays and fire barriers have been installed to provide greater protection.

Based upon the above review, the cable tray installation requires no further modification to preclude damage from an internal or external cable tray fire. Spatial separation, fire barrier installation, and cable tray configuration will mitigate any damage, caused by a fire, to a degree that will allow TMI 1 to be brought to a safe, cold shutdown and prevent offsite releases.

#### 3.2.2 Intermediate Building

All ES cable tray in the intermediate building is vertically separated by a minimum of 5 feet-10 inches at crossovers and fire barriers have been installed at all crossovers in this building. Where ES cable trays are parallel, minimum separation is 1 foot-4 inches and fire barriers have been provided.



Based upon the above review, the cable tray installation requires no further modification to preclude damage from an internal or external cable tray fire. Spatial separation, fire barrier installation and cable tray configuration will mitigate any damage, caused by a fire, to a degree that will allow TMI 1 to be brought to a safe cold shutdown and prevent offsite releases.

### 3.2.3 Intermediate Area of the Turbine Building

The intermediate area of the turbine building houses only one channel (channel C) of ES cable tray. Since both the A and B channels would remain intact, the plant could achieve safe, cold shutdown should fire destroy the channel C cable tray in this area.

Based upon the above review, the cable tray installation requires no further modification to preclude damage from an internal or external cable tray fire. Spatial separation, fire barrier installation, and cable tray configuration will mitigate any damage, caused by a fire, to a degree that will allow TMI 1 to be brought to a safe, cold shutdown and prevent offsite releases.

### 3.2.4 Control Building

Within the control building ES cable tray has been designed to minimize exposure to hazards between redundant channels. The minimum vertical ES tray crossover separation is 1 foot-2 inches. Fire barriers have been installed in all locations where ES trays cross over an ES tray of an opposite channel. Bridging between opposite channel trays occurs at 35 places throughout the control building. In all such locations either fire barriers have been installed to preclude damage or spatial separation is sufficient to eliminate fire spreading between channels.

Cable tray separation within the relay room was given a cursory review because a CO<sub>2</sub> fire suppression system is installed and operational and remote shutdown equipment, which will be designed to be independent of cable and equipment within the relay room, will be installed.

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Based upon the above review, the cable tray installation requires no further modification to preclude damage from an internal or external cable tray fire. Spatial separation, fire barrier installation, and cable tray configuration will mitigate any damage, caused by a fire, to a degree that will allow TMI 1 to be brought to a safe, cold shutdown and prevent offsite releases.

#### 3.2.5 Reactor Building

No ES cable tray is located inside the reactor building.

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CONCLUSION

Based upon this review and the successful completion of fire barrier tests, the existing cable installation at TMI 1 is adequate. The cable installation is effective in preventing the following:

- a. Spread of a tray fire to a nearby tray(s) with or without the presence of interposing nonsafety related cables.
- b. Damage to redundant cables resulting from possible exposure to fire.

No further modification to the cable installation are required. Should a fire occur, the cable installation provides for sufficient capability to mitigate the consequences of the fire while bringing the plant to a safe, cold shutdown condition and precluding any offsite release of radioactive material.

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APPENDIX A

"Three Mile Island Nuclear Station - Unit 1  
Final Safety Analysis Report," Docket No. 50-289

Sections 8.2.2.10, 8.2.2.11, 8.2.2.12, and 8.2.2.13

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8.2.2.10      Evaluation of the Physical Layout, Electrical  
Distribution System Equipment

The electrical distribution system equipment has been located such as to minimize the vulnerability of vital circuits to physical damage. The locations are as follows:

- a. The two full sized auxiliary transformers are located outdoors, physically separated from each other. Lightning arresters have been provided on the high voltage winding for lightning protection. The transformers are protected by automatic water spray systems to extinguish oil fires quickly and prevent the spread of fire. Transformers are separated to minimize their exposure to fire, water, and mechanical damage.
- b. The unit auxiliary 6900 volt switchgear, 4160 volt switchgear, and 480 volt switchgear are located in areas so as to minimize exposure to mechanical, fire, and water damage. This equipment is coordinated electrically to permit safe operation of the equipment under normal and short circuit conditions.
- c. Engineered safeguards 4160 volt switchgear and 480 volt power centers are located in seismic Class I areas within structures designed for the hypothetical aircraft incident. Separation of redundant power systems has been maintained throughout. This equipment is coordinated electrically to permit safe operation under normal and short circuit conditions.

- d. 480 volt motor control centers are located in the areas of electrical load concentration. Those associated with the turbine-generator auxiliary systems in general are located below the turbine-generator operating floor level. Engineered safeguards motor control centers are located in seismic Class I areas within structures designed for the hypothetical aircraft incident. Separation of redundant power systems has been maintained throughout.
- e. The station batteries and associated chargers and inverters are in separate rooms within the control building, which is a Class I structure designed to withstand the hypothetical aircraft incident, to minimize vulnerability to damage. The battery rooms are supplied and exhausted via common ducts. Each room has its own supply and exhaust duct system which can be automatically isolated by activating isolation dampers in the ducts. The isolation dampers are activated by combination smoke and fire detectors in the ducts.
- f. Nonsegregated, metal-enclosed 4160 volt busses are used for major bus runs where large blocks of current are to be carried. The routing of this metal-enclosed bus is such as to minimize its exposure to mechanical, fire, and water damage. Although none is required to be Class 1E, those portions which are located within a Class I structure have been specified to withstand design earthquakes.
- g. The application and routing of control, instrumentation, and power cables is such as to minimize their vulnerability. The cables have been applied using conservative margins with respect to their current carrying capacities, insulation properties, and mechanical construction. Power and control cable insulations for use throughout the plant have been selected for the optimum combination of insulation, fire resistant, and non propagation qualities. Cable insulations in the Reactor Building have been selected so as to minimize the harmful effects of radiation, heat, and humidity. Appropriate instrumentation cables are shielded to minimize induced voltage and magnetic interference. Wire and cables related to engineered safeguard and reactor protective systems are being routed and installed in such a manner as to maintain the integrity of their respective redundant channels and protect them from physical damage.

Circuits, trays, conduit, and electrical equipment which are Class I from the public safety standpoint are being color coded to help ensure the complete maintaining of power, control, and instrument channel integrity. Cables originating from blue coded equipment, for instance, are not routed via anything but blue coded ducts or equipment.

Cables and equipment required for reactor protection and engineered safeguards systems are color coded as follows:

- 1. Power, control and instrumentation cables, conduit, trays, switchgear, distribution panelboards, motors, equipment cabinets, etc., are color coded to identify their function and/or channel association. The color code scheme is as follows:

Red (Channel A)

1D 4KV Switchgear  
1P 480V Switchgear  
1R 480V Switchgear  
1A ES MCC  
1A ES Valves MCC  
1A ES Screen House MCC  
1E DC Panelboard  
1P ES Diesel Generator d-c Panelboard  
1A Inverter  
1A Vital Instr. Bus Panelboard VBA  
A ES Actuation Transmitter & Bistable  
A ES Bistable Aux. Relay Cab. # 1  
A ES Actuation Cab. # 4  
A RPS Channel (1,5)

Green (Channel B)

1E 4KV Switchgear  
1S 380V Switchgear  
1T 480V Switchgear  
1B ES MCC  
1B ES Valve MCC  
1B ES Screen House MCC  
1F DC Panelboard  
1Q ES Diesel Generator d-c Panelboard  
1B Inverter  
1B Vital Instr. Bus Panelboard VBB  
B ES Actuation Transmitter & Bistable  
B ES Bistable Aux. Relay Cab. # 2  
B ES Actuation Cab. # 5  
B RPS Channel (2,6)

Yellow (Channel C)

1C ES Valve MCC  
1M DC Panelboard  
1C Inverter  
1C Vital Instr. Bus Panelboard VBC  
C ES Actuation Transmitter & Bistable  
C ES Bistable Aux. Relay Cab. #3  
C RPS Channel (3,7)

Blue (Channel D)

1D Inverter  
1D Vital Instr. Bus Panelboard VBD  
D RPS Channel (4,8)

2. All cables have their circuit identifying number permanently affixed to each end and wherever they leave their assigned cable tray.
3. All cable trays have their own unique number affixed to them as well as being color coded.

8.2.2.11 General Cable Considerations

- a. In general, motor and transformer feeder cables are rated on a continuous basis to 125 percent of full load current. This provides for motor and equipment operation at service factor ratings. The code used for cable tray loading and separation is IPCEA - (Insulated Power Cable Engineers Association), three conductor concentric stranded rubber insulated cables in air at 40 C ambient when installed without maintained spacing.
- b. Fire barriers are used at cable trays and cable runs where they enter or leave a Class I area. There will be fire barriers where the cable trays enter the control and auxiliary buildings and where vertical trays pass through floor openings.
- c. A-C circuits within the plant are protected by circuit breakers. D-C circuits are protected by fuses. The use of circuit breakers provides 3-phase isolation of a circuit.
- d. Power and control cable trays are ladder type. Where there are horizontal trays passing under grating or hatches, the top tray has a solid cover which is spaced about 3/4 of an inch above the tray for ventilation. All vertical trays have solid covers to 6 feet above their floor penetrations.
- e. Power circuit cables were established on the basis of the maximum ambient temperature expected, the current requirements of the respective equipment and the designed cable tray loading.
- f. An ambient temperature of 50 C within the reactor containment, control, auxiliary, intermediate, fuel handling, and screen house structures, and an ambient temperature of 40 C in all other plant areas is the design basis ambient for all power cable ratings.
- g. The application and routing of control, instrumentation, and power cables are such as to minimize their vulnerability to damage from any source. All cables are designed using conservative margins with respect to their current carrying capacities, insulation properties and mechanical construction. Power cable insulation everywhere but in the reactor building is rated 90 C with overall interlocked armor and was selected to minimize the harmful effects of radiation, heat, and humidity, and to be non-flame propagating. In the reactor building the interlocked armor was omitted to minimize the quantity of zinc. Appropriate instrumentation cables are shielded to minimize induced voltage and magnetic interference. Wire and cables related to engineered safeguard and reactor protective systems are routed and installed to maintain the integrity of their respective redundant channels and protect them from physical damage. Engineered safeguards cables within containment are run in conduit which will protect them from the building sprays. Special pressure-tight flexible steel hose is used at all engineered safeguard motor terminations.



- h. Sensitive combination smoke and fire detectors as described in Section 9.8.6 are located in the ventilation ducts as follows:

Control Room - 5  
Relay Room - 1  
Switchgear Rooms - 1 each  
Battery Rooms - 1 each  
Battery Charger Rooms - 1 each  
Reactor Building Purge Exhaust - 1  
Auxiliary Building - 1  
Air Intake Tunnel - 1

All of these detectors are alarmed in the control room on the heating and ventilating control panel annunciator. All of these detectors receive their power from a regulated a-c source and they are self monitoring against circuit faults.

In addition, combustible vapor detectors are provided as described in Section 9.8.3.6.

#### 8.2.2.12 Separation of Redundant Circuits

- a. Cabling for redundant components has been identified utilizing four different colors and the redundant power, instrumentation, and control cables are run separately.
1. There is four channel separation for the reactor protection and safeguards instrumentation circuits. This separation is maintained from the sensor to the Bistable Rack or R.P.S. Subassembly and between these cabinets and the logic or relay cabinets. Since input and output signals lose their channel identity, no channel separation is provided within each of the bistable cabinets.
  2. Logic output control and power cables for the operation of redundant components in safety or safeguards systems are routed separately.
- b. DC control power from the station batteries is run in underground duct to the substation. Separation is maintained by barriers in manholes and in the substation control house. Separation is also maintained for all safeguards redundant bus d-c feeders.
- c. The minimum physical dimensions between a safeguard channel's power, control, and instrument cable trays are 7 in. vertical separation between the bottom of the top tray and top of lower tray, and 6 in. horizontal separation between adjacent sides. An effort has been made to maintain maximum separation between redundant trays, and in most cases has been accomplished, with separation of as much as 20 feet or more. In a very few cases the separation is about 12 inches and in these cases, a barrier is installed between the trays.
- d. Wiring of mutually redundant channels is separated by six inches minimum free air space or a fire-proofing type material barrier is installed between channels inside the main control room consoles.

- d. There are three different locations on the containment building wall where electrical penetrations are made. These three locations are physically separated by some distance. The physical separation of the penetration cartridges within a particular area is determined by the reactor building tendon spacing. The 12 inch penetration sleeves are on minimum vertical tendon spacing between centers of 2 ft 10 in. Minimum horizontal spacing of redundant safeguards penetrations is 3 ft 3 in.

Engineered safeguards penetrations are located within two adjacent 90° quadrants but are separated into three groups within these two quadrants. The first group which is in quadrant II consists of two redundant nuclear instrumentation penetrations, two redundant low level process instrumentation penetrations, and channel C reactor building fan power. The second group is in quadrant III and is separated from the first group 40' 6" radial or 4 ft 7 3/4 in. straight line distance between the closest penetrations inside the reactor building and 4 ft 11 1/4 in. outside the reactor building. Group two consists of two redundant nuclear instrumentation penetrations and two redundant low level process instrumentation penetrations. Group three is also in quadrant III but is separated from group two by 40° 5' 29" radial or 44 ft. 6 3/4 in. straight line distance between closest penetrations inside the reactor building and 46 ft. 11 1/2 in. outside of the reactor building. Group three consists of redundant low voltage control and channel A & B reactor building fan power.

#### 8.2.2.13 Cable Tray Loading and Separation

##### 8.2.2.13.1 7200 V. Power Cable

- a. No other cable is mixed in the same tray with 7200 V. power cable.
- b. There shall be only one layer of cable in a tray.
- c. Cable ampacity is derated in accordance with 8.2.2.11 a.

##### 8.2.2.13.2 4160 V. Power Cable

- a. No other type of cable is mixed in the same tray with 4160 V. power cable.
- b. There shall be only one layer of cable in a tray.
- c. Cable ampacity is derated by using a factor for 50 C ambients and in accordance with 8.2.2.11a.
- d. Emergency feeders to 4160 V. buses 1D and 1E are considered to be redundant safeguards circuits.



8.2.2.1.13.3 480 V. Bus Tie Cable

- a. No other type of cable is mixed in the same tray with 480 V. bus tie cable.
- b. There is only one layer of cables in a tray.
- c. Cable ampacity is derated by using a factor for 50 C ambients and in accordance with 8.2.2.11a.

8.2.2.1.13.4 480 V. Power Cable

- a. No other type of cable is mixed in the same tray with 480 V. heavy power cable, size No. 6 and larger.
- b. Control cable may be mixed in the same tray with 480 V. interlocked armor low power (cable size No. 8 and smaller), where necessity dictates. In such cases, a metal barrier will be used to separate control and power.
- c. Tray loadings of 50 percent physical fill are the design objective. There are exceptions, such as crossovers, where the tray fill approaches 100 percent. However, in all cases thermal loading has been considered leading to the use of derating factors for 50 C ambients in the auxiliary, containment, intermediate, fuel handling, and screen house structures and in accordance with 8.2.2.11a for all other areas.

8.2.2.1.13.5 Control Cable

In general, control cable trays are not filled above 60 percent of their physical capacity. However, in certain areas where physical limitations govern, the cable fill may reach 100 percent. In all cases, however, thermal loading has been considered.

8.2.2.1.13.6 Instrument Cable

- a. In general, instrument cable trays are not filled above 60 percent of their physical capacity. However, in certain areas where physical limitations govern, the cable fill may reach 100 percent.
- b. There are no other types of cables mixed in with instrumentation cabling.

APPENDIX B

"Specification for Electrical Work."

/ SP-5616

ITEMS 1:16, 1:17, and 1:19

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1:16 Cable Trays and Prefabricated Structures

- 1:16.1 The structures and supports to be erected hereunder shall be made up of miscellaneous steel and/or aluminum of relatively light sections, together with steel plate, metal screens, etc. Included among these structures are cable trays, supports, cable tray covers, cable enclosures, miscellaneous enclosures, boxes, cabinets, and housing supports required for the completion of the electrical installation. The aforementioned supports shall be fabricated and erected in the field by the CONTRACTOR. Supports for cable trays shall be spaced in accordance with the ENGINEER'S Drawings and instruction sheets.
- 1:16.2 Enclosures and supports shall be furnished and erected by the CONTRACTOR in accordance with construction details shown on the Drawings. Installation shall be complete with all hangers, cable grips in cable enclosures, conduit plates, access panels, flexible conduit, covers and other accessories. Structures and supports shall be erected level, plumb, square, free from twists, and at correct grade. The CONTRACTOR shall perform all incidental cutting, fitting, drilling, bolting, anchoring, and welding required to make structural connections and to complete the installations in a neat and workmanlike manner. Slag shall be chipped from welds and welds touched up with an approved paint primer. The CONTRACTOR shall suitably insulate wall penetrations with B & W Kaowool, subsequently covered with water based Flamemastic.

1:16.3 After installation, all cable trays shall be colored coded as indicated on the Drawings to designated safeguards or reactor protection channels. Color coding shall be by means of stripes of paint and shall be done at no greater than 10 ft intervals or by means of continuous painting except for tray identification markers, etc., on both sides of the tray (where physical access permits), Channel "A" red, "B" green, "C" yellow, and "D" blue. Whichever painting method is selected, it shall be used exclusively, i.e., striping and continuous shall not be intermixed.

1:16.4 Except where special necessity dictates and special precautions are taken, no two trays of different color coding shall be located one above the other, nor closer to each other than 3 ft as shown on Drawings. Any exceptions shall be called to the attention of the ENGINEER.

1:16.5 Power, control, and instrument cable trays will be supplied by the OWNER. All other material shall be supplied by the CONTRACTOR.

1:17 Conduit System

The CONTRACTOR shall install all conduit, with associated fittings, and accessories required for power, control, intercommunication, telephone, lighting, etc., as shown on the Drawings and as specified herein. Conduit and fittings shall be in accordance with the following:

1. Indoor conduit:

- a. Conduit for general power, control, lighting and receptacles, intercommunication, telephone, and instrument circuits shall be rigid thick wall galvanized steel in accordance with specifications and dimensions for standard thick wall galvanized conduit as set forth in Federal Specification WW-C-581d(3), except for conduit to be used inside the reactor building which shall not be galvanized but which shall be black iron coated with an approved, in-containment coating prior to installation.
- b. Conduit installed in concrete indoors shall have water-tight connectors. The minimum size of such conduit shall be 1 inch unless otherwise indicated on the Drawings.
- c. The size of conduit to be used for the various runs shall be as noted on the Drawings. All fittings 1-1/2 inch and larger shall be of the mogul type except inside of the Reactor Building where the next larger standard size may be used. All conduit ends shall be covered with capped bushings, wood plugs or other approved means until the cable is pulled. Conduit ends that are part of overhead lighting runs, low points of all other runs, and duct banks in manholes may be left uncapped.
- d. Flexible galvanized steel conduit in limited lengths may be used in locations where building construction prevents use of continuous runs of rigid conduit, subject to the approval of the CONSTRUCTION MANAGER.

POOR  
ORIGINAL

Revised	Revised	Revised	SP-5616
4-27-73	12-20-72	7-20-71	2-14-69
	Revised	Revised	Revision I
	2-6-73	10-6-72	6-1-70

- e. Not more than three 90 degree bends will be allowed in any run of conduit. Conduit for coax, nine pair special instrument cable, and triax cable (nuclear instrumentation) shall have not more than two 90 degree bends and one 45 degree bend in any run. Where more bends are required, a pull box shall be installed. Pull boxes shall be installed every 100 ft. in long conduit runs or as specified on the Drawings.
- f. All conduit shall be neatly run and evenly spaced with conduits in parallel when in ducts or banks. All field bends required shall be uniform long radius sweeps, bent on a suitable bender, and without flattened cross sections on bends. Conduit shall be cut in an approved manner and threaded ends run on a suitable threading machine. Burrs shall be carefully removed with file, butt reamer, or other approved means. Field threads on steel conduit shall be painted with an approved paint before fittings are attached. Conduit runs shall be made up with all required condulets, couplings, and other required fittings. Fittings shall be made up with full thread engagement, providing structural rigidity and low electrical resistance to ground across joints. Metallic conduit run into boxes shall have two locknuts and a bushing unless otherwise shown on the Drawings. Special precautions shall be taken to see that on buried or concealed conduit all connections are made water tight.
- g. After installation, all safeguards or reactor protection conduit shall be color coded. Color coding shall be accomplished by painting except inside the reactor building where plastic tags 2-1/8" x 1-1/2" colored with their safeguard color and bearing the word SAFEGUARDS and their letter channel designation shall be used. The tags shall be installed every three feet and fastened with two fibre glass lacing cords or two stainless steel wires. In the reactor building, conduits and cables shall be tagged with fibre marking discs attached with fibre glass cord, nylon tie wraps, or stainless steel wire identifying the conduit by number and cable by circuit number.
- h. At locations where flush type cabinets are specified, the CONTRACTOR shall install three empty one inch conduits out the top of each cabinet. Conduits shall extend six inches above finished ceiling and be capped.
- i. Conduit sleeves through walls shall have a coupling flush with outside face of wall and shall be rigid galvanized conduit.
- j. Conduit links between permanent structures and terminal boxes or equipment requiring rapid replacement by spare equipment in case of failure shall consist of flexible steel conduit. Flexible steel conduit shall also be placed as a connecting link in other applications such as for motor conduits, instrument conduits, where shown on the Drawings, or when directed by the CONSTRUCTION MANAGER.

Revised	Revised	SP-5616
4-27-73	1-18-73	2-14-69
Revised	Revised	Appended
6-1-73	2-28-73	12-20-72

k. Engineered Safeguard Wiring Separation Criteria:

(1) Definition:

Color coding of wiring is used to facilitate the identification of the physical path of a circuit to insure adequate separation of redundant circuits.

(2) Assignment:

- (a) Color coding is assigned to a cable to distinguish the wiring as part of an Engineered Safeguard (ES) channel. Any raceway containing an ES color coded cable assumes the same color designation as the cable. Other cables of the same color coding may share a raceway of the same color designation.
- (b) Non-ES circuits that are routed via an ES raceway are identified with partial coloring. Non-ES raceways may carry non-ES cables that have been color coded by virtue of their routing through ES raceways.
- (c) Circuits that interconnect wiring between two different ES channels are color coded to show the colors of both ES channels (candy striping).

(3) Separation by Voltage Levels:

- (a) Wiring of a single color coded ES channel is further segregated according to the voltage level of the wiring. Three voltage levels are:
  - i. Medium voltage
  - ii. Low Voltage
  - iii. Control
- (b) Cable trays of the same ES channel but different voltage level may be stacked with a minimum vertical separation of seven inches. Different voltage level trays on the same horizontal plane shall have six inches separation.
- (c) Different voltage levels of ES wiring in trays versus conduit or conduit versus conduit shall not come in direct contact with each other in the vertical or horizontal arrangement.
- (d) Where cable trays of different voltage levels are stacked with a minimum separation, they shall be arranged in order of decreasing voltage level or as assigned by the ENGINEER.



Revised  
6-1-73

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2-14-69  
Appended  
4-27-73

- (e) Instrumentation is color coded for identification, but forms a unique instrumentation channel for separation purposes.

(4) Separation of Color Coded Wiring:

- (a) In areas of the plant where color coded wiring is subject to the hazard of missiles or fire, minimum separation must be maintained between wiring of mutually redundant channels. A three foot separation is maintained between raceways of different channels, whether the raceways are tray or conduit, or any combination of the two.
- (b) In protected areas of the plant where there is no hazard of external missiles or fire, the limits of separation requirements may be reduced by the ENGINEER between channel raceways of different colors. Where cable trays parallel each other in the horizontal plane the three foot separation is maintained. Where cable trays of different colors parallel or crossover each other, a fire barrier is called for on the Drawings. Where a channelized conduit parallels a channelized cable tray, a six inch separation is maintained in any plane, except when a channelized conduit is above a channelized tray; then it shall maintain a three foot separation. A channelized conduit intersecting a channelized cable tray at any angle must maintain a three foot separation above the tray, and a six inch separation below the tray. Conduits of different channels maintain a six inch separation.

(5) Barrier Material:

If the minimum separation cannot be maintained, a fire barrier is called for on the cable tray or the "as built" conduit layout Drawings. This barrier shall be three times the width of the widest raceway involved (minimum width of barriers is 18 inches) either vertically or horizontally as the case may require, unless an obstruction prevents the overlap. Barriers will consist of Johns-Manville Marinite 65 Type A insulation in standard size sheets 1/2 inch in thickness. These barriers will be mounted in accordance with the ENGINEER'S suggested methods, with particular attention to bolt insulation and spacing. Where missile barriers are required, the barriers will be specified and designed by the ENGINEER.

(6) Interconnections Between Channels:

ES wiring that interconnects between two opposite color coded channels must show the color coding of both channels. This shows as a candy-striped coloring. All such wiring is made via conduit or totally enclosed tray as the raceway. The ENGINEER has determined specifically that

each such circuit may be routed compatible with the wiring of either of the candy-striped colors it contains, unless otherwise noted by the ENGINEER.

(7) Control Cabinet:

- (a) Components mounted in control cabinets are arranged to maintain three foot physical separation of items of mutually redundant ES channels. Where the separation distance cannot be accomplished, a barrier is erected.
- (b) Floor slots and raceways are arranged in a manner to comply with the separation requirements of the locality. Field wiring between the raceway and cabinet terminal blocks shall be arranged to maintain separation between channels. This separation shall be 3 ft where possible, but 6 in. is acceptable.
- (c) Internal cabinet wiring of ES circuits is separated by channels and identified as such. Wiring of mutually redundant channels is separated by six inches minimum free space or a fire-proofing type material barrier is installed between channels inside these cabinets. Where circuits can be identified as not mutually redundant, 6 in. separation is not required.
- (d) The ES bistable cabinets enclose equipment (bistables) that generate the two ES actuation trains. As a result the input and output signals lose their channel identity, and no separation is required within the cabinets. Color coding is applied after these circuits leave the ES bistable cabinets.



## 2. Outdoor Conduit:

- a. Above ground conduit for use outdoors shall be rigid thick wall aluminum.
- b. Metallic conduit for use in underground duct banks, in special cases where specified on the Drawings, shall be rigid thick wall galvanized steel.
- c. Unless otherwise specified, non-metallic conduit shall be used in underground duct banks and shall be light wall PVC encased in concrete.
- d. Rigid thick wall PVC, Schedule 40, shall be used for direct burial.
- e. Flexible conduit when required for outdoor installations shall be "liquid tight" flexible steel conduit, American Brass Company "Sealtite", or approved equal.
- f. Trenches for underground electrical conduit shall be excavated to the proper width, with side walls as nearly vertical as possible. Trench bottoms shall be accurately graded to provide uniform bearing and support for each section or run along its entire length. Except as hereinafter specified, all direct burial conduit shall be bedded with ordinary care in an earth foundation. Depressions for joints shall be dug after the trench bottom is excavated, and shall be only of such length, depth and width as required for properly making the particular type of joint.
- g. When electrical conduit is to be encased in concrete, the trench bottoms shall be accurately graded to the elevations shown on the Drawings. Where rock or other hard material is encountered, it shall be excavated to a minimum overdepth of 6 inches below the elevations indicated on the Drawings. Overdepths in rock or other hard material and unauthorized overdepths shall be backfilled with coarse sand or fine gravel and compacted to a density of 95% of Standard Proctor maximum density. Material suitable for backfilling shall be piled in an orderly manner a sufficient distance from the trench to prevent slides or cave-ins by overloading.
- h. The CONTRACTOR shall backfill and compact as necessary to obtain a final subgrade equal to that originally encountered by this CONTRACTOR, within a tolerance of 0.1 ft plus or minus.

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1. Backfilling shall be performed at such time as approved by the CONSTRUCTION MANAGER and in such a manner that no conduits or parts of the permanent structure are damaged. Large stones, clods, or refuse or debris of any kind shall not be included in the backfill. Frozen material shall not be used for backfill nor shall backfill be placed on frozen ground. All backfill under concrete structures and electrical conduit shall be placed in 6 inch layers and compacted by using a suitable compactor to a density of 95% of Standard Proctor maximum density. All other backfill material shall be placed in 12 inch layers and compacted to a density of 95% of Standard Proctor maximum density.

3. Conduit Standards:

The conduit to be furnished by the CONTRACTOR shall be in accordance with the following:

- a. Galvanized rigid thick wall steel conduit shall be in accordance with specifications and dimensions for standard thick wall galvanized conduit as set forth in Federal Specification WW-C-581d.
- b. Aluminum/rigid thick wall conduit shall be in accordance with specifications and dimensions for rigid thick wall conduit as set forth in Federal Specification WW-C-540a. The aluminum conduit shall be made of 6063-T42 aluminum. No-Ox-Id (CM) casing filler shall be used as a thread lubricant in fastening all fittings to aluminum conduit.
- c. PVC plastic rigid conduit shall be in accordance with specifications and dimensions for plastic, rigid conduit, and conduit fittings set forth in U.S. Military Specification MIL-23571 (DOCKS) dated 22 January 1963.
- d. Flexible steel conduit shall be in accordance with specifications and dimensions as set forth in Federal Specification WW-C-566b and shall be galvanized.
- e. Anaconda flexible "Sealtite" conduit, type U.A. with polyethelene jacket and copper bonding conductor shall be used for exposed and corrosive locations other than inside the reactor and fuel handling buildings. Within the reactor and fuel handling buildings Anaconda corrugated stainless steel hose type BW or LW-21-1 shall be used.

1:19 Installation of Cable

- 1:19.1 In general, all power and power control cable will be flame-resistant, fire non-propagating cable. The kind and size of cable to be used for the various circuits as well as the size of conduit, where required, will be listed in the conduit and cable schedule or shown on the Drawings. Listed also in the conduit and cable schedule will be the estimated total length of cable and conduit for various circuits. The length of cable listed in the conduit and cable schedule shall be checked before cutting and pulling the cable. The conduit, into which cable is to be pulled, will be indicated on the conduit Drawings by circuit designations.
- 1:19.2 All cables shall be installed in an orderly arrangement, with a minimum of interlacing and shall be racked in cable racks or trays in passing through manholes. In manholes or handholes, pull boxes or junction boxes having any dimensions over three feet, all conductors shall be cabled and/or racked in an approved manner. Care shall be taken to avoid sharply bending or kinking

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conductors, damaging insulation or stressing cable beyond the manufacturer's recommendations in pulling. Cable shall be protected from absorption of moisture, both before and after pulling.

- 1:19.3 For optimum tray loading, cables in tray systems shall be installed so as to follow tray curvature, avoiding unnecessary bunching or stacking of cable at horizontal bends or curves. As nearly as possible, tray loading shall be predictable from totalized cross section of the cable in the tray.
- 1:19.4 Power cable for this installation will, in general, be three conductor interlocked armor cable laid on trays or run in non-metallic or steel conduits as required for outdoor and underground circuits.
- 1:19.5 The three-conductor interlocked armor cable for all 6.9 kv and 4 kv circuits shall be laid in cable trays in one layer and shall be securely fastened in the trays to maintain their position. The three conductor interlocked armor cable for 480 volt circuits shall be laid in cable trays in any quantity up to the limit of the capacity of the trays. Small 480 volt power and 250/125 volt d-c power circuits may be run in the same trays. Separate tray systems for control circuits and totally enclosed lay-in ducts for instrument and computer input circuits and certain other electronic circuits shall be installed in accordance with the Drawings.
- 1:19.6 Safeguards and reactor protective cables will be color coded in the circuit schedule. Circuit coding and tray or conduit color shall match in all cases. Channel "A" red, "B" green, "C" yellow, and "D" blue. Identity of color coding shall be evident throughout the wiring.
- 1:19.7 Before cable is pulled, the conduit shall be tested with a swab for a clear opening and any obstructions shall be removed. A vacuum fish tape may be used in place of a swab if the area of the fish tape is sufficient to detect any obstruction detectable with a swab. Blocked conduits from which obstructions cannot be removed shall be replaced.
- 1:19.8 Cable attachments for pulling shall be patent cable grips or other approved devices. Maximum pull tension shall not exceed the manufacturer's recommended value for the cable when measured by a tension dynamometer. A wire-pulling compound approved by the cable manufacturers, and by OWNER, shall be utilized to facilitate pulling of cables. Grease or other materials harmful to insulation shall not be used. Extreme care should be taken when pulling cable so as not to damage the cable jacket. Nine pair special instrument cable and triax cable used for nuclear instrumentation shall be pulled by hand. Cable lubricant "Y-ER Ease" or equal shall be used when pulling this cable.
- 1:19.9 Cable shall be formed to avoid sharp bends over edges of conduit bushings upon entering or leaving boxes or cabinets and to avoid bearing against edges of trays or enclosures and supports, when entering or leaving trays or enclosures. Insulated wiring to

terminals and terminal boards shall be formed and neatly cabled or clamped, using Temple (or approved equal) fibre glass lacing cord or ty-raps at approximately six inch intervals but not exceeding twelve inches between conduit and terminals.

- 1:19.10 Where outlet box, cabinet, metal clad switchgear, control board, panel or other terminal points for cable are equipped with cable or wiring troughs or gutters, the CONTRACTOR shall pull sufficient length of each cable to permit the neat arrangement of all entering cables. Leads shall be formed and cabled or clamped as each conductor is brought to its terminal connection.
- 1:19.11 The minimum radius to which an insulated conductor should be bent during installation is eight times the overall diameter of the cable. This shall apply whether the bend is a permanent one or a temporary one made during the course of construction.
- 1:19.12 Splices will not be permitted except where called for by the Drawings, or where permitted by the ENGINEER. Splices where permitted shall be made in a neat, workmanlike, and approved manner by men specialized in this class of work. Splices shall be made by the CONTRACTOR for each type of wire and/or cable in accordance with instructions issued by the cable manufacturers. Insulated cable shall have conductor insulation stepped and bound or penciled for recommended distances back from splices before splicing, in order to provide a long leakage path. Insulation equal to that on the spliced conductors shall be applied at each splice after the splicing is completed. In baring conductors for splices, care shall be taken to avoid nicking strands.
- 1:19.13 All lighting cable splices shall be made in outlet and junction boxes, and fixture outlet fittings. Splicing of wires from No. 12 up to and including No. 8 AWG shall be made with pressure type, solderless splicing connectors which shall be installed on wires by means of a pressure tool making three or more indentations in the connectors. The connectors shall be insulated with nylon insulating caps and shall be as manufactured by Buchanon Electric Products Company. The use of Buchanon "B-cap Connectors", a tool-less type connector for cable splicing, as well as Thomas & Betts or Ideal tool-less nylon connectors, is also acceptable.
- 1:19.14 At cable terminal points where the conductor and cable insulation will be terminated, the termination shall be made in a neat, workmanlike, and approved manner by men specialized in this class of work. Particular attention shall be given to higher voltage conductor terminations. Shielded 5 kv or 8 kv cable terminations shall be stress cone type terminations. Terminations shall be made by the CONTRACTOR for each type of wire or cable in accordance



with instructions issued by the cable manufacturers. Connections at motor leads and other connections to insulated leads, current transformers, or busses shall be covered and taped in a manner appropriate to the class of insulation on the conductor. The taping shall extend over the terminal connector fitting and the terminal of the conductor to the device. All irregular connectors and surfaces shall be plastered smooth with insulating compound before taping. In general, on low voltage terminations all moisture absorbing braids shall be cut back and securely bound by cording and painting or taping to prevent unraveling, with insulation neatly trimmed to attain a uniform appearance which shall be standardized throughout the project. The CONTRACTOR shall furnish and install Thomas & Betts 53200 series connectors for all power cables except where terminals are being furnished as a part of the equipment, or otherwise provided.

- 1:19.15 Control cable terminations shall be made in accordance with the wiring diagrams. The CONTRACTOR shall furnish and install AMP solid strand ring type connectors, in sizes required, with proper crimping tools to terminate all control and instrument cables. The CONTRACTOR shall furnish and install Stanwick type SLS terminal blocks, or approved equal where necessary.
- 1:19.16 The internal wiring of the electrical and mechanical miscellaneous cabinets to be installed in the station will be complete and in most cases will be brought to terminal blocks to which the external connections will be made. There will be a few cases in which the external connections will be made directly to the instrument or device. In general, the cables will rise out of cable trays and run to the terminal blocks provided.
- 1:19.17 Where channels of fluorescent fixtures are used as a wireway to feed additional units, 90 C, type RHH or AVA wire shall be used.
- 1:19.18 Where entrance is made by the CONTRACTOR into pressurized rooms or into Class I structures, (other than the Reactor Building) for conduit or cable, either through slots or sleeves provided for that purpose or through openings drilled or cut by the CONTRACTOR, these openings shall be suitably sealed to reduce the air leakage from the rooms to the satisfaction of the ENGINEER. A satisfactory method will be shown on the Drawings but it shall be understood that thermally non-conductive material shall not be applied to power cable in longitudinal distances of more than 1 foot.
- 1:19.19 Where cable in trays extends through floors, a fire stop of mineral wool matting (B&W Kaowool) or other means approved by the ENGINEER shall be installed in the trays. This also applies to all circuits into the main control panels.

- 1:19.20 Vertical runs of cable shall be supported by Kellems grips except where the horizontal supporting run is 50% greater in length than the vertical drop.
- 1:19.21 The CONTRACTOR shall be responsible for maintaining control of cable inventory to the effect that the remaining quantity of the various sizes and kinds of cables shall be known at all times.
- 1:19.22 The cable reels shall be kept in a secure storage area separate from the main construction area until the cable is to be pulled. All empty reels shall be promptly removed to the storage area.

## APPENDIX C

### Drawings, "Electrial Fire Hazard Analysis Cable Separation Review"

SS-FHA-022, Sheets 1 through 19  
SS-FHA-023, Sheet 1  
SS-FHA-024, Sheets 1 through 3  
SS-FHA-025, Sheets 1 through 3  
SS-FHA-034, Sheet 1  
SS-FHA-036, Sheets 1 through 6  
SS-FHA-037, Sheets 1 through 9

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E-214-022

## CATEGORIES:-

- A. SPATIAL SEPARATION BETWEEN ES TRAYS.  
 B. SPATIAL SEPARATION BETWEEN ES AND NON-ES TRAYS.  
 C. BRIDGING BETWEEN ES TRAYS.  
 D. BRIDGING BETWEEN ES AND NON-ES TRAYS

## METROPOLITAN EDISON COMPANY

THREE MILE ISLAND NUCLEAR STATION UNIT 1

## ELECTRICAL

## FIRE HAZARD ANALYSIS

## CABLE SEPARATION REVIEW

MADE	CHRB	DRAWING NO.	SH NO	REV
		04 469255-FHA-022	I	
AD LON	ENL INTER	GILBERT ASSOCIATES, INC.		
		ENGINEERS AND CONSULTANTS		
		READING, PA.		
SCALE				
NO 044692-094				
REV MADE	CH	APP	DATE	REV MADE

COORDINATES	SITUATION	VERTICAL DISTANCE	HORIZONTAL DISTANCE	CATEGORY	BARRIER	REMARKS
B-4	1 C581 (294'-2") close to A839 (296'-0")	1'-10"	3'-0"	A	No	
	2 A839 (296'-0") parallel to B841 (296'-0")		2'-3"	A	No	
B-5	1 A838 (298'-2") crosses over C169 (293'-0")	5'-2"		A	Yes	Ref. B-5 Item 6
	2 A839 (296'-0") crosses over C169 (293'-0")	3'-0"		A	Yes	A839 DN 45°
	3 A838 (298'-2") parallel to B841 (298'-2")		3'-0"	A	No	
	4 A839 (296'-0") parallel to B841 (296'-0")		1'-3"	A	Yes	
	5 B841 (298'-2") crosses over C169 (291'-0")	7'-2"		A	Yes	Ref. B-5 Item 6
	6 C169 bridges A838 and B841		1'-3"	C	Yes	Ref. B-5 Items 1 and 5
	7 A839 (296'-0") crosses over C579 (294'-9")	1'-3"		A	Yes	Ref. B-5 Item 15
	8 A839 (296'-0") crosses over C580 (294'-2")	1'-10"		A	Yes	Ref. B-5 Item 13
	9 A839 (296'-0") crosses over C170 (293'-0")	3'-0"		A	Yes	Ref. B-5 Item 14
	10 B841 (45°DN) crosses over C579 (294'-9")	1'-3"		A	Yes	Ref. B-5 Item 15 and B-8 Item 10
	11 B841 (296'-0") crosses over C170 (294'-9")	1'-3"		A	Yes	Ref. B-5 Item 14 and E-3 Item 6
	12 B841 (296'-0") crosses over C580 (293'-0")	3'-0"		A	Yes	Ref. B-5 Item 13 and E-3 Item 5
	13 C580 bridges A839 and B841		2'-3"	C	Yes	Ref. B-5 Items 8 and 12
	14 C170 bridges A839 and B841		2'-3"	C	Yes	Ref. B-5 Items 9 and 11
	15 C579 bridge A839 and B841		1'-9"	C	Yes	Ref. B-5 Items 7 and 10
	16 B841 (298'-2") parallel to C169 (291'-0")	7'-2"	1'-9"	A	Yes	
	17 B841 (298'-2") parallel to C579 (297'-0")	1'-2"	3'-0"	A	No	
	18 B841 (298'-2") parallel to C843 (298'-2")		3'-0"	A	No	
	19 C843 (298'-2") parallel to B845 (298'-2")		3'-0"	A	No	

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E-214-022

CATEGORIES:-

A. SPATIAL SEPARATION BETWEEN ES TRAYS.

B. SPATIAL SEPARATION BETWEEN ES AND NON-ES TRAYS.

C. BRIDGING BETWEEN ES TRAYS.

D. BRIDGING BETWEEN ES AND NON-ES TRAYS

METROPOLITAN EDISON COMPANY

THREE MILE ISLAND NUCLEAR STATION UNIT 1

ELECTRICAL

FIRE HAZARD ANALYSIS

CABLE SEPARATION REVIEW

MADE CHRD

DRAWING NO. 044692SS-1HA-022

SH. ID. REV. 2

SO LDR

ENG. INTERP.

GILBERT ASSOCIATES INC.

ENGINEERS AND CONSULTANTS

READING, PA.

SCALE

NO 044692-054

ENGINEER APPROVAL

DEPT. DATE

REV. MADE CH. ISL APP. DATE

REV. MADE CH. ISL APP. DATE

CONSTRUCTION

BIDDING PURPOSES

RELEASED FOR

DATE

COORDINATES	SITUATION	VERTICAL DISTANCE	HORIZONTAL DISTANCE	CATEGORY	BARRIER	REMARKS
B-6	1 Continuation of B-5 Item 3			A	Yes	
	2 A838 (298'-2") parallel to C954 (292'-0")	6'-2"	10"	A	Partial	
	3 C954 (292'-0") parallel to B841 (298'-2")	6'-2"	6"	A	Yes	
	4 Continuation of B-5 Item 16			A	Yes	
	5 Continuation of B-5 Item 17			A	No	
	6 Continuation of B-5 Item 18			A	No	
	7 Continuation of B-5 Item 19			A	No	
B-7	1 Continuation of B-6 Item 2			A	Partial	
	2 Continuation of B-5 Item 3			A	No	
	3 Continuation of B-6 Item 3			A	Yes	
	4 Continuation of B-5 Item 17			A	No	
	5 Continuation of B-5 Item 18			A	No	
	6 Continuation of B-5 Item 19			A	No	
	7 B841 (298'-2") crosses over C578 (297'-0")	1'-2"		A	Yes	Ref. B-8 Items 6 and 11
B-8	1 Continuation of B-5 Item 3			A	No	
	2 Continuation of B-5 Item 17			A	No	
	3 Continuation of B-5 Item 18			A	No	
	4 Continuation of B-5 Item 19			A	No	
	5 B841 (298'-2") crosses over A146 (295'-8")	2'-6"		A	Yes	Ref. B-8 Items 6,12,18,32 and D-6 Item 5
	6 B841 bridges C578 and A146		10'-2"	C	Yes	Ref. B-7 Item 7, B-8 Item 5. See Note 1
	7 B841 (298'-2") crosses over A750 (295'-8")	2'-6"		A	Yes	Ref. B-8 Items 14,20,36 and D-6 Item 5

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## CATEGORIES:-

- A. SPATIAL SEPARATION BETWEEN ES TRAYS.  
 B. SPATIAL SEPARATION BETWEEN ES AND NON-ES TRAYS.  
 C. BRIDGING BETWEEN ES TRAYS.  
 D. BRIDGING BETWEEN ES AND NON-ES TRAYS

## METROPOLITAN EDISON COMPANY

THREE MILE ISLAND NUCLEAR STATION UNIT 1

ELECTRICAL

FIRE HAZARD ANALYSIS

CABLE SEPARATION REVIEW

MADE	CHD	DRAWING NO.	SH. NO.	REV
		04469255- FHA-022	3	
SQ. LDR		GILBERT ASSOCIATES, INC. ENGINEERS AND CONSULTANTS READING, PA.		
SCALE		W.D. 844692-094		
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COORDINATES	SITUATION	VERTICAL DISTANCE	HORIZONTAL DISTANCE	CATEGORY	BARRIER	REMARKS
B-8	8 B841 (298'-2") crosses over A554 (295'-8")	2'-6"		A	Yes	Ref. B-8 Items 16,22,40, B-9 Items 4,7 & D-6 Item 5
	9 C579 (297'-0") crosses over A146 (295'-8")	1'-4"		A	Yes	Ref. B-8 Items 10,11,12,31
	10 C579 bridges B841 and A146		50'-0"	C	Yes	Ref. B-5 Item 10 and B-8 Item 9. See Note 2
	11 C579 (C578) bridges B841 and A146		12'-0"	C	Yes	Ref. B-7 Item 7 and B-8 Item 9. See Note 2
	12 A146 bridges B841 and C579		2'-3"	C	Yes	Ref. B-8 Items 5 and 9
	13 C579 (297'-0") crosses over A750 (295'-8")	1'-4"		A	Yes	Ref. B-8 Items 14 and 35
	14 A750 bridges B841 and C579		2'-3"	C	Yes	Ref. B-8 Items 7 and 13
	15 C579 (297'-0") crosses over A554 (295'-8")	1'-4"		A	Yes	Ref. B-8 Items 16,39 and B-9 Items 7,9
	16 A554 bridges B841 and C579		2'-3"	C	Yes	Ref. B-8 Items 8 and 15
	17 C843 (298'-2") crosses over A146 (295'-8")	1'-4"		A	Yes	Ref. B-8 Items 18 and 30
	18 A146 bridges B841 and C843		3'-0"	C	Yes	Ref. B-8 Items 5 and 17
	19 C843 (298'-2") crosses over A750 (295'-8")	1'-4"		A	Yes	Ref. B-8 Items 20 and 34
	20 A750 bridges B841 and C843		3'-0"	C	Yes	Ref. B-8 Items 7 and 19
	21 C843 (298'-2") crosses over A554 (295'-8")	1'-4"		A	Yes	Ref. B-8 Items 22,38 and B-10 Item 14
	22 A554 bridges B841 and C843		3'-0"	C	Yes	Ref. B-8 Items 8 and 21
	23 C843 (298'-2") parallel to A757 (296'-6")	1'-8"	3"	A	Yes	
	24 C579 (297'-0") parallel to A757 (296'-6")	6"	1'-0"	A	No	
	25 D845 (298'-2") parallel to A757 (296'-6")	1'-8"	2'-0"	A	Yes	
	26 C843 (298'-2") parallel to A577 (296'-6")	1'-8"	2'-6"	A	Yes	
	27 D845 (298'-2") parallel to A577 (296'-6")	1'-8"		A	Yes	Ref. B-9 Item 30 and B-11 Items 31 and 34
	28 D845 (298'-2") parallel to A167 (296'-6")	1'-8"	3"	A	Yes	Ref. B-11 Items 32 and 35
	29 D845 (298'-2") crosses over A146 (295'-8")	2'-6"		A	Yes	Ref. B-8 Items 30,31,32, C-5 Items 3,4 & D-6 Item 5
	30 A146 bridges D845 and C843		3'-0"	C	Yes	Ref. B-8 Items 17 and 29

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E-214-022					METROPOLITAN EDISON COMPANY THREE MILE ISLAND NUCLEAR STATION UNIT 1 ELECTRICAL FIRE HAZARD ANALYSIS CABLE SEPARATION REVIEW		MADE CHKD SO LOR ENG INTERF SCALE # D 044692-034 REV MADE CH SO LOR APPR DATE		DRAWING NO. 044692SS-FHA-022 SH NO 4 GILBERT ASSOCIATES, INC. ENGINEERS AND CONSULTANTS READING, PA		
CATEGORIES:- A. SPATIAL SEPARATION BETWEEN ES TRAYS. B. SPATIAL SEPARATION BETWEEN ES AND NON-ES TRAYS. C. BRIDGING BETWEEN ES TRAYS. D. BRIDGING BETWEEN ES AND NON-ES TRAYS											
COORDINATES	SITUATION		VERTICAL DISTANCE	HORIZONTAL DISTANCE	CATEGORY	BARRIER	REMARKS				
B-8	31	A146 bridges D845 and C579	2'-6"	4'-3"	C	Yes	Ref. B-8 Items 9 and 29				
	32	A146 bridges D845 and B841		7'-6"	C	Yes	Ref. B-8 Items 5 and 29				
	33	D845 (298'-2") crosses over A750 (295'-8")		3'-0"	A	Yes	Ref. B-8 Items 34, 35, 36 and D-6 Item 5				
	34	A750 bridges D845 and C843		4'-3"	C	Yes	Ref. B-8 Items 19 and 33				
	35	A750 bridges D845 and C579		7'-6"	C	Yes	Ref. B-8 Items 13 and 33				
	B-9	36	A750 bridges D845 and B841	2'-6"	7'-6"	C	Yes	Ref. B-8 Items 7 and 33			
		37	D845 (298'-2") crosses over A554 (295'-8")		3'-0"	A	Yes	Ref. B-8 Items 38, 39, 40, B-10 Item 61 & D-6 Item 5			
		38	A554 bridges D845 and C843		4'-3"	C	Yes	Ref. B-8 Items 21 and 37			
		39	A554 bridges D845 and C579		7'-6"	C	Yes	Ref. B-8 Items 15 and 37			
		40	A554 bridges D845 and C841			C	Yes	Ref. B-8 Items 8 and 37			
B-8	1	A838 (298'-2") crosses over C754 (295'-8")	2'-6"		A	Yes	Ref. B-9 Items 5, 22 and D-9 Item 1				
	2	A838 (298'-2") crosses over C579 (297'-0")	1'-2"		A	Yes	Ref. B-9 Item 8				
	3	B841 (298'-2") crosses over C754 (295'-8")	2'-6"		A	Yes	Ref. B-9 Items 4, 5, 23, 24, 25, 26				
	4	B841 bridges A554 and C754	3'-0"		C	Yes	Ref. B-8 Item 8 and B-9 Item 3. See Note 2				
	5	C754 bridges A838 and B841	3'-0"		C	Yes	Ref. B-9 Items 1 and 3				
	6	B841 (298'-2") crosses over C579 (297'-0")	1'-2"		A	Yes	Ref. B-9 Items 7, 8, 9				
	7	B841 bridges A554 and C579	3'-6"		C	Yes	Ref. B-8 Item 8 and B-9 Item 6. See Note 2				
	8	C579 bridges A838 and B841	3'-0"		C	Yes	Ref. B-9 Items 2 and 6				
	9	C579 bridges A554 and B841	7'-0"		C	Yes	Ref. B-8 Item 15 and B-9 Item 6. See Note 2				
	10	Continuation of B-5 Item 3			A	No					
	11	Continuation of B-5 Item 18			A	No					
	12	Continuation of B-8 Item 23			A	Yes					

ORIGINAL  
POOR

CONSTRUCTION  
BUILDING PURPOSES  
RELEASED FOR  
ENGR.  
DATE

100016

E-214-022

CATEGORIES:-

- A. SPATIAL SEPARATION BETWEEN ES TRAYS.
- B. SPATIAL SEPARATION BETWEEN ES AND NON-ES TRAYS.
- C. BRIDGING BETWEEN ES TRAYS.
- D. BRIDGING BETWEEN ES AND NON-ES TRAYS

METROPOLITAN EDISON COMPANY  
THREE MILE ISLAND NUCLEAR STATION \* UNIT 1  
ELECTRICAL  
FIRE HAZARD ANALYSIS  
CABLE SEPARATION REVIEW

MADE	CHRD	DRAWING NO.	SN NO.	REV
		044692SS- FHA-022	5	
SOL OR		ENGINEER	GILBERT ASSOCIATES, INC. ENGINEERS AND CONSULTANTS READING, PA.	
SCALE				
NO 044692-094		ENGINEER APPROVAL	DEPT	DATE
REV	MADE	CH	SOL	APP

COORDINATES	SITUATION	VERTICAL DISTANCE	HORIZONTAL DISTANCE	CATEGORY	BARRIER	REMARKS
B-9	13 Continuation of B-8 Item 24			A	No	
	14 Continuation of B-8 Item 25			A	Yes	
	15 Continuation of B-8 Item 26			A	Yes	
	16 Continuation of B-8 Item 27			A	Yes	
	17 Continuation of B-8 Item 28			A	Yes	
	18 A757 (296'-6") crosses over C754 (295'-8")	10"		A	Yes	Ref. B-9 Items 23,27, B-10 Item 28 & D-9 Item 1
	19 A577 (296'-6") crosses over C754 (295'-8")	10"		A	Yes	Ref. B-9 Items 24,28,30,38 and D-9 Item 1
	20 D845 (298'-2") crosses over C754 (295'-8")	2'-6"		A	Yes	Ref. B-9 Items 22,25,27,28,29, B-10 Item and D-9 Item 1
	21 A167 (296'-6") crosses over C754 (295'-8")	10"		A	Yes	Ref. B-9 Items 26,29, B-10 Item 75 & D-9 Item 1
	22 C754 bridges A838 and D845		12'-0"	C	Yes	Ref. B-9 Items 1 and 20
	23 C754 bridges B841 and A757		4'-9"	C	Yes	Ref. B-9 Items 3 and 18
	24 C754 bridges B841 and A577		7'-0"	C	Yes	Ref. B-9 Items 3 and 19
	25 C754 bridges B841 and D845		7'-6"	C	Yes	Ref. B-9 Items 3 and 20
	26 C754 bridges B841 and A167		9'-3"	C	Yes	Ref. B-9 Items 3 and 21
	27 C754 bridges D845 and A757		2'-0"	C	Yes	Ref. B-9 Items 18 and 20
	28 C754 bridges D845 and A577			C	Yes	Ref. B-9 Items 19 and 20
	29 C754 bridges D845 and A167		3"	C	Yes	Ref. B-9 Items 20 and 21
	30 A577 bridges D845 and C754			C	Yes	Ref. B-8 Item 27 and B-9 Item 19
	31 A554 (295'-8") parallel to C754 (295'-8")		3'-0"	A	Yes	
	32 A837 (296'-2") parallel to C579 (297'-0")	10"	2'-5"	A	Yes	
	33 A837 (296'-2") close to B840 (295'-8")	6"	3'-0"	A	No	
	34 B840 (295'-8") parallel to C843 (298'-2")	2'-6"	3'-0"	A	No	

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CONSTRUCTION  
BIDDING PURPOSES  
RELEASED FOR  
DATE

290816

E-214-022		METROPOLITAN EDISON COMPANY		MADE	CHKD	DRAWING NO.		SH NO	REV
CATEGORIES:-		THREE MILE ISLAND NUCLEAR STATION UNIT 1		04		469255-THA-022		6	
A. SPATIAL SEPARATION BETWEEN ES TRAYS.		ELECTRICAL		SQ LDR		ENG INTER		GILBERT ASSOCIATES, INC.	
B. SPATIAL SEPARATION BETWEEN ES AND NON-ES TRAYS.		FIRE HAZARD ANALYSIS						ENGINEERS AND CONSULTANTS	
C. BRIDGING BETWEEN ES TRAYS.		CABLE SEPARATION REVIEW						READING, PA	
D. BRIDGING BETWEEN ES AND NON-ES TRAYS				SCALE		W O B44692-094		ENGINEER APPROVAL	
				REV MADE		CH SOL APP DATE		REV MADE	

COORDINATES	SITUATION	VERTICAL DISTANCE	HORIZONTAL DISTANCE	CATEGORY	BARRIER	REMARKS
B-10	1 B840 (295'-8") close to C843 (298'-2")	2'-6"	3'-0"	A	No	
	2 Continuation of B-8 Item 23			A	Yes	
	3 Continuation of B-8 Item 25			A	Yes	
	4 Continuation of B-8 Item 26			A	Yes	
	5 Continuation of B-8 Item 27			A	Yes	
	6 Continuation of B-8 Item 28			A	Yes	
	7 X846 (297'-2") parallel to B150 (295'-8")	1'-6"	1'-0"	B	No	
	8 B756 (298'-0") crosses over X846 (297'-2")	10"		B	No	Ref. B-10 Items 16,26,40, and B-11 Items 4,5
	9 B165 (298'-0") crosses over X846 (297'-2")	10"		B	No	Ref. B-10 Items 17,27,41,58, and B-11 Items 9,10,11
	10 C843 (298'-2") crosses over B751 (297'-2")	1'-0"		A	Yes	Ref. B-10 Items 14,22,34,46,59,68
	11 C843 (298'-2") crosses over B558 (295'-8")	2'-6"		A	Yes	Ref. B-10 Items 23,35,49,70
	12 C843 (298'-2") crosses over B150 (295'-8")	2'-6"		A	Yes	Ref. B-10 Items 15,24,36,52,72
	13 C843 (298'-2") crosses over X846 (297'-2")	1'-0"		B	Yes	Ref. B-10 Items 15,16,17,25, 7,55,74, and B-11 Item 27
	14 C843 bridges A554 and B751		21'-2"	C	Yes	Ref. B-8 Item 21 and B-10 Item 10. See Notes 264
	15 C843 bridges B150 and X846		10"	D	Yes	Ref. B-10 Items 12,13. See Note 4
	16 X846 bridges B756 and C843		7'-2"	C	Yes(1)	Ref. B-10 Items 8 and 13
	17 X846 bridges B165 and C843		8'-0"	C	Yes(1)	Ref. B-10 Items 9 and 13
	18 B751 (297'-2") crosses over A757 (293'-0")	4'-2"		A	Yes	Ref. B-10 Items 22,28,47
	19 B558 (295'-8") crosses over A757 (293'-0")	2'-8"		A	Yes	Ref. B-10 Items 23,30
	20 B150 (295'-8") crosses over A757 (293'-0")	2'-8"		A	Yes	Ref. B-10 Items 24,29,53
	21 X846 (297'-2") crosses over A757 (293'-0")	4'-2"		B	Yes	Ref. B-10 Items 25,26,27,29,56
	22 B751 bridges C843 and A757		2"	C	Yes	Ref. B-10 Items 10 and 18
	23 B558 bridges C843 and A757		2"	C	Yes	Ref. B-10 Items 11 and 19

ORIGINAL  
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E-214-022		METROPOLITAN EDISON COMPANY		DATE	CHKD	DRAWING NO.	SH NO	REV
CATEGORIES:-		THREE MILE ISLAND NUCLEAR STATION UNIT 1		SO LDR	ENG. INTER	044692SS- FMA-022	7	
A. SPATIAL SEPARATION BETWEEN ES TRAYS.		ELECTRICAL				GILBERT ASSOCIATES, INC.		
B. SPATIAL SEPARATION BETWEEN ES AND NON-ES TRAYS.		FIRE HAZARD ANALYSIS				ENGINEERS AND CONSULTANTS		
C. BRIDGING BETWEEN ES TRAYS.		CABLE SEPARATION REVIEW				READING, PA.		
D. BRIDGING BETWEEN ES AND NON-ES TRAYS						* 0 044692-035 ENGINEER APPROVAL TEST DATE		
						REV. MADE CH. SOL. APP. DATE REV. MADE CH. SOL. APP. DATE		

COORDINATES	SITUATION	VERTICAL DISTANCE	HORIZONTAL DISTANCE	CATEGORY	BARRIER	REMARKS
B-10	24 B150 bridges C843 and A757		2"	C	Yes	Ref. B-10 Items 12 and 20
	25 X846 bridges C843 and A757		2"	C	Yes	Ref. B-10 Items 13 and 21
	26 X846 bridges B756 and A757		6'-5"	C	Yes(1/2)	Ref. B-10 Items 8 and 21
	27 X846 bridges B165 and A757		8'-8"	C	Yes(1/2)	Ref. B-10 Items 9 and 21
	28 A757 bridges C754 and B751		18'-1 1/2"	C	Yes	Ref. B-9 Item 18, B-10 Item 18. See Note 4
	29 A757 bridges B150 and X846		10"	D	Yes	Ref. B-10 Items 20 and 21. See Note 4
	30 B751 (297'-2") crosses over A577 (293'-0")	4'-2"		A	Yes	Ref. B-10 Items 34,38,48
	31 B558 (295'-8") crosses over A577 (293'-0")	2'-8"		A	Yes	Ref. B-10 Items 35 and 51
	32 B150 (295'-8") crosses over A577 (293'-0")	2'-8"		A	Yes	Ref. B-10 Items 36,39,54
	33 X846 (297'-2") crosses over A577 (293'-0")	4'-2"		B	Yes	Ref. B-10 Items 37,39,40,41,57
	34 B751 bridges C843 and A577		2'-5"	C	Yes	Ref. B-10 Items 10 and 30
	35 B558 bridges C843 and A577		2'-5"	C	Yes	Ref. B-10 Items 11 and 31
	36 B150 bridges C843 and A577		2'-5"	C	Yes	Ref. B-10 Items 12 and 32
	37 X846 bridges C843 and A577		2'-5"	C	Yes	Ref. B-10 Items 13 and 33
	38 A577 bridges C754 and B751		18'-1 1/2"	C	Yes	Ref. B-9 Item 19 and B-10 Item 30. See Note 4
	39 A577 bridges B150 and X846		10"	D	Yes	Ref. B-10 Items 32 and 33. See Note 4
	40 X846 bridges B756 and A577		11'-0"	C	Yes(1/2)	Ref. B-9 Items 8 and 33
	41 X846 bridges B165 and A577		8'-7"	C	Yes(1/2)	Ref. B-9 Items 9 and 33
	42 D845 (298'-2") crosses over B751 (297'-2")	1'-0"		A	Yes	Ref. B-10 Items 46,47,48,60,61,67
	43 D845 (298'-2") crosses over B558 (295'-8")	2'-6"		A	Yes	Ref. B-10 Items 49,50,51,69
	44 D845 (298'-2") crosses over B150 (295'-8")	2'-6"		A	Yes	Ref. B-10 Items 52,53,54,62,71
	45 D845 (298'-2") crosses over X846 (297'-2")	1'-0"		B	Yes	Ref. B-10 Items 55,56,57,58,59,62,73, and B-11 Items 28,33,34,35
	46 B751 bridges D845 and C843		3'-0"	C	Yes	Ref. B-10 Items 10 and 42

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CONSTRUCTION  
BIDDING PURPOSES  
RELEASED FOR  
DATE

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E-214-022

CATEGORIES:

- A. SPATIAL SEPARATION BETWEEN ES TRAYS.
- B. SPATIAL SEPARATION BETWEEN ES AND NON-ES TRAYS.
- C. BRIDGING BETWEEN ES TRAYS.
- D. BRIDGING BETWEEN ES AND NON-ES TRAYS

METROPOLITAN EDISON COMPANY		MADE	CHKD	DRAWING NO.		SH	NO	REV
THREE MILE ISLAND NUCLEAR STATION UNIT 1				041469255- FILE-022		8		
ELECTRICAL		SQ LDR		ENG INTERP		GILBERT ASSOCIATES, INC.		
FIRE HAZARD ANALYSIS						ENGINEERS AND CONSULTANTS		
CABLE SEPARATION REVIEW						READING PA		
		SCALE						
		NO 044692-094		ENGINEER APPROVAL		DEPT		DATE
		REV MADE CH		REV MADE CH		REV MADE CH		REV MADE CH

COORDINATES	SITUATION	VERTICAL DISTANCE	HORIZONTAL DISTANCE	CATEGORY	BARRIER	REMARKS
B-10	47 B751 bridges D845 and A757		2'-0"	C	Yes	Ref. B-10 Items 18 and 42
	48 B751 bridges D845 and A577			C	Yes	Ref. B-10 Items 30 and 42
	49 B558 bridges D845 and C843		3'-0"	C	Yes	Ref. B-10 Items 11 and 43
	50 B558 bridges D845 and A757		2'-0"	C	Yes	Ref. B-10 Items 19 and 43
	51 B558 bridges D845 and A577			C	Yes	Ref. B-10 Items 31 and 43
	52 B150 bridges D845 and C843		3'-0"	C	Yes	Ref. B-10 Items 12 and 44
	53 B150 bridges D845 and A757		2'-0"	C	Yes	Ref. B-10 Items 20 and 44
	54 B150 bridges D845 and A577			C	Yes	Ref. B-10 Items 32 and 44
	55 X846 bridges D845 and C843		3'-0"	C	Yes	Ref. B-10 Items 13 and 45
	56 X846 bridges D845 and A757		2'-0"	C	Yes	Ref. B-10 Items 21 and 45
	57 X846 bridges D845 and A577			C	Yes	Ref. B-10 Items 33 and 45
	58 X846 bridges D845 and B756		11'-6"	C	Yes(1/2)	Ref. B-10 Items 8 and 45
	59 X846 bridges D845 and B165		9'-3"	C	Yes(1/2)	Ref. B-10 Items 9 and 45
	60 D845 bridges C754 and B751		18'-1 1/4"	C	Yes	Ref. B-9 Item 20 and B-10 Item 42. See Note 4
	61 D845 bridges A554 and B751		21'-2"	C	Yes	Ref. B-8 Item 37 and B-10 Item 42. See Notes 264
	62 D845 bridges C150 and X846		27'-9"	D	Yes	Ref. B-10 Items 44 and 43. See Note 4
	63 B751 (297'-2") crosses over A167 (293'-0")	4'-2"		A	Yes	Ref. B-10 Items 67, 68, 75
	64 B558 (295'-8") crosses over A167 (293'-0")	2'-8"		A	Yes	Ref. B-10 Items 69 and 70
	65 B150 (295'-8") crosses over A167 (293'-0")	2'-8"		A	Yes	Ref. B-10 Items 71 and 72
	66 X846 (297'-2") crosses over A167 (293'-0")	4'-2"		B	Yes	Ref. B-10 Items 73 and 74
	67 B751 bridges D845 and A167		3"	C	Yes	Ref. B-10 Items 42 and 63
	68 B751 bridges C843 and A167		4'-9"	C	Yes	Ref. B-10 Items 10 and 63
	69 B558 bridges D845 and A167		3"	C	Yes	Ref. B-10 Items 43 and 64

ORIGINAL  
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CONSTRUCTION	ENGR.
BIDDING PURPOSES	
RELEASED FOR	
DATE	

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E-214-022

## CATEGORIES:-

- A. SPATIAL SEPARATION BETWEEN ES TRAYS.  
 B. SPATIAL SEPARATION BETWEEN ES AND NON-ES TRAYS.  
 C. BRIDGING BETWEEN ES TRAYS.  
 D. BRIDGING BETWEEN ES AND NON-ES TRAYS

## METROPOLITAN EDISON COMPANY

THREE MILE ISLAND NUCLEAR STATION UNIT 1

## ELECTRICAL

## FIRE HAZARD ANALYSIS

## CABLE SEPARATION REVIEW

WLB	CHRD	DRAWING NO.	SH NO	REV
		044692SS-FHA-022	9	
SOLDN	ENG INTRT	GILBERT ASSOCIATES, INC.		
		ENGINEERS AND CONSULTANTS		
		READING PA		
SCALE				
W 0 044692-022	ENGINEER APPROVAL	DEPT	DATE	
REV MADE CH	SQL APP DATE	REV MADE CH	SQL APP DATE	

COORDINATES	SITUATION	VERTICAL DISTANCE	HORIZONTAL DISTANCE	CATEGORY	BARRIER	REMARKS
B-10	70 B558 bridges C843 and A167		4'-9"	C	Yes	Ref. B-10 Items 11 and 64
	71 B150 bridges D845 and A167		3"	C	Yes	Ref. B-10 Items 44 and 65
	72 B150 bridges C843 and A167		4'-9"	C	Yes	Ref. B-10 Items 12 and 65
	73 X846 bridges D845 and A167		3"	C	Yes	Ref. B-10 Items 45 and 66
	74 X846 bridges C843 and A167		4'-9"	C	Yes	Ref. B-10 Items 13 and 66
	75 A167 bridges C754 and B751		18'-1 1/4"	C	Yes	Ref. B-9 Item 21 and B-10 Item 63. See Notes 264
	76 A167 bridges C150 and X846		10"	D	Yes	Ref. B-10 Items 65 and 66. See Note 4
	77 B165 (298'-0") parallel to X849 (298'-0")		1'-4"	B	No	
B-11	1 B756 (298'-0") crosses over C842 (295'-8")	2'-4"		A	Yes	Ref. B-11 Items 3,4,15
	2 B756 (298'-0") crosses over D844 (295'-8")	2'-4"		A	Yes	Ref. B-11 Items 3,5,17
	3 B756 bridges C842 and D844		4'-0"	C	Yes	Ref. B-11 Items 1 and 2
	4 B756 bridges X846 and C842		6'-9"	D	Yes(1/2)	Ref. B-10 Item 8 and B-11 Item 1
	5 B756 bridges X846 and D844		12'-3"	D	Yes(1/2)	Ref. B-10 Item 8 and B-11 Item 2
	6 B165 (298'-0") crosses over C842 (293'-8")	2'-4"		A	Yes	Ref. B-11 Items 8,9,16
	7 B165 (298'-0") crosses over D844 (295'-8")	2'-4"		A	Yes	Ref. B-11 Items 8,10,18
	8 B165 bridges C842 and D844		4'-0"	C	Yes	Ref. B-11 Items 6 and 7
	9 B165 bridges X846 and C842		6'-9"	D	Yes(1/2)	Ref. B-10 Item 9 and B-11 Item 6
	10 B165 bridges X846 and D844		12'-3"	D	Yes(1/2)	Ref. B-10 Item 9 and B-11 Item 7
	11 X849 (298'-0") crosses over C842 (295'-8")	2'-4"		B	Partial	Ref. B-11 Items 13,14,15,16,26,27
	12 X849 (298'-0") crosses over D844 (295'-8")	2'-4"		B	Partial	Ref. B-11 Items 14,17,18,28,30,31,32
	13 X849 (X846) bridges B165 and C842		8'-0"	C	Partial(1/2)	Ref. B-10 Item 9 and B-11 Item 11
	14 X849 bridges C842 and D844		4'-0"	C	Partial	Ref. B-11 Items 11 and 12

ORIGINAL  
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CONSTRUCTION	ENGR.
BRIDGING PURPOSES	
RELEASED FOR	
DATE	

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CONSTRUCTION  
BIDDING PURPOSES  
RELEASED FOR

DATE

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COORDINATES		SITUATION	VERTICAL DISTANCE	HORIZONTAL DISTANCE	CATEGORY	BARRIER	REMARKS
B-11	15	C842 bridges B756 and X849		3'-7"	D	Yes(3/4)	Ref. B-11 Items 1 and 11
	16	C842 bridges B165 and X849		1'-4"	D	Yes(3/4)	Ref. B-11 Items 6 and 11
	17	D844 bridges B756 and X849		3'-7"	D	Yes(3/4)	Ref. B-11 Items 2 and 12
	18	D844 bridges B165 and X849		1'-4"	D	Yes(3/4)	Ref. B-11 Items 7 and 12
	19	Continuation of B-8 Item 23			A	Yes	
	20	Continuation of B-8 Item 25			A	Yes	
	21	Continuation of B-8 Item 26			A	Yes	
	22	Continuation of B-8 Item 27			A	Yes	
	23	Continuation of B-8 Item 28			A	Yes	
	24	C842 (295'-8") parallel to A757 (293'-0")	2'-8"	3"	A	Yes	Ref. B-11 Item 26
	25	C842 (295'-8") parallel to A577 (293'-0")	2'-8"	2'-5"	A	Yes	
	26	C842 could possibly bridge A757 and X849		4'-0"	D	Yes(3/4)	Ref. B-11 Items 11 and 24
	27	C842 (C843) bridges X845 and X849		9'-3"	*	Yes(1/2)	Ref. B-10 Item 13 and B-11 Item 11. See Note 5
	28	D844 (D845) bridges X846 and X849			*	Yes(3/4)	Ref. B-10 Item 45 and B-11 Item 12. See Note 5
	29	D845 (298'-2") crosses over A757 (293'-0")	5'-2"		A	Yes	Ref. B-11 Item 30 and 33
	30	D844 (D845) bridges X849 and A757		4'-0"	D	Yes(3/4)	Ref. B-11 Items 12 and 29
	31	D844 (D845) bridges X849 and A577		6'-4"	D	Yes(3/4)	Ref. B-8 Item 27 and B-11 Item 12
	32	D844 (D843) could possibly bridge X849 and A167		8'-8"	D	Yes(3/4)	Ref. B-8 Item 28 and B-11 Item 12
	33	D844 (D845) bridges X846 and A757			D	Yes	Ref. B-10 Item 45 and B-11 Item 29
	34	D844 (D845) bridges X846 and A577			D	Yes	Ref. B-8 Item 27 and B-10 Item 45
	35	D844 (D845) could possibly bridge X846 and A167			D	Yes	Ref. B-8 Item 28 and B-10 Item 45
	36	Continuation of B-10 Item 77		1'-4"	B	No	
	37	See Note 6					

ORIGINAL  
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E-214- 022		METROPOLITAN EDISON COMPANY		MADE	CHKD	DRAWING NO.		SW. NO.	REV.
CATEGORIES:-		THREE MILE ISLAND NUCLEAR STATION UNIT 1		04		H69255- FILA-022		10	
A. SPATIAL SEPARATION BETWEEN ES TRAYS.		ELECTRICAL		SOLD R		ENGINEER		GILBERT ASSOCIATES, INC.	
B. SPATIAL SEPARATION BETWEEN ES AND NON-ES TRAYS.		FIRE HAZARD ANALYSIS						ENGINEER AND CONSULTANTS	
C. BRIDGING BETWEEN ES TRAYS.		CABLE SEPARATION REVIEW		SCALE				ROAD NO. 84	
D. BRIDGING BETWEEN ES AND NON-ES TRAYS				* O 044892-099		ENGINEER APPROVAL		DEPT	DATE
				REV		MADE	CHK	DATE	APP

- A. SPATIAL SEPARATION BETWEEN ES TRAYS.
- B. SPATIAL SEPARATION BETWEEN ES AND NON-ES TRAYS.
- C. BRIDGING BETWEEN ES TRAYS.
- D. BRIDGING BETWEEN ES AND NON-ES TRAYS

CABLE SEPARATION REVIEW

WAGE	CHRG	DRAWING NO.		SH NO	RE
---	---	04469255 - FIA-072		11	
SQ LOR		ENG INTF		GILBERT ASSOCIATES, INC	
				ENGINEERS AND CONSULTANTS	
				READING, PA.	
SCALE					
* 044692-094		ENGINEER APPROVAL		DEPT	CATE
REV	MADE	CH	SQ	APP	DATE
REV	MADE	CH	SQ	APP	DATE

COORDINATES		SITUATION	VERTICAL DISTANCE	HORIZONTAL DISTANCE	CATEGORY	BARRIER	REMARKS
B-11	38	See Note 7					
B-12	1	Continuation of B-10 Item 77		1'-4"	B	No	
B-13	1	Continuation of B-10 Item 77		1'-4"	B	No	
C-5	1	D845 (296'-0") crosses over C580 (294'-2")	1'-10"		A	Yes	Ref. C-5 Item 3 and E-3 Item 5
	2	D845 (296'-0") crosses over C170 (293'-0")	3'-0"		A	Yes	Ref. C-5 Item 4 and E-3 Item 6
	3	D845 bridges C580 and A146		51'-6"	C	Yes	Ref. B-8 Item 29 and C-5 Item 1. See Note 2
	4	D845 bridges C170 and A146		51'-6"	C	Yes	Ref. B-8 Item 29 and C-5 Item 2. See Note 2
	5	D845 (296'-0") parallel to C843 (296'-0")		2'-6"	A	Yes	D845 45° Rise to (298'-2")
C-9	1	Same as B-9 Item 21			A	Yes	
	2	Same as B-9 Item 31			A	No	
C-10	1	Same as B-10 Item 7			A	No	
	2	Same as B-10 Item 63			A	Yes	
	3	Same as B-10 Item 64			A	Yes	
	4	Same as B-10 Item 65			A	Yes	
	5	Same as B-10 Item 66			A	Yes	
C-11	1	B164 (296'-10") close to X192 (295'-11")	11"	3'-0"	B	No	
	2	B164 (296'-10") close to X194 (Riser)	8"	3'-0"	B	No	Bottom of Vert. Riser (297'-6")

POOR  
ORIGINAL

DATE	CONSTRUCTION	
	BIDDING PURPOSES	
	RELEASED FOR	ENGR.

573067



E-214-022

## CATEGORIES:-

- A. SPATIAL SEPARATION BETWEEN ES TRAYS.  
 B. SPATIAL SEPARATION BETWEEN ES AND NON-ES TRAYS.  
 C. BRIDGING BETWEEN ES TRAYS.  
 D. BRIDGING BETWEEN ES AND NON-ES TRAYS

METROPOLITAN EDISON COMPANY  
 THREE MILE ISLAND NUCLEAR STATION UNIT 1

ELECTRICAL

FIRE HAZARD ANALYSIS  
 CABLE SEPARATION REVIEW

MADE	CHRD	DRAWING NO.	SH NO	REV
		04469255-FHA-022	12	
SQL	LDN	ENG INTER	GILBERT ASSOCIATES, INC. ENGINEERS AND CONSULTANTS READING, PA.	
SCALE				
# 0 044692-094	ENGINEER APPROVAL	DATE		
REV MADE CH	SQL	APP	DATE	REV MADE CH

COORDINATES	SITUATION	VERTICAL DISTANCE	HORIZONTAL DISTANCE	CATEGORY	BARRIER	REMARKS
C-12	1 X192 (293'-7") close to A167 (293'-0")	7"		B	(n)	
D-4	1 C580 (301'-1") parallel to A554 (298'-0")	3'-1"	1'-0"	A	Yes	See Note 2
	2 C170 (300'-1") parallel to A554 (298'-0")	2'-1"	1'-0"	A	Yes	See Note 2
D-5	1 Continuation of D-4 Item 1			A	Yes	See Note 2
	2 Continuation of D-4 Item 2			A	Yes	See Note 2
	3 C584 (288'-1") parallel to A146 (295'-8")	7'-7"		A	Yes	Ref. D-6 Item 5. See Notes 2 and 8
	4 C173 (288'-1") parallel to A146 (295'-8")	7'-7"		A	Yes	
	5 C593 (289'-4") close to A146 (295'-8")	6'-4"		A	Yes	See Note 2
D-6	1 Continuation of D-5 Item 3			A	Yes	See Note 2
	2 Continuation of D-5 Item 4			A	Yes	See Note 2
	3 X574 (Riser) close to A554 (298'-0")	2'-0"	6"	B	No	Bottom of Vert. Riser (300'-0")
	4 X163 (295'-8") crosses over C173 (288'-1")	7'-7"		B	Yes	See Note 2
	5 A146, A750, A544 bridge C173, C584 and D845, B841		61'-0"	C	Yes	Ref. B-8 Items 5,7,8,29,33,27 and D-5 Items 3 & 4
D-7	1 Continuation of D-5 Item 3			A	Yes	
	2 C754 (299'-2") parallel to A554 (298'-2")	1'-0"	3'-0"	A	No	See Note 2
	3 C754 (299'-2") parallel to B751 (297'-2")	2'-0"		A	Yes	Ref. D-9 Item 1
	4 B751 (297'-2") parallel to A750 (296'-10")	4"	3'-0"	A	No	See Note 2
D-8	1 Continuation of D-7 Item 2			A	No	

ORIGINAL  
 POOR

CONSTRUCTION  
 BIDDING PURPOSES  
 RELEASED FOR

ENGR.

RELEASED FOR

DATE

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E-214-022

## CATEGORIES:-

- A. SPATIAL SEPARATION BETWEEN ES TRAYS.  
 B. SPATIAL SEPARATION BETWEEN ES AND NON-ES TRAYS.  
 C. BRIDGING BETWEEN ES TRAYS.  
 D. BRIDGING BETWEEN ES AND NON-ES TRAYS

## METROPOLITAN EDISON COMPANY

THREE MILE ISLAND NUCLEAR STATION UNIT 1

ELECTRICAL

FIRE HAZARD ANALYSIS

CABLE SEPARATION REVIEW

MADE	CHKD	DRAWING NO.	SH NO	REV
		044692SS-FHA-022	13	
NO LON	ENG INTERT	GILBERT ASSOCIATES, INC.		
		ENGINEERS AND CONSULTANTS		
		READING, PA		
SCALE				
* 044692-094		ENG NEER APPROVAL		
REV	MADE	CH	SOL	APP

COORDINATES	SITUATION	VERTICAL DISTANCE	HORIZONTAL DISTANCE	CATEGORY	BARRIER	REMARKS
B-8	2 Continuation of D-7 Item 3			A	Yes	
	3 Continuation of D-7 Item 4			A	No	
D-9	1 C754 bridges B751 and A167, D845, A577, A757, B841, A838		26'-0"	C	Yes	Ref. B-9 Items 1, 18, 19, 20, 21 and D-7 Item 3
	2 B751 (297'-2") close to X594 (298'-0")	10"	3"	B	No	
D-10	1 X846 (295'-8") parallel to B150 (296'-10")	1'-2"		B	No	
	2 B164 (296'-10") crosses over X846 (295'-8")	1'-2"		B	No	
	3 B575 (298'-0") crosses over X846 (295'-8")	2'-4"		B	No	
	4 X549 (298'-0") close to B558 (298'-0")		3"	B	No	
	5 X846 (295'-8") parallel to B558 (298'-0")	2'-4"		B	No	
E-3	1 C580 (301'-1") close to A555 (300'-0")	1'-1"	3"	A	Yes	Ref. E-3 Item 5
	2 C170 (300'-1") close to A555 (300'-0")	1"	3"	A	Yes	Ref. E-3 Item 6
	3 C580 (301'-1") close to A147 (296'-9")	4'-4"	3"	A	Yes	Ref. E-3 Item 5
	4 C170 (300'-1") close to A147 (296'-9")	3'-4"	3"	A	Yes	Ref. E-3 Item 6
	5 C580 could possibly bridge A555, A147 and B841, D845		44'-0"	C	Yes	Ref. B-5 Item 12, C-5 Item 1 & E-3 Items 1 & 3
	6 C170 could possibly bridge A555, A147 and B841, D845		44'-0"	C	Yes	Ref. B-5 Item 11, C-5 Item 2 and E-3 Items 2 & 4
E-7	1 C754 (300'-6") parallel to B751 (298'-6")	2'-0"	2'-11"	A	No	
	2 C586 (297'-2") parallel to B751 (298'-6")	8"	2'-11"	A	No	

ORIGINAL POOR

CONSTRUCTION  
BIDDING PURPOSES  
RELEASED FOR

ENGR.

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973086

- A. SPATIAL SEPARATION BETWEEN ES TRAYS.
- B. SPATIAL SEPARATION BETWEEN ES AND NON-ES TRAYS.
- C. BRIDGING BETWEEN ES TRAYS.
- D. BRIDGING BETWEEN ES AND NON-ES TRAYS

CABLE SEPARATION REVIEW

MADE	CHKD	DRAWING NO.		SH NO.	REV						
---	---	04469255- TH-022		14							
SQ LDR		ENGINEER		GILBER; ASSOCIATES, INC.							
				ENGINEERS AND CONSULTANTS							
				READING, PA.							
SCALE											
NO 044692-094		ENGINEER APPROVAL DEPT CAT									
REV	MADE	CH	SQ	APP	DATE	REV	MADE	CH	SQ	APP	DATE

COORDINATES			SITUATION	VERTICAL DISTANCE	HORIZONTAL DISTANCE	CATEGORY	BARRIER	REMARKS
E-10	1	Continuation of D-10 Item 1				B	No	
	2	X846 (295'-8") parallel to B558 (298'-0")	2'-4"			B	No	
	3	X547 (298'-7") close to B558 (298'-0")	7"	3"		B	No	Tray B150 also involved.
	4	X851 (295'-8") close to B150 (296'-10")	10"			B	No	Tray B558 also involved.
F-2	1	B154 (299'-4") crosses over A179 (293'-0")	6'-4"			A	Yes	Tray B562 also involved.
	2	B154 (299'-4") crosses over A726 (298'-6")	10"			A	Yes	Tray B562 also involved.
F-3	1	X595 (300'-6") close to A557 (293'-7")	6'-11"	1'-0"		B	No	Ref. G-3 Item 2 Trays A149 and A556 also involved.
F-4	1	Same as F-3 Item 1				B	No	Ref. G-3 Item 2 Trays A149 and A556 also involved.
	2	X180 (299'-4") close to A556 (300'-5")	1'-1"	6"		B	No	Ref. G-4 Item 2 Trays A149 and A556 also involved.
F-5	1	X588 (298'-0") close to A587 (298'-0")		3"		B	No	Ref. F-7 Item 3
	2	A755 (296'-10") close to X588 and X177	1'-2" ea.			B	No	Ref. F-7 Item 4
F-7	1	X588 (298'-0") crosses over B752 (293'-6")	4'-6"			B	No	Ref. F-7 Item 3
	2	X177 (295'-10") crosses over B752 (293'-6")	2'-4"			B	No	Ref. F-7 Item 4
	3	X588 bridge. A587 and B752		32'-0"		C	No	Ref. F-5 Item 1 and F-7 Item 1. See Note 9
	4	X177 bridges A176 and B752		32'-0"		C	No	Ref. F-5 Item 2 and F-7 Item 2. See Note 9
	5	Continuation of E-7 Item 1				A	No	
	6	Continuation of E-7 Item 2				A	No	

POOR  
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DATE	CONSTRUCTION
	BIDDING PURPOSES
	RELEASED FOR
	ENGR.

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E-214-022										METROPOLITAN EDISON COMPANY										MADE		CHRD		DRAWING NO.				EN		MO		REV									
CATEGORIES:-										THREE MILE ISLAND NUCLEAR STATION UNIT 1										04		469255		FILM-022				15													
A. SPATIAL SEPARATION BETWEEN ES TRAYS.										ELECTRICAL										SQ		LDR		ENG				INT		GILBERT ASSOCIATES, INC.		ENGINEERS AND CONSULTANTS									
B. SPATIAL SEPARATION BETWEEN ES AND NON-ES TRAYS.										FIRE HAZARD ANALYSIS																				READING PA											
C. BRIDGING BETWEEN ES TRAYS.										CABLE SEPARATION REVIEW										SCALE																					
D. BRIDGING BETWEEN ES AND NON-ES TRAYS																				NO 044692-054				ENGINEER APPROVAL				DEPT		DATE											
																				REV		MADE		CH				APP		DATE		PLS		MADE		CH		APP		DATE	

CONSTRUCTION	ENGR.
BIDDING PURPOSES	
RELEASED FOR	
DATE	

COORDINATES	SITUATION	VERTICAL DISTANCE	HORIZONTAL DISTANCE	CATEGORY	BARRIER	REMARKS
F-9	1 Continuation of D-10 Item 1			B	No	
	2 Continuation of D-10 Item 5			B	No	
	3 B150 (296'-10") crosses over X329 (294'-6")	2'-4"		B	No	Tray B558 also involved.
	4 X329 (295'-8") parallel to B150 (295'-10")	1'-2"		B	No	Tray B558 also involved.
	5 X588 (299'-11") close to B558 (298'-0")	1'-11"		B	No	Tray B558 also involved.
	6 X177 (298'-9") close to B558 (298'-0")	9"	1'-0"	B	No	Tray B150 also involved.
G-2	1 B154 (299'-4") crosses over A590 (294'-2")	5'-2"		A	Yes	Tray B562 also involved.
	2 B153 (299'-4") crosses over A557 (293'-7")	5'-9"		A	Yes	Tray A149, B561 also involved.
G-3	1 X595 (300'-6") close to B561 (300'-6")		3"	B	No	Ref. G-3 Item 2
	2 X595 could possibly bridge A557 and B561		19'-3"	C	No	Ref. F-3 Item 1, G-3 Item 1 and G-4 Item 1. Trays A149, A556 and B153 also involved.
G-4	1 X180 (299'-4") close to B153 (299'-4")		3"	B	No	Ref. G-4 Item 2
	2 X180 could possibly bridge A556 and B153		18'-6"	C	No	Ref. F-4 Item 2 and G-4 Item 1. Trays A149, A557 and B561 are also involved.
	3 B560 (B559) (300'-6") parallel to X828 (297'-0")	3'-6"		B	No	
	4 B152 (B151) (299'-4") parallel to X828 (297'-0")	2'-4"		B	No	
	5 B561 (300'-6") close to X857 (300'-6")		3"	B	No	
	6 B153 (299'-4") close to X162 (299'-4")		3"	B	No	
	7 E753 (298'-2") parallel to X162 (299'-4")	1'-2"		B	No	Tray X857 also involved.
G-5	1 Continuation of G-4 Item 3			B	No	
	2 Continuation of G-4 Item 4			B	No	

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E-214- 022

## CATEGORIES: -

- A. SPATIAL SEPARATION BETWEEN ES TRAYS.  
 B. SPATIAL SEPARATION BETWEEN ES AND NON-ES TRAYS.  
 C. BRIDGING BETWEEN ES TRAYS.  
 D. BRIDGING BETWEEN ES AND NON-ES TRAYS

METROPOLITAN EDISON COMPANY

THREE MILE ISLAND NUCLEAR STATION UNIT 1

ELECTRICAL

FIRE HAZARD ANALYSIS

CABLE SEPARATION REVIEW

MADE	CHKD	DRAWING NO.	SH NO.	REV.
		044692SS- FHA-022	16	
SO LDR	ENG INTERT	GILBERT ASSOCIATES, INC.		
		ENGINEERS AND CONSULTANTS READING, PA.		
SCALE		NO 044692-094		
REV MADE	CH	LOC APPR	CATE	REV MADE

COORDINATES	SITUATION	VERTICAL DISTANCE	HORIZONTAL DISTANCE	CATEGORY	BARRIER	REMARKS
G-5	3 Continuation of G-4 Item 7			B	No	
	4 X847 (298'-2") parallel to B151 (299'-4")	1'-2"		B	No	Tray B559 also involved.
G-6	1 Continuation of G-4 Item 3			B	No	
	2 Continuation of G-4 Item 4			B	No	
	3 Continuation of G-4 Item 7			B	No	
	4 Continuation of G-5 Item 4			B	No	
	5 X588 (298'-0") parallel to B151 (299'-4")	1'-4"	2'-0"	B	No	Tray B588 also involved.
	6 X177 (296'-10") parallel to B151 (299'-4")	2'-6"	2'-0"	B	No	Tray B588 also involved.
G-7	1 Continuation of G-4 Item 3			B	No	
	2 Continuation of G-4 Item 4			B	No	
	3 Continuation of G-4 Item 7			B	No	
	4 Continuation of G-5 Item 4			B	No	
	5 X328 (297'-0") crosses over B753 (293'-4")	3'-8"		B	No	Tray X847 also involved.
	6 Continuation of G-6 Item 5			B	No	
	7 Continuation of G-6 Item 6			B	No	
G-8	1 Continuation of G-4 Item 3			B	No	
	2 Continuation of G-4 Item 4			B	No	
	3 Continuation of G-5 Item 4			B	No	
	4 Continuation of G-6 Item 5			B	No	
	5 Continuation of G-6 Item 6			B	No	

ORIGINAL  
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CONSTRUCTION	ENGR.
BIDDING PURPOSES	
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5/13/02

DATE	RELEASED FOR	ENGR.
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	CONSTRUCTION	



CONSTRUCTION	ENGR.
BIDDING PURPOSES	
RELEASED FOR	
DATE	

5/20/74

E-214-022				METROPOLITAN EDISON COMPANY		DRAWING NO.		SH NO		REV	
CATEGORIES:-				THREE MILE ISLAND NUCLEAR STATION UNIT 1		044692SS-FLA-022		18			
A. SPATIAL SEPARATION BETWEEN ES TRAYS.				ELECTRICAL		BQ LDR		ENG INTER		GILBERT ASSOCIATES, INC	
B. SPATIAL SEPARATION BETWEEN ES AND NON-ES TRAYS.				FIRE HAZARD ANALYSIS						ENGINEERS AND CONSULTANTS	
C. BRIDGING BETWEEN ES TRAYS.				CABLE SEPARATION REVIEW		SCALE				READING, PA.	
D. BRIDGING BETWEEN ES AND NON-ES TRAYS						NO 044692-094		ENGINEER APPROVAL		CPT DATE	
						REV MADE CH		SQL APP DATE		REV MADE CH SQL APP DATE	

COORDINATES	SITUATION	VERTICAL DISTANCE	HORIZONTAL DISTANCE	CATEGORY	BARRIER	REMARKS
H-5	1 Continuation of H-4 Item 1			B	No	
	2 Continuation of H-4 Item 2			B	No	
	3 X572 (301'-1") close to B562 (300'-6")	7"		B	No	Ref. H-6 Item 6
H-6	1 B156 (299'-4") close to X157 (299'-4")		3"	B	No	
	2 B156 (299'-4") close to X564 (300'-6")		9"	B	No	
	3 B562 (300'-6") close to X157 (299'-4")		3"	B	No	
	4 B562 (300'-6") close to X564 (300'-6")		9"	B	No	Ref. H-6 Item 6
	5 B154 (B156) could possibly bridge A557 and X848		29'-0"	D	Yes(1)	Ref. H-2 Item 5 and H-4 Item 1. Trays A149, X157 and X564 are also involved.
	6 B562 could possibly bridge A557 and X572, X564		55'-0"	D	Yes(1)	Ref. H-2 Item 4, H-5 Item 3 and H-6 Item 4. Trays A149, X848 and X157 are also involved.

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<div style="display: flex; justify-content: space-between;"> <div style="width: 45%;"> <p>E-214- 022</p> <p><b>CATEGORIES: -</b></p> <p>A. SPATIAL SEPARATION BETWEEN ES TRAYS.</p> <p>B. SPATIAL SEPARATION BETWEEN ES AND NON-ES TRAYS.</p> <p>C. BRIDGING BETWEEN ES TRAYS.</p> <p>D. BRIDGING BETWEEN ES AND NON-ES TRAYS</p> </div> <div style="width: 50%;"> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td colspan="4" style="text-align: center;">METROPOLITAN EDISON COMPANY</td> </tr> <tr> <td colspan="4" style="text-align: center;">THREE MILE ISLAND NUCLEAR STATION UNIT 1</td> </tr> <tr> <td colspan="4" style="text-align: center;">ELECTRICAL</td> </tr> <tr> <td colspan="4" style="text-align: center;">FIRE HAZARD ANALYSIS</td> </tr> <tr> <td colspan="4" style="text-align: center;">CABLE SEPARATION REVIEW</td> </tr> </table> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 15%;">DRAWN</td> <td style="width: 15%;">CHKD</td> <td style="width: 30%;">DRAWING NO.</td> <td style="width: 15%;">SH NO</td> <td style="width: 15%;">REV</td> </tr> <tr> <td></td> <td></td> <td>044692SS- FHA-022</td> <td>19</td> <td></td> </tr> <tr> <td colspan="2">SO LDR</td> <td>ENG INTER</td> <td colspan="2">GILBERT ASSOCIATES, INC.</td> </tr> <tr> <td colspan="2"></td> <td></td> <td colspan="2">ENGINEERS AND CONSULTANTS</td> </tr> <tr> <td colspan="2"></td> <td></td> <td colspan="2">READING, PA</td> </tr> <tr> <td colspan="2">SCALE</td> <td colspan="3"></td> </tr> <tr> <td colspan="2">NO 044692-094</td> <td colspan="3">ENGINEER APPROVAL</td> </tr> <tr> <td>REV</td> <td>MADE</td> <td>CH</td> <td>SQL</td> <td>APPROV</td> </tr> <tr> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> </table> </div> </div>										METROPOLITAN EDISON COMPANY				THREE MILE ISLAND NUCLEAR STATION UNIT 1				ELECTRICAL				FIRE HAZARD ANALYSIS				CABLE SEPARATION REVIEW				DRAWN	CHKD	DRAWING NO.	SH NO	REV			044692SS- FHA-022	19		SO LDR		ENG INTER	GILBERT ASSOCIATES, INC.					ENGINEERS AND CONSULTANTS					READING, PA		SCALE					NO 044692-094		ENGINEER APPROVAL			REV	MADE	CH	SQL	APPROV					
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COORDINATES	SITUATION	VERTICAL DISTANCE	HORIZONTAL DISTANCE	CATEGORY	BARRIER	REMARKS																																																																				
	<p><u>NOTES</u></p> <p>1 Ref. B-8 Item 6 - Each of the trays C580, C170, C579, C169 and C578 are involved with each of the trays A146, A750 and A554.</p> <p>2 Trays A146, A750 and A554 are all involved.</p> <p>3 Tray A577 is also involved.</p> <p>4 Trays B571, B558 and B150 are all involved.</p> <p>5 Special Case. Note 4 trays, and trays B756 and B165 are all involved with this bridging problem.</p> <p>6 Along tray C843 (C842), trays involved in bridging are: B751, B558, B150, X846, A757, A577, X849, B165 and B756. All of these could possibly be bridged with those of different channels.</p> <p>7 Along tray D845 (D844), trays involved in bridging are: D751, B558, B150, X846, A167, A577, A757, X849, B165 and B756. All of these could possibly be bridged with those of different channels.</p> <p>8 Trays A587, A755, A176 meet trays A554, A750 and A146, respectively.</p> <p>9 Trays A587, A755, and A176 are all involved.</p>					<div style="writing-mode: vertical-rl; transform: rotate(180deg); font-size: 48px; font-weight: bold;"> ORIGINAL POOR </div>																																																																				

CONSTRUCTION	ENGR.
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RELEASED FOR	
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CONSTRUCTION BIDDING PURPOSES RELEASED FOR	ENGR.
	DATE

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E-214-073					METROPOLITAN EDISON COMPANY THREE MILE ISLAND NUCLEAR STATION UNIT 1 ELECTRICAL FIRE HAZARD ANALYSIS CABLE SEPARATION REVIEW		DRAWING NO. 044692SS-FHA-023 GILBERT ASSOCIATES, INC. ENGINEERS AND CONSULTANTS READING, PA.	
CATEGORIES:- A. SPATIAL SEPARATION BETWEEN ES TRAYS. B. SPATIAL SEPARATION BETWEEN ES AND NON-ES TRAYS. C. BRIDGING BETWEEN ES TRAYS. D. BRIDGING BETWEEN ES AND NON-ES TRAYS					SCALE: N.D. 844692-092 REV. MADE CH SOL APP DATE REV MADE CH SOL APP DATE			
COORDINATES		SITUATION	VERTICAL DISTANCE	HORIZONTAL DISTANCE	CATEGORY	BARRIER	REMARKS	
D-3	1	A465 (A464) (297'-0") parallel to B462 (297'-0")		1'-0"	A	Yes	A465 DN to (294'-2") A77 on the N Side of B462	
	2	A77 (A76) (297'-0") parallel to B462 (297'-0")		3'-0"	A	Yes		
E-3	1	B462 (297'-0") parallel to A465 (294'-2")	2'-10"	2'-0"	A	Yes		
	2	B462 (297'-0") parallel to A77 (293'-0")	4'-0"	2'-0"	A	Yes		
	3	B75 (295'-6") parallel to A465 (294'-2")	1'-4"	2'-0"	A	Yes		
	4	B75 (295'-6") parallel to A77 (293'-0")	2'-6"	2'-0"	A	Yes		
E-4	1	Continuation of E-3 Items 1, 2, 3, 4		2'-0"	A	Yes		
	2	B75 (295'-6") crosses over A466 (294'-2")	1'-4"		A	Yes		
	3	B462(297'-0") crosses over A466 (294'-2")	2'-10"		A	Yes		
E-5	1	Continuation of E-3 Items 1, 2, 3, 4		2'-0"	A	Yes	Horiz. Dist. Changes to 2'-6"	
E-6	1	Continuation of E-3 Items 1, 2, 3, 4			A	Yes		
	2	B75 (295'-6") crosses over A467 (294'-2")	1'-4"		A	Yes		
	3	B462 (297'-0") crosses over A467 (294'-2")	2'-10"		A	Yes		
E-7	1	Continuation of E-3 Items 1, 2, 3, 4		2'-6"	A	Yes		
E-8	1	Continuation of E-3 Items 1, 2, 3, 4		2'-6"	A	Yes		
E-9	1	Continuation of E-3 Items 1, 2, 3, 4		2'-6"	A	Yes		

ORIGINAL  
POOR

E-214-024

## CATEGORIES: -

- A. SPATIAL SEPARATION BETWEEN ES TRAYS.  
 B. SPATIAL SEPARATION BETWEEN ES AND NON-ES TRAYS.  
 C. BRIDGING BETWEEN ES TRAYS.  
 D. BRIDGING BETWEEN ES AND NON-ES TRAYS

METROPOLITAN EDISON COMPANY

THREE MILE ISLAND NUCLEAR STATION UNIT 1

ELECTRICAL

FIRE HAZARD ANALYSIS

CABLE SEPARATION REVIEW

MADE	CHRD	DRAWING NO.	SH. NO.	REV
		044692SS-FHA-024	1	
SQ. LDR	ENG. INTER.	GILBERT ASSOCIATES, INC. ENGINEERS AND CONSULTANTS READING, PA.		
SCALE		ENGINEER APPROVAL DEPT. DATE		
REV	MADE	CH	APP	DATE

COORDINATES	SITUATION	VERTICAL DISTANCE	HORIZONTAL DISTANCE	CATEGORY	BARRIER	REMARKS
C-10	1 B#597 (323'-0") crosses over X#330 (319'-6")	3'-6"		B	No	
	2 B#597 (323'-0") crosses over X#332 (318'-4")	4'-8"		B	No	
	3 B#182 (321'-10") crosses over X#330 (319'-6")	2'-4"		B	No	
	4 B#182 (321'-10") crosses over X#332 (318'-4")	3'-6"		B	No	
C-11	1 B#597 (323'-0") crosses over X#331 (319'-6")	3'-6"		B	No	
	2 B#597 (323'-0") crosses over X#332 (318'-4")	4'-8"		B	No	
	3 B#182 (321'-10") crosses over X#331 (319'-6")	2'-4"		B	No	
	4 B#182 (321'-10") crosses over X#332 (318'-4")	3'-6"		B	No	
	5 B#955 (323'-0") parallel to X#331 (319'-6")	3'-6"		B	No	
	6 B#955 (323'-0") parallel to X#332 (318'-4")	4'-8"		B	No	
	7 B#318 (320'-8") parallel to X#331 (319'-6")	1'-2"		B	No	
	8 B#318 (320'-8") parallel to X#332 (318'-4")	2'-4"		B	No	
	9 B#576 (Riser) close to X#331 (319'-6")			B	No	
	10 B#164 (Riser) close to X#332 (318'-4")			B	No	
C-12	1 Continuation of C-11 Items 6, 7, 8, 9			B	No	
D-10	1 B#597 (323'-0") parallel to X#330 (319'-6")	3'-6"		B	No	
	2 B#597 (323'-0") parallel to X#332 (318'-4")	4'-8"		B	No	
	3 B#182 (321'-10") parallel to X#330 (319'-6")	2'-4"		B	No	
	4 B#182 (321'-10") parallel to X#332 (318'-4")	3'-6"		B	No	

ORIGINAL  
POOR

CONSTRUCTION  
BIDDING PURPOSES  
RELEASED FOR  
DATE

220816

5/30/86

CONSTRUCTION	ENGR.
BIDDING PURPOSES	
RELEASED FOR	
DATE	

E-214- 024					METROPOLITAN EDISON COMPANY		MADE CHRB		DRAWING NO.		SH NO		REV	
CATEGORIES: -					THREE MILE ISLAND NUCLEAR STATION UNIT 1		041469255		FHA-024		2			
A. SPATIAL SEPARATION BETWEEN ES TRAYS.					ELECTRICAL		SQ LDR		ENG INTERF		GILBERT ASSOCIATES, INC.			
B. SPATIAL SEPARATION BETWEEN ES AND NON-ES TRAYS.					FIRE HAZARD ANALYSIS						ENGINEERS AND CONSULTANTS			
C. BRIDGING BETWEEN ES TRAYS.					CABLE SEPARATION REVIEW		SCALE				RENDING, PA			
D. BRIDGING BETWEEN ES AND NON-ES TRAYS							NO 044692-092		ENGINEER APPROVAL		SEPT		DATE	
							REV MADE CH		SQL APP		DATE REV		SQL APP	

COORDINATES	SITUATION	VERTICAL DISTANCE	HORIZONTAL DISTANCE	CATEGORY	BARRIER	REMARKS
E-10 1	Continuation of C-10 Items 1, 2, 5, 4			B	No	
2	X#374 (323'-7") close to B#597 (323'-0")	7"	3"	B	No	
3	X#374 (323'-7") close to B#182 (321'-10")	1'-9"	3"	B	No	
4	B#182 (321'-10") crosses over X#852 (320'-8")	1'-2"		B	No	
5	B#547 (323'-0") crosses over X#852 (320'-8")	2'-4"		B	No	
F-2 1	X#368 (324'-6") crosses over C#601 (319'-10")	4'-8"		B	No	
2	C601 (324'-5") parallel to B597 (324'-6")	1"	3'-0"	A	Yes	Tray B183 also involved C601 drops to (319'-10")
F-3 1	X#852 (324'-6") crosses over C#601 (319'-10")	4'-8"		B	No	
2	B#182 (324'-6") parallel to X#333 (318'-4")	6'-2"		B	No	Ref. F-3 Item 6
3	B#183 (323'-4") parallel to X#333 (318'-4")	5'-0"		B	No	Ref. F-3 Item 5
4	C#601 (319'-10") parallel to X#333 (318'-4")	1'-6"	6"	B	No	Ref. F-3 Items 3, 4
5	X#333 could possibly bridge B#183 and C#601		2'-0"	C	No	Ref. F-3 Items 3, 4
6	X#333 could possibly bridge B#182 and C#601		2'-0"	C	No	Ref. F-3 Items 2, 4
7	Continuation of F-2 Item 2			A	Yes	Tray B183 also involved C601 drops to (319'-10")
F-4 1	Continuation of F-3, Items 1, 2, 4, 6					
F-5 1	Continuation of F-3 Items 1, 2, 4, 6					
F-6 1	Continuation of F-5 Item 2					

ORIGINAL  
POOR

620016

CONSTRUCTION	ENGR.
BIDDING PURPOSES	
RELEASED FOR	
DATE	

E-214-024

## CATEGORIES:-

- A. SPATIAL SEPARATION BETWEEN ES TRAYS.  
 B. SPATIAL SEPARATION BETWEEN ES AND NON-ES TRAYS.  
 C. BRIDGING BETWEEN ES TRAYS.  
 D. BRIDGING BETWEEN ES AND NON-ES TRAYS

METROPOLITAN EDISON COMPANY

THREE MILE ISLAND NUCLEAR STATION UNIT 1

ELECTRICAL

FIRE HAZARD ANALYSIS

CABLE SEPARATION REVIEW

MADE	CHKD	DRAWING NO.	SH. NO.	REV
		041469255-FHA-024	3	
NO. LOR	ENG. INTER.	GILBERT ASSOCIATES, INC.		
		ENGINEERS AND CONSULTANTS		
		READING, PA.		
SCALE	NO. 844692-094			
REV. MADE	CH	APP	DATE	REV. MADE

COORDINATES	SITUATION	VERTICAL DISTANCE	HORIZONTAL DISTANCE	CATEGORY	BARRIER	REMARKS
F-7 1	Continuation of F-3 Item 2					
B-8 1	Continuation of F-3 Item 2					
F-9 1	Continuation of F-3 Item 2					
F-10 1	Continuation of D-10 Items 1, 2, 3, 4					
2	Continuation of C-10, Items 1, 2, 4					

ORIGINAL  
POOR



E-214-025		CATEGORIES:-		METROPOLITAN EDISON COMPANY		DRAWING NO.		REV	
				THREE MILE ISLAND NUCLEAR STATION UNIT 1		041469255 FIA-025		1	
				ELECTRICAL		GILBERT ASSOCIATES, INC.		ENGINEERS AND CONSULTANTS	
				FIRE HAZARD ANALYSIS		SCALE		REV	
				CABLE SEPARATION REVIEW		REV		REV	

- A. SPATIAL SEPARATION BETWEEN ES TRAYS.  
 B. SPATIAL SEPARATION BETWEEN ES AND NON-ES TRAYS.  
 C. BRIDGING BETWEEN ES TRAYS.  
 D. BRIDGING BETWEEN ES AND NON-ES TRAYS

COORDINATES	SITUATION	VERTICAL DISTANCE	HORIZONTAL DISTANCE	CATEGORY	BARRIER	REMARKS
B-6	1 X#900 (316'-2") parallel to X#279 (310'-4")	5'-10"	6"	B	No	
	2 X#773 (309'-2") close to X#662 (311'-6")	2'-4"	8"	B	No	
B-8	1 X#660 (316'-2") parallel to X#772 (311'-6")		6"	B	No	
	2 X#660 (316'-2") parallel to X#896 (316'-2")		10"	B	No	
C-6	1 X#900 (316'-2") parallel to X#279 (310'-4")	5'-10"		B	No	
	2 X#900 (316'-2") parallel to X#662 (311'-6")	4'-8"		B	No	
C-7	1 Continuation of C-6 Items 1,2	2'-4"		B	No	Ref. P-7 Item 15
	2 X#662 (311'-6") crosses over X#773 (309'-2")	1'-2"		B	No	
	3 X#279 (310'-4") crosses over X#773 (309'-2")			B	No	
C-8	1 Continuation of B-8 Items 1,2			B	No	
D-8	1 Continuation of B-8 Item 1			B	No	
	2 X#660 (317'-4") parallel to X#896 (316'-2")		10"	B	No	
	3 X#660 (317'-4") close to X#899 (Riser)		10"	B	No	
E-7	1 X#660 (312'-1") close to X#662 (311'-6")	7"		B	No	Ref. E-8 Item 8 and F-7 Item 6
	2 X#603 (312'-1") close to X#279 (310'-4")	1'-11"		B	No	Ref. E-8 Item 8 and F-7 Item 6
E-8	1 X#667 (317'-4") crosses over X#897 (314'-8")	2'-8"		B	No	

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CONSTRUCTION	DATE
BIDDING PURPOSES	
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CONSTRUCTION  
CLOSING PURPOSES  
RELEASED FOR  
DATE

180076

E-214-025					METROPOLITAN EDISON COMPANY		DRAWING NO.		34 NO.		REV.	
THREE MILE ISLAND NUCLEAR STATION UNIT 1					ELECTRICAL		044692SS-FILL-025		2			
CATEGORIES:-					FIRE HAZARD ANALYSIS		SQ. LDR.		ENGINEER		GILBERT ASSOCIATES, INC.	
A. SPATIAL SEPARATION BETWEEN ES TRAYS.					CABLE SEPARATION REVIEW		SCALE		ENGINEER APPROVAL		DEPT.	
B. SPATIAL SEPARATION BETWEEN ES AND NON-ES TRAYS.							NO. 044692-004		REL. MADE		CH. 131	
C. BRIDGING BETWEEN ES TRAYS.												
D. BRIDGING BETWEEN ES AND NON-ES TRAYS												
COORDINATES	SITUATION	VERTICAL DISTANCE	HORIZONTAL DISTANCE	CATEGORY	BARRIER	REMARKS						
E-8	2 A#284 (316'-2") crosses over X#897 (314'-8")	1'-6"		B	No							
	3 Continuation of B-8 Item 1			B	No							
	4 X#278 (316'-2") is close to A#277 (316'-2")		3"	B	No							
	5 X#661 (317'-4") is close to A#660 (317'-4")		3"	B	No							
	6 A#667 (317'-4") crosses over X#603 (312'-1")	5'-3"		B	No	Ref. E-8 Item 8; also, F-7 Item 6						
	7 A#284 (316'-2") crosses over X#603 (312'-1")	4'-1"		B	No	Ref. E-8 Item 8; also, F-7 Item 6						
	8 X#603 bridges A#667 and B#662		1'-4"	C	Yes	Ref. E-7 Items 1, 2 & E-8 Items 6, 7. Trays A#284 & B#279 are also involved.						
	9 A 667 (317'-4") parallel to B#662 (311'-6")	5'-10"	1'-4"	A	Yes	Tray B#279 also involved.						
	10 A 284 (316'-2") parallel to B#662 (311'-6")	4'-8"	1'-9"	A	Yes	Tray B#279 also involved.						
F-7	1 A#667 (317'-4") crosses over B#663 (310'-4")	7'-0"		A	Yes	Ref. F-7 Items 5, 6, 9, 14						
	2 A#284 (316'-2") crosses over B#663 (310'-4")	5'-10"		A	Yes	Ref. F-7 Items 5, 6, 9, 14						
	3 A#667 (317'-4") crosses over B#280 (309'-2")	8'-2"		A	Yes	Ref. F-7 Items 5, 6, 9, 14						
	4 A#284 (316'-2") crosses over B#280 (309'-2")	7'-0"		A	Yes	Ref. F-7 Items 5, 6, 9, 14						
	5 A#284 bridges X#603 and B#663		5'-0"	D	Yes	Ref. F-7 Items 1, 2, 3, 4; also Ref. E-8 Items 6, 7. Trays A#667 and B#280 also involved.						
	6 B#663 (B#662) bridges X#603 and A#284		5'-0"	D	Yes	Ref. F-7 Items 1, 2, 3, 4; also E-7 Items 1, 2; trays B#280 & A#667 also involved.						
	7 X#901 (314'-10") crosses over A#667 (317'-4")	2'-6"		B	No	Ref. F-7 Item 9						
	8 X#901 (314'-10") crosses over A#284 (316'-2")	1'-4"		B	No	Ref. F-7 Item 9						
	9 A#284 bridges X#901 and B#663			D	Yes (1)	Ref. F-7 Items 1, 2, 3, 4, 7 & 8. Trays A#667 & B#280 also involved.						
	10 B#665 (310'-4") close to X#666 (310'-4")		3"	B	No	Ref. F-7 Item 14						
	11 B#665 (310'-4") close to X#283 (309'-2")	1'-2"	7"	B	No	Ref. F-7 Item 14						
	12 B#282 (309'-2") close to X#283 (309'-2")		3"	B	No	Ref. F-7 Item 14						

ORIGINAL  
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CONSTRUCTION	ENGR.
BIDDING PURPOSES	
RELEASED FOR	
DATE	

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E-214-025					METROPOLITAN EDISON COMPANY		DRAWING NO.		SH NO		REV	
THREE MILE ISLAND NUCLEAR STATION UNIT 1					ELECTRICAL		044692SS- FIA-025		3			
CATEGORIES:-					FIRE HAZARD ANALYSIS		ENGINEER		GILBERT ASSOCIATES, INC.		ENGINEERS AND CONSULTANTS	
A. SPATIAL SEPARATION BETWEEN ES TRAYS.					CABLE SEPARATION REVIEW		SCALE		READING, PA.			
B. SPATIAL SEPARATION BETWEEN ES AND NON-ES TRAYS.							NO 044692-094		ENGINEER APPROVAL		DEPT DATE	
C. BRIDGING BETWEEN ES TRAYS.							REV MADE CH SOL APP DATE		REV MADE CH SOL APP DATE			
D. BRIDGING BETWEEN ES AND NON-ES TRAYS												

COORDINATES	SITUATION	VERTICAL DISTANCE	HORIZONTAL DISTANCE	CATEGORY	BARRIER	REMARKS
F-7	13 B#282 (309'-2") close to X#666 (310'-4")	1'-2"	7"	B	No	Ref. F-7 Item 14
	14 B#665 could possibly bridge X#666 and A#284		6'-4"	D	Yes(y)	Ref. F-7 Items 1,2,3,4,10,11,12,13; trays B663, B280, B282, A667, X283 are also involved.
	15 X#901 (X#900) bridges A#284 and B#662		39'-6"	C	No	Ref. F-7 Items 7,8; also Ref. C-7 Item 1. Trays A667 & B279 are also involved.
G-7	1 B#664 (310'-4") parallel to A#668 (310'-4")		2'-0"	A	Yes	Tray A285 also involved.
	2 B#281 (309'-2") parallel to A#285 (309'-2")		2'-0"	A	Yes	Tray A668 also involved.
G-8	1 Continuation of G-7 Items 1 and 2		2'-0"	A	Yes	Ref. G-7 remarks

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CONSTRUCTION	
BIDDING PURPOSES	
RELEASED FOR	
ENGR.	

METROPOLITAN EDISON COMPANY		DATE	REV
THREE MILE ISLAND NUCLEAR STATION UNIT 1		04/16/92	1
ELECTRICAL		GILBERT ASSOCIATES, INC.	
FIRE HAZARD ANALYSIS		ENGINEERS AND CONSULTANTS	
CABLE SEPARATION REVIEW		READING, PA	
SCALE		NO. 044892-094	
REV. MADE		ENGINEER APPROVAL	
DATE		DATE	

- E-214-034
- CATEGORIES:-
- A. SPATIAL SEPARATION BETWEEN ES TRAYS.
  - B. SPATIAL SEPARATION BETWEEN ES AND NON-ES TRAYS.
  - C. BRIDGING BETWEEN ES TRAYS.
  - D. BRIDGING BETWEEN ES AND NON-ES TRAYS

COORDINATES	SITUATION	VERTICAL DISTANCE	HORIZONTAL DISTANCE	CATEGORY	BARRIER	REMARKS
D-3 1	X#625 (348'-4") parallel over C#242 (346'-0")	2'-4"		B	No	
2	X#623 (347'-2") parallel over C#242 (346'-0")	1'-2"		B	No	
D-4 1	Continuation of D-3 Items 1,2			B	No	

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CONSTRUCTION  
BIDDING PURPOSES  
RELEASED FOR  
DATE

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E-214-036				METROPOLITAN EDISON COMPANY			DRAWING NO.		SH NO	REV
THREE MILE ISLAND NUCLEAR STATION UNIT 1				ELECTRICAL			044692SS-THA-036		1	
CATEGORIES:-				FIRE HAZARD ANALYSIS			GILBERT ASSOCIATES, INC.		ENGINEERS AND CONSULTANTS	
A. SPATIAL SEPARATION BETWEEN ES TRAYS.				CABLE SEPARATION REVIEW			READING, PA			
B. SPATIAL SEPARATION BETWEEN ES AND NON-ES TRAYS.										
C. BRIDGING BETWEEN ES TRAYS.										
D. BRIDGING BETWEEN ES AND NON-ES TRAYS										

COORDINATES	SITUATION	VERTICAL DISTANCE	HORIZONTAL DISTANCE	CATEGORY	BARRIER	REMARKS
A-6 1	C742 (335'-9") crosses over A144 (331'-4")	4'-5"		A	Yes	
A-7 1	Same as A-6 Item 1			A	Yes	
A-7 2	C741 (Riser) close to A144 (331'-4")		10"	A	Yes	
B-3 1	X712 (335'-5") crosses over A830 (331'-4")	4'-1"		B	No	
B-4 1	X311 (Riser) close to A830 (331'-4")			B	No	
B-4 2	X341 (331'-11") close to A144 (331'-4")	7"	4"	B	No	
B-5 1	X552 (333'-9") parallel to A141 (330'-4 1/2")	3'-4 1/2"		B	No	
B-6 1	Same as A-6 Item 1			A	Yes	
B-6 2	X347 (332'-6") crosses over A830 (331'-4")	1'-2"		B	No	Ref. C-5 Item 4
B-6 3	A747 (334'-1") crosses over X347 (332'-6")	1'-7"		B	No	Ref. C-5 Item 4
B-6 4	X347 (332'-6") crosses over A144 (331'-4")	1'-2"		B	No	Ref. C-5 Item 4
B-6 5	X746 (334'-8") crosses over A141 (330'-4 1/2")	4'-4 1/2"		B	No	Ref. C-6 Item 2
B-6 6	X347 (332'-6") crosses over A141 (330'-4 1/2")	2'-1 1/2"		B	No	Ref. C-6 Item 4
B-6 7	X719 (330'-11") close to A141 (330'-4 1/2")	6 1/2"	3"	B	No	
B-6 8	X746 (334'-8") close to A144 (331'-4")	4'-4"		B	No	Ref. C-6 Item 2
B-7 1	Same as A-6 Item 1			A	Yes	
B-7 2	A143 (334'-10") crosses over X319 (330'-11")	3'-11"		B	No	

CONSTRUCTION  
BIDDING PURPOSES  
RELEASED FOR  
DATE

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E-214-036				METROPOLITAN EDISON COMPANY		DRAWING NO.		REV	
THREE MILE ISLAND NUCLEAR STATION UNIT 1				ELECTRICAL		044692SS-FMA-036		2	
CATEGORIES:-				FIRE HAZARD ANALYSIS		ENGINEER		GILBERT ASSOCIATES, INC.	
A. SPATIAL SEPARATION BETWEEN ES TRAYS.				CABLE SEPARATION REVIEW		SCALE		ENGINEER APPROVAL	
B. SPATIAL SEPARATION BETWEEN ES AND NON-ES TRAYS.						* 0 044692-036		DATE	
C. BRIDGING BETWEEN ES TRAYS.						REV MADE		DATE	
D. BRIDGING BETWEEN ES AND NON-ES TRAYS						CH		DATE	
COORDINATES	SITUATION	VERTICAL DISTANCE	HORIZONTAL DISTANCE	CATEGORY	BARRIER	REMARKS			
B-7	3 A143 (334'-10") crosses over B745 (332'-4")	2'-6"		A	Yes	Ref. B-7 Item 6			
	4 A143 bridges X319 and B745		1'-10"	D	Yes(1/2)				
	5 X320 (334'-10") crosses over B745 (332'-4")	2'-6"		B	No	Ref. B-7 Item 6			
	6 B745 bridges X320 and A143		2'-0"	D	Yes(1/2)	Ref. B-7 Items 3 and 5			
B-12	1 X460 (319'-2") crosses over A535 (316'-8")	2'-6"		B	No	Ref. C-12 Item 2			
B-13	1 A535 (316'-8") close to X545 (317'-3")	7"	3"	B	No	Ref. C-13			
B-14	1 X550 (319'-2") close to A536 (318'-2")	1'-0"	6"	B	No				
B-15	1 A536 (318'-2") crosses over C553 (317'-0")	1'-2"		A	Yes	Ref. C-15			
C-3	1 X337 (334'-0") crosses over B137 (331'-4")	2'-8"		B	No				
	2 X337 (334'-0") crosses over B140 (331'-4")	2'-8"		B	No				
C-4	1 X340 (332'-4") crosses over B137 (331'-4")	1'-0"		B	No				
	2 X336 (331'-11") close to B137 (331'-4")	7"	3"	B	No				
	3 X340 and X341 could possibly bridge B137 and A144		16'	C	No	Ref. B-4 Item 2 and C-4 Item 1			
C-5	1 X347 (334'-9") crosses over B137 (331'-4")	3'-5"		B	No				
	2 X347 (334'-9") crosses over B138 (331'-4")			B	No				
	3 X347 (334'-9") crosses over B134 (330'-11")			B	No				

ORIGINAL  
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E-214- 036					METROPOLITAN EDISON COMPANY		THREE MILE ISLAND NUCLEAR STATION UNIT 1	
CATEGORIES:-					ELECTRICAL		FIRE HAZARD ANALYSIS	
A. SPATIAL SEPARATION BETWEEN ES TRAYS.					CABLE SEPARATION REVIEW		GILBERT ASSOCIATES, INC.	
B. SPATIAL SEPARATION BETWEEN ES AND NON-ES TRAYS.					ENGINEERS AND CONSULTANTS		READING, PA.	
C. BRIDGING BETWEEN ES TRAYS.					SCALE		NO. 044692-034	
D. BRIDGING BETWEEN ES AND NON-ES TRAYS					REV. MADE ON SOL. APP. DATE RES. MADE C. TIG. APP. DATE		DRAWING NO. 044692SS-FHA-036	
COORDINATES	SITUATION	VERTICAL DISTANCE	HORIZONTAL DISTANCE	CATEGORY	BARRIER	REMARKS		
C-5	4 X347 bridges A141 and B137		13'-0"	C	No	Ref. B-6 Items 2,3,4,6, and C-5 Item 1,2,3. Trays A144, A747, A830, B134 and B138 are involved.		
C-6	1 X746 (334'-8") crosses over B135 (331'-4")	3'-4"		B	No	Ref. C-6 Item 2		
	2 X746 bridges A141 and B135		4'-6"	C	No	Ref. B-6 Item 5 and C-6 Item 1		
	3 X347 (332'-6") close to B744 (334'-1")	1'-7"	3"	B	No	Ref. C-6 Item 4		
	4 X347 bridges A141 and B744			C	No	Ref. B-6 Item 6, C-6 Item 3, and C-5 Item 4.		
	5 X320 (330'-11") close to B134 (330'-4 1/2")	6 1/2"	3"	B	No	Ref. C-7 Item 9		
	6 X320 (330'-11") close to B135 (330'-11")		3"	B	No			
C-7	1 Same as B-7 Item 5			B	No	Ref. B-7 Item 6		
	2 Same as B-7 Item 3			A	Yes	Ref. B-7 Item 6		
	3 X320 (334'-10") crosses over B135 (331'-4")	3'-6"		B	No	Ref. C-7 Item 5		
	4 A143 (334'-10") crosses over B135 (331'-4")	3'-6"		A	Yes	Ref. C-7 Item 5 and C-6 Item 1		
	5 B135 bridges X320 and A143		2'-0"	D	Yes(1/2)			
	6 B745 (332'-4") parallel to A143 (334'-10")	2'-6"	3"	A	No			
	7 A143 (334'-10") crosses over X320 (330'-11")	3'-11"		B	No	Ref. C-7 Item 9		
	8 X320 bridges A143 and B135		9'-2"	C	No	Ref. C-7 Items 3 and 7		
	9 X320 could possibly bridge A143 and B134		14'-10"	C	No	Ref. C-7 Item 7 and C-6 Item 5		
	10 A143 bridges B135 and X320		9'-2"	D	Yes(1/2)	Ref. C-7 Items 4,7. B745 also involved.		
C-8	1 Same as B-7 Item 5			B	No			
	2 Same as C-7 Item 3			A	Yes			

ORIGINAL POOR

CONSTRUCTION BIDDING PURPOSES RELEASED FOR

080016

28087

CONSTRUCTION  
BIDDING PURPOSES  
RELEASED FOR  
ENGR.  
DATE

COORDINATES					SITUATION	VERTICAL DISTANCE	HORIZONTAL DISTANCE	CATEGORY	BARRIER	REMARKS
C-12	1	X460 (319'-2") close to B528 (318'-2")				1'-0"	9"	B	No	Ref. C-12 Item 2
	2	X460 could possibly bridge A535 and B528						C	No	Ref. C-12 Item 1 and B-12 Item 1
	3	A335 (318'-2") close to X534 (318'-2")					3"	B	No	Ref. C-12 Item 5
	4	X334 (318'-2") close to B533 (318'-2")					3"	B	No	Ref. C-12 Item 5
	5	X534 could possibly bridge A535 and B533					5'-6"	C	No	Ref. C-12 Items 3 and 4
	6	B528 (318'-2") crosses over X371 (315'-3")				2'-11"		B	No	
	7	B528 (318'-2") crosses over X370 (314'-7")				3'-7"		B	No	
C-13	1	B529 (316'-0") crosses over X372 (314'-6")				1'-6"		B	No	
	2	B530 (316'-0") crosses over X372 (314'-6")				1'-6"		B	No	Rises from (316'-0") to (318'-2")
C-15	1	C553 (318'-2") close to B530 (318'-2")					3"	A	Yes	Ref. C-15 Item 2
	2	C553 could possibly bridge B530 and A536					16'-7"	C	Yes	Ref. C-15 Item 1 and B-15 Item 1
C-16	1	X415 (317'-6") close to B530 (318'-2")				8"	3"	B	No	
D-5	1	Continuation of C-5 Item 2						B	No	
D-12	1	X738 (318'-2") crosses over B533 (317'-0")				1'-2"		B	No	
	2	Continuation of C-12 Item 6						B	No	
	3	Continuation of C-12 Item 7						B	No	
	4	B528 (317'-0") crosses over X370 (314'-7")				2'-5"		B	No	

ORIGINAL  
POOR

METROPOLITAN EDISON COMPANY		MADE	CHRS	DRAWING NO.	SN NO.	REV
THREE MILE ISLAND NUCLEAR STATION UNIT 1		04		469255-FHA-036	4	
ELECTRICAL		SGL DR		GILBERT ASSOCIATES, INC. ENGINEERS AND CONSULTANTS READING, PA.		
FIRE HAZARD ANALYSIS		SCALE		NO 044692-054		
CABLE SEPARATION REVIEW		REV MADE		CH SOL APP CATE REV MADE CH SOL APP CATE		

E-214-036

CATEGORIES:-

- A. SPATIAL SEPARATION BETWEEN ES TRAYS.
- B. SPATIAL SEPARATION BETWEEN ES AND NON-ES TRAYS.
- C. BRIDGING BETWEEN ES TRAYS.
- D. BRIDGING BETWEEN ES AND NON-ES TRAYS.

METROPOLITAN EDISON COMPANY		DRIVING NO.	311 NO.	REV.
THREE MILE ISLAND NUCLEAR STATION UNIT 1		ON 469255- FUA-036	5	
ELECTRICAL		ENG. INTER.	GILBERT ASSOCIATES, INC.	
FIRE HAZARD ANALYSIS		SCALE	ENGINEERS AND CONSULTANTS	
CABLE SEPARATION REVIEW		NO. 044887-010	REVISIONS	
		REV. MADE BY	DATE	
		REV. MADE BY	DATE	

E-214-036

CATEGORIES:

A. SPATIAL SEPARATION BETWEEN ES TRAYS.

B. SPATIAL SEPARATION BETWEEN ES AND NON-ES TRAYS.

C. BRIDGING BETWEEN ES TRAYS.

D. BRIDGING BETWEEN ES AND NON-ES TRAYS.

COORDINATES	SITUATION	VERTICAL DISTANCE	HORIZONTAL DISTANCE	CATEGORY	BARRIER	REMARKS
E-4	1 X340 (331'-11") crosses over B833 (330'-2")	1'-9"		B	No	
	2 X336 (331'-11") crosses over B833 (330'-2")	1'-9"		B	No	
E-5	1 X130 (331'-11") close to B158 (331'-4")	7"	6"	B	No	
	2 X132 (331'-11") close to B158 (331'-4")	7"	6"	B	No	
E-6	1 X130 (331'-11") crosses over B743 (331'-4")	7"		B	No	
E-12	1 Same as D-12 Item 1	1'-2"	3"	B	No	
	2 Continuation of C-12 Item 6			B	No	
	3 Continuation of D-12 Item 4			B	No	
	4 X738 (318'-2") crosses over B528 (317'-0")			B	No	
	5 B528 (317'-0") parallel to X548 (317'-0")			B	No	
E-13	1 Continuation of D-12 Item 4	1'-8"	3"	B	No	
	2 Continuation of E-12 Item 4	1'-2"		B	No	
	3 Continuation of E-12 Item 5			B	No	
	4 B390 (318'-8") crosses over X548 (317'-0")			B	No	
	5 X398 (319'-10") crosses over B390 (318'-8")			B	No	
E-14	1 Continuation of E-12 Item 4	10"		B	No	
	2 Continuation of E-12 Item 5			B	No	
	3 B542 (Bottom of Vert. Riser 317'-10") close to X548 (317'-0")			B	No	

POOR ORIGINAL

CONSTRUCTION	DATE
BIDDING PURPOSES	
RELEASED FOR	
ENGR.	

880348

**CATEGORIES: -**

- A. SPATIAL SEPARATION BETWEEN ES TRAYS.  
B. SPATIAL SEPARATION BETWEEN ES AND NON-ES TRAYS.  
C. BRIDGING BETWEEN ES TRAYS.  
D. BRIDGING BETWEEN ES AND NON-ES TRAYS

POOR  
ORIGINAL

METROPOLITAN EDISON COMPANY  
THREE MILE ISLAND NUCLEAR STATION UNIT 1  
ELECTRICAL  
FIRE HAZARD ANALYSIS  
CABLE SEPARATION REVIEW

MADE	CHKD	DRAWING NO.	SH NO	REV
		044692SS-EHA-037	1	
REQD LDR	ENG. INTER	GILBERT ASSOCIATES, INC. ENGINEERS AND CONSULTANTS READING, PA.		
SCALE				
NO 044692-094	ENGINEER APPROVAL	DEPT	DATE	
REV	MADE	CHK	SQL	APP

E-214-037

CATEGORIES:-

- A. SPATIAL SEPARATION BETWEEN ES TRAYS.
- B. SPATIAL SEPARATION BETWEEN ES AND NON-ES TRAYS.
- C. BRIDGING BETWEEN ES TRAYS.
- D. BRIDGING BETWEEN ES AND NON-ES TRAYS

COORDINATES	SITUATION	VERTICAL DISTANCE	HORIZONTAL DISTANCE	CATEGORY	BARRIER	REMARKS
B-10	1 A225 (350'-0") is close to X224 (350'-0")		3"	B	No	
	2 A144 (Riser) is close to X232 (346'-0")		3"	B	No	
	3 A144 (Riser) is close to X230 (347'-8")		3"	B	No	
	4 A144 (Riser) is close to X310 (348'-10")		3"	B	No	
	5 A144 (Riser) is close to X224 (350'-0")		3"	B	No	
	6 A144 (Riser) is close to X18 (347'-10")		2'-6"	B	No	
	7 A218 (350'-0") parallel to X304 (348'-10")	11'-2"		B	No	
	8 A218 (350'-0") parallel to X18 (347'-8")	2'-4"		B	No	
	9 A218 (350'-0") parallel to X224 (350'-0")		2'-6"	B	No	See Note 1
	10 A219 (350'-0") crosses over X18 (347'-8")	2'-4"		B	No	
B-11	1 A247 (347'-0") close to X8 (347'-6")	6"	3"	B	No	
	2 A237 (352'-9") parallel to X8 (347'-6")	5'-3"	3"	B	No	
	3 A226 (352'-2") crosses over X8 (347'-6")	4'-8"		B	No	Ref. B-11 Item 13
	4 A226 (352'-2") close to X1 (352'-2")			B	No	
	5 A226 (352'-2") close to X4 (347'-6")	4'-8"	4"	B	No	
	6 A226 (352'-2") close to X232 (347'-6")	4'-8"	5"	B	No	
	7 A225 (350'-0") crosses over X232 (346'-6")	3'-6"		B	No	
	8 A237 (352'-9") parallel to C238 (353'-1")	4"	1'-0"	A	Yes	
	9 C238 (353'-1") crosses over X244 (346'-6")	6'-7"		B	No	Ref. B-11 Item 12 and C-11 Item 2
	10 C238 (353'-1") close to X626 (351'-2")	1'-11"	1'-9"	B	Yes	
	11 C238 (353'-1") crosses over A226 (352'-2")	11"		A	Yes	Ref. B-11 Items 12 and 13, and C-11 Item 4

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CONSTRUCTION	ENGR.
BIDDING PURPOSES	
RELEASED FOR	
DATE	

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- A. SPATIAL SEPARATION BETWEEN ES TRAYS.
- B. SPATIAL SEPARATION BETWEEN ES AND NON-ES TRAYS.
- C. BRIDGING BETWEEN ES TRAYS.
- D. BRIDGING BETWEEN ES AND NON-ES TRAYS

METROPOLITAN EDISON COMPANY	DATE CHG	DRAWING NO.	SH NO	REV
THREE MILE ISLAND NUCLEAR STATION UNIT 1	---	044692SS-TMA-037	2	
ELECTRICAL	SOLDN	ENG INTFR	GILBERT ASSOCIATES, INC ENGINEERS AND CONSULTANTS READING, PA.	
FIRE HAZARD ANALYSIS	SCALE			
CABLE SEPARATION REVIEW	NO 044692-030	ENGINEER APPROVAL DEPT - T-M-E REVWAPTR CHL APPR APPRTR: MARK CHISL, JR. ET		

COORDINATES		SITUATION	VERTICAL DISTANCE	HORIZONTAL DISTANCE	CATEGORY	BARRIER	REMARKS
B-11	12	C238 bridges X244 and A226		3'-4"	D	Yes(1/2)	Ref. B-11 Items 9 and 11
	13	A226 bridges X8 and C238		2'-4"	D	Yes(1/2)	Ref. B-11 Items 3 and 11      See Note 2
	14	A225 (350'-0") crosses over X18 (347'-8")	2'-4"		B	No	
	15	A225 (350'-0") crosses over X310 (348'-10")	1'-2"		B	No	
	16	A237 (352'-9") parallel to X310 (348'-10")	3'-11"		B	No	
B12	1	X917 (350'-10") crosses over A247 (347'-0")	3'-10"		B	No	
	2	Same as B-11 Item 8			A	Yes	
	3	C238 (353'-1") close to B246 (352'-2")	11"	1'-0"	A	Yes	
B-13	1	X917 (348'-4") parallel to A247 (347'-0")	1'-4"		B	No	
	2	A220 (351'-0") crosses over X628 (349'-9")	1'-3"		B	No	Ref. C-14 Item 3
B-14	1	Continuation of B-13 Item 1			B	No	
C-9	1	Continuation of B-10 Items 7, 8, 9			B	No	See Note 1 Tray X303 also involved.
C-10	1	Continuation of B-10 Items 7, 8, 9			B	No	See Note 1
	2	A218 (350'-10") crosses over X203 (346'-8")	4'-2"		B	No	
	3	B212 (350'-10") parallel to X342 (349'-8")	1'-2"		B	No	Ref. C-10 Item 7
	4	X342 (349'-8") parallel to C216 (347'-8")	1'-0"		B	Yes	Ref. C-10 Item 7
	5	C216 (347'-8") crosses over B201 (343'-10")	3'-10"		A	Yes	

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DATE	RELEASED FOR	ENGR.
	BIDDING PURPOSES	
	CONSTRUCTION	

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E-214-037

## CATEGORIES: -

- A. SPATIAL SEPARATION BETWEEN ES TRAYS.  
 B. SPATIAL SEPARATION BETWEEN ES AND NON-ES TRAYS.  
 C. BRIDGING BETWEEN ES TRAYS.  
 D. BRIDGING BETWEEN ES AND NON-ES TRAYS

## METROPOLITAN EDISON COMPANY

THREE MILE ISLAND REACTOR STATION UNIT 1

ELECTRICAL

FIRE HAZARD ANALYSIS

CABLE SEPARATION REVIEW

MADE	CHRD	SAWING NO.	SH NO.	REV
		044692SS- FIA-037	3	
SQ LDR	ENG INTER	GILBERT ASSOCIATES, INC.		
		ENGINEERS AND CONSULTANTS		
		READING, PA.		
SCALE				
NO 044692-09				
REV	MADE	CH	APP	DATE

COORDINATES	SITUATION	VERTICAL DISTANCE	HORIZONTAL DISTANCE	CATEGORY	BARRIER	REMARKS
C-10	6 B201 (Riser) close to X203 (Riser)		9"	B	No	
	7 X342 bridges B212 and C216	3'-10"		C	Yes	Ref. C-10 Items 3 and 4
	8 B137 (Riser) close to C216 (347'-8")		1'-9"	A	Yes	
	9 B137 (Riser) close to X337 (Riser)		1'-4"	B	No	
	10 B137 (Riser) close to X304 (348'-10")		1'-7"	B	No	Tray X18 also involved.
	11 B137 (Riser) close to A218 (348'-6")	2'-4"	1'-7"	A	No	
C-11	1 A219 (353'-1") crosses over X244 (346'-6")	6'-7"		B	No	Ref. C-11 Items 2 and 6, C-12 Item 4 and D-11 Item 5
	2 X244 bridges C238 and A219		4'-6"	C	No	Ref. B-11 Item 9 and C-11 Item 1
	3 A219 (353'-1") crosses over X626 (351'-2")	1'-11"		B	No	Ref. C-11 Items 4 and 6, and D-11 Item 6
	4 A226 (A219) bridges C238 and X626		1'-10"	D	Yes(4)	Ref. B-11 Item 11 and C-11 Item 3 See Note 3
	5 A219 (353'-1") crosses over C241 (348'-10")	4'-3"		A	Yes	Ref. C-11 Item 6 and D-11 Items 7 and 8 (also A219 crosses over X243)
	6 A219 bridges X626 and C241		3'-0"	D	Yes(4)	Ref. C-11 Items 1 and 5 See Note 3
	7 C241 (348'-10") parallel to X243 (347'-8")	1'-2"		B	No	
	8 C241 (348'-10") parallel to X626 (351'-2")	2'-4"	3'-0"	B	No	See Note 3
C-12	1 A220 (352'-0") crosses over X917 (350'-10")	1'-4"		B	No	Ref. C-12 Items 3 and 6
	2 A219 (353'-1") crosses over B246 (352'-2")	11"		A	Yes	Ref. C-12 Items 3 and 4
	3 A220 (A219) bridges X917 and B246		12'-0"	D	Yes(4)	Ref. C-12 Items 1 and 2
	4 A219 bridges B216 and X244		2'-6"	D	Yes(4)	Ref. C-11 Item 1 and C-12 Item 2
	5 X917 (350'-10") parallel to B255 (347'-0")	3'-10"		B	No	Ref. C-12 Item 6
	6 X917 bridges A220 and B255		13'-6"	C	No	Ref. C-12 Items 1 and 5

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CONSTRUCTION  
BIDDING PURPOSES  
RELEASED FOR

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CONSTRUCTION  
BIDDING PURPOSES  
RELEASED FOR  
DATE

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E-214-037

CATEGORIES:-

A. SPATIAL SEPARATION BETWEEN ES TRAYS.

B. SPATIAL SEPARATION BETWEEN ES AND NON-ES TRAYS.

C. BRIDGING BETWEEN ES TRAYS.

D. BRIDGING BETWEEN ES AND NON-ES TRAYS

METROPOLITAN EDISON COMPANY		MADE	CHKD	DRAWING NO.		SH NO	REV
THREE MILE ISLAND NUCLEAR STATION UNIT 1		04		4692SS- FIA-037		4	
ELECTRICAL		NO LDR	ENGINEER	GILBERT ASSOCIATES, INC.			
FIRE HAZARD ANALYSIS		ENGINEERS AND CONSULTANTS					
CABLE SEPARATION REVIEW		READING, MA					
SCALE		NO 044892-030					
		REV	MADE	CHK	SQL	APPR	DATE

COORDINATES	SITUATION	VERTICAL DISTANCE	HORIZONTAL DISTANCE	CATEGORY	BARRIER	REMARKS
C-12 7	B246 (352'-2") parallel to X244 (346'-6")	5'-8"	2'-6"	B	No	
C-13 1	X916 (348'-2") crosses over B255 (347'-0")	1'-2"		B	No	
C-14 1	Continuation of C-13 Item 1			B	No	
2	X628 (349'-9") crosses over B255 (347'-0")			B	No	Ref. C-14 Item 3
3	X628 bridges A220 and B255		25'-0"	C	No	Ref. B-13 Item 2 and C-14 Item 2
C-15 1	X41 (346'-5½") close to B255 (347'-0")	6½"	3"	B	No	
B-9 1	Continuation of B-10 Items 7, 8, 9			B	No	See Note 1
2	A221 (350'-0") parallel to X305 (348'-10")	1'-2"		B	No	Ref. E-11 Item 3
3	A221 (350'-0") parallel to X222 (347'-8")	2'-4"		B	No	
4	A221 (350'-0") parallel to X227 (350'-0")		2'-9"	B	No	See Note 4 Tray 223 also involved.
B-10 1	Continuation of C-10 Item 3			B	No	
2	Continuation of C-10 Item 4			B	Yes	
3	B213 (350'-10") parallel to X343 (349'-8")	1'-2"		B	No	
4	X343 (349'-8") parallel to C217 (347'-8")	2'-0"		B	Yes	
5	B214 (350'-10") close to X343 (349'-8")	1'-2"		B	Yes	
6	B214 (350'-10") close to C217 (347'-8")	2'-0"		A	Yes	
7	C217 (347'-8") close to A221 (330'-10")	3'-2"	2'-0"	A	No	

ORIGINAL  
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E-214-037		METROPOLITAN EDISON COMPANY		DRAWING NO.		SH NO.		REV.	
THREE MILE ISLAND NUCLEAR STATION UNIT 1		OH 1469255- FIA-037		OH 1469255- FIA-037		5		5	
ELECTRICAL		ENGINEER		GILBERT ASSOCIATES, INC.		ENGINEERS AND CONSULTANTS		READING, PA.	
FIRE HAZARD ANALYSIS		SCALE		W O 844897-014		ENGINEER APPROVAL		DATE	
CABLE SEPARATION REVIEW		REV. MADE		C-11		APPROPRIATE		DATE	

- CATEGORIES :-
- A. SPATIAL SEPARATION BETWEEN ES TRAYS.
  - B. SPATIAL SEPARATION BETWEEN ES AND NON-ES TRAYS.
  - C. BRIDGING BETWEEN ES TRAYS.
  - D. BRIDGING BETWEEN ES AND NON-ES TRAYS

COORDINATES	SITUATION	VERTICAL DISTANCE	HORIZONTAL DISTANCE	CATEGORY	BARRIER	REMARKS
D-10 8	C217 (347'-8") close to X305 (347'-8")	2'-0"		B	No	
D-11 1	B214 (353'-1") crosses over X245 (352'-0")	1'-1"		B	No	Ref. D-11 Item 5
2	B214 (353'-1") crosses over X244 (346'-6")	6'-7"		B	No	Ref. D-11 Item 6
3	B214 (353'-1") crosses over X626 (351'-2")	1'-11"		B	No	Ref. D-11 Items 7 and 8 (also B214 crosses over X243)
4	B216 (353'-1") crosses over C241 (348'-10")	4'-3"		A	Yes	Ref. C-11 Item 1 and D-11 Item 2
5	X244 bridges A219 and B214	12'-6"		C	No	Ref. C-11 Item 3 and D-11 Item 3
6	X626 bridges A219 and B214	12'-6"		C	No	Ref. C-11 Item 3 and D-11 Item 3
7	C241 bridges A219 and B214	12'-6"		C	Yes	Ref. C-11 Item 5 and D-11 Item 4
8	X243 bridges A219 and B214	12'-6"		C	Yes	Ref. C-11 Item 5 and D-11 Item 4
9	Continuation of C-11 Item 7			B	No	See Note 3
10	Continuation of C-11 Item 8			B	No	
11	C217 (348'-10") close to X251 (348'-10")	3"		B	No	
12	C217 (348'-10") crosses over X205 (348'-2")	8"		B	No	
13	C217 (348'-10") crosses over X206 (347'-2")	1'-8"		B	No	
14	C217 (348'-10") crosses over X207 (348'-2")	8"		B	No	
15	C217 (348'-10") close to X208 (347'-2")	1'-0"		B	No	
D-12 1	B215 (Riser) close to X917 (350'-10")	1'-0"		B	No	
2	Continuation of C-12 Item 5			B	No	
3	Same as D-11 Item 1			B	No	
4	Continuation of C-13 Item 1			B	No	

POOR ORIGINAL

CONSTRUCTION	DATE
BIDDING PURPOSES	
RELEASED FOR	
ENGR.	

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E-214-037		METROPOLITAN EDISON COMPANY		DATE	REV
THREE MILE ISLAND NUCLEAR STATION, UNIT 1		DRAWING NO. 044697-SS-77A-017		04	6
ELECTRICAL		ENGINEER'S APPROVAL		GILBERT A. SOCIATES, INC.	
FIRE HAZARD ANALYSIS		REV. MADE		ENGINEERS AND CONSULTANTS	
CABLE SEPARATION REVIEW		SCALE		READING, PA.	
		NO. 044697-094		DATE	
		REV. MADE		DATE	

CATEGORIES:-

- A. SPATIAL SEPARATION BETWEEN ES TRAYS.
- B. SPATIAL SEPARATION BETWEEN ES AND NON-ES TRAYS.
- C. BRIDGING BETWEEN ES TRAYS.
- D. BRIDGING BETWEEN ES AND NON-ES TRAYS

COORDINATES	SITUATION	VERTICAL DISTANCE	HORIZONTAL DISTANCE	CATEGORY	BARRIER	REMARKS
D-13	1 Same as C-13 Item 1			B	No	
D-14	1 Same as C-14 Item 2			B	No	
E-10	1 Continuation of D-9 Item 2	1'-2"		B	No	
	2 Continuation of D-9 Item 3	2'-4"		B	No	
	3 Continuation of D-9 Item 4		2'-0"	B	No	See Note 4
E-11	1 C241 (348'-10") crosses over X231 (347'-8")	1'-2"		B	No	
	2 C241 (348'-10") close to X229 (348'-10")		3"	B	No	Ref. E-11 Item 3
	3 X305 (X229) could possibly bridge C241 and A221		10'-0"	C	No	Ref. D-9 Item 2 and E-11 Item 2
	4 C241 (348'-10") parallel to X249 (348'-10")		2'-6"	B	No	See Note 3
E-12	1 X878 (353'-1") crosses over C883 (350'-0")	3'-1"		B	No	
	2 X829 (350'-0") close to B255 (345'-6")	4'-6"	10"	B	No	
	3 B239 (351'-2") crosses over X884 (350'-0")	1'-2"		B	No	Ref. F-12 Item 13
	4 X886 (X829, X878) bridge B239 and C883		10'-0"	C	No	
	5 X254 (347'-8") close to B239 (351'-2")	3'-6"		B	No	Ref. F-12 Item 13
E-14	1 A143 (348'-6") close to X256 (348'-6")		3"	B	No	
F-12	1 B239 (331'-2") parallel to X829 (350'-0")	1'-2"		B	No	

POOR ORIGINAL

CONSTRUCTION	DATE
RELEASED FOR	
ENGR.	



E-214-037

## CATEGORIES:-

- A. SPATIAL SEPARATION BETWEEN ES TRAYS.  
 B. SPATIAL SEPARATION BETWEEN ES AND NON-ES TRAYS.  
 C. BRIDGING BETWEEN ES TRAYS.  
 D. BRIDGING BETWEEN ES AND NON-ES TRAYS

METROPOLITAN EDISON COMPANY  
 THREE MILE ISLAND NUCLEAR STATION UNIT 1  
 ELECTRICAL  
 FIRE HAZARD ANALYSIS  
 CABLE SEPARATION REVIEW

WDR	CHRD	DRAWING NO.	SH. NO.	REV.
		044692-SS-FHA-037	7	
SO LDR	ENG INTERP	GILBERT ASSOCIATES, INC.		
		ENGINEERS AND CONSULTANTS READING, PA.		
SCALE				
* O 044692-037		ENGINEER APPROVAL		
REV	MADE	CH	SOL	APP

COORDINATES	SITUATION	VERTICAL DISTANCE	HORIZONTAL DISTANCE	CATEGORY	BARRIER	REMARKS
F-12	2 Same as E-12 Item 3			B	No	
	3 B239 (351'-2") crosses over X250 (347'-8")	3'-6"		B	No	Ref. F-12 Item 13
	4 B239 (351'-2") crosses over X249 (347'-6")	3'-8"		B	No	Ref. F-12 Item 13
	5 B239 (351'-2") crosses over X622 (347'-6")	3'-8"		B	No	Ref. F-12 Item 13 and F-15 Item 2
	6 B239 (351'-2") crosses over X624 (347'-6")	3'-8"		B	No	Ref. F-12 Item 13 and F-15 Item 3
	7 B127 (Riser) parallel to X829 (Riser)		9"	B	No	
	8 B127 (Riser) close to C241 (347'-8")		10"	A	No	
	9 X829 (Riser) close to C241 (347'-8")		10"	B	No	
	10 B239 (351'-2") crosses over C241 (347'-8")	3'-6"		A	Yes	Ref. F-12 Item 13 and F-15 Item 4
	11 X829 (330'-0") crosses over C241 (347'-8")	2'-4"		B	No	
	12 C241 bridges B239 and X829		6"	D	Yes(1/2)	
	13 B239 bridges C241 and X624, X622, X252, X250, X254, X884		3'-8"	D	Yes(1/2)	Ref. E-12 Items 3 and 5, and F-12 Items 3,4,5,6,1
F-13	1 X240 (Riser) close to C241 (347'-8")		2"	B	Yes	
	2 X240 (Riser) close to B239 (351'-2")		5"	B	Yes	
	3 X240 (Riser) parallel to B127 (Riser)		2"	B	No	
	4 X554 (Riser) close to C241 (347'-8")		2"	B	Yes	
	5 X554 (Riser) parallel to B127 (Riser)		4"	B	No	
F-15	1 X623 (348'-10") parallel to C241 (347'-8")	1'-2"		B	No	Ref. F-15 Items 2,3,4 (X625 also involved)
	2 X623 (X622) bridges C241 and B239		43'-6"	C	No	Ref. F-12 Item 5 and F-15 Item 1
	3 X625 (X624) bridges C241 and B239		43'-6"	C	No	Ref. F-12 Item 6 and F-15 Item 1
	4 C241 bridges X625 and B239		49'-3"	D	Yes(1/2)	Ref. F-12 Item 10 and F-15 Item 1

ORIGINAL  
 POOR

CONSTRUCTION  
 BIDDING PURPOSES  
 RELEASED FOR  
 DATE

9508/8

POOR  
ORIGINAL

E-214-037		DRAWING NO.		SM NO.	REV.
METROPOLITAN EDISON COMPANY		041469255-THA-037		9	
THREE MILE ISLAND NUCLEAR STATION UNIT 1		GILBERT ASSOCIATES, INC.		ENGINEERS AND CONSULTANTS	
ELECTRICAL		REVISION		DATE	
FIRE HAZARD ANALYSIS		NO. 0414692-003		DATE	
CABLE SEPARATION REVIEW		REV. MADE		DATE	

- CATEGORIES:
- A. SPATIAL SEPARATION BETWEEN ES TRAYS.
  - B. SPATIAL SEPARATION BETWEEN ES AND NON-ES TRAYS.
  - C. BRIDGING BETWEEN ES TRAYS.
  - D. BRIDGING BETWEEN ES AND NON-ES TRAYS.

### SITUATION

#### NOTES

1. Trays X224, X228, X230, and X232 are also involved.
2. Trays X1, X4, X8, X18, X224, X310, X230, X232, and X236 could be involved in the bridge.
3. Trays X626, X627, X249, and X250 are also involved.
4. Trays X227, X229, X231, and X233 are also involved.

POOR  
ORIGINAL

### REMARKS

COORDINATES

CONSTRUCTION	DATE
BIDDING PURPOSES	
RELEASED FOR	
ENGR.	

860376

APPENDIX D

Drawings, "Electrical Fire Hazard Analysis Conduit-to-Conduit  
Separation Review"

S-FHA-100, Sheets 1 through 29

S-FHA-200, Sheets 1 through 67

S-FHA-300, Sheets 1 through 4

S-FHA-400, Sheets 1 through 7

S-FHA-500, Sheets 1 through 4

S-FHA-600, Sheets 1 through 20

973099







		CONST' CTION	
		BIDDING PURPOSES	
DATE		RELEASED FOR	ENGR.

973102

FIRE AREA - ZONE		CND IN ZONE	CHAN	CRK W/IN CND	FUNCTION	USE
REMAINDER OF AUXILIARY BUILDING (AB) (ELEVATIONS 271'; 281'; 305')  SECTION D-215-183  THE AREA BOUNDED BY LINES J, K, 6c AND 7d.	RG63	B	RG63	INST (RTD)	PRESS SW (PS673)	
	RS31	C	RS31	IND.	ISO VLV (MU-V-20)	
	RV337	C	RV337	CONT	ISOL VLV (MUV-20)	
	RV80	B	RV80	CONT	ISOL VLV (MUV-26)	
	DL5	B	DL5	CONT	OUT VLV (WDL-V304)	
	DL6	B	DL6	CONT	OUT VLV (WDL-V304)	
	DL4	B	DG83	CONT.	ISOL VLV (WDG-V4)	
		B	RV33	CONT.	ISOL VLV (FBV-58)	
		B	RV34	CONT.	ISOL VLV (FBV-58)	
		B	RV35	CONT.	ISOL VLV (FBV-60)	
		B	RV36	CONT.	ISOL VLV (FBV-60)	
		B	DC86	CONT.	ISOL VLV (WDG-V4)	
		B	DC85	CONT.	ISOL VLV (WDG-V4)	
		B	DC84	CONT.	ISOL VLV (WDG-V4)	
		B	RV378	CONT.	SAMPLE VLV (CFV-20B)	
		B	RV377	CONT.	SAMPLE VLV (CFV-20B)	
	B	RR532	IND.	SAMPLE VLV (CFV-20B)		
	C	RS22	IND.	N <sub>2</sub> ADD VLV (CFV-19B)		
	C	EA506	CONT PWR	PRESS XMTR (PT288)		
	A	EA108	CONT PWR	PRESS XMTR (PT282)		
	B	EA308	CONT PWR	PRESS XMTR (PT285)		

973103

METROPOLITAN EDISON COMPANY THREE MILE ISLAND NUCLEAR STATION UNIT 1 ELECTRICAL FIRE HAZARD ANALYSIS					
CONDUIT-TO-CONDUIT SEPARATION REVIEW					
(AB) REMAINDER (EL. 271', 281', 305')					
FIRE AREA - ZONE	CND IN ZONE	CHAN	CRK W/IN CND	FUNCTION	USE
	ME74	B	ME74	CONT	ES ACT CAB (PS284,-7, 290)
		B	RR701	CONT	ES ACT CAB (PS284,-7, 290)
		B	RR702	CONT	ES ACT CAB (PS284,-7, 290)
	RR85	B	RR85	IND	EMERG MU VLV (MUV-16D)
	CR16	B	CR16	PWR	EMERG MU VLV (MUV-16D)
	CR321	B	CR321	CONT	EMERG MU VLV (MUV-16D)
	MD74	A	MD74	CONT	ES ACT CAB (PS283,-6,-9)
		A	RP701	CONT	ES ACT CAB (PS283,-6,-9)
		A	RP702	CONT	ES ACT CAB (PS283,-6,-9)
	DC24	A	DC24	CONT	ISOL VLV (CAV-2)
	RV40	B	RV40	CONT	ISOL VLV (FBV-60)
	RV41	B	RV41	CONT	ISOL VLV (FBV-60)
	CR15	B	CR15	PWR	EMERG MU VLV (MUV-16C)
	CR311	B	CR311	CONT	EMERG MU VLV (MUV-16C)
	RP521A	A	RP521A	IND	RET. VLV (NSV-4)
	CQ481	A	CQ481	CONT	RET. VLV (NSV-4)
	CQ43	A	CQ43	PWR	RET. VLV (NSV-4)
	RP563	A	RP563	IND	ISOL VLV (FBV-64)
	RR533	B	RR533	IND	SAMPLE VLV (CFV-20A)
	RS21	C	RS21	IND	N <sub>2</sub> VLV (CFV-19A)
	RV354	C	RV354	CONT	ISOL VLV (CFV-19A)

SCALE

0044692-094 ENGINEER APPROVAL

REV MADE CH ISOL APP DATE REV MADE CH ISOL APP DATE

044692 S-FHA-100 5 0

GILBERT ASSOCIATES, INC.  
ENGINEERS AND CONSULTANTS  
READING, PA.

METROPOLITAN EDISON COMPANY						MADE CHKO	DRAWING NO.		SM. NO.	REV
THREE MILE ISLAND NUCLEAR STATION UNIT 1						04	46921S-FHA-100		6	0
ELECTRICAL						SQL DR	ENG INTERF		GILBERT ASSOCIATES, INC.	
FIRE HAZARD ANALYSIS						SCALE	ENGINEER APPROVAL		DEPT DATE	
CONDUIT-TO-CONDUIT SEPARATION REVIEW						NO 044692-094	ENGINEER APPROVAL		DEPT DATE	
(AB) REMAINDER (EL. 271', 281', 305')						REV MADE CH	SQL	APPRO DATE	REV MADE CH	SQL
						REV MADE CH	SQL	APPRO DATE	REV MADE CH	SQL
FIRE AREA - ZONE	CND IN ZONE	CHAN	CRK W/IN CND	FUNCTION	USE					
	RV355	C	RV355	CONT	ISOL VLV (CFV-19A)					
	RV357	C	RV357	CONT	ISOL VLV (CFV-19B)					
	RV358	C	RV358	CONT	ISOL VLV (CFV-19B)					
	RV577	B	RV577	CONT	PURGE VLV (AHV-1A2)					
	RV579	B	RV579	CONT	PURGE VLV (AHV-1A1)					
	RV580	B	RV580	CONT	PURGE VLV (AHV-1A)					
	RV581	B	RV581	CONT	PURGE VLV (AHV-1A)					
	RR525	B	RR525	IND	PURGE VLV (AHV-1A)					
	RR524	B	RR524	IND	PURGE VLV (AHV-1A)					
	RR523	B	RR523	IND	PURGE VLV (AHV-1A)					
	RV270	B	RV270	CONT	VENT HDR VLV (PPV-170)					
	CS151	C	CS151	CONT	SUPPLY VLV (NSV-15)					
	RS11	C	RS11	IND	SUPPLY VLV (NSV-15)					
	RV574	B	RV574	CONT	PURGE VLV (AHV-1A)					
		B	RV578	CONT	PURGE VLV (AHV-1A)					
	RP521	A	RP521	IND	RET VLV (NSV-4)					
		A	RP521A	IND	RET VLV (NSV-4)					
	MD74	A	MD74	CONT	ES ACT CAB (PS283,-6,-9)					
		A	RP701	CONT	ES ACT CAB (PS283,-6,-9)					
		A	RP702	CONT	ES ACT CAB (PS283,-6,-9)					
	RR85	B	RR85	IND	EMERG MU VLV (MUV-16D)					

973105



ACTION		PURPOSES		ENGR.	
EAST		EAST		ENGR.	
FIRE AREA - ZONE	COND IN ZONE	PLAN	CRK WITH	FUNCTION	USE
	ME74	B	ME74	CONT	ES ACT CAB (PS284,-7, 290)
		B	RR701	CONT	ES ACT CAB (PS284,-7, 290)
		B	RR702	CONT	ES ACT CAB (PS284,-7, 290)
	RR84	B	RR84	IND	EMERG MU VLV (MUV-16C)
	RV197	A	RV197	CONT	VENT HDR VLV (FBV-112)
	RV190	A	RV190	CONT	VENT HDR VLV (FBV-112)
	RV266	A	RV266	CONT	VENT HDR VLV (PPV-169)
	RV209	B	RV209	CONT	VENT HDR VLV (FBV-111)
	RV208	B	RV208	CONT	VENT HDR VLV (FBV-111)
	RV63	C	RV63	CONT	ISOL VLV (ICV-6)
	RV63A	C	RV63A	N/A	N/A
	RS11	C	RS11	IND	SUPPLY VLV (NSV-15)
		C	RS21	IND	N <sub>2</sub> ADD VLV (CFV-19A)
		C	RS22	IND	N <sub>2</sub> ADD VLV (CFV-19B)
		C	RS31	IND	ISOL VLV (MUV-20)
		C	RS63	IND	PRESS SW (PS573)
	RV66	C	RV66	CONT	ISOL VLV (ICV-6)
		X	RV274	INTLK	ISOL VLV (ICV-6)
	RV63	C	RV63	CONT	ISOL VLV (ICV-6)
		X	RV64	INTLK	ISOL VLV (ICV-6)
	RV62	C	RV62	CONT	ISOL VLV (ICV-6)
	RV20	C	RV20	CONT	ISOL VLV (ICV-4)
	RV21	C	RV21	CONT	ISOL VLV (ICV-4)
		X	RV22	INTLK	ISOL VLV (ICV-4)
		C	RV23	CONT	ISOL VLV (ICV-4)
METROPOLITAN EDISON COMPANY THREE MILE ISLAND NUCLEAR STATION UNIT 1 ELECTRICAL FIRE HAZARD ANALYSIS CONDUIT-TO-CONDUIT SEPARATION REVIEW (AB) REMAINDER (EL. 271', 281', 305')					
MADE CHKD 04 14692 S-FHA-100 7 0 GILBERT ASSOCIATES, INC. ENGINEERS AND CONSULTANTS READING, PA.					
SCALE W.O. 044892-094 REV MADE CH SQ LDR DATE REV MADE CH SQ LDR DATE ENGINEER APPROVAL DEPT DATE					

573105



METROPOLITAN EDISON COMPANY THREE MILE ISLAND NUCLEAR STATION UNIT 1 ELECTRICAL FIRE HAZARD ANALYSIS CONDUIT-TO-CONDUIT SEPARATION REVIEW (AB) REMAINDER (EL. 271', 281', 305')						DRAWING NO. 04-4692-S-FHA-100 8 0 GILBERT ASSOCIATES, INC. ENGINEERS AND CONSULTANTS READING, PA.			
FIRE AREA - ZONE	CND IN ZONE	CHAN	CRK W/IN CND	FUNCTION	USE	SCALE	W. 044692-094	ENGINEER APPROVAL	DEPT DATE
	RV13	C	RV13	CONT	ISOL VLV (FBV-55)		REV MADE CH SQL APP DATE REV MADE CH SQL APP DATE		
		X	RV14	CONT	ISOL VLV (FBV-55)				
		C	RV15	CONT	ISOL VLV (ICV-4)				
		X	RV16	CONT	ISOL VLV (ICV-4)				
		X	RV871	CONT	ISOL VLV (ICV-74)				
		X	RV875	INTLK	ISOL VLV (ICV-2)				
		C	RV55	CONT	ISOL VLV (FBV-59)				
		X	RV56	CONT	ISOL VLV (FBV-59)				
		C	RV57	CONT	ISOL VLV (ICV-6)				
	X	RV58	CONT	ISOL VLV (ICV-6)					
	RV23	C	RV23	CONT	ISOL VLV (ICV-4)				
		X	RV873	INTLK	ISOL VLV (ICV-4)				
	CG202	A	CG202	CONT	AIR DAMPER (AH-D-16A)				
	RP553	A	RP553	IND	TNK VLV (BSV-4A)				
	MD9	A	MD9	PWR	BS PUMP (BS-P-1A)				
	T-52-1	X	RV3	CONT	ISOL VLV (FBV-54)				
		X	RV4	CONT	ISOL VLV (FBV-54)				
		X	RV5	CONT	ISOL VLV (FBV-54)				
		C	CS151	CONT	SUPPLY VLV (NSV-15)				
		C	RV337	CONT	ISOL VLV (MUV-20)				
		C	RV338	CONT	ISOL VLV (MUV-20)				
		C	RV350	CONT	ISOL VLV (CFV-19A)				
		C	RV351	CONT	ISOL VLV (CFV-19A)				
		C	RV352	CONT	ISOL VLV (CFV-19B)				
		C	RV353	CONT	ISOL VLV (CFV-19B)				
		C	RV13	CONT	ISOL VLV (FBV-55)				
		X	RV14	CONT	ISOL VLV (FBV-55)				
		C	RV15	CONT	ISOL VLV (ICV-4)				
		X	RV16	CONT	ISOL VLV (ICV-4)				
		X	RV871	CONT	ISOL VLV (ICV-74)				
		X	RV875	INTLK	ISOL VLV (ICV-2)				
		C	RV55	CONT	ISOL VLV (FBV-59)				
		X	RV56	CONT	ISOL VLV (FBV-59)				
	C	RV57	CONT	ISOL VLV (ICV-6)					
	X	RV58	CONT	ISOL VLV (ICV-6)					

903107

FIRE AREA - ZONE	CND IN ZONE	CHAN	CRK W/IN CND	FUNCTION	USE
	T-53-3	B	CR15	PWR	EMERG MU VLV (MUV-16C)
		B	CR16	PWR	EMERG MU VLV (MUV-16D)
	T-53-4	B	CR311	CONT	EMERG MU VLV (MUV-16C)
		B	CR321	CONT	EMERG MU VLV (MUV-16D)
		B	EA308	CONT PWR	PRESS XMTR (PT285)

METROPOLITAN EDISON COMPANY  
THREE MILE ISLAND NUCLEAR STATION UNIT 1  
ELECTRICAL  
FIRE HAZARD ANALYSIS  
CONDUIT-TO-CONDUIT SEPARATION REVIEW  
(AB) REMAINDER (EL. 271', 281', 305')

MADE CRKD  
SQ LCM  
ENGINEER  
SCALE  
W.O. 04692-094  
REV MADE CH SQL APP DATE REV MADE CH SQL APP DATE

DRAWING NO. 04 4692 S-FHA-100  
SH. NO. 9  
REV 0  
GILBERT ASSOCIATES, INC.  
ENGINEERS AND CONSULTANTS  
READING, PA.

973308



FIRE AREA - ZONE	CND IN ZONE	CHAN	CRK W/IN CND	FUNCTION	USE
	RG211	A	RG211	CONT	COOL PUMP (RC-P-1A)
		A	RG212	CONT	COOL PUMP (RC-P-1A)
		A	RG213	CONT	COOL PUMP (RC-P-1B)
		A	RG214	CONT	COOL PUMP (RC-P-1B)
		A	RG216	CONT	COOL PUMP (RC-P-1C)
		A	RG217	CONT	COOL PUMP (RC-P-1C)
		A	RG218	CONT	COOL PUMP (RC-P-1D)
		A	RG219	CONT	COOL PUMP (RC-P-1D)
	RG107	C	RG107	INST (RTD)	PRESS SW (PS674)
	RG19	A	RG19	INST (RTD)	PRESS SW (PS672)
	RG147	D	RG147	INST (RTD)	PRESS SW (PS675)
	CS43	C	CS43	PWR	RC DRAIN TANK VENT VLV(WDG-V-2)
	CS156	A/C	CS156	CONT	RELAY RM RELAY RCK XCC
	CS142	C	CS142	CONT	MN CONTROL RM CONSOLE CR
	CS102	C	CS102	CONT	MN CONTROL RM CONSOLE CC
	CS361	C	CS361	CONT	ISOL VLV (RB-V-2)
	CS151	C	CS151	CONT	SUPPLY VLV (NSV-15)
	CS168	C	CS168	CONT	DUMP VLV (NSV-32)
		X	RU437	CONT	PRESS SW (PS648B)
		C	RV338	CONT	ISOL VLV (MRIV-20)
	CS362	C	CS362	CONT	ISOL VLV (RB-V-2)
	MD73	C	MD73	SPARE	SPARE
		C	ME73	SPARE	SPARE
	CS552	B/C	CS552	CONT	ES ACTUATION CAB B

METROPOLITAN EDISON COMPANY  
THREE MILE ISLAND NUCLEAR STATION UNIT 1  
ELECTRICAL  
FIRE HAZARD ANALYSIS  
CONDUIT-TO-CONDUIT SEPARATION REVIEW  
(AB) ELEVATION 281'

SCALE

044692-094 ENGINEER APPROVAL DATE

REV MADE CH SQL APP DATE REV MADE CH SQL APP DATE

DRAWING NO. 044692-S-FHA-100 SH. NO. 11 REV 0

GILBERT ASSOCIATES, INC.  
ENGINEERS AND CONSULTANTS  
READING, PA.

5/3/10

METROPOLITAN EDISON COMPANY THREE MILE ISLAND NUCLEAR STATION UNIT 1 ELECTRICAL FIRE HAZARD ANALYSIS CONDUIT-TO-CONDUIT SEPARATION REVIEW (AB) ELEVATION 281'					
FIRE AREA - ZONE	CND IN ZONE	CHAN	CRK W/IN CND	FUNCTION	USE
	RS211	A	RS211	INST	PRESS XMTR (PT282)
	RS212	B	RS212	INST	PRESS XMTR (PT285)
	RS213	C	RS213	INST	PRESS XMTR (PT288)
	RV615	C	RV615	CONT	PRESS VLV (PPV-146)
		C	RV616	CONT	PRESS VLV (PPV-146)
	RV617	C	RV617	CONT	PRESS VLV (PPV-146)
	RV618	C	RV618	CONT	PRESS VLV (PPV-146)
	RV660	B	RV660	CONT	PRESS VLV (PPV-165)
	RV661	B	RV661	CONT	PRESS VLV (PPV-165)
	RV624	A	RV624	CONT	PRESS VLV (PPV-147)
	RV625	A	RV625	CONT	PRESS VLV (PPV-147)
	RV622	A	RV622	CONT	PRESS VLV (PPV-147)
		A	RV623	CONT	PRESS VLV (PPV-147)
	RV658	B	RV658	CONT	PRESS VLV (PPV-165)
		B	RV659	CONT	PRESS VLV (PPV-165)
	RV583	A/B	RV583	CONT	ISOL VLV (AHV-1B)
	RV603	A/B	RV603	CONT	ISOL VLV (AHV-1C)
	T-52-7	B			
	T-52-8	B			
	T-52-14	B			
	T-52-1	C			

SCALE

NO 04482-094 ENGINEER APPROVAL DATE

REV MADE CH SQL APP DATE REV MADE CH SQL APP DATE

DRAWING NO. 044692-S-FHA-100 SH. NO. 12 REV 0

GILBERT ASSOCIATES, INC.  
ENGINEERS AND CONSULTANTS  
READING, PA.



FIRE AREA - ZONE	CND IN ZONE	CHAN	CRK W/IN CND	FUNCTION	USE
	T-52-2	A			
	T-52-21	A			
	T-52-22	A			
	T-52-23	C			
	T-52-24	C			
	CQ31	A	CQ31	PWR	LIGHTING PNL (AB-1)
	T-52-31	B			
	T-52-27	B			
	T-52-28	B			
	RR91	B	RR91	IND	MU VLV (NRV-4B)
	T-52-32	A			
	T-52-33	C			
	T-52-37	C			
	T-52-38	B			
	DC34	B	DC34	CONT	ISOL VLV (CAV-5A)
		B	RR501	IND	ISOL VLV (CM-V2)
		B	RR502	IND	ISOL VLV (CM-V4)
		B	RV135	CONT	ISOL VLV (FBV-114)
		B	RV700	CONT	ISOL VLV (CM-V2)
		B	RV701	CONT	ISOL VLV (CM-V2)
		B	RV702	CONT	ISOL VLV (CM-V4)
		B	RV703	CONT	ISOL VLV (CM-V4)
	RV583	A/B	RV583	CONT	ISOL VLV (AHV-1B)

METROPOLITAN EDISON COMPANY  
THREE MILE ISLAND NUCLEAR STATION UNIT 1  
ELECTRICAL  
FIRE HAZARD ANALYSIS  
CONDUIT-TO-CONDUIT SEPARATION REVIEW  
(AB) ELEVATION 281'

SCALE  
0.044692'-0941'-ENGINEERING APPROVAL  
REV MADE CH SQL ABPT CH REV MADE CH SQL ABPT

DRAWING NO. 0446921S-FHA-100  
SH. NO. 13  
REV 0  
GILBERT ASSOCIATES, INC.  
ENGINEERS AND CONSULTANTS  
READING, PA.

5.11.10



CONSTRUCTION		BIDDING PURPOSES		RELEASED FOR		ENGR.	
DATE		CRK W/IN CND		FUNCTION		USE	
FIRE AREA - ZONE	CND IN ZONE	CHAN	CRK W/IN CND	FUNCTION	USE		
	AV603	A/B	RV603	CONT	ISOL VLV (AHV-1C)		
	T-52-54	B					
	ED308A	B	ED308A	N/A	N/A		
			ED308B	N/A	N/A		
	CS552	B/C	CS552	CONT	ES ACTUATION CAB B		
	T-52-14	B					
	CR651	B	CR651	CONT	AUX OIL PMP (MU-F-2C)		

METROPOLITAN EDISON COMPANY

THREE MILE ISLAND NUCLEAR STATION UNIT 1

ELECTRICAL

FIRE HAZARD ANALYSIS

CONDUIT-TO-CONDUIT SEPARATION REVIEW

(AB) ELEVATION 281'

MADE CHKD

04 14692 S-FHA-100

14 0

GILBERT ASSOCIATES, INC.

ENGINEERS AND CONSULTANTS

READING, PA.

SCALE

W.C. 044692-094

REV MAKE CH SOL APP DATE REV MAKE CH SOL APP DATE

ENGINEER APPROVAL

SEP 77

DATE

20000000



METROPOLITAN EDISON COMPANY THREE MILE ISLAND NUCLEAR STATION UNIT 1 ELECTRICAL FIRE HAZARD ANALYSIS					
CONDUIT-TO-CONDUIT SEPARATION REVIEW (AB) ELEVATION 305'					
SCALE					
<div> <div> <div>MADE</div> <div>CNCD</div> </div> <div> <div>04</div> <div>4692</div> <div>S-FHA-100</div> </div> <div> <div>SH. NO.</div> <div>16</div> </div> <div> <div>REV</div> <div>0</div> </div> </div> <div> <div>DRAWING NO.</div> <div>04</div> </div> <div> <div>ENGINEER</div> <div>GILBERT ASSOCIATES, INC.</div> </div> <div> <div>ENGINEERS AND CONSULTANTS</div> <div>READING, PA.</div> </div>					
<div> <div> <div>REV</div> <div>MADE</div> <div>CH</div> <div>SQL</div> <div>APR</div> <div>DATE</div> </div> <div> <div>REV</div> <div>MADE</div> <div>CH</div> <div>SQL</div> <div>APR</div> <div>DATE</div> </div> </div> <div> <div>ENGINEER APPROVAL</div> <div>DEPT</div> <div>DATE</div> </div>					
FIRE AREA - ZONE	CND IN ZONE	CHAN	CRK W/IN CND	FUNCTION	USE
	RR704	B	RR704	CONT	ES ACT CAB (PS287)
	RG19	A	RG19	INST (RTD)	PRESS SW (PS672)
	ME75	B	ME75	CONT	ES ACT CAB (PS284)
	RR703	B	RR703	CONT	ES ACT CAB (PS284)
	RG107	C	RG107	INST (RTD)	PRESS SW (PS674)
	RG147	D	RG147	INST (RTD)	PRESS SW (PS675)
	RV83	B	RV83	CONT	ISOL VLV (MUV-26)
		X	RV84	INTLK	ISOL VLV (MUV-26)
	RV80	B	RV80	CONT	ISOL VLV (MUV-26)
		X	RV72	CONT	ISOL VLV (FBV-61)
		X	RV73	CONT	ISOL VLV (FBV-61)
		B	RV81	CONT	ISOL VLV (MUV-26)
	RV339A	C	RV339A	CONT	ISOL VLV (MUV-20)
	RV339	C	RV339	CONT	ISOL VLV (MUV-20)
	RV340	C	RV340	CONT	ISOL VLV (MUV-20)
	RS31	C	RS31	IND	ISOL VLV (MUV-20)
	RG63	B	RG63	INST (RTD)	PRESS SW (PS673)
	T-52-1	C			
	T-54-3	B			
	T-54-4	B			
	CH153	B	CH153	CONT	FIRE STAT NR (AH-E-15B)
	CR15	B	CR15	PWR	EMERG MU VLV (MUV-16C)

	CONSTRUCTION	
	BIDDING PURPOSES	
DATE	RELEASED FOR	ENGR.

		CONSTRUCTION			
		BIDDING PURPOSES			
DATE		RELEASED FOR		ENGR.	
FIRE AREA - ZONE	CND IN ZONE	CHAN	CRK W/IN CND	FUNCTION	USE
	T-54-19	B	CR32	PWR	EMERG LIGHT PNL XFR (FH-1)
		X	CT62	PWR	INFRARED HTR (AH-C-26M)
		X	CT63	PWR	INFRARED HTR (AH-C-26N)
	CH153	B	CH153	CONT	FIRE STAT NR (AH-E-15B)
	T-54-17	B	LS2	PWR	DH PUMP (DC-P-1B)
		B	LS5	PWR	COOL PUMP (NS-P-1C)
		B	CH6	PWR	AIR CLG FAN (AH-E-15B)
		X	7 NON-ES CIRCUITS	PWR	INFRARED HTRS
<div> <div> METROPOLITAN EDISON COMPANY THREE MILE ISLAND NUCLEAR STATION UNIT 1 ELECTRICAL FIRE HAZARD ANALYSIS CONDUIT-TO-CONDUIT SEPARATION REVIEW (AB) ELEVATION 305' </div> <div> MADE CHKO SQ LDR SCALE W.O. 044692-094 REV MADE CH ENGINEER APPROVAL DATE GILBERT ASSOCIATES, INC. ENGINEERS AND CONSULTANTS READING, PA. </div> <div> DRAWING NO. 044692-S-FHA-100 SH. NO. 18 REV 0 </div> </div>					



		CONSTRUCTION			
		BIDDING PURPOSES			
DATE		RELEASED FOR		ENGR.	
FIRE AREA - ZONE	CND IN ZONE	CHAN	CRK W/IN CND	FUNCTION	USE
AUXILIARY BLDG. EL. 281' AUX PLAN E-215-181  FROM LEFT - TO LINE 6d  373418	RV583	A/B	RV583	CONT	ISOL VLV (AHV-1B)
	RV603	A/B	RV603	CONT	ISOL VLV (AHV-1C)
	RG107	C	RG107	INST (RTD)	PRESS SW (PS674)
	T-52-1	X	RV3	CONT	ISOL VLV (FBV-54)
		X	RV4	CONT	ISOL VLV (FBV-54)
		X	RV5	CONT	ISOL VLV (FBV-54)
		C	CS151	CONT	SUPPLY VALVE (NSV-15)
		C	RV337	CONT	ISOL VLV (MUV-20)
		C	RV338	CONT	ISOL VLV (MUV-20)
		C	RV350	CONT	ISOL VLV (CFV-19A)
		C	RV351	CONT	ISOL VLV (CFV-19A)
		C	RV352	CONT	ISOL VLV (CFV-19B)
		C	RV353	CONT	ISOL VLV (CFV-19B)
		C	RV13	CONT	ISOL VLV (FBV-55)
		X	RV14	CONT	ISOL VLV (FBV-55)
		C	RV15	CONT	ISOL VLV (ICV-4)
		X	RV16	CONT	ISOL VLV (ICV-4)
		X	RV871	CONT	ISOL VLV (ICV-74)
		X	RV875	INTLK	ISOL VLV (ICV-3)
		C	RV55	CONT	ISOL VLV (FBV-59)
		X	RV56	CONT	ISOL VLV (FBV-59)
		C	RV57	CONT	ISOL VLV (ICV-6)
		X	RV58	CONT.	ISOL VLV (ICV-6)
		C	CS141	CONT	DISCH VLV (NRV-1B)
		C	CS501	CONT	LUBE WATER PMP (NR-P-2B)
		C	LT26	CONT + IND	RIVER PUMP (NR-P-1B)
		C	RV642	CONT	PRESS VLV (PPV-152)
		C	CS143	INTLK	RIV WTR PMP (NR-P-1B)
		C	LR31		
		C	RV643	CONT	PRESS VLV (PPV-152)
	RS65	C	RS65	IND	PRESS SW (PS575)
	RV215	B	RV215	CONT	VENT HDR VLV (FBV-117)
METROPOLITAN EDISON COMPANY THREE MILE ISLAND NUCLEAR STATION UNIT 1 ELECTRICAL FIRE HAZARD ANALYSIS CONDUIT-TO-CONDUIT SEPARATION REVIEW (AB) ELEVATION 281' (AUX PLAN)					
MADE CHCK 04 4692 S-FHA-100 19 0 GILBERT ASSOCIATES, INC. ENGINEERS AND CONSULTANTS READING, PA. SCALE W.O. 044692-094 REV MADE CH ISOL APP DATE REV MADE CH ISOL APP DATE ENGINEER APPROVAL DEPT DATE					



FIRE AREA - ZONE	CND IN ZONE	CHAN	CRK W/IN CND	FUNCTION	USE
	T-52-2	A	CQ5	PWR	D.H. VLV (BSV-3A)
		A	CQ6	PWR	TNK VLV (BSV-4A)
		A	CQ12	PWR	D.H. VLV (DHV-6A)
		A	CQ31	PWR	(EMERG) LIGHTING PNL (AB-1)
	RV198	A	RV198	CONT	VENT HDR VLV (FBV-118)
	RG221	B	RG221	CONT	COOL PUMP (RC-P-1A)
		B	RG222	CONT	COOL PUMP (RC-P-1A)
		B	RG223	CONT	COOL PUMP (RC-P-1B)
		B	RG224	CONT	COOL PUMP (RC-P-1B)
		B	RG226	CONT	COOL PUMP (RC-P-1C)
		B	RG227	CONT	COOL PUMP (RC-P-1C)
		B	RG228	CONT	COOL PUMP (RC-P-1D)
		B	RG229	CONT	COOL PUMP (RC-P-1D)
	RP551	A	RP551	IND	DISCH VLV (BSV-1A)
	CQ171	A	CQ171	CONT	DISCH VLV (DHV-4A)
	RP231	A	RP231	IND	DISCH VLV (DHV-4A)
	RV199	A	RV199	CONT	ISOL VLV (ICV-3)
	RV200	A	RV200	CONT	ISOL VLV (ICV-3)
	RV202	A	RV202	CONT	ISOL VLV (ICV-3)
		X	RV201	INTLK	ISOL VLV (ICV-3)
		X	RV876	INTLK	ISOL VLV (ICV-3)
	RP551	A	RP551	IND	DISCH VLV (BSV-1A)
	CQ371	A	CQ371	CONT	DISCH VLV (BSV-1A)
	CQ25	A	CQ25	PWR	DISCH VLV (BSV-1A)
	T-52-21	A	CQ4	PWR	REACTOR VLV (DHV-4A)
		A	CQ25	PWR	DISCH VLV (BSV-1A)

METROPOLITAN EDISON COMPANY  
THREE MILE ISLAND NUCLEAR STATION UNIT 1  
ELECTRICAL  
FIRE HAZARD ANALYSIS  
CONDUIT-TO-CONDUIT SEPARATION REVIEW  
(AB) ELEVATION 281' (AUX PLAN)

MADE CHKD  
SCALE  
REV 044692-094 ENGINEER APPROVAL  
REV MADE CH SQL APPLICABLE REV MADE CH SQL APPLICABLE

DRAWING NO. SH. NO. REV  
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GILBERT ASSOCIATES, INC.  
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READING, PA.

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FIRE AREA - ZONE	CND IN ZONE	CHAN	CRK W/IN CND	FUNCTION	USE
	T-52-22	A	CQ171	CONT	REACTOR VLV (DHV-4A)
		A	CQ371	CONT	DISCH VLV (BSV-1A)
		A	RP231	IND	DISCH VLV (DHV-4A)
		A	RP551	IND	DISCH VLV (BSV-1A)
		A	RP571	IND	ISOL VLV (FBV-50)
	RP571	A	RP571	IND	ISOL VLV (FBV-50)
	RV188	A	RV188	CONT	ISOL VLV (ICV-3)
		X	RV189	CONT	ISOL VLV (FBV-50)
		A	RV191	CONT	ISOL VLV (ICV-3)
		A	RV192	CONT	ISOL VLV (ICV-3)
		X	RV193	CONT	ISOL VLV (FBV-50)
	T-52-23	C	CS5	PWR	NR PUMP VLV (NR-V-1B)
		C	CS91	PWR	DISCH STRAINER (NR-S-1B)
		C	CS93	PWR	NR PUMP (NR-P-2B)
	T-52-24	C	CS141	CONT	DISCH VLV (NRV-1B)
		C	CS501	CONT	LUBE WATER PMP (NR-P-2B)
		C	LT26	CONT + IND	RIV WTR PUMP (NR-P-1B)
		C	RV642	CONT	PRESS VLV (PPV-152)
		C	CS143	INTLK	RIV WTR PMP (NR-P-1B)
		C	RV643	CONT	PRESS VLV (PPV-152)
		C	LR31	CONT + IND	RIV WTR PUMP (NR-P-1B)
	RP232	A	RP232	IND	DH VLV (DHV-5A)
	CQ251	A	CQ251	CONT	D.H. VLV (DHV-5A)
	RP552	A	RP552	IND	OUT VLV (BSV-2A)
	CQ151	A	CQ151	CONT	TANK OUT VLV (BSV-2A)
	CQ1	A	CQ1	PWR	TANK OUT VLV (BSV-2A)
	CQ11	A	CQ11	PWR	D.H. VLV (DHV-5A)

THREE MILE ISLAND NUCLEAR STATION UNIT 1

ELECTRICAL

FIRE HAZARD ANALYSIS

CONDUIT-TO-CONDUIT SEPARATION REVIEW

(AB) ELEVATION 281' (AUX PLAN)

SCALE

0.04692-094 ENGINEER APPROVAL

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GILBERT ASSOCIATES, INC.

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METROPOLITAN EDISON COMPANY						THREE MILE ISLAND NUCLEAR STATION UNIT 1		ELECTRICAL		FIRE HAZARD ANALYSIS		CONDUIT-TO-CONDUIT SEPARATION REVIEW		(AB) ELEVATION 281'	
FIRE AREA - ZONE						CND IN ZONE		CHAN		CRK W/IN CND		FUNCTION		USE	
AUXILIARY BLDG. (EL. 281') E-215-181  FROM 6d, THE AREA BOUNDED BY CND RS211						RS23	C	RS23	IND	ISOL VLV (MUV-18)					
						T-52-4	B								
						RR551	B	RR551	IND	DISCH VLV (BSV-1B)					
						CR461	B	CR461	CONT	DISCH VLV (BSV-1B)					
						CR42	B	CR42	PWR	DISCH VLV (BSV-1B)					
						RR234	B	RR234	IND	DH PMP VLV (DHV-7B)					
						CR271	B	CR271	CONT	DH PMP VLV (DHV-7B)					
						CR13	B	CR13	PWR	DH PMP VLV (DHV-7B)					
						CR14	B	CR14	PWR	TNK OUT VLV (MU-V-14B)					
						CQ650	A	CQ650	PWR	AUX OIL PMP (MU-P-2A)					
						RR92	B	RR92	IND	OUT VLV (MUV-14B)					
						CR301	B	CR301	CONT	OUT VLV (MUV-14B)					
						RP92	A	RP92	IND	OUT VLV (MUV-14A)					
						RR552	B	RR552	IND	OUT VLV (BSV-2B)					
						CR151	B	CR151	CONT	OUT VLV (BSV-2B)					
						CR1	B	CR1	PWR	OUT VLV (BSV-2B)					
						RP234	A	RP234	IND	DH PMP VLV (DHV-7A)					
						CQ14	A	CQ14	PWR	OUT VLV (MUV-14A)					
						CQ301	A	CQ301	CONT	OUT VLV (MUV-14A)					
						CQ13	A	CQ13	PWR	DH PMP VLV (DHV-7A)					

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DATE	ENGR.

METROPOLITAN EDISON COMPANY				MADE		CHKD		DRAWING NO.				SH. NO.		REV	
THREE MILE ISLAND NUCLEAR STATION UNIT 1								04 4692 S-FHA-100				23		0	
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FIRE HAZARD ANALYSIS								ENGINEERS AND CONSULTANTS							
CONDUIT-TO-CONDUIT SEPARATION REVIEW				SCALE				READING, PA.							
(AB) ELEVATION 281'				W.O. 044692-094		ENGINEER APPROVAL		DEPT		DATE					
				REV		MADE		CH		SQL		APP		DATE	
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FIRE AREA - ZONE		CND IN ZONE	CHAN	CRK W/IN CND	FUNCTION	USE
	T-52-28 (CONT'D)	B	RR234	IND		DH PMP VLV (DHV-7B)
		B	RR551	IND		DISCH VLV (BSV-1B)
		X	CP621	CONT		MN CONT RM CONSOLE CC
	CR15	B	CR15	PWR		FMERG MU VLV (MUV-16C)
	CR16	B	CR16	PWR		EMERG MU VLV (MUV-16D)

CONDUIT-TO-CONDUIT SEPARATION REVIEW

(AB) ELEVATION 281'

MADE CHND		DRAWING NO.		SH. NO.		REV	
SQ. LDR		044692-S-FHA-100		24		0	
SCALE		ENGINEER APPROVAL		DATE			
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GILBERT ASSOCIATES, INC.  
ENGINEERS AND CONSULTANTS  
READING, PA.

3/23/23



FIRE AREA - ZONE	CND IN ZONE	CHAN	CRK W/IN CND	FUNCTION	USE	METROPOLITAN EDISON COMPANY THREE MILE ISLAND NUCLEAR STATION UNIT 1 ELECTRICAL FIRE HAZARD ANALYSIS CONDUIT-TO-CONDUIT SEPARATION REVIEW (AB) ELEVATION 281' (AUX. PLAN)										
AUXILIARY BLDG. EL. 281' AUX. PLAN E-215-181  FROM 6d TO 7d	RS213	C	RS213	INST	PRESS TRANSM (PT288)	SCALE	W.C. 044892-094	ENGINEER APPROVAL	SEPT 77	DATE	REV	MADE	CHKD	DRAWING NO.	SH. NO.	REV
	RG-221	B	RG221	CONT	COOL PUMP (RC-P-1A)											
		B	RG222	CONT	COOL PUMP (RC-P-1A)											
		B	RG223	CONT	COOL PUMP (RC-P-1B)											
		B	RG224	CONT	COOL PUMP (RC-P-1B)											
		B	RG226	CONT	COOL PUMP (RC-P-1C)											
		B	RG227	CONT	COOL PUMP (RC-P-1C)											
		B	RG228	CONT	COOL PUMP (RC-P-1D)											
		B	RG229	CONT	COOL PUMP (RC-P-1D)											
	RV603	A/B	RV603	CONT	ISOL VLV (AHV-1C)											
	RV583	A/B	RV583	CONT	ISOL VLV (AHV-1B)											
	RG147	D	RG147	INST (RTD)	PRESS SW (PS675)											
	RV160A	N/A	RV160A	N/A	N/A											
		A	RV161	CONT	ISOL VLV (MUV-3)											
		X	RV162	CONT	ISOL VLV (FBV-46)											
		N/A	RV163A	N/A	N/A											
	RS11	C	RS11	IND	SUPPLY VLV (NSV-15)											
		C	RS21	IND	N <sub>2</sub> ADD VLV (CFV-19A)											
		C	RS22	IND	N <sub>2</sub> ADD VLV (CFV-19B)											
		C	RS31	IND	ISOL VLV (MUV-20)											
		C	RS63	IND	PRESS SW (PS573)											
	CS7	C	CS7	PWR	DUMP VLV (NSV-32)											
	RS12	C	RS12	IND	DUMP VLV (NSV-32)											
	CS161	C	CS161	CONT	DUMP VLV (NSV-32)											
CS166	C	CS166	CONT	DUMP VLV (NSV-32)												
RS211	A	RS211	INST	PRESS TRANSM (PT282)												
RS212	B	RS212	INST	PRESS TRANSM (PT285)												

044892-S-FHA-100  
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GILBERT ASSOCIATES, INC.  
ENGINEERS AND CONSULTANTS  
READING, PA.



FIRE AREA - ZONE		CND IN ZONE	CHAN	CRK W/IN CND	FUNCTION	USE
	T-52-7	B	CR4	PWR		DH PMP VLV (DHV-4B)
		X	CP45	PWR		SUPPLY PMP (FS-P-5B)
		B	CR42	PWR		DISCH VLV (BSV-1B)
	T-52-8	B	CR171	CONT		DH PUMP VLV (DHV-4B)
		B	RR231	IND		ISOL VLV (FBV-75)
		X	CP552	CONT		1D TURB PLT COM CNTR-UNIT 11B
		X	CR222	CONT		MN CONT RM CONSOLE CC
		X	CE151	CONT		LEVEL SW (LS157)
		X	CF151	CONT		LEVEL SW (LS157)
		X	CP621	CONT		MU TNK OUT VLV (MUV-12)
		X	DA63	ALM		LEVEL SW (LS157)
	RR231	B	RR231	IND		DH PMP VLV (DHV-4B)
	CR4	B	CR4	PWR		DH PMP VLV (DHV-4B)
	CR171	B	CR171	CONT		DH PMP VLV (DHV-4B)
	DC134	C	DC134	CONT		ISOL VLV (CAV-189)
		X	RV172	CONT		ISOL VLV (FBV-75)
		X	RV173	CONT		ISOL VLV (FBV-75)
		C	RV329	CONT		MU VLV (MUV-18)
	RV167	C	RV330	CONT		MU VLV (MUV-18)
		A	RV167	CONT		BLOCK VLV (MUV-3)
RV168	A	RV168	CONT		BLOCK VLV (MUV-3)	
	X	RV169	INTLK		BLOCK VLV (MUV-3)	
DC135	C	DC135	CONT		ISOL VLV (CAV-189)	
DC136	C	DC136	CONT		ISOL VLV (CAV-189)	
	X	RV177	INTLK		ISOL VLV (CAV-189)	
DC137	C	DC137	CONT		ISOL VLV (CAV-189)	
RV331	C	RV331	CONT		MU VLV (MUV-18)	

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METROPOLITAN EDISON COMPANY						MADE	CHKD	DRAWING NO.		SH. NO.	REV
THREE MILE ISLAND NUCLEAR STATION UNIT 1						04		4692 S-FHA-100		27	0
ELECTRICAL						SQ LDR		ENGINE INTERF		GILBERT ASSOCIATES, INC.	
FIRE HAZARD ANALYSIS						SCALE		ENGINEER APPROVAL		DEPT DATE	
CONDUIT-TO-CONDUIT SEPARATION REVIEW						REV MADE CH		SQL APP'D DATE		REV MADE CH SQL APP'D DATE	
(AB) ELEVATION 281' (AUX. PLAN)											
FIRE AREA - ZONE	CND IN ZONE	CHAN	CRK W/IN CND	FUNCTION	USE						
	RV332	C	RV332	CONT	MU VLV (MUV-18)						
	RP85	A	RP85	IND	EMERG MU VLV (MUV-16B)						
	CQ321	A	CQ321	CONT	EMERG MU VLV (MUV-16D)						
	CQ311	A	CQ311	CONT	EMERG MU VLV (MUV-16C)						
	RP84	A	RP84	IND	EMERG MU VLV (MUV-16A)						
	CQ15	A	CQ15	PWR	EMERG MU VLV (MUV-16A)						
	CR7	B	CR7	PWR	ISOL VLV (MUV-37)						
	CR231	B	CR231	CONT	ISOL VLV (MUV-37)						
		B	RR79	IND	ISOL VLV (MUV-37)						

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METROPOLITAN EDISON COMPANY						THREE MILE ISLAND NUCLEAR STATION UNIT 1		ELECTRICAL		FIRE HAZARD ANALYSIS		CONDUIT-TO-CONDUIT SEPARATION REVIEW		(AB) ELEVATION 281' (AUX. PLAN)	
FIRE AREA - ZONE						CND IN ZONE		CHAN		CRK W/IN CND		FUNCTION		USE	
AUXILIARY BLDG. (EL. 281') E-215-181  FROM 7d TO RIGHT						CQ231		A	CQ231	CONT	ISOL VLV (MUV-36)				
								A	RP79	IND	ISOL VLV (MUV-36)				
						CQ7		A	CQ7	PWR	ISOL VLV (MUV-36)				
						T-52-47		A							
						CG107		A	CG107	PWR	MU PUMP (MU-P-3A)				
						T-52-48		A							
						CQ650		A	CQ650	PWR	MU PUMP (MU-P-2A)				
						CG852		A	CG852	CONT	MN CONTROL RM CONSOLE CC				
						CQ651		A	CQ651	CONT	PRESS SW (PS479)				
						T-52-32		A							
						T-52-13		C							
						CS1		c	CS1	PWR	MAIN OIL PUMP (MU-P-3B)				
						CS2		C	CS2	PWR	AUX OIL PUMP (MU-P-2B)				
						CS101		C	CS101	SPARE	SPARE				
						CS111		C	CS111	CONT	PRESS SW (PS479B)				
						T-52-37		C							
						MD8		C	MD8	PWR	MU PUMP (MU-P-1B)				
						T-52-14		X	CP55A	SPARE	SPARE				
		B	CH11	PWR	MU PUMP (MU-P-3C)										
		B	CH94	SPARE	SPARE										
		X	CP55	PWR	OUTLET VLV (MUV-12)										
CH11		B	CH11	PWR	MU PUMP (MU-P-3C)										

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GILBERT ASSOCIATES, INC.

ENGINEERS AND CONSULTANTS

READING, PA.

SCALE

NO 044692-094

ENGINEER APPROVAL

DEPT

DATE

REV MADE CH SQL APPLIC DATE REV MADE CH SQL APPLIC DATE

FIRE AREA - ZONE	CND IN ZONE	CHAN	CRK W/IN CND	FUNCTION	USE
	CR652	B	CR652	CONT	AUX OIL PUMP (MU-P-2C)
	CH202	B	CH202	SPARE	SPARE
	CR650	B	CR650	CONT	AUX OIL PUMP (MU-P-2C)
	ME7	B	ME7	PWR	MU PUMP (MU-P-1C)

METROPOLITAN EDISON COMPANY  
THREE MILE ISLAND NUCLEAR STATION UNIT 1  
ELECTRICAL  
FIRE HAZARD ANALYSIS  
CONDUIT-TO-CONDUIT SEPARATION REVIEW  
(AB) ELEVATION 281' (AUX. PLAN)

MADE CRKD  
SQ LDR  
SCALE  
W.O. 044692-0941  
REV MADE CH SQL APP DATE  
ENGINEER APPROVAL  
GILBERT ASSOCIATES, INC.  
ENGINEERS AND CONSULTANTS  
READING, PA.

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FIRE AREA - ZONE	CND IN ZONE	CHAN	CRK W/IN CND	FUNCTION	USE
CONTROL BUILDING AREA CB-1 EL. 306'-0"	CG1	A	CG1	PWR.	INVERTER 1A
	CG3	A	CG3	PWR.	INVERTER 1A
CONDUIT LOADING 4 or 5	CG65	A	CG65	PWR.	FAN MTR. (AH-E-19A)
	CG67	A	CG67	PWR.	SUPPLY FAN (AH-E-18A)
	CQ352	A	CQ352	SPARE	SAMPLE VLV. (CFV-2A)
		A	CQ362	SPARE	SAMPLE VLV. (CFV-2A)
		A	CQ433	SPARE	SAMPLE VLV. (CAV-2A)
		X	DC22	CONT.	WASTE DISP. VLV. (CA-V2)
		X	DC42	CONT.	WASTE DISP. VLV. (CA-V5B)
	DC44	A	DC44	CONT.	WASTE DISP. VLV. (CA-V5B)
		A	RP501	IND.	ISOL. VLV. (CM-V1)
		A	RP502	IND.	ISOL. VLV. (CM-V3)
		A	RV107	CONT.	ISOL. VLV. (FBV-115)
		A	RV680	CONT.	ISOL. VLV. (CMV-1)
		A	RV681	CONT.	ISOL. VLV. (CMV-3)
		A	RV682	CONT.	ISOL. VLV. (CMV-1)
		A	RV683	CONT.	ISOL. VLV. (CMV-3)
	EA1	A	EA1	PWR.	INVERTER RM. 1A PWR.
	ED5	A	ED5	PWR.	INVERTER RM. 1A PWR.
	ED8	A	ED8	PWR.	INVERTER RM. 1A PWR.
	ED101	A	ED101	PWR.	E.S. ACT. CAB. 4D
	ED109	A	ED109	PWR.	E.S. SWGR. UNIT 1D1
MD5	A	MD5	PWR.	E.S. SWGR. UNIT 1D5	
RG19	A	RG19	INST.	PRESS. SW. (PS672)	

METROPOLITAN EDISON COMPANY  
THREE MILE ISLAND NUCLEAR STATION UNIT 1  
ELECTRICAL  
FIRE HAZARD ANALYSIS  
CONDUIT-TO-CONDUIT SEPARATION REVIEW  
(CB) AREA CB-1 (EL. 306')

MADE CND  
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ENGINEER APPROVAL  
DEPT DATE  
GILBERT ASSOCIATES, INC.  
ENGINEERS AND CONSULTANTS  
READING, PA.

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FIRE AREA - ZONE	CND IN ZONE	CHAN	CRK W/IN CND	FUNCTION	USE
	RG211	A	RG211	CONT.	RC PUMP (RC-P-1A)
		A	RG212	CONT.	RC PUMP (RC-P-1A)
		A	RG213	CONT.	RC PUMP (RC-P-1B)
		A	RG214	CONT.	RC PUMP (RC-P-1B)
		A	RG216	CONT.	RC PUMP (RC-P-1C)
		A	RG217	CONT.	RC PUMP (RC-P-1C)
		A	RG218	CONT.	RC PUMP (RC-P-1D)
		A	RG219	CONT.	RC PUMP (RC-P-1D)
	CH35	B	CH35	PWR.	FAN MTR. (AH-E-19B)
	CH37	B	CH37	PWR.	FAN MTR. (AH-E-18B)
	CH38	B	CH38	PWR.	FAN MTR. (AH-E-95B)
	CH78	B	CH78	PWR.	SUPPLY FAN (AH-E-29B)
		X	CH77	PWR.	AIR HDLG. UNIT (AH-E-24B)
		B	CH91	PWR.	OUTLET VLV. (RRV-4B)
		B	CH92	PWR.	OUTLET VLV. (RRV-4D)
		B	CH93	PWR.	INLET VLV. (RRV-3B)
		X	CH95	PWR.	SUCT. HDR. VLV. (EFV-1B)
		X	CH96	PWR.	SUCT. HDR. VLV. (EFV-2B)
		B	*CH1103	PWR.	ISO. VLV. (RB-V7)
	DC34	B	DC34	CONT.	WASTE DISP. VLV. (CA-V5B)
		B	RR501	IND.	ISO. VLV. (CM-V2)
		B	RR502	IND.	ISO. VLV. (CM-V4)
		B	RV135	CONT.	VENT. HDR. VLV. (FBV-114)
		B	RV700	CONT.	ISO. VLV. (CMV-2)
		B	RV701	CONT.	ISO. VLV. (CMV-4)
		B	RV702	CONT.	ISO. VLV. (CMV-2)
		B	RV703	CONT.	ISO. VLV. (CMV-4)
	EA2	B	EA2	PWR.	INVERTER RM. 1B PWR.
	ED55	B	ED55	PWR.	INVERTER RM. 1B PWR.
	ED313	B	ED313	PWR.	D.G.B. DIST. PNL.

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FIRE AREA - ZONE	CND IN ZONE	CHAN	CRK W/IN CND	FUNCTION	USE
	ED301	B	ED301	PWR.	E.S. ACT. CAB. 5D
	ED309	B	ED309	PWR.	E.S. SWGR. UNIT 1E1
	ME5	B	ME5	PWR.	E.S. SWGR. UNIT 1E6
	RG63	B	RG63	INST.	PRESS. SW. (PS673)
	RG221	B	RG221	CONT.	RC PUMP (RC-P-1A)
		B	RG222	CONT.	RC PUMP (RC-P-1A)
		B	RG223	CONT.	RC PUMP (RC-P-1B)
		B	RG224	CONT.	RC PUMP (RC-P-1B)
		B	RG226	CONT.	RC PUMP (RC-P-1C)
		B	RG227	CONT.	RC PUMP (RC-P-1C)
		B	RG228	CONT.	RC PUMP (RC-P-1D)
		B	RG229	CONT.	RC PUMP (RC-P-1D)
	RZ7	B	RZ7	IND. (INST.)	DIESEL ENG. GEN. 1B (EG-Y-1B)
		X	18 NON-ES CIRCUITS		
	CS168	C	CS168	CONT.	DUMP VLV (NSV-32)
		X	RU437	CONT.	PRESS. SW. (PS648B)
		C	RV338	CONT.	ISO. VLV. (MUV-20)
	CS362	C	CS362	CONT.	ISO. VLV. (RB-V-2)
	EA3	C	EA3	PWR.	INVERTER RM. 1A PWR.
	ED6	C	ED6	PWR.	INVERTER RM. 1A PWR.
	ED9	C	ED9	PWR.	INVERTER RM. 1A PWR.
	LP5A	C	LP5A	PWR.	E.S.V. AUTO TRANSFER SW.
	LP5B	C	LP5B	PWR.	E.S.V. AUTO TRANSFER SW.
	LP7	C	LP7	PWR.	E.S. SWG. UNIT 3D

METROPOLITAN EDISON COMPANY

THREE MILE ISLAND NUCLEAR STATION UNIT 1

ELECTRICAL

FIRE HAZARD ANALYSIS

CONDUIT-TO-CONDUIT SEPARATION REVIEW

(CB) AREA CB-1 (EL. 306')

MADE CHKD

DRAWING NO. 044692-S-FHA-200

SH. NO. 3

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SCALE

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ENGINE INTERF

GILBERT ASSOCIATES, INC.

ENGINEERS AND CONSULTANTS

READING, PA.

W.O. 044692-094

ENGINEER APPROVAL

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METROPOLITAN EDISON COMPANY					
THREE MILE ISLAND NUCLEAR STATION UNIT 1					
ELECTRICAL					
FIRE HAZARD ANALYSIS					
CONDUIT-TO-CONDUIT SEPARATION REVIEW					
(CB) AREA CB-1 (EL. 306')					
FIRE AREA - ZONE	CND IN ZONE	CHAN	CRK W/IN CND	FUNCTION	USE
	MD73	C	MD73	SPARE	M.U. PUMP (MU-P-1B)
	ME73	C	ME73	SPARE	M.U. PUMP (MU-P-1B)
	RG107	C	RG107	INST.	PRESS. SW. (PS674)
	EA4	D	EA4	PWR.	INVERTER RM. 1B PWR.
	ED56	D	ED56	PWR.	INVERTER RM. 1D PWR.
	ED58	D	ED58	PWR.	INVERTER RM. 1D PWR.
	RG147	D	RG147	INST.	PRESS. SW. (PS675)
	RV583	A/B	RV583	CONT.	ISO. VLV. (AHV-1B)
	RV603	A/B	RV603	CONT.	ISO. VLV. (AHV-1C)
	CG2	A/C	CG2	PWR.	E.S. PWR. TO INVERTER 1C
	CG4	A/C	CG4	PWR.	E.S. PWR. TO INVERTER 1C
	CS156	A/C	CS156	CONT.	SUPPLY VLV. (NSV-15)
	ED2A	A/C	ED2A	PWR.	INVERTER RM. 1A PWR.
	ED2B	A/C	ED2B	PWR.	INVERTER RM. 1A PWR.
	ED11	A/C	ED11	PWR.	DC DIST. PNL AUTO. TRANSF. SW.
	LP4A	A/C	LP4A	PWR.	E.S.V. AUTO TRANSFER SW.
	LP4B	A/C	LP4B	PWR.	E.S.V. AUTO TRANSFER SW.
	ED61	B/C	ED61	PWR.	DC DIST. PNL. AUTO TRANS. SW.
	LS4A	B/C	LS4A	PWR.	E.S.V. AUTO TRANSFER SW.
	LS4B	B/C	LS4B	PWR.	E.S.V. AUTO TRANSFER SW.

SCALE

NO 044692-094

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ENGINEER APPROVAL

DEPT DATE

REVISIONS

1. ENGINEER INTERF

2. ENGINEERS AND CONSULTANTS

3. READING, PA.

4. GILBERT ASSOCIATES, INC.

5. S. NO. REV

6. DRAWING NO. 044692-S-FHA-200

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FIRE AREA - ZONE	CND IN ZONE	CHAN	CRK W/IN CND	FUNCTION	USE
	CH2	B/D	CH2	PWR.	E.S. PWR. TO INVERTER 1D
	CH4	B/D	CH4	PWR.	E.S. PWR. TO INVERTER 1D
	ED52A	B/D	ED52A	PWR.	INVERTER RM. 1B PWR.
	ED52B	B/D	ED52B	PWR.	INVERTER RM. 1B PWR.
	T-47-1 (ESA)	A	MD5	PWR.	E.S. SWGR. UNIT 1D5
	T-47-2 (ESB)	B	ME5	PWR.	E.S. SWGR. UNIT 1E6
	T-47-9 (ESB)	B	LS2	PWR.	DH PUMP (DC-P-1B)
		B	LS5	PWR.	COOL. PUMP (NS-P-1C)
		B	LS7	PWR.	1B E.S.V. - PWR.
		B	CH6	PWR.	CLG. FAN (AH-E-15B)
		X	CL43	PWR.	FAN (AH-E-7A)
		X	CM43	PWR.	FAN (AH-E-7B)
	T-47-11 (ESB)	B	ED307	PWR.	E.S. SWGR. UNIT 1R
		B	ED309	PWR.	E.S. SWGR. UNIT 1E1

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FIRE AREA - ZONE	CND IN ZONE	CHAN	CRK W/IN CND	FUNCTION	USE
CHILLER EQUIP. RM AREA BELOW CB-1 EL. 285'	RG19	A	RG19	INST.	PRESS. SW. (PS672)
	RG211	A	RG211	CONT.	RC PUMP (RC-P-1A)
		A	RG212	CONT.	RC PUMP (RC-P-1A)
		A	RG213	CONT.	RC PUMP (RC-P-1B)
		A	RG214	CONT.	RC PUMP (RC-P-1B)
		A	RG216	CONT.	RC PUMP (RC-P-1C)
		A	RG217	CONT.	RC PUMP (RC-P-1C)
		A	RG218	CONT.	RC PUMP (RC-P-1D)
		A	RG219	CONT.	RC PUMP (RC-P-1D)
	RG63	B	RG63	INST.	PRESS. SW. (PS673)
	RG221	B	RG221	CONT.	RC PUMP (RC-P-1A)
		B	RG222	CONT.	RC PUMP (RC-P-1A)
		B	RG223	CONT.	RC PUMP (RC-P-1B)
		B	RG224	CONT.	RC PUMP (RC-P-1B)
		B	RG226	CONT.	RC PUMP (RC-P-1C)
		B	RG227	CONT.	RC PUMP (RC-P-1C)
		B	RG228	CONT.	RC PUMP (RC-P-1D)
		B	RG229	CONT.	RC PUMP (RC-P-1D)
	CS168	C	CS168	CONT.	DUMP VLV. (NSV-32)
		X	RU437	CONT.	PRESS SW. (PS648B)
		C	RV338	CONT.	ISO. VLV. (RB-V-2)
	CS362	C	CS362	CONT.	ISO. VLV. (RB-V-2)
	CS362	C	CS362	CONT.	ISO. VLV. (RB-V-2)
		C	MD73	SPARE	M.U. PUMP (MU-P-1B)
		C	ME73	SPARE	M.U. PUMP (MU-P-1B)
	MD73	C	MD73	SPARE	M.U. PUMP (MU-P-1B)
	ME73	C	ME73	SPARE	M.U. PUMP (MU-P-1B)
	RG107	C	RG107	INST.	PRESS. SW. (PS674)
	RG147	D	RG147	INST.	PRESS. SW. (PS675)
	CS156	A/C	CS156	CONT.	SUPPLY VLV. (NSV-15)

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FIRE AREA - ZONE		CND IN ZONE	CHAN	CRK W/IN CND	FUNCTION	USE
CONTROL BUILDING AREA CB-2a EL. 322'	CG71	A	CG71	PWR.	FAN A MTR. (AH-E-95A)	
	DC44	A	DC44	CONT.	WASTE DISP. VLV. (CA-V5B)	
CONDUIT LOADING 4 or 5		A	RP501	IND.	ISOL. VLV. (CM-V1)	
		A	RP502	IND.	ISOL. VLV. (CM-V3)	
		A	RV107	CONT.	ISO. VLV. (FBV-115)	
		A	RV680	CONT.	ISO. VLV. (CMV-1)	
		A	RV681	CONT.	ISO. VLV. (CMV-3)	
		A	RV682	CONT.	ISO. VLV. (CMV-1)	
		A	RV683	CONT.	ISO. VLV. (CMV-3)	
		A	RV725	CONT.	RECIRC. VLV. (RRV-10A)	
	EA115	A	EA115	CONT. PWR.	RC PP PWR. MON. RK. A	
	ED101	A	ED101	PWR.	E.S. ACT. CAB. 4D	
	ED109	A	ED109	PWR.	E.S. SWGR. UNIT 1D1	
	LP11	A	LP11	CONT. & IND.	SFGD. SWGR. BRKR (1P-02)	
		A	LP12	CONT.	SFGD. SWGR. BRKR (1P-02)	
		A	LP16	CONT. & IND.	SFGD. SWGR. CONT. CTR.	
		A	RP103	IND.	HP INJ. & LOAD SEQ. PNL. IND.	
		A	RP107	IND.	HP INJ. & LOAD SEQ. PNL. IND.	
	LP21	A	LP21	CONT. & IND.	D.H. PUMP (DC-P-1A)	
		A	RP81	IND.	HP INJ. & LOAD SEQ. PNL. IND.	
A		CG1042	MTR. SP. HTR.	D.H. PUMP (DC-P-1A)		
LP26	A	LP26	CONT. & IND.	N.S. PUMP (NS-P-1A)		
	A	LP29	CONT.	N.S. PUMP (NS-P-1A)		
	A	RP82	IND.	HP INJ. & LOAD SEQ. PNL. IND.		
	X	CG1046	MTR. SP. HTR.	N.S. PUMP (NS-P-1A)		
LP36	A	LP36	CONT. & IND.	SFGD. SWGR. (1P-12)		
LX31	A	LX31	CONT.	480 V SWGR. INST., MET., & RELAY		
	A	LX32	CONT.	480 V SWGR. INST., MET., & RELAY		
RG241	A	RG241	INST.	RC PUMP PWR. MON. RK. A		

METROPOLITAN EDISON COMPANY					
THREE MILE ISLAND NUCLEAR STATION UNIT 1					
ELECTRICAL					
FIRE HAZARD ANALYSIS					
CONDUIT-TO-CONDUIT SEPARATION REVIEW					
(CB) AREA CB-2a (EL. 322')					
SCALE					
W.C. 044892-094 ENGINEER APPROVAL DATE					
REV MADE CH SQL APP DATE REV MADE CH SQL APP DATE					
DRAWING NO. 044692-S-FHA-200					
SH. NO. 8					
REV					
GILBERT ASSOCIATES, INC.					
ENGINEERS AND CONSULTANTS					
READING, PA.					
FIRE AREA - ZONE	CND IN ZONE	CHAN	CRK W/IN CND	FUNCTION	USE
	RP36	A	RP36	IND.	HP INJ. & LOAD SEQ. PNL. IND.
		A	RP105	IND.	HP INJ. & LOAD SEQ. PNL. IND.
	RS211	A	RS211	INST.	PRESS. XMTR. (PT282)
	RY7	A	RY7	IND. (INST.)	GEN. 1A (EG-Y-1A)
		X	16 NON-ES CIRCUITS		
	*LX31	A	LX31	CONT.	480 V SWGR. INST., MET., & RELAY
		A	LX32	CONT.	480 V SWGR. INST., MET., & RELAY
		A	LX33	CONT.	480 V SWGR. INST., MET., & RELAY
	*RE379	A	RE379	INST.	LEVEL TRANSM (LT-357)
	RG63	B	RG63	INST.	PRESS. SW. (PS673)
	RG246	B	RG246	INST.	RC PUMP PWR. MON. RACK B
	RS4	C	RS24	IND.	ISO. VLV. (RB-V-2)
	LP31	C	LP31	CONT. & IND.	NS PUMP (NS-P-1B)
	EA116	A/B	EA116	CONT. PWR.	RC PWR. PP. MON. RK. B
	LP37	A/B	LP37	CONT.	SFGD. SWGR. (1P-12)
		A/B	LS37	CONT.	SFGD. SWGR. (1S-12)
	LS27	A/B	LS27	CONT.	NS PUMP (NS-P-1A)
		A/B	LP27	CONT.	NS PUMP (NS-P-1C)
	RG242	A/B	RG242	INST.	NI & RP SUBASSY A CAB. 1
	RG245	A/B	RG245	INST.	NI & RP SUBASSY A CAB. 1
	EA505	A/C	EA505	SPARE	E.S. BISTABLE CAB. 3
		A/C	EA503	CONT. PWR.	E.S. RELAY CAB. 3A
	EA512	A/C	EA512	CONT. PWR.	RC PP PWR NON. RK. A

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FIRE AREA - ZONE		CND IN ZONE	CHAN	CRK W/IN CND	FUNCTION	USE
		LS34	A/C	LS34	CONT.	NS PUMP (NS-P-1B)
		EA513	B/C	EA513	CONT. PWR.	RC PP. PWR. MON. RK. B
		LP34	B/C	LP34	CONT.	NS PUMP (NS-P-1B)
		LS28	B/C	LS28	CONT.	NS PUMP (NS-P-1A)
			B/C	LP32	CONT.	NS PUMP (NS-P-1B)

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METROPOLITAN EDISON COMPANY		MADE	CHKO	DRAWING NO.	SK. NO.	REV
THREE MILE ISLAND NUCLEAR STATION UNIT 1				044692S-FHA-200	9	0
ELECTRICAL		SO LDR	ENG INTERF	GILBERT ASSOCIATES, INC.		
FIRE HAZARD ANALYSIS		ENGINEERS AND CONSULTANTS				
CONDUIT-TO-CONDUIT SEPARATION REVIEW		READING, PA.				
(CB) AREA CB-2a (EL. 322')		SCALE				
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		REV MADE CH SQL APP DATE REV MADE CH SQL APP DATE				

FIRE AREA - ZONE	CND IN ZONE	CHAN	CRK W/IN CND	FUNCTION	USE
CONTROL BUILDING AREA CB-2b EL. 322'	GC71	A	CG71	PWR.	FAN (AH-E-95A)
	EA115	A	EA115	CONT. PWR.	RC PP PWR. MON. RK. A
CONDUIT LOADING 4 or 5	RG241	A	RG241	INST.	PRESS. TRANSM (RC3A-PT3)
	RS211	A	RS211	INST.	PRESS. TRANSM (PT282)
* INTERIM	*RE379	A	RE379	INST.	LEVEL TRANSM (LT-357)
	CH38	B	CH38	PWR.	FAN (AH-E-95B)
	CH382	B	CH382	CONT.	FAN (AH-E-95B)
	ED309	B	ED309	PWR.	SFGD. SWGR. UNIT 1E1
	LS11	B	LS11	CONT. & IND.	SFGD. SWGR. (1S-02)
		B	LS12	CONT.	SFGD. SWGR. (1S-02)
		B	LS16	CONT. & IND.	SFGD. SWGR. CONT. CTR.
		X	LX19	VM	480 V SWGR. VOLTMETER
		B	RR103	IND.	HP INJ. & LOAD SEQ.-IND.
		B	RR107	IND.	HP INJ. & LOAD SEQ.-IND.
	LS21	B	LS21	CONT. & IND.	DC PUMP (DC-P-1B)
		B	RR81	IND.	HP INJ. & LOAD SEQ.-IND.
		X	CH1082	PWR.	INST. RECEPT.
	LS26	B	LS26	CONT. & IND.	NS PUMP (NS-P-1C)
		B	LS29	CONT.	NS PUMP (NS-P-1C)
		B	RR82	IND.	HP INJ. & LOAD SEQ.-IND.
	LS36	B	LS36	CONT. & IND.	SFGD. SWGR. (1S-12)
	LX41	B	LX41	CONT.	480 V SWGR. INST., MET., & RELAY
		B	LX42	CONT.	480 V SWGR. INST., MET., & RELAY
	RG63	B	RG63	INST.	PRESS. SW. (PS673)
	RG246	B	RG246	INST.	RC PUMP PWR. MON. RACK B

METROPOLITAN EDISON COMPANY  
THREE MILE ISLAND NUCLEAR STATION UNIT 1  
ELECTRICAL  
FIRE HAZARD ANALYSIS  
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(CB) AREA CB-2b (EL. 322')

MADE CHKD  
SQ LDR  
ENG INTERP  
SCALE  
W.O. 044892-094 ENGINEER APPROVAL  
REV MADE CH SQ LDR DATE REV MADE CH SQ LDR DATE

DRAWING NO.  
04 11692 S-FHA-200  
GILBERT ASSOCIATES, INC.  
ENGINEERS AND CONSULTANTS  
READING, PA.

SH. NO.  
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FIRE AREA - ZONE	CND IN ZONE	CHAN	CRK W/IN CND	FUNCTION	USE
* INTERIM	RR36	B	RR36	CONT.	HP INJ. & LOAD SEQ.-TEST. & MAN.
		B	RR105	IND.	HP INJ. & LOAD SEQ. PNL. IND.
		X	MR21	CONT.	RC PUMP (RC-P-1A)
		B	CR453	CONT.	BWST HTR. A
	RZ7	B	RZ7	IND. INST.	EMERG. DG (EG-Y-1B)
		B	18 NON-ES		
		X	CIRCUITS		
	*LX41	B	LX41	CONT.	480 V SWGR. INST., MET., & RELAY
		B	LX42	CONT.	480 V SWGR. INST., MET., & RELAY
		B	LX43	CONT.	SFGD. SWGR. UNIT 1R TO 1E14
	LS31	C	LS31	CONT. & IND.	NS PUMP (NS-P-1B)
	ME8	C	ME8	PWR.	SFGD. SWGR. UNIT 1D1
	RS4	C	RS4	IND.	ISO. VLV. (RB-V-2)
	EA116	A/B	EA116	CONT. PWR.	RC PP. PWR. MON. RK. B
	RG242	A/B	RG242	INST.	NI & RP SUBASSY A CAB. 1
	RG245	A/B	RG245	INST.	NI & RP SUBASSY A CAB. 1
	EA505	A/C	EA505	SPARE	SPARE
		A/C	EA503	CONT. PWR.	E.S. RELAY CAB. 3A
	EA512	A/C	EA512	CONT. PWR.	RC PP. PWR. MON. RK. A
	LP28	A/C	LP28	CONT.	NS PUMP (NS-P-1A)
		A/C	LS32	CONT.	NS PUMP (NS-P-1B)
	LS34	A/C	LS34	CONT.	NS PUMP (NS-P-1B)
	EA504	B/C	EA504	SPARE	SPARE
	EA513	B/C	EA513	CONT. PWR.	RC PP. PWR. MON. RK. B

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FIRE AREA - ZONE	CND IN ZONE	CHAN	CRK W/IN CND	FUNCTION	USE
	LP34	B/C	LP34	CONT.	NS PNL (NS-P-1B)
	RG247	B/C	RG247	INST.	NI & RP PNL. SUBASSY C CAB. 1

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THREE MILE ISLAND NUCLEAR STATION UNIT 1		04	4692	S-FHA-200	12	0
ELECTRICAL		SO LOR	ENG INTERF	GILBERT ASSOCIATES, INC.		
FIRE HAZARD ANALYSIS		ENGINEERS AND CONSULTANTS				
CONDUIT-TO-CONDUIT SEPARATION REVIEW		SCALE				
(CB) AREA CB-2b (EL. 322')		NO. 04692-094				
		REV. MADE CH. SQL. APP. DATE REV. MADE CH. SQL. APP. DATE				

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FIRE AREA - ZONE	CND IN ZONE	CHAN	CRK W/IN CND	FUNCTION	USE
CONTROL BUILDING AREA CB-2c EL. 322'	EA115	A	EA115	CONT. PWR.	RC PP PWR MON RK. A
	RG19	A	RG19	INST.	PRESS. SW. (PS 672)
	RG211	A	RG211	CONT.	RC PUMP (RC-P-1A)
		A	RG212	CONT.	RC PUMP (RC-P-1A)
	RG211	A	RG211	CONT.	RC PUMP (RC-P-1A)
		A	RG212	CONT.	RC PUMP (RC-P-1A)
		A	RG213	CONT.	RC PUMP (RC-P-1B)
		A	RG214	CONT.	RC PUMP (RC-P-1B)
		A	RG216	CONT.	RC PUMP (RC-P-1C)
		A	RG217	CONT.	RC PUMP (RC-P-1C)
		A	RG218	CONT.	RC PUMP (RC-P-1D)
		A	RG219	CONT.	RC PUMP (RC-P-1D)
	RG213	A	RG213	CONT.	RC PUMP (RC-P-1B)
		A	RG214	CONT.	RC PUMP (RC-P-1B)
	RG216	A	RG216	CONT.	RC PUMP (RC-P-1C)
		A	RG217	CONT.	RC PUMP (RC-P-1C)
	RG218	A	RG218	CONT.	RC PUMP (RC-P-1D)
		A	RG219	CONT.	RC PUMP (RC-P-1D)
	RG241	A	RG241	INST.	RC PUMP PWR. MON. RK. A
	RS211	A	RS211	INST.	PRESS. TRANSM (PT282)
* INTERIM	*RE379	A	RE379	INST.	LEVEL TRANSM (LT-357)
	*RE381	A	RE381	INST.	LEVEL TRANSM (LT-358)
	EA317	B	EA317	CONT. PWR.	RC PP. PWR. MON. RK. B
	RG63	B	RG63	INST.	PRESS. SW. (PS 673)
	RG221	B	RG221	CONT.	RC PUMP (RC-P-1A)
		B	RG222	CONT.	RC PUMP (RC-P-1A)

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(CB) AREA CB-2c (EL. 322')

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DEPT DATE

SCALE

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ENGINEERS  
GILBERT ASSOCIATES, INC.  
ENGINEERS AND CONSULTANTS  
READING, PA.

SH. NO. 13  
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FIRE AREA - ZONE	CND IN ZONE	CHAN	CRK W/IN CND	FUNCTION	USE
	RG221	B	RG221	CONT.	RC PUMP (RC-P-1A)
		B	RG222	CONT.	RC PUMP (RC-P-1A)
		B	RG223	CONT.	RC PUMP (RC-P-1B)
		B	RC224	CONT.	RC PUMP (RC-P-1B)
		B	RG226	CONT.	RC PUMP (RC-P-1C)
		B	RG227	CONT.	RC PUMP (RC-P-1C)
		B	RG228	CONT.	RC PUMP (RC-P-1D)
		B	RG229	CONT.	RC PUMP (RC-P-1D)
	RG223	B	RG223	CONT.	RC PUMP (RC-P-1B)
		B	RG224	CONT.	RC PUMP (RC-P-1B)
	RG226	B	RG226	CONT.	RC PUMP (RC-P-1C)
		B	RG227	CONT.	RC PUMP (RC-P-1C)
	RG228	B	RG228	CONT.	RC PUMP (RC-P-1D)
		B	RG229	CONT.	RC PUMP (RC-P-1D)
	RG246	B	RG246	INST.	RC PUMP PWR. MON. RK. B
	RS212	B	RS212	INST.	LEVEL. TRANSM (PT285)
	LP5A	C	LP5A	PWR.	E.S.V. AUTO TRANSFER SW.
	LP5B	C	LP5B	PWR.	E.S.V. AUTO TRANSFER SW.
	RS4	C	RS4	IND.	ISO. VLV. (RB-V-2)
	EA104	A/B	EA104	CONT. PWR.	E.S. RELAY CAB. 1B
	EA116	A/B	EA116	CONT. PWR.	RC PP. PWR. MON. RK. B
	EA303	A/B	EA303	CONT. PWR.	E.S. RELAY CAB. 2A
	EA306	A/B	EA306	CONT. PWR.	COMM. MULTITONE GEN. RELAY
	RG231	A/B	RG231	INST.	RC PUMP PWR. MON.
	RG232	A/B	RG232	INST.	RC PUMP PWR. MON.

METROPOLITAN EDISON COMPANY  
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 ELECTRICAL  
 FIRE HAZARD ANALYSIS  
 CONDUIT-TO-CONDUIT SEPARATION REVIEW  
 (CB) AREA CB-2c (EL. 322')

MADE CHKD  
 SQ LDM  
 ENG INTERP  
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 04 4692 S-FHA-200  
 GILBERT ASSOCIATES, INC.  
 ENGINEERS AND CONSULTANTS  
 READING, PA.

REV 0044692-094  
 REV MADE CH ISQL APPROPRIATE  
 ENGINEER APPROVAL  
 DATE

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FIRE AREA - ZONE	CND IN ZONE	CHAN	CRK W/IN CND	FUNCTION	USE
	RG233	A/B	RG233	INST.	RC PUMP PWR. MON.
	RG234	A/B	RG234	INST.	PC PUMP PWR. MON.
	RG242	A/B	RG242	INST.	NI & RP SUBASSY. A CAB. 1
	RG245	A/B	RG245	INST.	NI & RP SUBASSY. A CAB. 1
	CS554	A/C	CS554	CONT.	VENT FAN (AH-E-1C)
	EA505	A/C	EA505	SPARE	SPARE
	EA512	A/C	EA512	CONT. PWR.	RC PP. PWR. MON. RK. A
	ED11	A/C	ED11	PWR.	DC DIST. PNL. AUTO TRANS. SW.
	LP4A	A/C	LP4A	PWR.	E.S.V. AUTO TRANSFER SW.
	LP4B	A/C	LP4B	PWR.	E.S.V. AUTO TRANSFER SW.
	RG243	A/C	RG243	INST.	NI & RP SUBASSY A CAB. 1
	RU282	A/C	RU282	IND.	CONT. CTR. AUTO TRANSFER SW.
		A/C	RU283	CONT.	CONT. CTR. AUTO TRANSFER SW.
		A/C	RU284	CONT.	CONT. CTR. AUTO TRANSFER SW.
	RU302	A/C	RU302	IND.	DIST. PNL. 1M AUTO TRANSFER SW.
		A/C	RU303	CONT.	DIST. PNL. 1M AUTO TRANSFER SW.
		A/C	RU304	CONT.	DIST. PNL. 1M AUTO TRANSFER SW.
	EA711	A/D	EA711	CONT. PWR.	RC PP PWR. MON. RK. A
	RG244	A/D	RG244	INST.	NI & RP PNL. SUBASSY A CAB. 2
	CS552	B/C	CS552	CONT.	VENT UNIT C FAN (AH-E-1C)
	EA513	B/C	EA513	CONT. PWR.	RC PP PWR. MON. RK. B
	ED61	B/C	ED61	PWR.	DIST. PNL. 1M AUTO TRANSFER SW.

METROPOLITAN EDISON COMPANY

THREE MILE ISLAND NUCLEAR STATION UNIT 1

ELECTRICAL

FIRE HAZARD ANALYSIS

CONDUIT-TO-CONDUIT SEPARATION REVIEW

(CB) AREA CB-2c (EL. 322')

MADE CNDK

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ENGINEER APPROVAL

REVIEW MADE CH SQL

DATE

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ENGINEERS

GILBERT ASSOCIATES, INC.

ENGINEERS AND CONSULTANTS

READING, PA.

METROPOLITAN EDISON COMPANY

THREE MILE ISLAND NUCLEAR STATION UNIT 1

ELECTRICAL

FIRE HAZARD ANALYSIS

CONDUIT-TO-CONDUIT SEPARATION REVIEW

(CB) AREA CB-2c (EL. 322')

MADE CNDK

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GILBERT ASSOCIATES, INC.

ENGINEERS AND CONSULTANTS

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	CONSTRUCTION	
	BIDDING PURPOSES	
DATE	RELEASED FOR	ENGR.

FIRE AREA - ZONE	CND IN ZONE	CHAN	CRK W/IN CND	FUNCTION	USE
	LS4A	B/C	LS4A	PWR.	E.S.V. AUTO TRANSFER SW.
	LS4B	B/C	LS4B	PWR.	E.S.V. AUTO TRANSFER SW.
	RG247	B/C	RG247	INST.	NI & RP PNL. SUBASSY C CAB. 1
	RU288	B/C	RU288	CONT.	CONT. CTR. AUTO TRANSFER SW.
		B/C	RU289	CONT.	CONT. CTR. AUTO TRANSFER SW.
	RU308	B/C	RU308	CONT.	DIST. PNL. 1M AUTO TRANSFER SW.
		B/C	RU309	CONT.	DIST. PNL. 1M AUTO TRANSFER SW.
	EA712	B/D	EA712	CONT. PWR.	RC PP PWR. MON. RK. B
	RG248	B/D	RG248	INST.	NI & RP SUBASSY. A CAB. 1

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THREE MILE ISLAND NUCLEAR STATION UNIT 1
ELECTRICAL
FIRE HAZARD ANALYSIS
CONDUIT-TO-CONDUIT SEPARATION REVIEW
(CB) AREA CB-2c (EL. 322')

MADE	CHKD	DRAWING NO.	SH. NO.	REV
04	14692	S-FHA-200	16	0
SO LDR	ENG INTERF	GILBERT ASSOCIATES, INC.	ENGINEERS AND CONSULTANTS	READING, PA.
SCALE	W 0 044692-094	ENGINEER APPROVAL	SEPT	DATE
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FIRE AREA - ZONE	CND IN ZONE	CHAN	CRK W/IN CND	FUNCTION	USE
CONTROL BUILDING AREA CB-2d EL. 322'	EA111	A	EA111	PWR.	NI & RP PNL.-PWR.
	EA103	A	EA103	CONT. PWR.	E.S. RELAY CAB. 1A
		A	EA105	CONT. PWR.	E.S. BISTABLE CAB. 1
		A	EA108	CONT. PWR.	PRESS. TRANS. (PT282)
		A	EA109	CONT. PWR.	R.B. LEAK DET. CAB.
		X	EA110	CONT. PWR.	EW PUMP (EF-P-1)
		X	EA121	CONT. PWR.	CHEMICAL ADD. PNL.
	ED103	A	ED103	PWR.	PNL. XCC-PWR
	ED303	B	ED303	PWR.	PNL. XCC PWR.
	RG63	B	RG63	INST.	PRESS. SW. (PS673)
	RG246	B	RG246	INST.	RC PUMP PWR. MON. RACK B
	EA506	C	EA506	CONT. PWR.	PRESS. TRANSM (PT 288)
		C	EA507	CONT. PWR.	LEAK DET. CAB. 3
	EA508	C	EA508	PWR.	NI & RP PNL.-PWR.
	EA515	C	EA515	CONT. PWR.	BISTABLE CAB. 3
	LP31	C	LP31	CONT. & IND.	NS PUMP (NS-P-1B)
	LS31	C	LS31	CONT. & IND.	NS PUMP (NS-P-1B)
	EA104	A/B	EA104	CONT. PWR.	E.S. RELAY CAB. 1B
	EA116	A/B	EA116	CONT. PWR.	RC PP PWR. MON. RK. B
	RG242	A/B	RG242	INST.	NI & RP SUBASSY A CAB. 1
EA505	A/C	EA505	SPARE	SPARE	
	A/C	EA503	CONT. PWR.	E.S. RELAY CAB. 3A	
EA512	A/C	EA512	CONT. PWR.	RC PP. PWR. MON. RK. A	
EA513	B/C	EA513	CONT. PWR.	RC PP PWR. MON. RK. B	

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THREE MILE ISLAND NUCLEAR STATION UNIT 1

ELECTRICAL

FIRE HAZARD ANALYSIS

CONDUIT-TO-CONDUIT SEPARATION REVIEW

(CB) AREA CB-2d (EL. 322')

SCALE

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GILBERT ASSOCIATES, INC.

ENGINEERS AND CONSULTANTS

READING, PA.

FIRE AREA - ZONE	CND IN ZONE	CHAN	CRK W/IN CND	FUNCTION	USE
CONTROL BUILDING AREA CB-2e EL. 322'	EA707	A	EA707	PWR.	NI & RP PNL. SUBASSY A
	CR651	B	CR651	PWR.	MU PUMP (MU-P-2C)
	EA305	B	EA305	CONT. PWR.	E.S. BISTABLE CAB. 2
		B	EA304	CONT. PWR.	E.S. RELAY CAB. 2B
		B	EA308	CONT. PWR.	PRESS. TRANSM (PT285)
		B	EA309	CONT. PWR.	LEAK DET. CAB. 2
	EA313	B	EA313	PWR.	NI & RP PNL. SUBASSY B
	EA317	B	EA317	CONT. PWR.	RC PP PWR. MON. RK. B
	EA318	B	EA318	CONT. PWR.	E.S. INDICATION
	EAS06	C	EAS06	CONT. PWR.	PRESS. TRANSM (PT288)
		C	EA507	CONT. PWR.	LEAK DET. CAB. 3
	ED1703	C	ED1703	PWR.	PNL. XCR. PWR.
	EA703	D	EA703	SPARE	SPARE
	EA707	D	EA707	PWR.	NI & RP PNL. SUBASSY D
	EA104	A/B	EA104	CONT. PWR.	SFGD. RELAY CAB. 1B
	EA303	A/B	EA303	CONT. PWR.	SFGD. RELAY CAB. 2A
	EA316	A/B	EA316	CONT. PWR.	RC PP PWR. MON. RK. A
	RV583	A/B	RV583	CONT.	ISO. VLV. (AHV-1B)
	RV603	A/B	RV603	CONT.	ISO. VLV. (AHV-1C)
	RG243	A/C	RG243	INST.	NI & RP SUBASSY A CAB. 1
RU282	A/C	RU282	IND.	CONT. CTR. AUTO TRANSFER SW.	
	A/C	RU283	CONT.	CONT. CTR. AUTO TRANSFER SW.	
	A/C	RU284	CONT.	CONT. CTR. AUTO TRANSFER SW.	

METROPOLITAN EDISON COMPANY  
THREE MILE ISLAND NUCLEAR STATION UNIT 1  
ELECTRICAL  
FIRE HAZARD ANALYSIS  
CONDUIT-TO-CONDUIT SEPARATION REVIEW  
(CB) AREA CB-2e (EL. 322')

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GILBERT ASSOCIATES, INC.  
ENGINEERS AND CONSULTANTS  
READING, PA.

MADE CHKD  
SQ LDR  
ENG INTERF  
DRAWING NO.  
SH. NO.  
REV

044692-09A  
ENGINEER APPROVAL  
DEPT  
DATE  
044692-09A  
ENGINEER APPROVAL  
DEPT  
DATE

044692-09A  
ENGINEER APPROVAL  
DEPT  
DATE

CONSTRUCTION		BIDDING PURPOSES		ENGR.	
DATE		RELEASED FOR		ENGR.	
FIRE AREA - ZONE	CND IN ZONE	CHAN	CRK W/IN CND	FUNCTION	USE
	RU302	A/C	RU302	IND.	DIST. PNL. 1M AUTO TRANSFER SW.
		A/C	RU303	CONT.	DIST. PNL. 1M AUTO TRANSFER SW.
		A/C	RU304	CONT.	DIST. PNL. 1M AUTO TRANSFER SW.
	EA711	A/D	EA711	CONT. PWR.	RC PP PWR. MON. RK. A
	RG244	A/D	RG244	INST.	NI & RP PNL. SUBASSY A CAB. 2
	EA712	B/D	EA712	CONT. PWR.	RC PP PWR. MON. RK. B
	EA714	B/D	EA714	CONT. PWR.	E.S. RELAY CAB. 3B
	RG248	B/D	RG248	INST.	NI & RP SUBASSY. A CAB. 1

METROPOLITAN EDISON COMPANY  
THREE MILE ISLAND NUCLEAR STATION UNIT 1  
ELECTRICAL  
FIRE HAZARD ANALYSIS  
CONDUIT-TO-CONDUIT SEPARATION REVIEW  
(CB) AREA CB-2e (EL. 322')

MADE CHKO  
SQ LDR  
ENG INTERF  
GILBERT ASSOCIATES, INC.  
ENGINEERS AND CONSULTANTS  
READING, PA.

W.O. 044892-094  
REV MADE CH SQL APD DATE  
REV MADE CH SQL APD DATE

973147

METROPOLITAN EDISON COMPANY						DRAWING NO.		SH. NO.		REV	
THREE MILE ISLAND NUCLEAR STATION UNIT 1						04 4692-S-FHA-200		20		0	
ELECTRICAL						GILBERT ASSOCIATES, INC.		ENGINEERS AND CONSULTANTS		READING, PA.	
FIRE HAZARD ANALYSIS						SCALE					
CONDUIT-TO-CONDUIT SEPARATION REVIEW						NO 04692-094		ENGINEER APPROVAL		DEPT DATE	
(CB) AREA CB-2F (EL. 322')						REV MADE CH SQL		APPROPRIATE REV MADE CH SQL		APPROPRIATE	

METROPOLITAN EDISON COMPANY						THREE MILE ISLAND NUCLEAR STATION UNIT 1		ELECTRICAL		FIRE HAZARD ANALYSIS		CONDUIT-TO-CONDUIT SEPARATION REVIEW		(CB) AREA CB-2g (EL. 322')	
FIRE AREA - ZONE						CND IN ZONE		CHAN		CRK W/IN CND		FUNCTION		USE	
CONTROL BUILDING AREA CB-2g EL. 322'						DC34		B	DC34	CONT.	WASTE DISP. VLV. (CA-V5B)				
						DC35		B	DC35	CONT.	ISO. VLV. (CA-V6A)				
						RV135		B	RV135	CONT.	VENT. HDR. VLV. (FBV-114)				
						RV700		B	RV700	CONT.	ISO. VLV. (CMV-2)				
						RV701		B	RV701	CONT.	ISO. VLV. (CMV-4)				
						RV702		B	RV702	CONT.	ISO. VLV. (CMV-2)				
						RV703		B	RV703	IND.	ISO. VLV. (CMV-4)				
						RR501		B	RR501	IND.	ISO. VLV. (CM-V2)				
						RR502		B	RR502	IND.	ISO. VLV. (CM-V4)				
						EA318		B	EA318	CONT. PWR.	PCR PNL.-PWR.				
EA318						B	EA318	CONT. PWR.	PCR PNL.-PWR.						
ED1703						C	ED1703	PWR.	XCR PNL.-PWR.						
EA703						D	EA703	CONT. PWR.	SPARE PWR.						
RV583						A/B	RV583	CONT.	ISO. VLV. (AHV-1B)						
RV603						A/B	RV603	CONT.	ISO. VLV. (AHV-1C)						

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MADE CHKO

04 46921S-FHA-200

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SCALE

044692-094

ENGINEER APPROVAL

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	CONSTRUCTION	
	BIDDING PURPOSES	
DATE	RELEASED FOR	ENGR.

FIRE AREA - ZONE	CND IN ZONE	CHAN	CRK W/IN CND	FUNCTION	USE	METROPOLITAN EDISON COMPANY THREE MILE ISLAND NUCLEAR STATION UNIT 1 ELECTRICAL FIRE HAZARD ANALYSIS CONDUIT-TO-CONDUIT SEPARATION REVIEW (CB) AREA CB-3a (EL. 333'-6")									
CONTROL BUILDING AREA CB-3a EL. 338'-6"	CG204	A	CG204	CONT.	D.H. & N.S. PP. (AH-E-15A)	MADE	CHKD	DRAWING NO.		SH. NO.	REV				
	ED109	A	ED109	PWR.	E.S. SWGR. UNIT 1D1	04	4692	S-FHA-200	22	0					
	MD65	A	MD65	CONT.	M.U. PUMP (MU-P-1A)	SCALE	1	ENGINEER APPROVAL		DATE					
	MD105	A	MD105	SPARE	SPARE	NO. 04692-0947	1	ENGINEER APPROVAL		DATE					
	RG19	A	RG19	INST.	PRESS. SW. PS672	REV MADE	CH	ENGINEER APPROVAL		DATE					
	RG201	A	RG201	INST.	PRESS. TRANSM (RC3A-PT3)	CH	SQL	ENGINEER APPROVAL		DATE					
	RP3	A	RP3	CONT.	HP INJ. & LOAD SEQ. CH. RC1A	DATE	REV	ENGINEER APPROVAL		DATE					
	RP13	A	RP13	CONT.	HP INJ. & LOAD SEQ. CH. RC2A	DATE	REV	ENGINEER APPROVAL		DATE					
	RP23	A	RP23	CONT.	HP INJ. & LOAD SEQ. CH. RC3A	DATE	REV	ENGINEER APPROVAL		DATE					
	MD71	C	MD71	CONT. & IND.	M.U. PUMP (MU-P-1B)	DATE	REV	ENGINEER APPROVAL		DATE					
	MD73	C	MD73	SPARE	SPARE	DATE	REV	ENGINEER APPROVAL		DATE					
	MD73A	C	MD73A	CONT.	M.U. PUMP (MU-P-1B)	DATE	REV	ENGINEER APPROVAL		DATE					
GILBERT ASSOCIATES, INC. ENGINEERS AND CONSULTANTS READING, PA.															

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FIRE AREA - ZONE	CND IN ZONE	CHAN	CRK W/IN CND	FUNCTION	USE	METROPOLITAN EDISON COMPANY THREE MILE ISLAND NUCLEAR STATION UNIT 1 ELECTRICAL FIRE HAZARD ANALYSIS CONDUIT-TO-CONDUIT SEPARATION REVIEW (CB) AREA CB-3b (EL. 338'-6")											
CONTROL BUILDING AREA CB-3b EL. 338'-6"	CG204	A	CG204	CONT.	D.H. & N.S. PUMP (AH-E-15A)	MADE CHRG SQ LDR ENG INTERF SCALE 0.04692-094 REV MADE CH ISOL APPR DATE REV MADE CH ISOL APPR DATE	DRAWING NO. 044692-S-FHA-200 GILBERT ASSOCIATES, INC. ENGINEERS AND CONSULTANTS READING, PA.	SH. NO. 23	REV 0	DATE	REV						
	MD65	A	MD65	CONT.	M.U. PUMP (MU-P-1A)												
	MD105	A	MD105	SPARE	SPARE												
	RG19	A	RG19	INST.	PRESS. SW. PS-672												
	RG201	A	RG201	INST.	PRESS. TRANSM RC3A-PT3												
	RP3	A	RP3	CONT.	HP INJ. & LOAD SEQ. CH. RC1A												
	RP13	A	RP13	CONT.	HP INJ. & LOAD SEQ. CH. RC1B												
	RP23	A	RP23	CONT.	HP INJ. & LOAD SEQ. CH. RC1C												
	* INTERIM	*RE380	A	RE380	CONT. PWR.							BWST MEASUREMENT					
		ED309	B	ED309	PWR.							E.S. SFGD. SWGR., UNIT 1E1, 4160 V					
	ME65	B	ME65	CONT.	M.U. PUMP (MU-P-1C)												
	ME95	B	ME95	SPARE	SPARE												
	RR37	B	RR37	CONT.	HP INJ. & LOAD SEQ. TEST												
		B	RR76	IND.	HP INJ. & LOAD SEQ. TEST												
		B	RR235	IND.	DISCH. VLV. (DRV-1B)												
		B	RR482	IND.	DISCH. VLV. (RRV-1B)												
		B	RR511	IND.	RECIRC. VLV. (RRV-10B)												
		B	RR553	IND.	OUT VLV. (BSV-4B)												
		B	RR554	IND.	BS VLV. (BSV-3B)												
		B	RV730	CONT.	RECIRC. VLV. (RRV-10B)												
RR93	B	RR93	IND.	HP INJ. & LOAD SEQ.-PNL. IND.													
	B	RR93A	IND.														
* INTERIM	*RE382	B	RE382	INST.	BWST MEASUREMENT												

FIRE AREA - ZONE	CND IN ZONE	CHAN	CRK W/IN CND	FUNCTION	USE
	*RV717	B	RV717	INTLK.	ISO. VLV. (RB-V7)
	MD71	C	MD71	CONT. & IND.	M.U. PUMP (MU-P-1B)
	MD73	C	MD73	SPARE	SPARE
	MD73A	C	MD73A	CONT.	M.U. PUMP (MU-P-1B)
	ME71	C	ME71	CONT. & IND.	M.U. PUMP (MU-P-1B)
	ME73	C	ME73	SPARE	SPARE
	ME73A	C	ME73A	CONT.	M.U. PUMP (MU-P-1B)
	CS155	B/C B/C	CS155 DC138	CONT. CONT.	SUPPLY VLV. (NSV-15) WASTE DISP. VLV. (CA-VI89)
	CS165	B/C	CS165	CONT.	EMERG. DUMP VLV. (NSV-32)
	CS514	B/C	CS514	CONT.	INLET VLV. (RRV-3C)
	RV12	B/C B/C B/C B/C B/C B/C B/C B/C	RV12 RV54 RV328 RV336 RV348 RV613 RV633 RV641	INTLK. INTLK. SPARE SPARE INTLK. INTLK. INTLK. INTLK.	ISO. VLV. (FBV-55) ISO. VLV. (FBV-59) SPARE SPARE ISO. VLV. (CF-V19A) PRESS. VLV. (PP-V146) PRESS. VLV. (PP-V-151) PRESS. VLV. (PPV-152)
	RV342	B/C	RV342	CONT.	M.U. VLV. (MUV-18)
	RV717		RV717	(PREVIOUSLY IS B/C,	SEE INTERIM, ESB)

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FIRE AREA - ZONE	CND IN ZONE	CHAN	CRK W/IN CND	FUNCTION	USE																						
CONTROL BUILDING AREA CB-3c EL. 338'-6"	CG65	A	CG65	PWR.	FAN (AH-E-19A)																						
	CG67	A	CG67	PWR.	FAN (AH-E-18A)																						
	CG204	A	CG204	CONT.	D.H. & N.S. PUMP (AH-E-15A)																						
	CG592	A	CG592	CONT.	FAN (AH-E-19A)																						
	CG612	A	CG612	CONT.	FAN (AH-E-18A)																						
	CQ334	A	CQ334	CONT.	ISO. VLV. (MUV-25)																						
		A	CQ253	CONT.	D.H. PUMP VLV. (DHV-5A)																						
		A	CQ303	CONT.	OUT VALVE (MUV-14A)																						
		A	CQ313	CONT.	M.U. VALVE (MUV-16A)																						
		A	CQ323	CONT.	M.U. VALVE (MUV-16B)																						
		A	CQ334	CONT.	ISO. VLV. (MUV-25)																						
		A	CQ354	CONT.	SAMPLE VLV. (CFV-2A)																						
		A	CQ422	CONT.	ISO. VALVE (WDGV-3)																						
		A	CQ434	CONT.	ISO. VALVE (CAV-4A)																						
		A	CQ473	CONT.	CLG. TWR. VLV. (NRV-4A)																						
		A	CQ524	CONT.	OUT VALVE (WDLV-303)																						
		A	CQ364	CONT.	SAMPLE VLV. (CFV-2B)																						
		A	CG302	CONT.	VENT. FAN (AH-E-1A)																						
	A	DC23	CONT.	WASTE DISP. VLV. (CA-V2)																							
	A	DC43	CONT.	WASTE DISP. VLV. (CA-V5B)																							
	A	DL1722	CONT.	VALVE (WDL-V534)																							
	CBE494	A	CBE494	CONT.	DISCH. VLV. (RRV-1A)																						
	EA103	A	EA103	CONT. PWR.	E.S. RELAY CAB. 1A																						
	EA105	A	EA105	CONT. PWR.	E.S. BISTABLE CAB. 1																						
	ED101	A	ED101	PWR.	E.S. CAB. ACTA CAB. 40																						
LP12	A	LP12	CONT.	SFGD. SWGR. BRKR. (1P-02)																							
	A	MD56	CONT. & IND.	TRNSF. 1P FDR. BRKR. (P1-02)																							
	A	RP101	IND.	HP INJ & LOAD SEQ.-PNL. IND.																							
						METROPOLITAN EDISON COMPANY THREE MILE ISLAND NUCLEAR STATION UNIT 1 ELECTRICAL FIRE HAZARD ANALYSIS CONDUIT-TO-CONDUIT SEPARATION REVIEW (CB) AREA CB-3c (EL. 338'-6")																					
						MADE CHKD SCALE W.C. 044892-094 REV MADE CH SQL APP DATE REV MADE CH SQL APP DATE ENGINEER APPROVAL DEPT DATE																					
						DRAWING NO. 044692-S-FHA-200 GILBERT ASSOCIATES, INC. ENGINEERS AND CONSULTANTS READING, PA.																					
						SH. NO. 25 REV 0																					

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FIRE AREA - ZONE	CND IN ZONE	CHAN	CRK W/IN CND	FUNCTION	USE
	LP23	A	LP23	CONT.	ES ACT CAB. A
		A	LP29	CONT.	NS PUMP (NS-P-1A)
		A	CQ153	CONT.	OUTLET VLV. (BSV-2A)
		A	CQ173	CONT.	REACT. VLV. (DHV-4A)
		A	CQ213	CONT.	OUTLET VLV. (BSV-4A)
		A	CQ232	CONT.	ISO. VLV. (MUV-36)
		A	CQ373	CONT.	DISCH. VLV. (BSV-1A)
		A	CQ484	CONT.	CLG. RET. VLV. (NSV-4)
		A	CG862	CONT.	IN VALVE (RRV-3A)
		A	CG872	CONT.	OUT VALVE (RRV-4B)
	LR12	A	LR12	CONT.	SFG. SWGR. BRKR. (1R-02)
		A	MD86	CONT. & IND.	TRNSF. 1R FDR BRKR. (R1-02)
		A	RP102	IND.	HP INJ. & LOAD SEQ.-PNL. IND.
	LR19	A	LR19	CONT.	NR PUMP (NR-P-1A)
		A	LR23	CONT.	ES ACT CAB. A
		A	CQ233	CONT.	ISO. VLV. (MUV-36)
		X	RA50	ALARM.	E.S. ACT. CAB. A
		X	RA106	ALARM.	E.S. ACT. CAB. A
		A	RV104	CONT.	E.S. ACT. CAB. A
		X	RV106	CONT.	ISO. VLV. (FEV-74) & (CAV-02)
		A	RV158	CONT.	E.S. ACT. CAB. A
		A	RV185	CONT.	E.S. ACT. CAB. A
		A	RV186	CONT.	E.S. ACT. CAB. A
		A	RV187	CONT.	E.S. ACT. CAB. A
		A	RV257	INTLK.	E.S. ACT. CAB. A
	LX31	A	LX31	CONT.	480 V SWGR. INST., MET., & RELAY
		A	LX51	CONT.	480 V SWGR. INST., MET., & RELAY
		A	LX52	CONT.	480 V SWGR. INST., MET., & RELAY
	MD21	A	MD21	CONT. & IND.	BUS 1D FDR. BRKR. (1SB-D2)
		A	MD23	CONT. & IND.	BUS 1D FDR. BRKR. (1SB-D2)
		X	G64	BUS DIFF.	SFGD. SWGR. UNIT 1C1 TO 1D1
		X	G111	BUS DIFF.	SFGD. SWGR. UNIT 1D1

METROPOLITAN EDISON COMPANY

THREE MILE ISLAND NUCLEAR STATION UNIT 1

ELECTRICAL

FIRE HAZARD ANALYSIS

CONDUIT-TO-CONDUIT SEPARATION REVIEW

(CB) AREA CB-3c (EL. 388'-6")

SCALE

044692-0941

REV MADE CH SQL APP DATE

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ENGINEER APPROVAL

REV MADE CH SQL APP DATE

GILBERT ASSOCIATES, INC.

ENGINEERS AND CONSULTANTS

READING, PA.



FIRE AREA - ZONE	CND IN ZONE	CHAN	CRK W/IN CND	FUNCTION	USE
	MD26	A A X A	MD26 MD28 RA34 RP109	CONT. & IND. CONT. ALARM IND.	D.G. 1A BRKR (G1-02) D.G. 1A BRKR (G1-02) E.S. SWGR. UNIT 1D2 HP INJ & LOAD SEQ.-PNL. IND.
	MD61	A A X A	MD61 MD63 CG1005 RP93	CONT. & IND. CONT. MTR. SP. HTR. IND.	DH PUMP (DH-P-1A) DH PUMP (DH-P-1A) DH PUMP (DH-P-1A) HP INJ. & LOAD SEQ.-PNL. IND.
	MD63	A X A A A A X	MD63 MD38 MD68 MD74 MD78 MD83 MD93	CONT. CONT. CONT. CONT. CONT. CONT. CONT.	DH PUMP (DH-P-1A) EF PUMP (EF-P-2A) MU PUMP (MU-P-1A) BS PUMP (BS-P-1A) BS PUMP (BS-P-1A) RR PUMP (RR-P-1A) FDR. BLK (NI-02)
	MD81	A A A A X X X	MD81 MD83 RP74 RU226 RV723 CBE1006 CS283 CS293	CONT. & IND. CONT. IND. INTLK. INTLK. MTR. SP. HTR. INTLK. INTLK.	RR PUMP (RR-P-1A) RR PUMP (RR-P-1A) HP INJ. & LOAD SEQ.-PNL. IND. SH PUMP E.S. SWGR. UNIT 1D10 RIV. WTR. PF (RR-P-1A) M.U. PP. VLV. (EFV-4) M.U. PP. VLV. (EFV-5)
	MD96	A X	MD96 5 NON-ES CIRCUITS	CONT. & IND. CONT., BUS & CABLE DIFF.	BUS 1D TIE BRKR. (T1-D2) BUS 1D TIE BRKR. (T1-D2)

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METROPOLITAN EDISON COMPANY THREE MILE ISLAND NUCLEAR STATION UNIT 1 ELECTRICAL FIRE HAZARD ANALYSIS CONDUIT-TO-CONDUIT SEPARATION REVIEW (CB) AREA CB-3c (EL. 338'-6")					
FIRE AREA - ZONE	CND IN ZONE	CHAN	CRK W/IN CND	FUNCTION	USE
	MD101	A	MD101 5 NON-ES CIRCUITS	CONT. & IND. CONT., IND. ALARM, SYNCH BUS DIFF.	BUS 1D FDR BRKR (1SA-D2) BUS 1D FDR BRKR (1SA-D2)
	MD105	A	MD105	SPARE	SPARE
	MD76	A	MD76	CONT. & IND.	BS PUMP (BS-P-1A)
		A	MD78	CONT.	BS PUMP (BS-P-1A)
		A	RP83	IND.	HP INJ & LOAD SEQ. PNL. IND.
		X	CG1008	MTR. SP. HTR.	BS PUMP (BS-P-1A)
	MD65	A	MD65	CONT.	MU PUMP (MU-P-1A)
	RG19	A	RG19	INST.	PRESS SW. (PS672)
	RG201	A	RG201	INST.	REAC. PRESS. TRNSM (RC3A-PT3)
	RP1	A	RP1	CONT.	HP INJ & LOAD SEQ. CH. RC1A
		A/C	RP21	CONT.	HP INJ & LOAD SEQ. CH. RC3A
		A	RP201	CONT.	LOW PRESS INJ CH. RC4A
		A	RP271	IND.	LOW PRESS INJ-IND. CH. RC4A
		A	RP401	CONT.	ES BISTABLE CAB. 1
		X	RC590	ALM	ES BISTABLE CAB. 1
	RP2	A	RP2	CONT.	HP INJ & LOAD SEQ CH. RC1A
		A	RP202	CONT.	LOW PRESS. INJ. CH. RC4A
		A	RP402	CONT.	R.B. ISO. & CLG. CH. RB1A
	RP2	A	RP2	CONT.	HP INJ. & LOAD SEQ. CH. RC1A
		A	RP202	CONT.	LOW PRESS. INJ. CH. RC4A
		A	RP402	CONT.	R.B. ISO. & CLG. CH. RB1A
		A	RP581	IND.	R.B. ISO. & CLG.-IND. RB1A
	RP3	A	RP3	CONT.	HP INJ. & LOAD SEQ. CH. RC1A

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ENGINEERS AND CONSULTANTS  
READING, PA.

FIRE AREA - ZONE	CND IN ZONE	CHAN	CRK W/IN CND	FUNCTION	USE
	RP4	A	RP4	CONT.	INJ. & LOAD SEQ.-CH. RC1A
		A	RP122	IND.	INJ. & LOAD SEQ.-CH. RC1A
		A	RP203	CONT.	LOW PRESS. INJ. CH. RC4A
		A	RP272	IND.	LOW PRESS. INJ. CH. RC4A
		A	RP403	CONT.	R.B. ISO. & CLG. CH. RB1A
		A	RP582	IND.	R.B. ISO. & CLG. CH. RB1A
	RP12	A	RP12	CONT.	HP INJ & LOAD SEQ CH. RC2A
		A	RP212	CONT.	LOW PRESS. INJ. CH. RC5A
		A	RP412	CONT.	R.B. ISO. & CLG. CH. RB2A
	RP12	A	RP12	CONT.	HP INJ & LOAD SEQ. CH. RC2A
		A	RP212	CONT.	LOW PRESS. INJ. CH. RC5A
		A	RP412	CONT.	R.B. ISO. & CLG. CH. RB7A
		A	RP571	IND.	ISO. VLV. (FBV-50)
	RP13	A	RP13	CONT.	HP INJ. & LOAD SEQ. CH. RC1A
	RP14	A	RP14	CONT.	HP INJ. & LOAD SEQ. CH. RC2A
		A	RP132	IND.	HP INJ. & LOAD SEQ. IND. CH. RC2A
		A	RP213	CONT.	LOW PRESS. INJ. CH. RC5A
		A	RP282	IND.	LOW PRESS. INJ.-IND. CH. RC5A
		A	RP413	CONT.	R.B. ISO. & CLG. CH. RB2A
		A	RP592	IND.	R.B. ISO. & CLG.-IND. CH. RB2A
	RP22	A	RP22	CONT.	INJ. & LOAD SEQ. CH. RC3A
		A	RP222	CONT.	LOW PRESS. INJ. CH. RC6A
		A	RP422	CONT.	R.B. ISO. & CLG. CH. RB3A
	RP23	A	RP23	CONT.	HP INJ. & LOAD SEQ. CH. RC3A
	RP24	A	RP24	CONT.	INJ. & LOAD SEQ. CH. RC3A
		A	RP142	IND.	INJ. & LOAD SEQ. CH. RC3A
		A	RP223	CONT.	LOW PRESS. INJ. CH. RC6A
		A	RP292	IND.	LOW PRESS. INJ. CH. RC6A
		A	RP423	CONT.	R.B. ISO. & CLG. CH. RC3A
		A	RP602	IND.	R.B. ISO. & CLG. CH. RC3A

THREE MILE ISLAND NUCLEAR STATION UNIT 1

ELECTRICAL

FIRE HAZARD ANALYSIS

CONDUIT-TO-CONDUIT SEPARATION REVIEW

(CB) AREA CB-3c (EL. 338'-6")

SCALE

04 4692 S-FHA-200

ENGINEERS AND CONSULTANTS

GILBERT ASSOCIATES, INC.

READING, PA.

MADE CHKD

04 4692 S-FHA-200

ENGINEERS AND CONSULTANTS

GILBERT ASSOCIATES, INC.

READING, PA.

DRAWING NO.

04 4692 S-FHA-200

ENGINEERS AND CONSULTANTS

GILBERT ASSOCIATES, INC.

READING, PA.

FIRE AREA - ZONE	CND IN ZONE	CHAN	CRK W/IN CND	FUNCTION	USE
	RP31	A	RP31	CONT.	HP INJ & LOAD SEQ. TEST & MAN.
		A	RP32	CONT.	HP INJ & LOAD SEQ. TEST & MAN.
		A	RP431	CONT.	R.B. ISO. & CLG.-MAN. ACT.
		A	RP701	CONT.	R.B. SPRAY ACT & TEST
	RP33	A	RP33	CONT.	HP INJ & LOAD SEQ. TEST & MAN.
		A	RP441	CONT.	R.B. ISO. & CLG.-TEST
	RP33	A	RP33	CONT.	HP INJ & LOAD SEQ.-TEST & MAN.
		A	RP34	CONT.	HP INJ & LOAD SEQ.-TEST & MAN.
		A	RP35	CONT.	HP INJ & LOAD SEQ.-TEST & MAN.
		A	RP441	CONT.	R.B. ISO. & CLG.-TEST
		A	RP442	CONT.	R.B. ISO. & CLG.-TEST
		A	RP443	CONT.	R.B. ISO. & CLG.-TEST
	RP34	A	RP34	CONT.	HP INJ & LOAD SEQ.-TEST & MAN.
		A	RP442	CONT.	R.B. ISO. & CLG.-TEST
	RP35	A	RP35	CONT.	HP INJ & LOAD SEQ.-TEST & MAN.
		A	RP443	CONT.	R.B. ISO. & CLG.-TEST
	RP41	A	RP41	IND.	INJ. & LOAD SEQ.-CH. RC1A
		A	RP42	IND.	INJ. & LOAD SEQ.-CH. RC1A
		A	RP241	IND.	LOW PRESS INJ.-CH. RC4A
		A	RP251	IND.	R.B. ISO. & CLG. CH. RB1A
		A	RP452	IND.	R.B. ISO. & CLG. CH. RB1A
	RP41	A	RP41	IND.	INJ. & LOAD SEQ.-CH. RC1A
		A	RP241	IND.	LOW PRESS INJ.-CH. RC4A
		A	RP451	IND.	R.B. ISO. & CLG. CH. RB1A
	RP42	A	RP42	IND.	INJ. & LOAD SEQ.-CH. RC1A
		A	RP452	IND.	R.B. ISO. & CLG. CH. RB1A
	RP51	A	RP51	IND.	INJ. & LOAD SEQ.-RC1A
		A	RP251	IND.	R.B. ISO. & CLG. CH RB1A
		A	RP461	IND.	R.B. ISO. & CLG. CH. RB2A

METROPOLITAN EDISON COMPANY

THREE MILE ISLAND NUCLEAR STATION UNIT 1

ELECTRICAL

FIRE HAZARD ANALYSIS

CONDUIT-TO-CONDUIT SEPARATION REVIEW

(CB) AREA CB-3c (EL. 338'-6")

MADE CHKO

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GILBERT ASSOCIATES, INC.

READING, PA.

SCALE

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ENGINEER APPROVAL

DATE

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FIRE AREA - ZONE	CND IN ZONE	CHAN	CRK W/IN CND	FUNCTION	USE
	RP51	A A A A A	RP51 RP52 RP251 RP461 RP462	IND. IND. IND. IND. IND.	INJ. & LOAD SEQ.-RC1A INJ. & LOAD SEQ.-RC1A R.B. ISO. & CLG. RB1A R.B. ISO. & CLG. CH RB2A R.B. ISO. & CLG. CH RB2A
	RP52	A A	RP52 RP462	IND. IND.	INJ. & LOAD SEQ.-RC1A R.B. ISO. & CLG. CH. RB2A
	RP61	A A A	RP61 RP261 RP471	IND. IND. IND.	INJ. & LOAD SEQ.-CH. RC3A LOW PRESS. INJ. CH. RC6A R.B.ISO. & CLG. CH. RB3A
	RP61	A A A A A	RP61 RP62 RP261 RP471 RP472	IND. IND. IND. IND. IND.	INJ. & LOAD SEQ.-CH. RC3A INJ. & LOAD SEQ.-CH. RC3A LOW PRESS. INJ. CH. RC6A R.B. ISO. & CLG. CH. RB3A R.B. ISO. & CLG. CH. RB3A
	RP62	A A	RP62 RP472	IND. IND.	INJ. & LOAD SEQ.-CH. RC3A R.B. ISO. & CLG. CH. RB3A
	RP71	A A A A A A A A A	RP71 RP481 RU281 RU301 LX52 CQ165 CBE472 RY5 RY6	IND. IND. CONT. CONT. CONT. CONT. CONT. CONT. CONT.	HP INJ & LOAD SEQ-PNL. IND RR PUMP VLV. (RRV-1A) 1C-ESV C.C. AUTO TR. SW. DIST. PNL IM AUTO TR. SW. 480 V SWGR. INST., MET., & RELAY ISO. VALVE (AHV-1B) FAN (AH-E-27A) EMERG. D.G. (EG-Y-1A) EMERG. D.G. (EG-Y-1A)
	RP72	A X X A A A	RP72 CQ592 CG1002 MD66 MD68 MD69	IND. CONT. MTR. SP. HTR. CONT. & IND. CONT. SPARE	HP INJ. & LOAD SEQ. PNL. IND. GEAR LUBE PUMP (MU-P-4A) M.U. PUMP (MU-P-1A) M.U. PUMP (MU-P-1A) M.U. PUMP (MU-P-1A) SPARE

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FIRE AREA - ZONE	CND IN ZONE	CHAN	CRK W/IN CND	FUNCTION	USE
	RP204	A	RP204	CONT.	LOW PRESS. INJ. CH. RC4A
	RP581	A	RP581	IND.	R.B. ISO. & CLG. IND. CH. RB1A
	RP591	A	RP591	IND.	R.B. ISO. & CLG. IND. CH. RB2A
	RP601	A	RP601	IND.	R.B. ISO. & CLG. IND. CH. RB3A
	RP711	A	RP711	IND.	R.B. SPRAY PNL. IND.
	RS211	A	RS211	INST.	PRESS. TRNSM (PT282)
	RY10	A	RY10	CONT.	DIESEL ENG. GEN. 1A (EG-Y-1A)
		A	RY11	CONT.	DIESEL ENG. GEN. 1A (EG-Y-1A)
		A	RY12	CONT.	DIESEL ENG. GEN. 1A (EG-Y-1A)
		A	RY36	CONT.	DIESEL ENG. GEN. 1A (EG-Y-1A)
		X	RY55	DIFF. CURR.	DIESEL ENG. GEN. 1A (EG-Y-1A)
		X	RY56	REL. CURR.	DIESEL ENG. GEN. 1A (EG-Y-1A)
		X	RY104	ALARM	DIESEL ENG. GEN. 1A (EG-Y-1A)
	RV592	A	RV592	CONT.	ES ACT. CAB. A
		A	RV621	INTLK.	ES ACT. CAB. A
		A	RV678	INTLK.	ES ACT. CAB. A
		A	RV679	INTLK.	ES ACT. CAB. A
		A	RY4	CONT.	DIESEL GEN (EG-Y-1A)
		A	RY23	CONT.	DIESEL GEN (EG-Y-1A)
		N/A	LX32	N/A	N/A
		X	CG1032	CONT. PWR.	E.S. ACT. CAB. A FAN
	*LX33	A	LX33	CONT.	E.S. SWGR. UNIT 1R TO 1D15
		A	LX53	CONT.	E.S. SWGR. UNIT 1R TO 1D15
	*RE379	A	RE379	INST.	LEVEL TRNSM (LT-357)
	*RE380	A	RE380	CONT. PWR.	BWST MEASUREMENT
	*RH2478	A	RH2478	CONT.	ATC PNL. (EP3 & EP4)
	*RH2479	A	RH2479	CONT.	DAMPER L.S. (AH-D-39)
	*RH2481	A	RH2481	CONT.	E.S. ACT. CAB. A
	*RV1224	A	RV1224	CONT.	E.S. ACT. CAB. A

METROPOLITAN EDISON COMPANY

THREE MILE ISLAND NUCLEAR STATION UNIT 1

ELECTRICAL

FIRE HAZARD ANALYSIS

CONDUIT-TO-CONDUIT SEPARATION REVIEW

(CB) AREA CB-3c (EL. 338'-6")

SCALE

04/16/92 S-FHA-200

GILBERT ASSOCIATES, INC.

ENGINEERS AND CONSULTANTS

READING, PA.

NO. 044692-094

ENGINEER APPROVAL

DATE

FIRE AREA - ZONE	CND IN ZONE	CHAN	CRK W/IN CND	FUNCTION	USE
	CH35	B	CH35	PWR.	RET. AIR FAN B MTR (AH-E-19B)
	CH37	B	CH37	PWR.	EMER. SUPP. FAN B MTR. (AH-E-18B)
	CH154	B	CH154 RH186	CONT.	D.H. & N.S. PUMP (AH-E-15B)
	CH422	B	CH422	CONT.	RET. AIR FAN B MTR. (AH-E-19B)
	CH442	B	CH442	CONT.	EMER. SUPP. FAN B (AH-E-18B)
	ER153	B	CR153	CONT.	OUTLET VLV. (BSV-28)
		B	CR173	CONT.	REACTOR VLV. (DHV-4B)
		B	CR203	CONT.	D.H. VALVE (BSV-3B)
		B	CR213	CONT.	OUTLET VLV. (BSV-4B)
		B	CR253	CONT.	D.H. PUMP VLV. (DHV-5B)
		B	CR463	CONT.	DISCH. VLV. (BSV-1B)
		B	CR473	CONT.	CLG. TWR. VLV. (NRV-4B)
	CR334	B	CR334	CONT.	OUTLET VLV. (MOV-2A)
		B	CR363	CONT.	ISO. VALVE (ICV-2)
		B	CR374	CONT.	SAMPLE VLV. (CAV-13)
		B	CR384	CONT.	OUTLET VLV. (MOV-2B)
		B	CR424	CONT.	SAMPLE VLV. (CAV-4B)
		B	CR434	CONT.	SAMPLE VLV. (CAV-3)
		B	CR484	CONT.	ISO. VLV. (CAV-1)
		B	CR524	CONT.	ISO. VLV. (NSV-35)
	EA304	B	EA304	CONT. PWR.	E.S. RELAY CAB. 2A
	EA305	B	EA305	CONT. PWR.	E.S. RELAY CAB. 2B
	EA305	B	EA305	CONT. PWR.	E.S. RELAY CAB. 2B
		B	EA304	CONT. PWR.	E.S. RELAY CAB. 2A
	ED301	B	ED301	PWR.	E.S. ACT. CAB. 5D

METROPOLITAN EDISON COMPANY  
 THREE MILE ISLAND NUCLEAR STATION UNIT 1  
 ELECTRICAL  
 FIRE HAZARD ANALYSIS  
 CONDUIT-TO-CONDUIT SEPARATION REVIEW  
 (CB) AREA CB-3c (EL. 338'-6")

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 GILBERT ASSOCIATES, INC.  
 ENGINEERS AND CONSULTANTS  
 READING, PA.

SH. NO. 33  
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FIRE AREA - ZONE		CND IN ZONE	CHAN	CRK W/IN CND	FUNCTION	USE		
	ME61		B X	ME61 CH1005	CONT. & IND. MTR. SP. HTR.	DH PUMP (DH-P-1B) DH PUMP (DH-P-1B)		
	ME65		B B B B X X	ME65 ME66 ME68 ME69 CH1002 RU440	CONT. CONT. & IND. CONT. SPARE MTR. SP. HTR. CONT.	M.U. PUMP (MU-P-1C) M.U. PUMP (MU-P-1C) M.U. PUMP (MU-P-1C) SPARE M.U. PUMP (MU-P-1C) GEAR OIL PS (PS648C)		
		ME68		B B B B X X B	ME68 ME63 ME74 ME78 ME38 ME48 ME83	CONT. CONT. CONT. CONT. CONT. CONT. CONT.	MU PUMP (MU-P-1C) DH PUMP (DH-P-1B) DH PUMP (DH-P-1B) DH PUMP (DH-P-1B) EF PUMP (EF-P-2A) EF PUMP (EF-P-2B) RR PUMP (RR-P-1B)	
			ME76		B X	ME76 CH1008	CONT. & IND. MTR. SP. HTR.	BS PUMP (BS-P-1B) BS PUMP (BS-P-1B)
			ME86		B	ME86	CONT. & IND.	XFMR 1T FDR BRKR (T1-02)
			ME91		B X X X	ME91 ME93 RB73 RB74	CONT. & IND. CONT. & IND. ALARM ALARM	BUS 1E FDR BRKR (1SA-E2) BUS 1E FDR BRKR (1SA-E2) E.S. SWGR. - ALARM E.S. SWGR. - ALARM
				ME95		B	ME95	SPARE
	RB34				X B	RB34 RR442	ALARM CONT.	TURB. PLT SWGR ALARM R.B. ISO. & CLG.-TEST
	RG202		B	RG202	INST.	REAC PRESS. TRNSM (RC3A-PT3)		
	RR2		B B B	RR2 RR202 RR402	CONT. CONT. CONT.	HP INJ. & LOAD SEQ. CH. RC1B LOW PRESS. INJ. CH. RC4A R.B. ISO. & CLG. CH. RB1B		

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FIRE AREA - ZONE	CND IN ZONE	CHAN	CRK W/IN CND	FUNCTION	USE
	LS12	B	LS12	CONT.	SFGD. SWGR. BRKR. (1S-02)
		B	RR101	IND.	HP INJ. & LOAD SEQ. IND.
		B	ME56	CONT. & IND.	XFMR 1S FDR BRKR (S1-12)
	LS23	B	LS23	CONT.	DC PUMP (DC-P-1B)
		B	LS29	CONT.	N.S. PUMP (NS-P-1C)
		B	CR313	CONT.	EMERG. M.U. VLV. (MUV-16C)
		B	CR323	CONT.	EMERG. M.U. VLV. (MUV-16D)
		B	DG87	CONT.	WASTE DISP. VLV. (WDG-V4)
	LT19	B	LT19	CONT.	NR PUMP (NR-P-1C)
		B	LT23	CONT.	D.H. PUMP
		B	CBF164	CONT.	DISCH. VLV. (RRV-1B)
		B	CBF227	CONT.	FAN (AH-E-27B)
		X	RA51	ALARM.	E.S. ACT. CAB. B
		X	RA107	ALARM.	E.S. ACT. CAB. B
		B	RV78	CONT.	E.S. ACT. CAB. B
		B	RV133	CONT.	E.S. ACT. CAB. B
		B	RV207	INTLK.	E.S. ACT. CAB. B
		B	RV214	INTLK.	E.S. ACT. CAB. B
		B	RV261	INTLK.	E.S. ACT. CAB. B
		B	RV269	INTLK.	E.S. ACT. CAB. B
		B	RV368	INTLK.	E.S. ACT. CAB. B
		B	RV369	INTLK.	E.S. ACT. CAB. B
		B	CH252	CONT.	VENT. FAN (AH-E-1B)
	LX41	B	LX41	CONT.	480 V SWGR. INST., MET., & RELAY
		B	LX61	CONT.	480 V SWGR. INST., MET., & RELAY
		B	LX62	CONT.	480 V SWGR. INST., MET., & RELAY
		B	ME26	CONT. & IND.	D.G. 1B BRKR (G11-02)
		B	ME28	CONT.	D.G. 1B BRKR (G11-02)
			RR109		
	ME16	B	ME16	CONT. & IND.	BUS 1E FDR. BRKR (1SB-E2)
		X	ME18	CONT. & IND.	BUS 1E FDR. BRKR (1SB-E2)
	ME21	B	ME21	CONT. & IND.	BUS 1E TIE BRKR (T1-E2)
		X	ME25	CONT.	BUS 1E TIE BRKR (T1-E2)

07/21/03

FIRE AREA - ZONE	CND IN ZONE	CHAN	CRK W/IN CND	FUNCTION	USE
	RR2	B	RR2	CONT.	HP INJ. & LOAD SEQ. CH. RB1B
		B	RR202	CONT.	LOW PRESS. INJ. CH. RC4A
		B	RR402	CONT.	R.B. ISO. & CLG. CH. RB1B
		B	RR581	IND.	R.B. ISO. & CLG. CH. RB1B
	RR3	B	RR3	CONT.	HP INJ. & LOAD SEQ. CH. RB1B
	RR4	B	RR4	CONT.	HP INJ. & LOAD SEQ. CH. RC1B
		B	RR122	IND.	HP INJ. & LOAD SEQ. CH. RC1B
		B	RR203	CONT.	LOW PRESS INJ. CH. RC4A
		B	RR272	IND.	LOW PRESS INJ. CH. RC4B
		B	RR403	CONT.	R.B. ISO. & CLG. CH. RC1B
		B	RR582	IND.	R.B. ISO. & CLG. CH. RC1B
	RR11	B	RR11	CONT.	HP INJ & LOAD SEQ. CH. RC2B
		B	RR131	IND.	HP INJ & LOAD SEQ. CH. RC2B
		B	RR211	CONT.	LOW PRESS. INJ. CH. RC5B
		B	RR281	IND.	LOW PRESS. INJ. IND. CH. RC5B
		B	RR411	IND.	R.B. ISO. & CLG. CH. RB2B
	RR12	B	RR12	CONT.	HP INJ. & LOAD SEQ. CH. RC2B
		B	RR212	CONT.	LOW PRESS. INJ. CH. RC5B
		B	RR412	IND.	R.B. ISO. & CLG. CH. RB2B
	RR12	B	RR12	CONT.	HP INJ. & LOAD SEQ. CH. RC2B
		B	RR212	CONT.	LOW PRESS. INJ. CH. RC5B
		B	RR412	IND.	R.B. ISO. & CLG. CH. RB2B
		B	RR591	IND.	R.B. ISO. & CLG. CH. RB2B
	RR13	B	RR13	CONT.	HP INJ. & LOAD SEQ. CH. RC2B
	RR14	B	RR14	CONT.	HP INJ. & LOAD SEQ. CH. RC2B
		B	RR132	IND.	HP INJ. & LOAD SEQ. CH. RC2B
		B	RR213	CONT.	LOW PRESS. INJ. CH. RC5B
		B	RR282	IND.	LOW PRESS. INJ. IND. CH. RC5B
		B	RR413	CONT.	R.B. ISO. & CLG. CH. RB2B
		B	RR592	IND.	R.B. ISO. & CLG. IND. CH. RB2B

METROPOLITAN EDISON COMPANY

THREE MILE ISLAND NUCLEAR STATION UNIT 1

ELECTRICAL

FIRE HAZARD ANALYSIS

CONDUIT-TO-CONDUIT SEPARATION REVIEW

(CB) AREA CB-3c (EL. 338'-6")

MADE CHKD

SCALE

0044692-094

REV MADE CH ISQL APP DATE

DRAWING NO.

044692-S-FHA-200

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ENGINEER APPROVAL

ENGINEERS AND CONSULTANTS

READING, PA.

SEP 1994

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DATE		RELEASED FOR			
FIRE AREA - ZONE	CND IN ZONE	CHAN	CRK W/IN CND	FUNCTION	USE
	RR22	B	RR22	CONT.	HP INJ. & LOAD SEQ. CH. RC3B
		B	RR222	CONT.	LOW PRESS. INJ. CH. RC6B
		B	RR422	CONT.	R.B. ISO. & CLG. CH. RB3B
	RR22	B	RR22	CONT.	HP INJ. & LOAD SEQ. CH. RC3B
		B	RR222	CONT.	LOW PRESS. INJ. CH. RC6B
		B	RR422	CONT.	R.B. ISO. & CLG. CH. RB3B
		B	RR601	IND.	R.B. ISO. & CLG. IND. CH. RB3B
	RR23	B	RR23	CONT.	HP INJ. & LOAD SEQ. CH. RC3B
	RR24	B	RR24	CONT.	HP INJ. & LOAD SEQ. CH. RC3B
		B	RR142	IND.	HP INJ. & LOAD SEQ. IND. RC3B
		B	RR223	CONT.	LOW PRESS. INJ. CH. RC6B
		B	RR292	IND.	LOW PRESS. INJ. IND. CH. RC6B
		B	RR423	CONT.	R.B. ISO. & CLG. CH. RB3B
	RR31	B	RR602	IND.	R.B. ISO. & CLG. CH. RB3B
		B	RR31	CONT.	HP INJ & LOAD SEQ. TEST & MAN.
		B	RR32	CONT.	HP INJ & LOAD SEQ. TEST & MAN.
		B	RR431	CONT.	R.B. ISO. & CLG.-MAN. ACT.
	RR33	B	RR701	CONT.	R.B. SPRAY ACT & TEST
		B	RR33	CONT.	HP INJ & LOAD SEQ. TEST & MAN.
		B	RR34	CONT.	HP INJ & LOAD SEQ. TEST & MAN.
		B	RR35	CONT.	HP INJ & LOAD SEQ. TEST & MAN.
		B	RR441	CONT.	R.B. ISO. & CLG.-TEST
	RR35	B	RR442	CONT.	R.B. ISO. & CLG.-TEST
		B	RR443	CONT.	R.B. ISO. & CLG.-TEST
B		RR35	CONT.	HP INJ. & LOAD SEQ. TEST & MAN.	
		B	RR443	CONT.	R.B. ISO. & CLG.-TEST

METROPOLITAN EDISON COMPANY

THREE MILE ISLAND NUCLEAR STATION UNIT 1

ELECTRICAL

FIRE HAZARD ANALYSIS

CONDUIT-TO-CONDUIT SEPARATION REVIEW

(CB) AREA CB-3c (EL. 338'-6")

MADE CHND

04 4692 S-FHA-200

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DRAWING NO.

SH. NO.

REV

SCALE

NO 044692-09A

REV MADE CH

ENGINEER APPROVAL

DATE

CONDUIT-TO-CONDUIT SEPARATION REVIEW

DATE

NO 044692-09A

REV MADE CH

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CONDUIT-TO-CONDUIT SEPARATION REVIEW

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DATE

CONDUIT-TO-CONDUIT SEPARATION REVIEW

DATE

GILBERT ASSOCIATES, INC.

ENGINEERS AND CONSULTANTS

READING, PA.

372305

FIRE AREA - ZONE	CND IN ZONE	CHAN	CRK W/IN CND	FUNCTION	USE
	RR37	B	RR37	CONT.	HP INJ. & LOAD SEQ. TEST
		B	RR76	IND.	HP INJ. & LOAD SEQ. TEST
		B	RR235	IND.	DISCH. VLV. (DRV-1B)
		B	RR482	IND.	R.B. ISO. & CLG. PNL. IND.
		B	RR511	IND.	R.B. ISO. & CLG. PNL. IND.
		B	RR553	IND.	R.B. ISO. & CLG. PNL. IND.
		B	RR554	IND.	R.B. ISO. & CLG. PNL. IND.
		B	RV215	CONT.	VENT. HDR. VLV. (FBV-117)
		B	RV730	CONT.	RECIRC. VLV. (RRV-10B)
	RR41	B	RR41	IND.	HP INJ. & LOAD SEQ. CH. RC1B
		B	RR42	IND.	HP INJ. & LOAD SEQ. CH. RC1B
		B	RR241	IND.	LOW PRESS. INJ. CH. RC4B
		B	RR451	IND.	R.B. ISO. & CLG. PNL. RB1B
		B	RR452	IND.	R.B. ISO. & CLG. PNL. RB1B
	RR41	B	RR41	IND.	HP INJ. & LOAD SEQ. CH. RC1B
		B	RR241	IND.	LOW PRESS. INJ. CH. RC4B
		B	RR451	IND.	R.B. ISO. & CLG. PNL. RB1B
	RR42	B	RR42	IND.	HP INJ. & LOAD SEQ. CH. RC1B
		B	RP452	IND.	R.B. ISO. & CLG. PNL. RB1B
	RR51	B	RR51	IND.	HP INJ. & LOAD SEQ.-CH. RC2B
		B	RR251	IND.	LOW PRESS. INJ.-CH. RC5B
		B	RR461	IND.	R.B. ISO. & CLG.-CH. RC2B
	RR51	B	RR51	IND.	HP INJ. & LOAD SEQ.-CH. RC2B
		B	RR52	IND.	HP INJ. & LOAD SEQ.-CH. RC2B
		B	RR251	IND.	LOW PRESS. INJ.-CH. RC5B
		B	RR461	IND.	R.B. ISO. & CLG.-CH. RC2B
		B	RR462	IND.	R.B. ISO. & CLG.-CH. RC2B
	RR52	B	RR52	IND.	HP INJ. & LOAD SEQ.-CH. RC2B
		B	RR462	IND.	R.B. ISO. & CLG.-CH. RC2B
	RR61	B	RR61	IND.	HP INJ. & LOAD SEQ. CH. RC3B
		B	RR261	IND.	LOW PRESS. INJ.-CH. RC6B
		B	RR471	IND.	R.B. ISO. & CLG.-CH. RB3B

METROPOLITAN EDISON COMPANY  
THREE MILE ISLAND NUCLEAR STATION UNIT 1  
ELECTRICAL  
FIRE HAZARD ANALYSIS  
CONDUIT-TO-CONDUIT SEPARATION REVIEW  
(CB) AREA CB-3c (EL. 338'-6")  
SCALE  
NO 044692-094 ENGINEER APPROVAL DATE  
REV MADE CH SQL APP DATE REV MADE CH SQL APP DATE  
DRAWING NO. 044692-S-FHA-200 SHEET NO. 38 OF 0  
GILBERT ASSOCIATES, INC.  
ENGINEERS AND CONSULTANTS  
READING, PA.

	CONS' ACTION	
	BIDDING PURPOSES	
DATE	RELEASED FOR	ENGR.

FIRE AREA - ZONE	CND IN ZONE	CHAN	CRK W/IN CND	FUNCTION	USE	METROPOLITAN EDISON COMPANY THREE MILE ISLAND NUCLEAR STATION UNIT 1 ELECTRICAL FIRE HAZARD ANALYSIS CONDUIT-TO-CONDUIT SEPARATION REVIEW (CB) AREA CB-3c (EL. 338'-6")									
	RR61	B	RR61	IND.	HP INJ. & LOAD SEQ. RC3B	REV 0044692-094 ENGINEER APPROVAL REV MADE CH SQL APP DATE REV MADE CH SQL APP									

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	CONST. ACTION	
	BIDDING PURPOSES	
DATE	RELEASED FOR	ENGR.

FIRE AREA - ZONE	CND IN ZONE	CHAN	CRK W/IN CND	FUNCTION	USE
	RR72	B	RR72	IND.	HP INJ. & LOAD SEQ.-IND.
	RS212	B	RS212	INST.	PRESS. TRNSM (PT282)
	RV572	B	RV572	CONT.	E.S. ACT. CAB. B
		B	RV657	INTLK.	E.S. ACT. CAB. B
		B	RV658	CONT.	PRESS VLV. (PPV-165)
		B	RV698	INTLK.	E.S. ACT. CAB. B
		B	RV699	INTLK.	E.S. ACT. CAB. B
		B	LX42	CONT.	480 V SWGR. INST., MET., & RELAY
		B	LX62	CONT.	480 V SWGR. INST., MET., & RELAY
		B	DL2	CONT.	VALVE (WDL-V304)
		B	DL12	CONT.	VALVE (WDL-V535)
		B	DC33	CONT.	WASTE DISP. VLV. (CA-V5A)
		B	CH792	CONT.	OUTLET VALVE (PRV-4B)
		B	CH802	CONT.	OUTLET VALVE (RRV-4B)
		B	CH812	CONT.	INLET VALVE (RRV-3B)
		X	CH1028	CONT. PWR.	E.S. ACT. CAB. B FAN
		B	CR303	CONT.	BWST OUTLET VLV. (MUV-14B)
	RV728	B	RV728	INTLK.	E.S. SWGR UNIT 1E11
		B	RU237	INTLK.	SCN. HSE. PP. INTLKS.
		B	RR74	IND.	HP INJ. & LOAD SEQ.-IND.
		X	CS284	INTLK.	M.U. PUMP VLV. (EFV-4)
		X	CS294	INTLK.	M.U. PUMP VLV. (EFV-5)
		X	CBF1003	MTR. SP. HTR.	RR PUMP (RR-P-1B)
		B	ME81	CONT. & 150.	RR PUMP (RR-P-1B)
		B	ME83	CONT.	RR PUMP (RR-P-1B)
	RZ13	B	RZ13	CONT.	DIESEL GEN. (EG-Y-1B)
		B	RZ14	CONT.	DIESEL GEN. (EG-Y-1B)
		B	RZ15	CONT.	DIESEL GEN. (EG-Y-1B)
		B	RZ36	CONT.	DIESEL GEN. (EG-Y-1B)
		B	RZ55	DIFF. CURR.	DIESEL GEN. (EG-Y-1B)
		B	RZ56	REL. CURR.	DIESEL GEN. (EG-Y-1B)
		X	RZ104	ALARM	DIESEL GEN. (EG-Y-1B)

METROPOLITAN EDISON COMPANY		DATE	CHG	SCALE
THREE MILE ISLAND NUCLEAR STATION UNIT 1		04/14/69	CS	1/4" = 1'-0"
ELECTRICAL		04/14/69	CS	1/4" = 1'-0"
FIRE HAZARD ANALYSIS		04/14/69	CS	1/4" = 1'-0"
CONDUIT-TO-CONDUIT SEPARATION REVIEW		04/14/69	CS	1/4" = 1'-0"
(CB) AREA CB-3c (EL. 338'-6")		04/14/69	CS	1/4" = 1'-0"
DRAWING NO.		SH. NO.	REV.	
04/146921S-FHA-200		40	0	
GILBERT ASSOCIATES, INC.		ENGINEERS AND CONSULTANTS		
READING, PA.				

9/3/68

FIRE AREA - ZONE	CND IN ZONE	CHAN	CRK W/IN CND	FUNCTION	USE
* INTERIM	*LX43	B	LX43	CONT.	SFGD. SWGR. UNIT 1R TO 1E14
		B	LX63	CONT.	SFGD. SWGR. UNIT 1R TO 1E14
	*RE382	B	RE382	INST.	BWST MEASUREMENT
	*RH2471	B	RH2471	CONT.	E.S. ACT. CAB. B
	*RH2472	B	RH2472	CONT.	DAMPER SOL. (EP37A)
		B	RH2474	CONT.	DAMPER LS (AH-D-37A)
	*RV717	B	RV717	INTLK.	ISO. VALVE (RB-V7)
	CS168	C	CS168	CONT.	DUMP VLV. (NSV-32)
		X	RU437	CONT.	PRESS. SW. (PS648B)
		C	RV338	CONT.	ISO. VLV. (MUV-20)
	CS362	C	CS362	CONT.	ISO. VLV. (RB-V-2)
	CS557	C	CS557	CONT.	VENT FAN (AH-E-1C)
		X	ED1731	CONT. PWR.	INTERSPACE VLVS. (PP-V-100&V-135)
		C	RS64	IND.	PRESS. SW. (PS574)
	EA515	C	EA515	CONT. PWR.	BISTABLE CAB. 3
	MD73	C	MD73	SPARE	SPARE
	MD73A	C	MD73A	CONT.	MU PUMP (MU-P-1B)
	ME71	C	ME71	CONT. & IND.	MU PUMP (MU-P-1B)
		C	CS134	SPARE	SPARE
		C	ME73	SPARE	SPARE
	ME73A	C	ME73A	CONT.	MU PUMP (MU-P-1B)
	RG107	C	RG107	INST.	PRESS. SW. (PS674)
	RG203	C	RG203	INST.	E.S. BISTABLE CAB. 3
	RS3	C	RS3	IND.	DAMPER L.S. (AH-D-39)
	RS4	C	RS4	IND.	ISO. VLV. (RB-V-2)

METROPOLITAN EDISON COMPANY  
THREE MILE ISLAND NUCLEAR STATION UNIT 1  
ELECTRICAL  
FIRE HAZARD ANALYSIS  
CONDUIT-TO-CONDUIT SEPARATION REVIEW  
(CB) AREA CB-3c (EL. 338'-6")

SCALE: 1"=10'-0"

04/16/92 S-FHA-200 61 0

GILBERT ASSOCIATES, INC.  
ENGINEERS AND CONSULTANTS  
READING, PA.

04/16/92 S-FHA-200 61 0

04/16/92 S-FHA-200 61 0

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FIRE AREA - ZONE	CND IN ZONE	CHAN	CRK W/IN CND	FUNCTION	USE
	RS213	C	RS213	INST.	PRESS. TRNSM. (PT-288)
	CS558	A/B	CS558	CONT.	VENT FAN (AH-E-1C)
	EA104	A/B	EA104	CONT. PWR.	E.S. RELAY CAB. 1B
	EA303	A/B	EA303	CONT. PWR.	E.S. RELAY CAB. 2A
	RP11	A/B	RP11	CONT.	HP INJ. & LOAD SEQ. CH. RC2A
		A/B	RP131	IND.	HP INJ. & LOAD SEQ. IND. CH. RC2A
		A/B	RP211	CONT.	LOW PRESS. INJ. CH. RC5A
		A/B	RP281	IND.	LOW PRESS. INJ. IND. CH. RC5A
		A/B	RP411	CONT.	R.B. ISO. & CLG. CH. RB2A
	RP24	A/B	RP24	CONT.	HP INJ. & LOAD SEQ. CH. RC3A
		A	RP142	IND.	HP INJ. & LOAD SEQ. IND. CH. RC3A
		A	RP223	CONT.	LOW PRESS INJ. CH. RC6A
		A	RP292	IND.	LOW PRESS INJ. IND. CH. RC6A
		A	RP423	CONT.	R.B. ISO. & CLG. CH. RB3B
		N/A	RP602	N/A	N/A
	RR1	A/B	RR1	CONT.	HP INJ. & LOAD SEQ. CH. RC1B
		A/B	RR121	IND.	HP INJ. & LOAD SEQ. IND. CH. RC1B
		A/B	RR201	CONT.	LOW PRESS INJ. CH. RC4A
		B	RR272	IND.	LOW PRESS INJ. IND. CH. RC4B
		A/B	RR401	CONT.	R.B. ISO. & CLG. CH. RB1B
	RV583	A/B	RV583	CONT.	ISO. VLV. (AHV-1B)
	RV603	A/B	RV603	CONT.	ISO. VLV. (AHV-1B)
	CS154	A/C	CS154	CONT.	SUP. VLV. (NSV-15)
		A/C	DC133	CONT.	WASTE DISP. VLV. (CA-V189)
	CS156	A/C	CS156	CONT.	SUP. VLV. (NSV-15)
	CS164	A/C	CS164	CONT.	DUMP VLV. (NSV-32)
	CS363	A/C	CS363	CONT.	ISO. VLV. (RBV-2)

METROPOLITAN EDISON COMPANY  
THREE MILE ISLAND NUCLEAR STATION UNIT 1  
ELECTRICAL  
FIRE HAZARD ANALYSIS  
CONDUIT-TO-CONDUIT SEPARATION REVIEW  
(7B) AREA CB-3c (EL. 338'-6")

SCALE: 1" = 10'

044692-084 ENGINEER APPROVAL  
REV MADE CH SQL APP DATE REV MADE CH SQL APP DATE

DRAWING NO. 044692-S-FHA-200  
GILBERT ASSOCIATES, INC.  
ENGINEERS AND CONSULTANTS  
READING, PA.

SH NO. 42  
REV 0

5-3-70

FIRE AREA - ZONE	CND IN ZONE	CHAN	CRK W/IN CND	FUNCTION	USE
	CS513	A/C	CS513	CONT.	INLET VLV. (RRV-3C)
		A/C	CS555	CONT.	VENT FAN (AH-E-1C)
	CS554	A/C	CS554	CONT.	VENT FAN (AH-E-1C)
	EA505	A/C	EA505	SPARE	SPARE
	EA505	A/C	EA505	SPARE	SPARE
		A/C	EA503	CONT. PWR.	E.S. RELAY CAB. 3A
	RP21	A/C	RP21	CONT.	HP INJ. & LOAD SEQ. CH. RC3A
		A/C	RP141	IND.	HP INJ. & LOAD SEQ. IND. CH. RC3A
		A/C	RP221	CONT.	LOW PRESS. INJ. CH. RC6A
		A/C	RP291	IND.	LOW PRESS. INJ. IND. CH. RC6A
		A/C	RP421	CONT.	R.B. ISO. & CLG. CH. RB3A
	RV11	A/C	RV11	INTLK.	ISO. VLV. (FBV-55)
		A/C	RV53	INTLK.	ISO. VLV. (FBV-59)
		A/C	RV327	CONT.	M.U. VLV. (MUV-18)
		A/C	RV335	SPARE	SPARE
		A/C	RV612	INTLK.	PRESS. VLV. (PPV-146)
		A/C	RV632	INTLK.	PRESS. VLV. (PPV-151)
		A/C	RV640	INTLK.	PRESS. VLV. (PPV-151)
	RV11	A/C	RV11	INTLK.	ISO. VLV. (FBV-55)
		A/C	RV53	INTLK.	ISO. VLV. (FBV-59)
		A/C	RV327	CONT.	M.U. VLV. (MUV-18)
		A/C	RV335	SPARE	SPARE
		A/C	RV612	INTLK.	PRESS. VLV. (PPV-146)
		A/C	RV632	INTLK.	PRESS. VLV. (PPV-151)
		A/C	RV640	INTLK.	PRESS. VLV. (PPV-151)
		A/C	RV360	INTLK.	E.S. ACT. CAB. A
		A/C	RV361	INTLK.	E.S. ACT. CAB. A
	RV722	A/C	RV722	CONT.	E.S. ACT. CAB. A
	CS155	B/C	CS155	CONT.	SUPPLY VLV. (NSV-15)
		B/C	DC138	CONT.	WASTE DISP. VLV. (CA-V189)

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FIRE AREA - ZONE	CND IN ZONE	CHAN	CRK W/IN CND	FUNCTION	USE
	CS165	B/C	CS165	CONT.	WASTE DISP. VLV. (NSV-32)
	CS364	B/C	CS364	CONT.	ISOL. VLV. (RBV-2)
	CS514	B/C	CS514	CONT.	INLET VLV. (RRV-3C)
	CS552	B/C	CS552	CONT.	VENT. FAN (AH-E-1C)
	CS553	B/C	CS553	CONT.	VENT. FAN (AH-E-1C)
	EA504	B/C	EA504	SPARE	SPARE
	RV12	B/C	RV12	INTLK.	ISO. VLV. (FBV-55)
		B/C	RV54	INTLK.	ISO. VLV. (FBV-59)
		B/C	RV328	SPARE	SPARE
		B/C	RV336	SPARE	SPARE
		B/C	RV348	INTLK.	M.U. ISO. VLV. (CFV-19A)
		B/C	RV349	INTLK.	M.U. ISO. VLV. (CFV-19A)
		B/C	RV613	INTLK.	PRESS. VLV. (PP-V146)
		B/C	RV633	INTLK.	PRESS. VLV. (PP-V151)
		B/C	RV641	INTLK.	PRESS. VLV. (PP-V152)
	RV123	B/C	RV123		
		B/C	RV54	INTLK.	ISO. VLV. (FBV-59)
		B/C	RV328	SPARE	SPARE
		B/C	RV336	SPARE	SPARE
		B/C	RV348	INTLK.	ISO. VLV. (CF-V19A)
		B/C	RV613	INTLK.	PRESS. VLV. (PP-V146)
		B/C	RV633	INTLK.	PRESS. VLV. (PP-V151)
		B/C	RV641	INTLK.	PRESS. VLV. (PP-V152)
	RV342	B/C	RV342	CONT.	M.U. VLV. (MU-V18)
	RV717		RV717	(PREVIOUSLY ESB)	B/C, SEE INTERIM ESB)
	RR21	B/C	RR21	CONT.	HP INJ. & LOAD SEQ. RC3B
	EA714	B/D	EA714	CONT. PWR.	E.S. RELAY CAB. 3B

METROPOLITAN EDISON COMPANY  
THREE MILE ISLAND NUCLEAR STATION UNIT 1  
ELECTRICAL  
FIRE HAZARD ANALYSIS  
CONDUIT-TO-CONDUIT SEPARATION REVIEW  
(CB) AREA CB-3c (EL. 338'-6")

MADE CHND  
SQ LOR  
ENGINEER  
DRAWING NO.  
04 46921S-FHA-200  
GILBERT ASSOCIATES, INC.  
ENGINEERS AND CONSULTANTS  
READING, PA.

SCALE  
044692-094  
ENGINEER APPROVAL  
REV MADE CH SQL APP DATE REV MADE CH SQL APP DATE

SHEET NO. 44 OF 0

FIRE AREA - ZONE	CND IN ZONE	CHAN	CRK W/IN CND	FUNCTION	USE
T-45-2 (ESB)		X	CG511		AIR COMPR. STR. (AH-P-8A/B)
		B	CH151	CONT.	COOL. FAN (AH-C-15B)
		X	CH451		AIR COMPR. (AH-P-9A/B)
		X	CL481		COOL. FAN. (AH-E-2A)
		X	CM481		COOL. FAN (AH-E-2B)
		B	CBF226	CONT. & IND.	FAN (AH-E-27B)
		X	CBF281	CONT.	SUPPLY FAN (AH-E-58)
		X	CBJ151	CONT. ALARM	EXH. FAN (AH-E-20A)
		X	CBJ152		EXH. FAN (AH-E-20A)
		X	CBJ161		EXH. FAN (AH-E-20B)
		X	CBJ162		EXH. FAN (AH-E-20B)
		X	CBJ651		VENT. FAN (AH-E-90)
		X	CBJ657		AIR HDLG. UNIT (AH-E-26)
		X	CBJ661		VENT. FAN (AH-E-92)
		X	CBJ671		VENT. FAN (AH-E-92)
		X	CBJ673		VENT. FAN (AH-E-92)
		X	CBJ675		VENT. FAN (AH-E-92)
		X	LS41		CONTR. (AH-C-4B)
		X	RH2		FIRESTAT (AH-E-17A & 81A)
		X	RH3		FIRESTAT (AH-E-17B & 18B)
		X	RH4		AIR FLOW SW. (FS-69 & 70)
		X	RH7		FIRESTAT (AH-E-6A/B)
		X	RH1152		FIRESTAT (AH-E-92)
		X	RB55		FIRESTAT (AH-E-92)

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FIRE AREA - ZONE	CND IN ZONE	CHAN	CRK W/IN CND	FUNCTION	USE
CONTROL ROOM AREA CB-3d EL. 338'-6"	CQ163	A	CQ163	CONT.	ISO. VLV. (AHV-1B)
		X	EA310	CONT. PWR.	H&V PNL.-PWR.
		A	RP114	IND.	INJ & LOAD. SEQ. PNL. IND.
		A	CBE472	CONT.	AIR HDLG FAN (AH-E-27A)
	CQ164	A	CQ164	SPARE	SPARE
		X	RV852	INTLK.	SUPPLY VLV. (MSV-13A)
	CBE494	A	CBE494	CONT.	DISCH. VLV. (RRV-1A)
	DL1722	A	DL1722	CONT.	VALVE (WDL-V534)
	EA106	A	EA106	CONT. PWR.	PCR. PNL.-PWR.
	EA111	A	EA111	PWR.	NI & RP PNL.-PWR.
	ED103	A	ED103	PWR.	XCC PNL.-PWR.
	MD65	A	MD65	CONT.	MU PUMP (MU-P-1A)
	RG1	A	RG1	INST. (SIG.)	CH. NI-1 SOURCE RANGE PREAMP
		A	RG2	INST. (H.V.)	CH. NI-1 SOURCE RANGE PREAMP
		A	RG3	INST. (L.V.)	CH. NI-1 SOURCE RANGE PREAMP
		A	RG5	INST. (H.V.)	CH. NI-5 PWR. RANGE DET. ASSY.
		A	RG6	INST. (TOP ION CHAMBER)	CH. NI-5 PWR. RANGE DET. ASSY.
		A	RG7	SPARE	SPARE
		A	RG8	INST. (BOT. ION CHAMBER)	CH. NI-5 PWR. RANGE DET. ASSY.
		A	RG15	INST.	RC FLOW SUBASSY A - LOOP B (1RC14B-dPT1)
		A	RG16	INST.	RC FLOW SUBASSY A - LOOP A (1RC14A-dPT1)
		A	RG17	INST. (RTD)	RC OUTLET RTD (1RC4A-TE2)
		A	RG18	INST.	RC PRESS NARROW RANGE (1RC3A-PT1)
		RG19	A	RG19	INST.
RG201	A	RG201	INST.	PRESS. TRNSM. (RC3A-PT3)	

CONDUIT-TO-CONDUIT SEPARATION REVIEW  
(CB) AREA CB-3d (EL. 338'-6")

FIRE HAZARD ANALYSIS

SCALE

NO. 044692-094  
REV. MADE CH. SQL APP. DATE

ENGINEER APPROVAL  
DESIGN. PA.

ENGINEERS AND CONSULTANTS  
READING, PA.

DRAWING NO. 044692-S-FHA-200  
SH. NO. 46  
REV. 0

5.03.74





FIRE AREA - ZONE	CND IN ZONE	CHAN	CRK W/IN CND	FUNCTION	USE
	RP61	A	RP61	IND.	INJ. & LOAD SEQ.-CH. RC3A
		A	RP62	IND.	INJ. & LOAD SEQ.-CH. RC3A
		A	RP261	IND.	LOW PRESS. INJ. CH. RC6A
		A	RP471	IND.	R.B. ISO. & CLG. CH. RB3A
		A	RP472	IND.	R.B. ISO. & CLG. CH. RB3A
	RU281	A	RU2C1	CONT.	ES VLV. CONT. CTR. AUTO TRANSFER SW.
		A	RU301	CONT.	D.C. DIST. PNL. IM AUTO TRANSFER SW.
	DC21	A	DC21	CONT.	WASTE DISP. VLV. (CA-V2)
		A	DC41	CONT.	WASTE DISP. VLV. (CA-V5B)
		A	DL1721	CONT.	VALVE (WDL-V534)
		A	RV676	CONT. & IND.	ISO. VLV. (CMV-1)
		A	RV677	CONT. & IND.	ISO. VLV. (CMV-1)
		A	RV766	CONT. & IND.	INLET VALVE (NSV-52A)
		A	RV767	CONT. & IND.	OUTLET VALVE (NSV-53A)
	RV103	A	RV103	CONT.	ISO. VLV. (FBV-67)
		A	RV181	CONT.	ISO. VLV. (FBV-50)
		A	RV183	CONT.	ISO. VLV. (FBV-50)
		A	RV184	CONT.	ISO. VLV. (FBV-50)
		A	RV256	CONT.	VENT. HDR. VLV. (PPV-166)
		A	RV264	CONT.	VENT. HDR. VLV. (PPV-169)
		A	RV620	CONT. & IND.	PRESS VLV. (PPV-147)
	*RH2480	A	RH2480	CONT.	DAMPER (AH-D-39)
	*RE380	A	RE380	INST.	BWST MEASUREMENT
	*EA6790	A	EA6790	CONT. PWR.	BWST MEASUREMENT
	RV159	A	RV159	CONT.	NNI CONT. SYS. CAB. 5
	RV602	A	RV602	CONT.	ISO. VALVE (AHV-1C)
	RY1	A	RY1	CONT.	DIESEL GEN. (EG-Y-1A)
	RY7	A	RY7	IND. (INST.)	DIESEL GEN. (EG-Y-1A)

\* INTERIM

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METROPOLITAN EDISON COMPANY  
 THREE MILE ISLAND NUCLEAR STATION UNIT 1  
 ELECTRICAL  
 FIRE HAZARD ANALYSIS

CONDUIT-TO-CONDUIT SEPARATION REVIEW  
 (CB) AREA CB-3d (EL. 338'-6")

SCALE	SQ LDR	ENGINEER	DRAWING NO.	SH. NO.	REV
			044692-S-FHA-200	48	0

GILBERT ASSOCIATES, INC.  
 ENGINEERS AND CONSULTANTS  
 READING, PA.

FIRE AREA - ZONE	CND IN ZONE	CHAN	CRK W/IN CND	FUNCTION	USE
	CH381	B	CH381	CONT.	BOOSTER FAN (AH-E-95B)
	CR472	B	CR472	CONT.	CLG. TWR. VLV. (NRV-4B)
		B	CR473	CONT.	CLG. TWR. VLV. (NRV-4B)
	DL11A	B	DL11A	CONT.	VALVE (WDL-V535)
	EA313	B	EA313	PWR.	NI & RP PNL.-PWR.
	EA318	B	EA318	CONT. PWR.	PCR PNL.-PWR.
	ED303	B	ED303	PWR.	XCL PNL.-PWR.
	ME65	B	ME65	CONT.	M.U. PUMP (MU-P-1C)
	RG46	B	RG46	INST. (SIGNAL)	CH. NI-2 SOURCE RANGE PRE-AMP
		B	RG47	INST. (H.V.)	CH. NI-2 SOURCE RANGE PRE-AMP
		B	RG48	INST. (L.V.)	CH. NI-2 SOURCE RANGE PRE-AMP
		B	RG50	INST. (H.V.)	CH. NI-6 PWR. RANGE DET. ASSY.
		B	RG51	INST. (TOP ION CHAMBER)	CH. NI-6 PWR. RANGE DET. ASSY.
		B	RG52	SPARE	SPARE
		B	RG53	INST. (BOTTOM ION CHAMBER)	CH. NI-6 PWR. RANGE DET. ASSY.
		B	RG59	INST.	RC FLOW SUBASSY A-LOOP B (1RC14B-dPT2)
		B	RG60	INST.	RC FLOW SUBASSY A-LOOP A (1RC14B-dPT2)
		B	RG61	INST. (RTD)	RC OUTLET RTD (1RC4B-TE2)
		B	RG62	INST.	RC PRESS NARROW RANGE (1RC3B-PT1)
	RG63	B	RG63	INST.	PRESS. SW. (PS673)
	RG202	B	RG202	INST.	REAC. PRESS. TRNSM (RC3A-PT3)
	RG246	B	RG246	INST.	RC PUMP PWR. MON. RACK B

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FIRE AREA - ZONE	CND IN ZONE	CHAN	CRK W/IN CND	FUNCTION	USE
	RR4	B	RR4	CONT.	HP INJ. & LOAD SEQ.-CH. RC1B
		B	RR122	IND.	HP INJ. & LOAD SEQ.-CH. RC1B
		B	RR203	CONT.	LOW PRESS. INJ. CH. RC4A
		B	RR272	IND.	LOW PRESS. INJ. CH. RC4B
		B	RR403	CONT.	R.B. ISO. & CLG. CH. RB1B
		B	RR582	IND.	R.B. ISO. & CLG. CH. RB1B
	RR24	B	RR24	CONT.	HP INJ. & LOAD SEQ.-CH. RC3B
		B	RR142	IND.	HP INJ. & LOAD SEQ.-CH. RC3B
		B	RR223	CONT.	LOW PRESS. INJ.-CH. RC6B
		B	RR292	IND.	LOW PRESS. INJ.-CH. RC6B
		B	RR423	CONT.	R.B. ISO. & CLG. CH. RB3B
		B	RR602	IND.	R.B. ISO. & CLG. CH. RB3B
	RR14	B	RR14	CONT.	HP INJ. & LOAD SEQ.-CH. RC2B
		B	RR132	IND.	HP INJ. & LOAD SEQ.-CH. RC2B
		B	RR213	CONT.	LOW PRESS INJ.-CH. RC5B
		B	RR282	IND.	LOW PRESS INJ.-CH. RC5B
		B	RR413	CONT.	R.B. ISO. & CLG.-CH. RB2B
			RR592		
	RR37	B	RR37	CONT.	HP INJ. & LOAD SEQ.-TEST
		B	RR76	IND.	HP INJ. & LOAD SEQ.-TEST
		B	RV215	CONT.	VENT. HDR. VLV. (FBV-117)
		B	RR235	IND.	DISCH. VLV. (DRV-1B)
		B	RR482	IND.	R.B. ISO. & CLG. PNL. IND.
		B	RR511	IND.	R.B. ISO. & CLG. PNL. IND.
		B	RR553	IND.	R.B. ISO. & CLG. PNL. IND.
		B	RR554	IND.	R.B. ISO. & CLG. PNL. IND.
		B	RV730	CONT.	RECIRC. VLV. (RRV-10B)
	RR41	B	RR41	IND.	HP INJ. & LOAD SEQ. CH. RC1B
		B	RR42	IND.	HP INJ. & LOAD SEQ. CH. RC1B
		B	RR241	IND.	LOW PRESS INJ. CH. RC4B
		B	RR451	IND.	R.B. ISO. & CLG. PNL. RB1B
		B	RR452	IND.	R.B. ISO. & CLG. PNL. RB1B
	RR43	B	RR43	IND.	HP INJ. & LOAD SEQ RC1B

METROPOLITAN EDISON COMPANY

THREE MILE ISLAND NUCLEAR STATION UNIT 1

ELECTRICAL

FIRE HAZARD ANALYSIS

CONDUIT-TO-CONDUIT SEPARATION REVIEW

(CB) AREA CB-3d (EL. 338'-6")

MADE CHKD

04 4692 S-FHA-200

DRAWING NO.

54. NO.

REV

SCALE

04 4692-094

REV MADE CH SOL APPR DATE

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READING, PA.

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FIRE AREA - ZONE	CND IN ZONE	CHAN	CRK W/IN CND	FUNCTION	USE
* INTERIM	RR51	B	RR51	IND.	HP INJ. & LOAD SEQ.-CH. RC2B
		B	RR52	IND.	HP INJ. & LOAD SEQ.-CH. RC2B
		B	RR251	IND.	LOW PRESS. INJ.-CH. RC5B
		B	RR461	IND.	R.B. ISO. & CLG.-CH. RC2B
		B	RR462	IND.	R.B. ISO. & CLG.-CH. RC2B
	RR61	B	RR61	IND.	HP INJ. & LOAD SEQ. CH. RC3B
		B	RR62	IND.	HP INJ. & LOAD SEQ. CH. RC3B
		B	RR261	IND.	LOW PRESS INJ.-CH RC6B
		B	RR471	IND.	R.B. ISO. & CLG.-CH. RB3B
		B	RR472	IND.	R.B. ISO. & CLG.-CH. RB3B
	RV79	B	RV79	SPARE	SPARE
	RV366	B	RV366	CONT.	MISC. VALVES
	RZ7	B	RZ7	IND. (INST.)	EMLR. DIESEL GEN. (EG-Y-1B)
	*CH1106	B	CH1106	CONT. & IND.	ISO. VALVE (RB-V7)
	*EA6791	B	EA6791	CONT. PWR.	BWST MEASUREMENT
	*RE 72	B	RE382	INST.	BWST MEASUREMNT
	*RV717	B	RV717	INTLK.	ISO. VALVE (RB-V7)
	CS169	C	CS169	CONT.	N.S. EMERG. DUMP VLV. (NSV-32)
	EA506	C	EA506	CONT. PWR.	PRESS. TRNSM (PT288)
		C	EA507	CONT. PWR.	LEAK DET. CAB. 3
	EA508	C	EA508	PWR.	NI & RP PNL.-PWR.
	EA515	C	EA515	CONT. PWR.	BISTABLE CAB. 3
	ED1703	C	ED1703	PWR.	XCR PNL.-PWR.

METROPOLITAN EDISON COMPANY  
 THREE MILE ISLAND NUCLEAR STATION UNIT 1  
 ELECTRICAL  
 FIRE HAZARD ANALYSIS  
 CONDUIT-TO-CONDUIT SEPARATION REVIEW  
 (CB) AREA CB-3d (EL. 338'-6")

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 GILBERT ASSOCIATES, INC.  
 ENGINEERS AND CONSULTANTS  
 READING, PA.

SCALE  
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 ENGINEER APPROVAL  
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METROPOLITAN EDISON COMPANY THREE MILE ISLAND NUCLEAR STATION UNIT 1 ELECTRICAL FIRE HAZARD ANALYSIS					
CONDUIT-TO-CONDUIT SEPARATION REVIEW (CB) AREA CB-3d (EL. 338'-6")					
SCALE					
DRAWING NO. 04-4692 S-FHA-200 52 0 GILBERT ASSOCIATES, INC. ENGINEERS AND CONSULTANTS READING, PA.					
REV. NO. 044692-094 ENGINEER APPROVAL DATE					
REV. MADE CH. SQL APP. DATE REV. MADE CH. SQL APP. DATE					
FIRE AREA - ZONE	CND IN ZONE	CHAN	CRK W/IN CND	FUNCTION	USE
	CS168	C	CS168	CONT.	DUMP VLV. (NSV-32)
		X	RU437	CONT.	PRESS SW. (PS648B)
		C	RV338	CONT.	ISO. VLV. (MUV-20)
	LP31	C	LP31	CONT. & IND.	NS PUMP (NS-P-1B)
	LS31	C	LS31	CONT. & IND.	NS PUMP (NS-P-1B)
	MD71	C	MD71	CONT. & IND.	NS PUMP (MU-P-1B)
	MD73	C	MD73	SPARE	SPARE
	MD73A	C	MD73A	CONT.	NS PUMP (MU-P-1B)
	ME71	C	ME71	CONT. & IND.	NS PUMP (MU-P-1B)
		X	CS134	SPARE	SPARE
	ME73	C	ME73	SPARE	M.U. PUMP (MU-P-1B)
	ME73A	C	ME73A	CONT.	M.U. PUMP (MU-P-1B)
	RG91	C	RG91	INST. (COM-PEN. VOLT)	CH. NI-3 ION CHAMBER ASSY.
C		RG92	INST. (H.V.)	CH. NI-3 ION CHAMBER ASSY.	
C		RG93	INST. (SIG.)	CH. NI-3 ION CHAMBER ASSY.	
C		RG94	INST. (H.V.)	CH. NI-7 PWR. RANGE DET. ASSY.	
C		RG95	INST. (TOP ION CHAMBER)	CH. NI-7 PWR. RANGE DET. ASSY.	
C		RG96	SPARE	SPARE	
C		RG97	INST. (BOTTOM ION CHAMBER)	CH. NI-7 PWR. RANGE DET. ASSY.	
C		RG103	INST.	RC FLOW SUBASSY A - LOOP B (1RC14B-dPT3)	
C		RG104	INST.	RC FLOW SUBASSY A - LOOP A (1RC14B-dPT3)	
C		RG105	INST. (RTD)	RC OUTLET RTD (1RC3A-TE3)	
RG107	C	RG106	INST.	RC PRESS NARROW RANGE (1RC3A-PT2)	
	C	RG107	INST.	PRESS. SW. (PS674)	

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CONSTRUCTION	
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FIRE AREA - ZONE				CND IN ZONE		CHAN	CRK W/IN CND	FUNCTION	USE
RS4				RV346		C	RS4	IND.	ISO. VLV. (RBV-2)
RV346				RV352		C	RV346	CONT.	ISO. VLV. (CF-V19A)
RV352				RV718		C	RV347	CONT.	ISO. VLV. (CF-V19A)
RV718				EA703		C	RV352	CONT.	ISO. VLV. (CF-V19A)
EA703				EA707		C	RV353	CONT.	ISO. VLV. (CF-V19A)
EA707				RG131		C	RV718	CONT.	ISO. VALVE (RBV-7)
RG131				RG132		C	RV716	CONT.	ISO. VALVE (RBV-7)
RG132				RG133		D	EA703	CONT. PWR.	SPARE PWR.
RG133				RG134		D	EA707	PWR.	NI & RP PNL.-PWR.
RG134				RG135		D	RG131	INST. (COM-PEN. VOLT.)	CH. NI-4 ION CHAMBER ASSY.
RG135				RG136		D	RG132	INST. (H.V.)	CH. NI-4 ION CHAMBER ASSY.
RG136				RG137		D	RG133	INST. (H.V.)	CH. NI-4 ION CHAMBER ASSY.
RG137				RG143		D	RG134	INST. (H.V.)	CH. NI-8 PWR. RANGE DET. ASSY.
RG143				RG144		D	RG135	INST. (TOP ION CHAMBER)	CH. NI-8 PWR. RANGE DET. ASSY.
RG144				RG145		D	RG136	SPARE	SPARE
RG145				RG146		D	RG137	INST. (BOTTOM ION CHAMBER)	CH. NI-8 PWR. RANGE DET. ASSY.
RG146				RG147		D	RG143	INST.	RC FLOW SUBASSY A - LOOP B (IRC14B-dPT4)
RG147				ED315		D	RG144	INST.	RC FLOW SUBASSY A - LOOP A (IRC14B-dPT4)
ED315						D	RG145	INST. (RTD)	RC OUTLET RTD (IRC4B-TE3)
						D	RG146	INST.	RC PRESS NARROW RANGE (IRC3B-PT2)
						D	RG147	INST.	PRESS. SW. (PS675)
						A/B	ED315	PWR.	XCC PNL. & XCL PNL.-PWR.

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FIRE AREA - ZONE		CND IN ZONE	CHAN	CRK W/IN CND	FUNCTION	USE
	RG170	A/B	RG170	INST.	NI & RP SUBASSY A CAB. 2	
		A/B	RG171	INST.	NI & RP SUBASSY A CAB. 2	
		A/B	RG172	INST.	NI & RP SUBASSY A CAB. 2	
		A/B	RG173	INST.	NI & RP SUBASSY A CAB. 2	
	RG242	A/B	RC242	INST.	NI & RP SUBASSY A CAB. 1	
	RG245	A/B	RG245	INST.	NI & RP SUBASSY A CAB. 1	
	RV583	A/B	RV583	CONT.	ISO. VLV. (AHV-1B)	
	RV603	A/B	RV603	CONT.	ISO. VLV. (AHV-1B)	
	CQ166	A/C	CQ166	CONT.	ISO. VLV. (AHV-1B)	
	CS154	A/C	CS154	CONT.	SUPPLY VLV. (NSV-15)	
		A/C	DC133	CONT.	WASTE DISP. VLV. (CA-V189)	
	CS156	A/C	CS156	CONT.	SUPPLY VLV. (NSV-15)	
	CS164	A/C	CS164	CONT.	DUMP VLV. (NSV-32)	
	CS363	A/C	CS363	CONT.	ISO. VLV. (RB-V-2)	
	CS513	A/C	CS513	CONT.	INLET VLV. (RRV-3C)	
	DL1730	A/C	DL1730	CONT.	VALVE (WDL-V534)	
	RG166	A/C	RG166	INST.	NI & RP PNL. SUBASSY A CAB. 2	
		A/C	RG167	INST.	NI & RP PNL. SUBASSY A CAB. 2	
	A/C	RG182	INST.	NI & RP PNL. SUBASSY A CAB. 2		
RG243	A/C	RG243	INST.	NI & RP PNL. SUBASSY A CAB. 1		
RP722	A/C	RP722	IND.	ISO. VLV. (FWV93B)		

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GILBERT ASSOCIATES, INC.

ENGINEERS AND CONSULTANTS

READING, PA.

SCALE

W.O. 044892-094

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DATE

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CONDUIT-TO-CONDUIT SEPARATION REVIEW

(CB) AREA CB-3d (EL. 338'-6")

METROPOLITAN EDISON COMPANY

THREE MILE ISLAND NUCLEAR STATION UNIT 1

ELECTRICAL

FIRE HAZARD ANALYSIS

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FIRE AREA - ZONE	CND IN ZONE	CHAN	CRK W/IN CND	FUNCTION	USE
	RU282	A/C	RU282	IND.	CONT. CTR. AUTO TRANSFER SW.
		A/C	RU283	CONT.	CONT. CTR. AUTO TRANSFER SW.
		A/C	RU284	CONT.	CONT. CTR. AUTO TRANSFER SW.
	RU302	A/C	RU302	IND.	DIST. PNL. 1M AUTO TRANSFER SW.
		A/C	RU303	CONT.	DIST. PNL. 1M AUTO TRANSFER SW.
		A/C	RU304	CONT.	DIST. PNL. 1M AUTO TRANSFER SW.
	RU305	A/C	RU305	CONT. & IND.	DIST. PNL. 1M AUTO TRANSFER SW.
	RV11	A/C	RV11	INTLK.	ISO. VLV. (FBV-55)
		A/C	RV53	INTLK.	ISO. VLV. (FBV-59)
		A/C	RV327	CONT.	M.U. VLV. (MUV-18)
		A/C	RV335	SPARE	SPARE
		A/C	RV612	INTLK.	PRESS. VLV. (PPV-146)
		A/C	RV632	INTLK.	PRESS. VALVE (PPV-151)
		A/C	RV640	INTLK.	PRESS. VALVE (PPV-151)
	RG168	A/D	RG168	INST.	NI & RP PNL. SUBASSY A CAB. 2
		A/D	RG169	INST.	NI & RP PNL. SUBASSY A CAB. 2
	RG244	A/D	RG244	INST.	NI & RP PNL. SUBASSY A CAB. 2
	CR166	B/C	CR166	CONT.	ISO. VLV. (AH-V-1C)
	CS155	B/C	CS155	CONT.	SUP. VLV. (NSV-15)
		B/C	DC138	CONT.	WASTE DISP. VLV. (CA-V189)
	CS165	B/C	CS165	CONT.	DUMP VLV. (NSV-32)
	CS364	B/C	CS364	CONT.	ISO. VLV. (RB-V-2)
	CS154	B/C	CS514	CONT.	INLET VLV. (RRV-3C)
	DL20	B/C	DL20	CONT.	VALVE (WDL-V535)
	RG175	B/C	RG175	INST.	NI & RP PNL. SUBASSY B CAB. 2
		B/C	RG176	INST.	NI & RP PNL. SUBASSY B CAB. 2
		B/C	RG177	INST.	NI & RP PNL. SUBASSY B CAB. 2
		B/C	RG181	INST.	NI & RP PNL. SUBASSY B CAB. 2

THREE MILE ISLAND NUCLEAR STATION UNIT 1

ELECTRICAL

FIRE HAZARD ANALYSIS

CONDUIT-TO-CONDUIT SEPARATION REVIEW

(CB) AREA CB-3d (EL. 338'-6")

W.O. 044692-094

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GILBERT ASSOCIATES, INC.

ENGINEERS AND CONSULTANTS

READING, PA.

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		CONSTRUCTION			
		BIDDING PURPOSES			
DATE	RELEASED FOR			ENGR.	
FIRE AREA - ZONE	CND IN ZONE	CHAN	CRK W/IN CND	FUNCTION	USE
	RG247	B/C	RG247	INST.	NI & RP PNL. SUBASSY C CAB. 1
	RU287	B/C	RU287	CONT.	1C E.S. VLV. CONT. CTR. AUTC
		B/C	RU307	CONT.	TRANSFER SW.
	RU288	B/C	RU288	CONT.	DIST. PNL. 1M AUTO TRANSFER SW.
		B/C	RU289	CONT.	CONT. CTR. AUTO TRANSFER SW.
	RU308	B/C	RU308	CONT.	CONT. CTR. AUTO TRANSFER SW.
		B/C	RU309	CONT.	DIST. PNL. 1M AUTO TRANSFER SW.
	RV12	B/C	RV12	INTLK.	DIST. PNL. 1M AUTO TRANSFER SW.
		B/C	RV54	INTLK.	ISO. VLV. (FBV-55)
		B/C	RV328	SPARE	ISO. VLV. (FBV-59)
		B/C	RV336	SPARE	SPARE
		B/C	RV348	INTLK.	SPARE
		B/C	RV349	INTLK.	ISO. VLV. (CF-V19A)
		B/C	RV613	INTLK.	ISO. VLV. (CF-V19A)
		B/C	RV633	INTLK.	PRESS. VLV. (PP-V146)
		B/C	RV641	INTLK.	PRESS VALVE (PP-V151)
					PRESS VALVE (PP-V152)
	RV717		RV717	(PREVIOUSLY ES	B/C, SEE INTERIM, ES B)
	RV342	B/C	RV342	CONT.	M.U. VLV. (MUV-18)
	RG174	B/D	RG174	INST.	NI & RP PNL. SUBASSY A CAB. 2
	RG248	B/D	RG248	INST.	NI & RP PNL. SUBASSY A CAB. 1
	RG178	C/D	RG178	INST.	NI & RP PNL. SUBASSY C CAB. 2
		C/D	RG179	INST.	NI & RP PNL. SUBASSY C CAB. 2
		C/D	RG180	INST.	NI & RP PNL. SUBASSY C CAB. 2

METROPOLITAN EDISON COMPANY  
 THREE MILE ISLAND NUCLEAR STATION UNIT 1  
 ELECTRICAL  
 FIRE HAZARD ANALYSIS  
 CONDUIT-TO-CONDUIT SEPARATION REVIEW  
 (CB) AREA CB-3d (ET. 338'-6")

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 GILBERT ASSOCIATES, INC.  
 ENGINEERS AND CONSULTANTS  
 READING, PA.

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FIRE AREA - ZONE	CND IN ZONE	CHAN	CRK W/IN CND	FUNCTION	USE
	D-45-4 (ESA)	A	DC21	CONT.	WASTE DISP. VLV. (CA-V2)
		X	DL172	CONT.	VALVE (WDV-V15)
		A	RV103	CONT.	ISO. VLV. (FBV-67)
		A	RV181	CONT.	ISO. VLV. (FBV-50)
		A	RV183	CONT.	ISO. VLV. (FBV-50)
		A	RV184	CONT.	ISO. VLV. (FBV-50)
		A	RV256	CONT.	VENT. HDR. VLV. (PPV-166)
		A	RV264	CONT.	VENT. HDR. VLV. (PPV-169)
		A	RV620	CONT. & IND.	PRESS. VLV. (PPV-147)
		A	RV676	CONT. & IND.	ISO. VALVE (CMV-1)
		A	RV677	CONT. & IND.	ISO. VALVE (CMV-1)
		A	RV766	CONT. & IND.	INLET VLV. (NSV-52A)
		A	RV767	CONT. & IND.	OUTLET VLV. (NSV-53A)
	D-45-2 (ESB)	B	CR232	CONT.	ISO. VLV. (MUV-37)
		B	CR233	CONT.	ISO. VLV. (MUV-37)
		X	CR373	CONT.	SAMPLE VLV. (CAB-13)
		B	CR434	CONT.	SAMPLE VLV. (CAV-3)
		X	CR483	CONT.	ISO. VLV. (CAV-1)
		B	CR484	CONT.	ISO. VLV. (CAV-1)
		B	DC31	CONT.	WASTE DISP. VLV. (CA-V5A)
		B	DC33	CONT.	WASTE DISP. VLV. (CA-V5A)
		B	DC34	CONT.	WASTE DISP. VLV. (CA-V5A)
		B	DL1	CONT.	VALVE (WDL-V304)
		B	DL3	CONT.	VALVE (WDL-V304)
		B	DL4	CONT.	VALVE (WDL-V304)
		B	DL11	CONT.	VALVE (WDL-V535)
		B	DL13	CONT.	VALVE (WDL-V535)
		B	DL14	CONT.	VALVE (WDL-V535)
		X	DL1723	CONT.	VALVE (WDL-V535)
		B	RR33	CONT.	HP INJ. & LOAD SEQ.-TEST
		B	RR92	IND.	BWST OUTLET VLV. (MU-V14B)
		B	RR101	IND.	HP INJ. LOAD SEQ.-TEST
		B	RR102	IND.	HP INJ. LOAD SEQ.-TEST
		B	RR103	IND.	HP INJ. LOAD SEQ.-TEST
		B	RR105	IND.	HP INJ. LOAD SEQ.-TEST
		B	RR107	IND.	HP INJ. LOAD SEQ.-TEST
		B	RR109	IND.	HP INJ. LOAD SEQ.-TEST
		B	RR111	IND.	OUTLET VLV. (NSV-53B)

METROPOLITAN EDISON COMPANY

THREE MILE ISLAND NUCLEAR STATION UNIT 1

ELECTRICAL

FIRE HAZARD ANALYSIS

CONDUIT-TO-CONDUIT SEPARATION REVIEW

(CB) AREA CB-3d (EL. 338'-6")

MADE CHKD

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DEPT DATE

GILBERT ASSOCIATES, INC.

ENGINEERS AND CONSULTANTS

READING, PA.

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GILBERT ASSOCIATES, INC.

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FIRE AREA - ZONE		CND IN ZONE	CHAN	CRK W/IN CND	FUNCTION	USE
		D-45-3 (ESB)	X	CF164	INTLK.	DRAIN PUMP (WDL-P-8)
			X	CQ523	CONT.	OUTLET VLV. (WDLV-303)
			B	CR332	CONT.	OUTLET VLV. (MUV-2A)
			B	CR333	CONT.	OUTLET VLV. (MUV-2A)
			B	CR334	CONT.	OUTLET VLV. (MUV-2A)
			B	CR362	CONT.	ISO. VLV. (ICV-2)
			B	CR363	CONT.	ISO. VLV. (ICV-2)
			B	CR365	CONT.	ISO. VLV. (ICV-2)
			B	CR372	CONT.	SAMPLE VLV. (CAV-13)
			X	CR373	CONT.	SAMPLE VLV. (CAV-13)
			B	CR374	CONT.	SAMPLE VLV. (CAV-13)
			B	CR382	CONT.	OUTLET VLV. (MUV-2B)
			B	CR383	CONT.	OUTLET VLV. (MUV-2B)
			B	CR384	CONT.	OUTLET VLV. (MUV-2B)
			B	CR422	CONT.	SAMPLE VLV. (CAV-4B)
			X	CR423	CONT.	SAMPLE VLV. (CAV-4B)
			B	CR424	CONT.	SAMPLE VLV. (CAV-4B)
			B	CR432	CONT.	SAMPLE VLV. (CAV-3)
			X	CR433	CONT.	SAMPLE VLV. (CAV-3)
			B	CR482	CONT.	SAMPLE ISO. VLV. (CAV-1)
			B	CR522	CONT.	OUTLET VLV. (NSV-35)
			X	DC32	CONT.	WASTE DISP. VLV. (CA-V5A)
			X	DC132	CONT.	WASTE DISP. VLV. (CA-V189)
			X	DG81	CONT.	WASTE DISP. VLV. (WDG-V4)
			B	DG82	CONT.	WASTE DISP. VLV. (WDG-V4)
			B	DG83	CONT.	WASTE DISP. VLV. (WDG-V4)
			B	RR32	CONT.	HP INJ. & LOAD SEQ.-TEST
			B	RP34	CONT.	HP INJ. & LOAD SEQ.-TEST
			B	RR35	CONT.	HP INJ. & LOAD SEQ.-TEST
			B	RR36	CONT.	HP INJ. & LOAD SEQ.-TEST
			B	RR37	CONT.	HP INJ. & LOAD SEQ.-TEST
			B	RR71	IND.	HP INJ. & LOAD SEQ.-PNL. IND.
B	RR72	IND.	HP INJ. & LOAD SEQ.-PNL. IND.			
B	RR73	IND.	HP INJ. & LOAD SEQ.-PNL. IND.			
B	RR74	IND.	HP INJ. & LOAD SEQ.-PNL. IND.			
B	RR75	IND.	HP INJ. & LOAD SEQ.-PNL. IND.			
B	RR76	IND.	HP INJ. & LOAD SEQ.-PNL. IND.			
B	RR79	IND.	HP INJ. & LOAD SEQ.-PNL. IND.			
B	RR81	IND.	HP INJ. & LOAD SEQ.-PNL. IND.			

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METROPOLITAN EDISON COMPANY		MADE CHKD	DRAWING NO.		SH. NO.	REV
THREE MILE ISLAND NUCLEAR STATION UNIT 1			044692-S-FHA-200		59	0
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FIRE HAZARD ANALYSIS		SCALE	ENGINEER		ENGINEERS AND CONSULTANTS	
CONDUIT-TO-CONDUIT SEPARATION REVIEW		NO 044692-0941	ENGINEER APPROVAL		DEPT DATE	
(CB) AREA CB-3d (EL. 338'-6")		REV MADE CHISOL APPROV DATE	REV MADE CHISOL APPROV DATE		REV MADE CHISOL APPROV DATE	

FIRE AREA - ZONE		CND IN ZONE	CHAN	CRK W/IN CND	FUNCTION	USE
			B	RR82	IND.	HP INJ. & LOAD SEQ.-PNL. IND.
			B	RR83	IND.	HP INJ. & LOAD SEQ.-PNL. IND.
			B	RR84	IND.	HP INJ. & LOAD SEQ.-PNL. IND.
			B	RR85	IND.	HP INJ. & LOAD SEQ.-PNL. IND.
			B	RR91	IND.	HP INJ. & LOAD SEQ.-PNL. IND.
			B	RR93A	IND.	HP INJ. & LOAD SEQ.-PNL. IND.
			B	RR112	IND.	HP INJ. & LOAD SEQ.-PNL. IND.
			B	RR113	IND.	HP INJ. & LOAD SEQ.-PNL. IND.
			B	RR114	IND.	HP INJ. & LOAD SEQ.-PNL. IND.
			B	RR231	IND.	HP INJ. & LOAD SEQ.-PNL. IND.
			B	RR232	IND.	HP INJ. & LOAD SEQ.-PNL. IND.
			B	RR233	IND.	HP INJ. & LOAD SEQ.-PNL. IND.
			B	RR234	IND.	HP INJ. & LOAD SEQ.-PNL. IND.
			B	RR235	IND.	HP INJ. & LOAD SEQ.-PNL. IND.
			B	RR482	IND.	DISCH. VLV. (RRV-1B)
			B	RR483	IND.	INLET VLV. (RRV-3B)
			B	RR484	IND.	OUTLET VLV. (RRV-4B)
			B	RR485	IND.	OUTLET VLV. (RRV-4D)
			B	RR501	IND.	ISO. VLV. (CM-V2)
			B	RR502	IND.	ISO. VLV. (CM-V4)
			B	RR511	IND.	RECIRC. VLV. (RRV-10B)
			X	RR515	IND.	ISO. & CLG.-PNL. IND.
			B	RR543	IND.	OUTLET VLV. (MU-V2B)
			B	RR551	IND.	DISCH. VLV. (BSV-1B)
			B	RR552	IND.	OUTLET VLV. (BSV-2B)
			B	RR553	IND.	OUTLET VLV. (BSV-4B)
			B	RR554	IND.	VLV. (BSV-3B)
			X	RV33	CONT.	ISO. VLV. (FBV-58)
			X	RV34	CONT.	ISO. VLV. (FBV-60)
			X	RV72	CONT.	ISO. VLV. (FBV-61)
			X	RV134	CONT.	ISO. VLV. (CAV-5&FBV-73)
			X	RV136	CONT.	ISO. VLV. (FBV-73)
			B	RV213	CONT.	VENT. HDR. VLV. (FBV-117)
			B	RV215	CONT.	VENT. HDR. VLV. (FBV-117)
			X	RV407	CONT.	M.U. VLV. (DCV-19A/B)
			B	RV659	CONT.	PRESS VLV. (PPV-165)
			B	RV697	CONT. & IND.	ISO. VLV. (CMV-2 & 4)
			B	RV730	CONT.	RECIRC. VLV. (RRV-10B)
			B	RV791	CONT. & IND.	MISC. VALVES
			B	RV792	CONT. & IND.	MISC. VALVES

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						CONST' ACTION			
						BIDDING PURPOSES			
DATE		RELEASED FOR				ENGR.			
FIRE AREA - ZONE	CND IN ZONE	CHAN	CRK W/IN CND	FUNCTION	USE				
	D-45-1 (ESC)	C	CS152	CONT.	SUP. VVL. (NSV-15)				
		C	CS153	CONT.	SUP. VVL. (NSV-15)				
		X	CS453	CONT.	ISO. VLV. (MSV-1C)				
		X	CS463	CONT.	ISO. VLV. (MSV-1D)				
		X	CS473	CONT.	ISO. VLV. (MSV-1B)				
		X	CS523	CONT.	ISO. VLV. (MSV-1A)				
		X	DC131	CONT.	WASTE DISP. VLV. (CAV-189)				
		X	DC134	CONT.	WASTE DISP. VLV. (CAV-189)				
		X	MP31	CONT.	RC PUMP (RC-P-1B)				
		X	MP46	CONT.	RC PUMP (RC-P-1D)				
		X	MR31	CONT.	RC PUMP (RC-P-1A)				
		X	MR46	CONT.	RC PUMP (RC-P-1C)				
		C	RS1	IND.	ISO. & CLG.-PNL. IND.				
		C	RS2	IND.	INLET VLV. (RRV-3C)				
		C	RS3	IND.	DAMPER (AH-D-39)				
		X	RS6	IND.	ISO. & CLG.-PNL. IND.				
		C	RS11	IND.	SUPPLY VLV. (NSV-15)				
		C	RS12	IND.	DUMP VLV. (NSV-32)				
		C	RS13	IND.	ISO. VLV. (RBV-7)				
		C	RS14	IND.	INLET VLV. (NSV-52C)				
		C	RS15	IND.	OUTLET VLV. (NSV-53C)				
		C	RS21	IND.	N <sub>2</sub> ADD. VLV. (CFV-19A)				
		C	RS22	IND.	N <sub>2</sub> ADD. VLV. (CFV-19B)				
		C	RS23	IND.	ISO. VLV. (MUV-18)				
		C	RS31	IND.	ISO. VLV. (MUV-20)				
		X	RS61	IND.	OUTLET VLV. (CFV-1B)				
		X	RS62	IND.	OUTLET VLV. (CFV-1A)				
		C	RS63	IND.	PRESS SW (PS573)				
		C	RS64	IND.	PRESS SW (PS574)				
		C	RS65	IND.	PRESS SW (PS575)				
		X	RV1	IND.	ISO. VLV. (FBV-54)				
		X	RV2	INTLK.	ISO. VLV. (FBV-54)				
		X	RV3	CONT.	ISO. VLV. (FBV-54)				
		X	RV5	CONT.	ISO. VLV. (FBV-54)				
C	RV9	CONT.	ISO. VLV. (FBV-55)						
X	RV14	CONT.	ISO. VLV. (FBV-55)						
C	RV15	CONT.	ISO. VLV. (FBV-55)						
X	RV16	CONT.	ISO. VLV. (FBV-55)						

METROPOLITAN EDISON COMPANY  
THREE MILE ISLAND NUCLEAR STATION UNIT 1  
ELECTRICAL  
FIRE HAZARD ANALYSIS  
CONDUIT-TO-CONDUIT SEPARATION REVIEW  
(CB) AREA CB-3d (EL. 338'-6")

MADE CHKD  
04/16/92 S-FHA-200 61 0  
DRAWING NO.  
SH. NO.  
REV.  
GILBERT ASSOCIATES, INC.  
ENGINEERS AND CONSULTANTS  
READING, PA.

SCALE  
N.O. 044692-094  
REV MADE CH SOL APP DATE REV MADE CH SOL APP DATE  
ENGINEER APPROVAL  
GEPT DATE  
REVISIONS

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FIRE AREA - ZONE	CND IN ZONE	CHAN	CRK W/IN CND	FUNCTION	USE
		C	RV51	CONT.	ISO. VLV. (FBV-59)
		X	RV56	CONT.	ISO. VLV. (FBV-59)
		C	RV57	CONT.	ISO. VLV. (FBV-59)
		X	RV58	CONT.	ISO. VLV. (FBV-59)
		X	RV172	CONT.	ISO. VLV. (FBV-75)
		X	RV173	CONT.	ISO. VLV. (FBV-75)
		X	RV222	CONT.	ISO. VLV. (FBV-49)
		X	RV223	CONT.	ISO. VLV. (FBV-49)
		X	RV232	CONT.	ISO. VLV. (PPV-103)
		X	RV233	CONT.	ISO. VLV. (PPV-103)
		X	RV241	CONT.	ISO. VLV. (AHV-1C)
		X	RV242	CONT.	ISO. VLV. (AHV-1C)
		C	RV611	CONT. & IND.	PRESS VLV. (PP-V146)
		C	RV616	CONT.	PRESS VLV. (PP-V146)
		C	RV631	CONT. & IND.	PRESS VLV. (PPV-151)
		C	RV635	CONT.	PRESS VLV. (PPV-151)
		C	RV643	CONT.	PRESS VLV. (PPV-152)
		C	RV816	CONT. & IND.	MISC. VALVES
		C	RV817	CONT. & IND.	MISC. VALVES
		C	RV828	CONT.	INLET VLV. (NSV-52C)
		C	RV829	CONT.	OUTLET VLV. (NSV-53C)
	T-45-2 (ESB)	X	CG511	CONT.	AIR COMPR. STR. (AH-P-8A/B)
		B	CH151	CONT.	COOL. FAN (AH-C-15B)
		B	CH154	CONT.	COOL. FAN (AH-C-15B)
		X	CH431	CONT.	CHILLED WTR. PP. (AH-P-3B)
		X	CL481	CONT.	COOL. FAN A (AH-E-2A)
		X	CBJ151	CONT.	EXH FAN (AH-E-20A)
		X	CBJ152	CONT.	EXH FAN (AH-E-20A)
		X	CBJ161	CONT.	EXH FAN (AH-E-20B)
		X	CBJ162	CONT.	EXH FAN (AH-E-20B)
		X	CBJ651	CONT.	VENT. FAN (AH-E-90)
		X	CBJ661	CONT.	VENT. FAN (AH-E-91)
		X	CBJ671	CONT.	VENT. FAN (AH-E-92)
		X	CBJ673	CONT.	VENT. FAN (AH-E-92)
		X	CBJ675	CONT.	VENT. FAN (AH-E-92)
		X	CBJ557	CONT.	AIR HDLG. UNIT (AH-E-26)
		B	CBF226	CONT. & IND.	AIR HDLG. FAN (AH-E-27B)
		X	CBF281	CONT.	SUPPLY FAN (AH-E-58)

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FIRE AREA - ZONE	CND IN ZONE	CHAN	CRK W/IN CND	FUNCTION	USE
		X	CM481	CONT.	COOL. FAN (AH-E-2B)
		X	LS41	CONT.	CONTR. (AH-C-4B)
		X	RB55	ALARM	1E E.S. SWGR 1E14 - ALARM
		X	RH2	CONT.	FIRESTAT (AH-E-17A & 18A)
		X	RH3	CONT.	FIRESTAT (AH-E-17B & 18B)
		X	RH4	CONT.	AIR FLOW SW. (FS-69 & 70)
		X	RH7	CONT.	FIRESTAT (AH-E-6A/B)
		X	RH1152	ALARM	FIRESTAT (AH-E-92)
		A	CG303	CONT.	VENT. FAN (AH-E-1A)
		X	CG1031	CONT.	VENT. FAN (AH-E-1A)
		X	CG1036	CONT. PWR.	XCC PNL.-PWR.
		X	CN604	CONT.	INLET VLV. (MU-VIA)
		X	CQ592	CONT.	GEAR LUBE PUMP (MU-P-4A)
		X	CS1009	CONT. PWR.	XCC PNL.-PWR.
		X	DL1729	SPARE	SPARE
		X	ED523	CONT.	RELIEF VLV. (RC-RV2)
		X	MP26	CONT. & IND.	RC PUMP (RC-P-1B)
		X	RM535	CONT.	R.B. RAD. MON. (MH-A2)
		X	RM536	CONT.	MH-A2 RAD. MON. (MH-A2)
		X	RU21	INTLK.	INLET VLV. (NRV-8A)
		X	RU22	INTLK.	OUTLET VLV. (NRV-16A)
		X	RU23	INTLK.	INLET VLV. (NRV-8B)
		X	RU31	CONT.	RC-P-1A UNDER FREQ. RELAY PNL.
		X	RU32	CONT.	RC-P-1B UNDER FREQ. RELAY PNL.
		X	RU195	CONT.	RC PUMP OIL LIFT SYS. PRESS ALARM
		X	RU434	CONT.	ES ACT. CAB. B
		A	RV104	CONT.	ISO. VLV. (FBV-67)
		A	RV107	CONT.	ISO. VLV. (FBV-67)
		A	RV157	CONT.	ISO. VLV. (FBV-46)
		A	RV159	CONT.	ISO. VLV. (FBV-46)
		A	RV160	CONT.	ISO. VLV. (FBV-46)
		A	RV185	CONT.	ISO. VLV. (IC-V3)
		A	RV186	CONT.	ISO. VLV. (FBV-50)
		A	RV187	CONT.	VENT. HDR. VLV. (FBV-112)
		A	RV188	CONT.	ISO. VLV. (IC-V3)
		A	RV191	CONT.	VENT. HDR. VLV. (FB-118)
		A	RV257	INTLK.	VENT. HDR. VLV. (PPV-166)
		A	RV258	CONT.	VENT. HDR. VLV. (PPV-166)

METROPOLITAN EDISON COMPANY  
THREE MILE ISLAND NUCLEAR STATION UNIT 1  
ELECTRICAL  
FIRE HAZARD ANALYSIS  
CONDUIT-TO-CONDUIT SEPARATION REVIEW  
(CB) AREA CB-3d (EL. 338'-6")

SCALE  
044692-094  
ENGINEER APPROVAL  
DATE

044692-S-FHA-200  
63  
0  
GILBERT ASSOCIATES, INC.  
ENGINEERS AND CONSULTANTS  
READING, PA.

CONS JCTION							
BIDDING PURPOSES							
DATE		RELEASED FOR				ENGR.	
FIRE AREA - ZONE	CND IN ZONE	CHAN	CRK W/IN CND	FUNCTION	USE		
* INTERIM	T-187-13 (ESC)	A	RV265	INTLK.	VENT. HDR. VLV. (PPV-169)		
		A	RV266	CONT.	VENT. HDR. VLV. (PPV-169)		
		X	RV277	CONT.	BLK. VLV. (MUV-4)		
		A	RV591	CONT. & IND.	SUPP. VLV. (AHV-1D)		
		A	RV592	CONT.	SUPP. VLV. (AHV-1D)		
		A	RV621	INTLK.	PRESS. VLV. (PPV-147)		
		A	RV622	CONT.	PRESS. VLV. (PPV-147)		
		A	RV678	INTLK.	ISO. VLV. (CMV-1)		
		A	RV679	INTLK.	ISO. VLV. (CMV-1)		
		A	RV680	CONT.	ISO. VLV. (CMV-1)		
		A	RV681	CONT.	ISO. VLV. (CMV-1)		
		A	RV723	INTLK.	RECIRC. VLV. (RRV-1A)		
		A	RV725	CONT.	RECIRC. VLV. (RRV-1A)		
		A	RV776	CONT.	INLET VLV. (NSV-52A)		
		A	RV777	CONT.	INLET VLV. (NSV-52A)		
		X	RV845	INTLK.	SUPP. VLV. (MSV-13A)		
		X	RV981	CONT.	RUPT. DET/FDWTR TERM. STM GEN 1A		
		X	RV986	CONT.	RUPT. DET/FDWTR TERM. STM GEN 1A		
		X	RV1001	CONT.	RUPT. DET/FDWTR TERM. STM GEN 1B		
		A	*RV1221	CONT.	ISO. VLV. (FW-V93B)		
		A	*RV1222	CONT.	ISO. VLV. (FW-V93B)		
		A	*RV1224	CONT.	ISO. VLV. (FW-V93B)		
		X	CG763	CONT.	OIL LIFT PP. (RC-P-2A-1)		
		X	CS131	CONT.	GEAR LUBE PP (MU-P-4B)		
		X	CU218	CONT.	AIR HDLG UNIT (AH-E-11)		
		B	DC31	CONT.	WASTE DISP. VLV. (CA-V5A)		
		X	RB156	ALARM	HIGH & LOW V. SWGR.-ALARMS		
		X	RH189	CONT.	INTLK. TUNNEL N&S VAULT		
		X	RU437	CONT.	PRESS. SW. (PS-648B)		
		C	RV9	CONT.	ISO. VLV. (FBV-55)		
		C	RV13	CONT.	ISO. VLV. (FBV-55)		
		C	RV51	CONT.	ISO. VLV. (FBV-59)		
		C	RV55	CONT.	ISO. VLV. (FBV-59)		
		C	RV326	CONT.	M.U. VLV. (MUV-18)		
		C	RV329	CONT.	M.U. VLV. (MUV-18)		
		C	RV333	CONT.	M.U. VLV. (MUV-18)		
		C	RV334	SPARE	SPARE		

METROPOLITAN EDISON COMPANY			
THREE MILE ISLAND NUCLEAR STATION UNIT 1			
ELECTRICAL			
FIRE HAZARD ANALYSIS			
CONDUIT-TO-CONDUIT SEPARATION REVIEW			
(CR) AREA CR-3d (ET. 338'-6")			
SCALE	044692-094	ENGINEER APPROVAL	DATE
REV MADE CH	SQL APP DATE	REV MADE CH	SQL APP DATE
DRAWING NO.	044692-S-FHA-200	SH. NO.	64
REV	0	ENGINEERS AND CONSULTANTS	GILBERT ASSOCIATES, INC.
READING, PA.			

9/3/82

FIRE AREA - ZONE		CND IN ZONE	CHAN	CRK W/IN CND	FUNCTION	USE
			C	RV337	CONT.	ISO. VLV. (MUV-20)
			C	RV346	CONT.	ISO. VLV. (CFV-19A)
			C	RV347	CONT.	ISO. VLV. (CFV-19A)
			C	RV350	CONT.	ISO. VLV. (CFV-19A)
			C	RV351	CONT.	ISO. VLV. (CFV-19A)
			C	RV611	CONT. & IND.	PRESS VLV. (PPV-146)
			C	RV615	CONT.	PRESS VLV. (PPV-146)
			C	RV631	CONT. & IND.	PERSONNEL ACC. HATCH (PPV-151)
			C	RV634	CONT.	PERSONNEL ACC. HATCH (PPV-151)
			C	RV639	CONT. & IND.	EQUIP. HATCH PRESS VLV. (PPV-152)
			C	RV642	CONT.	EQUIP. HATCH PRESS VLV. (PPV-152)
			C	RV716	CONT. & IND.	ISO. VLV. (RBV-7)
			C	RV816	CONT. & IND.	MISC. VALVES
			C	RV817	CONT. & IND.	MISC. VALVES
			C	RV824	INTLK.	MISC. VALVES
			C	RV830	CONT.	INLET VLV. (NSV-52C)
			C	RV831	CONT.	OUTLET VLV. (NSV-53C)
			X	RV871	CONT.	ISO. VLV. (ICV-2)

9/3/93



FIRE AREA - ZONE	CND IN ZONE	CHAN	CRK W/IN CND	FUNCTION	USE
CONTROL ROOM AREA CB-4a EL. 355'	CG65	A	CG65	PWR.	RETURN AIR FAN (AH-E-19A)
	CG67	A	CG67	PWR.	EMERG. SUPPLY FAN (AH-E-18A)
	CG592	A	CG592	CONT.	RETURN AIR FAN (AH-E-19A)
	CG612	A	CG612	CONT.	EMERG. SUPPLY FAN (AH-E-18A)
* INTERIM	*RH2478	A	RH2478	CONT.	DAMPER (EP3 & EP4)
	CH35	B	CH35	PWR.	RETURN AIR FAN (AH-E-19B)
	CH37	B	CH37	PWR.	EMERG SUPPLY FAN (AH-E-18B)
	CH422	B	CH422	CONT.	RETURN AIR FAN (AH-E-19B)
	CH442	B	CH442	CONT.	EMERG. SUPPLY FAN (AH-E-18B)
* INTERIM	*RH2472	B	RH2472	CONT.	DAMPER (AH-D-37A)
	*RH2474	B	RH2474	CONT.	DAMPER (AH-D-37A)

METROPOLITAN EDISON COMPANY  
THREE MILE ISLAND NUCLEAR STATION UNIT 1  
ELECTRICAL  
FIRE HAZARD ANALYSIS  
CONDUIT-TO-CONDUIT SEPARATION REVIEW  
(CB) AREA CB-4a (EL. 355')

MADE CHKD  
SQ LDR  
ENG INTERF  
SCALE  
044692-094  
ENGINEER APPROVAL  
REV MADE CH SQ LDR DATE  
DATE

DRAWING NO. 044692-S-FHA-200  
SH. NO. 66  
REV 0

GILBERT ASSOCIATES, INC.  
ENGINEERS AND CONSULTANTS  
READING, PA.

044692



FIRE AREA - ZONE	CND IN ZONE	CHAN	CRK W/IN CND	FUNCTION	USE
CONTROL ROOM AREA CB-5a EL. 380'	CG65	A	CG65	PWR.	RETURN AIR FAN (AH-E-19A)
	CG67	A	CG67	PWR.	EMERG SUPPLY FAN (AH-E-18A)
	CG592	A	CG592	CONT.	RETURN AIR FAN (AH-E-19A)
	CG593	A	CG593	CONT.	RETURN AIR FAN (AH-E-19A)
	CG594	A	CG594	CONT.	RETURN AIR FAN (AH-E-19A)
	CG612	A	CG612	CONT.	EMERG. SUPPLY FAN (AH-E-18A)
	CG613	A	CG613	CONT.	EMERG. SUPPLY FAN (AH-E-18A)
		X	CG664	CONT.	EMERG. SUPPLY FAN (AH-E-18A)
	CG614	A	CG614	CONT.	EMERG. SUPPLY FAN (AH-E-18A)
	CG615	A	CG615	CONT.	EMERG. SUPPLY FAN (AH-E-18A)
	CG616	A	CG616	CONT.	EMERG. SUPPLY FAN (AH-E-18A)
		X	CG666	CONT.	EMERG. SUPPLY FAN (AH-E-18A)
	CH424	A	CH424	CONT.	RETURN AIR FAN (AH-E-19B)
	* INTERIM	*RH2478	A	RH2478	CONT.
	CH35	B	CH35	PWR.	RETURN AIR FAN (AH-E-19B)
	CH37	B	CH37	PWR.	EMERG. SUPPLY FAN (AH-E-18B)
	CH422	B	CH422	CONT.	RETURN AIR FAN (AH-E-19B)
	CH423	B	CH423	CONT.	RETURN AIR FAN (AH-E-19B)
	CH442	B	CH442	CONT.	RETURN AIR FAN (AH-E-19B)

METROPOLITAN EDISON COMPANY  
THREE MILE ISLAND NUCLEAR STATION UNIT 1  
ELECTRICAL  
FIRE HAZARD ANALYSIS  
CONDUIT-TO-CONDUIT SEPARATION REVIEW  
(CB) AREA CB-5a (EL. 380')

NO 044692-094  
REV MADE CH SQ LDR  
ENGINEER APPROVAL  
DEPT DATE

DRAWING NO. 044692-S-FHA-200  
SH. NO. 67  
REV 0  
GILBERT ASSOCIATES, INC.  
ENGINEERS AND CONSULTANTS  
READING, PA.

		CONS. ACTION			
		BIDDING PURPOSES			
DATE		RELEASED FOR		ENGR.	
FIRE AREA - ZONE	CND IN ZONE	CHAN	CRK W/IN CND	FUNCTION	USE
DIESEL GENERATOR BUILDING AREA DG-2 (ELEVATION 305')  CONDUIT LOADING 4 OR 5	CG12	A	CG12	PWR.	SUPPLY FAN (AH-E-29A)
	CH34	B	CH34	PWR.	PUMP STR. (DF-P-1C)
	CH34	B	CH34	PWR.	PUMP STR. (DF-P-1C)
		B	CH47	PWR.	BRKR. PNL. (EG-Y-1B)
		B	CH52	PWR.	COMPR. STR. (EG-P-1B)
	CH47	B	CH47	PWR.	BRKR. PNL. (EG-Y-1B)
	CH52	B	CH52	PWR.	COMPR. STR. (EG-P-1B)
	CH783	B	CH783	CONT.	SUPPLY FAN (AH-E-29B)
	CH784	B	CH784	CONT.	SUPPLY FAN (AH-E-29B)
		X	RH1632	ALM.	SUPPLY FAN (AH-E-29B)
	CH785	B	CH785	CONT.	SUPPLY FAN (AH-E-29B)
	ED1501	B	ED1501	CONT. PWR.	D.G. B
	ED1501	B	ED1501	CONT. PWR.	D.G. B
		B	ED1502	CONT. PWR.	D.G. B
		B	ED1506	CONT. PWR.	D.G. B
		B	ED1521	PWR.	PUMP STR. (DF-P-1B)
		B	ED1523	CONT.	PUMP STR. (DF-P-1B)
		B	ED1524	CONT.	D.G. B
		X	RA9	SPARE	SPARE
		B	RR93	IND.	D.G. B
	B	RR94	IND.	D.G. B	
	X	RZ105	ALM.	PUMP STR. (DF-P-1D)	
	X	CH1034	CONT. PWR.	D.G. B	
	X	G172	SYNCH.	D.C. B	
	X	*RB292	ALM.	D.G. B	
	ED1521	B	ED1521	PWR.	PUMP STR. (DF-P-1D)

\*INTERIM

9/3/85

METROPOLITAN EDISON COMPANY		MADE IN U.S.A.
THREE MILE ISLAND NUCLEAR STATION UNIT 1		04/169215-FHA-300
ELECTRICAL		1
FIRE HAZARD ANALYSIS		0
CONDUIT-TO-CONDUIT SEPARATION REVIEW		DATE
(DG) AREA DG-2 (EL. 305')		DATE
SCALE		DATE
NO. 04/1692-094		DATE
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FIRE AREA - ZONE		CND IN ZONE	CHAN	CRK W/IN CND	FUNCTION	USE
	ED1525	B	ED1525	CONT.		D.G. B
		X	RA33	ALM.		D.G. B
		B	RZ171	CONT.		DAY TANK (DF-T-2B)
		B	RZ173	CONT.		DAY TANK (DF-T-2B)
	ED1526	B	ED1526	CONT.		DAY TANK (DF-T-2B)
	ED1527	B	ED1527	CONT.		PUMP STR. (DF-P-1D)
	ED313	B	ED313	PWR.		D.G. B PWR.
	ME1	B	ME1	PWR.		D.G. B PWR.
	ME2	B	ME2	PWR.		D.G. B PWR.
	ME12	B	ME12	PWR.		D.G. B PWR.
	ME13	B	ME13	PWR.		D.G. B PWR.
	ME28	B	ME28	CONT.		D.G. B BRKR.
		B	RZ31	CONT.		D.G. B (EG-Y-1B)
		B	RZ32	CONT. PWR.		D.G. B (EG-Y-1B)
		B	RZ33	VOLT. CONT. POT.		D.G. B (EG-Y-1B)
		B	RZ34	CONT.		D.G. B (EG-Y-1B)
		B	RZ35	CONT.		D.G. B (EG-Y-1B)
		X	RZ53	MET. CURR.		D.G. B (EG-Y-1B)
		X	RZ54	MET. POT.		D.G. B (EG-Y-1B)
		X	RZ55	DIFF. CURR.		D.G. B (EG-Y-1B)
		X	RZ101	ALM.		D.G. B (EG-Y-1B)
		X	RZ102	ALM.		D.G. B (EG-Y-1B)
		X	RZ103	ALM.		D.G. B (EG-Y-1B)
	RZ1	B	RZ152	CONT.		D.G. B (EG-Y-1B)
		B	RZ153	CONT.		D.G. B (EG-Y-1B)
		B	RZ1	CONT.		D.G. B (EG-Y-1B)
		B	RZ2	CONT.		D.G. B (EG-Y-1B)
		B	RZ3	CONT.		D.G. B (EG-Y-1B)
B		RZ4	CONT.		D.G. B (EG-Y-1B)	
B		RZ8	CONT.		D.G. B (EG-Y-1B)	

METROPOLITAN EDISON COMPANY	
THREE MILE ISLAND NUCLEAR STATION UNIT 1	
ELECTRICAL	
FIRE HAZARD ANALYSIS	
CONDUIT-TO-CONDUIT SEPARATION REVIEW	
(DG) AREA DG-2 (EL. 305')	
SCALE	NO 044892-094
REV MADE CH	SQL ASB DATE REV MADE CH SQL ASB DATE
04 4692	S-FHA-300
2	0
GILBERT ASSOCIATES, INC.	
ENGINEERS AND CONSULTANTS	
READING, PA.	

FIRE AREA - ZONE	CND IN ZONE	CHAN	CRK W/IN CND	FUNCTION	USE																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																											
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						CONSTRUCTION		
						BIDDING PURPOSES		
DATE		RELEASED FOR				ENGR.		
FIRE AREA - ZONE	CND IN ZONE	CHAN	CRK W/IN CND	FUNCTION	USE			
* INTERIM	RZ174	B	RZ174	CONT.	DAY TANK (DF-T-2B)			
	ED1501	B	ED1501	CONT. PWR.	D.G. B			
		B	ED1502	CONT. PWR.	D.G. B			
		B	ED1506	CONT. PWR.	D.G. B			
		B	FD1524	CONT.	D.G. B			
		X	*RB292	ALM.	D.G. B			
METROPOLITAN EDISON COMPANY THREE MILE ISLAND NUCLEAR STATION UNIT 1 ELECTRICAL FIRE HAZARD ANALYSIS CONDUIT-TO-CONDUIT SEPARATION REVIEW								
				MADE CHKD 04 14692 S-FHA-300 SCALE W.O. 044692-094 ENGINEER APPROVAL REV MADE CH SQL APP DATE REV MADE CH SQL APP DATE				
				DRAWING NO. 04 14692 S-FHA-300 ENGINEERS AND CONSULTANTS READING, PA.				
				SH. NO. 4 REV 0				



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METROPOLITAN EDISON COMPANY				MADE		CHKD		DRAWING NO.				SH. NO.		REV	
THREE MILE ISLAND NUCLEAR STATION UNIT 1								04 4692 S-FHA- 400				1		0	
ELECTRICAL				SQ LDR		ENG INTERF		GILBERT ASSOCIATES, INC.							
FIRE HAZARD ANALYSIS								ENGINEERS AND CONSULTANTS							
CONDUIT-TO-CONDUIT SEPARATION REVIEW				SCALE				READING, PA.							
(IB) VLV GALLERY AND PENETRATION RM				W.O. 044692-094		ENGINEER APPROVAL		DEPT		DATE					
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FIRE AREA - ZONE	CND IN ZONE	CHAN	CRK W/IN CND	FUNCTION	USE
	CH78	B	CH78	PWR	SUPPLY FAN (AH-E-29B)
	CH91	B	CH91	PWR	OUT VLV (RRV-4B)
	RR484	B	RR484	IND	OUT VLV (RRV-4B)
	CH793	B	CH793	CONT	OUT VLV (RRV-4B)
	CG14	A	CG14	PWR	OUT VLV (RR-V-4C)
	CG233	A	CG233	CONT	OUT VLV (RR-V-4C)
	RP485	A	RP485	IND	OUT VLV (RR-V-4C)
	CH92	B	CH92	PWR	OUT VLV (RRV-4D)
	RP485	B	RR485	IND	OUT VLV (RRV-4D)
	CH803	B	CH803	CONT	OUT VLV (RRV-4D)
	RV258	A	RV258	CONT	SOLENOID (RPV-166)
	RV594	A	RV594	CONT	SUPPLY VLV (AHV-1D2)
		A	RV598	CONT	SUPPLY VLV (AHV-1D1)
		A	RP532	IND	PURGE VLV (AHV-1D)
	RV799	B	RV799	CONT	IN VLV (NSV-52B)
		B	RV800	CONT	IN VLV (NSV-52B)
		B	RV801	CONT	OUT VLV (NSV-53B)
		B	RV802	CONT	OUT VLV (NSV-53B)
	RR111	B	RR111	IND	OUT VLV (NSV-53B)
	RR112	B	RR112	IND	OUT VLV (NSV-52B)
	CS83	C	CS83	PWR	BY-PASS VLV (RR-V-5)
	CS431	C	CS431	CONT	BY-PASS VLV (RR-V-5)
	RS14	C	RS14	IND	IN VLV (NS-V-520)

METROPOLITAN EDISON COMPANY  
 THREE MILE ISLAND NUCLEAR STATION UNIT 1  
 ELECTRICAL  
 FIRE HAZARD ANALYSIS  
 CONDUIT-TO-CONDUIT SEPARATION REVIEW  
 (1B) VLV GALLERY AND PENETRATION RM

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 GILBERT ASSOCIATES, INC.  
 ENGINEERS AND CONSULTANTS  
 READING, PA.

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FIRE AREA - ZONE	CND IN ZONE	CHAN	CRK W/IN CND	FUNCTION	USE
INTERMEDIATE BUILDING TURBINE DRIVEN EMERGENCY FEEDWATER PUMP ROOM (EL. 295')	RV262	B	RV262	CONT	SOLENOID (PPV-167)
	RY7	A	RY7	IND (INSTR)	MN CONT RM CONSOLE - CR
	RZ7	B	RZ7	IND (INSTR)	MN CONT RM CONSOLE - CR
	CS94	C	CS94	PWR	ISOL VLV (MS-V-1A)
	CS511	C	CS511	CONT	IN VLV (RRV-3C)
	CS431	C	CS431	CONT	BY-PASS VLV (RRV-5)
	RS2	C	RS2	IND	IN VLV (RRV-3C)
		C	RS13	IND	ISOL VLV (RBV-7)
		C	RS14	IND	IN VLV (NSV-52C)
		C	RS15	IND	OUT VLV (NSV-53C)
CS351	C	CS351	CONT	ISOL VLV (MS-V-2A)	

METROPOLITAN EDISON COMPANY  
THREE MILE ISLAND NUCLEAR STATION UNIT 1  
ELECTRICAL  
FIRE HAZARD ANALYSIS  
CONDUIT-TO-CONDUIT SEPARATION REVIEW  
(IB) TURB. DRIVEN EMERG. FW PUMP RM

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SQ LDR  
ENG INTERF  
GILBERT ASSOCIATES, INC.  
ENGINEERS AND CONSULTANTS  
READING, PA.

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FIRE HAZARD ANALYSIS								ENGINEERS AND CONSULTANTS							
CONDUIT-TO-CONDUIT SEPARATION REVIEW				SCALE				READING, PA.							
(IB) REMAINDER OF EL. 295'				NO 044692-094		ENGINEER APPROVAL		DEPT		DATE					
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ELECTRICAL				SQ LDR		ENG INTERF		GILBERT ASSOCIATES, INC.							
FIRE HAZARD ANALYSIS								ENGINEERS AND CONSULTANTS							
CONDUIT-TO-CONDUIT SEPARATION REVIEW				SCALE				READING, PA.							
INTAKE, SCREEN WATER AND PUMP HOUSE				W.O. 044692-094		ENGINEER APPROVAL		DEPT	DATE						
				REV	MADE	CH	SQ	APP	DATE	REV	MADE	CH	SQ	APP	DATE

FIRE AREA - ZONE	CND IN ZONE	CHAN	CRK W/IN CND	FUNCTION	USE
	LR32	B/C	LR32	CONT.	RIV. WTR. PUMP (NR-P-1C)
		B/C	LT18	CONT.	RIV. WTR. PUMP (NR-P-1B)
	LR5	C	LR5	PWR.	IT 480V SH ES SWGR. UNIT 3A
	LT27	B/C	LT27	CONT.	RIV. WTR. PUMP (NR-P-1B)

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FIRE AREA - ZONE	CND IN ZONE	CHAN	CRK W/IN CND	FUNCTION	USE
REACTOR BUILDING OUTSIDE SECONDARY SHIELD NORTH AT RB-1a (ELEVATION 281')	CG21A	A	CG21A	PWR.	VENT. FAN (AH-E-1A)
	CG22A	A	CG22A	PWR.	VENT. FAN (AH-E-1A)
	CQ36A	A	CQ36A	PWR.	ISOL VLV. (CAV-4A)
	CQ431A	A	CQ431A	CONT.	ISOL. VLV. (CAV-4A)
		A	RP491A	IND.	ISOL. VLV. (CAV-4A)
	RG16A	A	RG16A	INST.	PRESS. XMTR. (RC3A)
		A	RG18A	INST.	PRESS. XMTR. (RC3A)
		A	RG201A	INST.	PRESS. XMTR. (RC3A)
	RG16A	A	RG16A	INST.	PRESS. XMTR. (RC3A)
		A	RG18A	INST.	PRESS. XMTR. (RC3A)
	RV603A	A/B	RV603A	CONT.	ISOL. VLV. (AHV-1C)
	CH14A	B	CH14A	PWR.	VENT FAN (AH-E-1B)
	CH15A	B	CH15A	PWR.	VENT FAN (AH-E-1B)
	CR2A	B	CR2A	CONT.	ISOL. VLV. (AHV-1C)
	CR35A	B	CR35A	PWR.	SAMPLE VLV. (CAV-4B)
	CR161A	B	CR161A	CONT. & IND.	ISOL. VLV. (AHV-1C)
		B	RR541A	IND.	SUPPLY VLV. (AHV-1C)
	CR421A	B	CR421A	CONT.	SAMPLE VLV. (CAV-4B)
		B	RR491A	IND.	SAMPLE VLV. (CAV-4B)
	CR421A	B	CR421A	CONT.	SAMPLE VLV. (CAV-4B)
RG60A	B	RG60A	INST.	RC FLOW (1RC14A-DPT2)	
RG62A	B	RG62A	INST. (RTD)	RC PRESS. (1RC3B-PT1)	
RG50A	B	RG50A	INST. (H.V.)	CH. NI-6 PRE AMP	
	B	RG51A	INST.	CH. NI-6 PRE AMP	
	B	RG53A	INST.	CH. NI-6 PRE AMP	

METROPOLITAN EDISON COMPANY  
THREE MILE ISLAND NUCLEAR STATION UNIT 1  
ELECTRICAL  
FIRE HAZARD ANALYSIS  
CONDUIT-TO-CONDUIT SEPARATION REVIEW  
(RB) RB-1a EL. 281'

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ENGINEER APPROVAL  
GILBERT ASSOCIATES, INC.  
ENGINEERS AND CONSULTANTS  
READING, PA.

CRDNG NO. 044692-S-FHA-600  
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THREE MILE ISLAND NUCLEAR STATION UNIT 1								04 4692 S-FHA-600				2		0	
ELECTRICAL				SQ LDR		ENG INTERF		GILBERT ASSOCIATES, INC.							
FIRE HAZARD ANALYSIS								ENGINEERS AND CONSULTANTS							
CONDUIT-TO-CONDUIT SEPARATION REVIEW				SCALE				READING, PA.							
(RB) RB-1a EL. 281'				W.O. 044692-094		ENGINEER APPROVAL		DEPT		DATE					
				REV		MADE		CH		SQL		APPRO DATE		REV	

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FIRE AREA - ZONE				END IN ZONE	CHAN	CRK #/IN CND	FUNCTION	USE
REACTOR BUILDING (RB) OUTSIDE SECONDARY SHIELD NORTH AT RB-1b (EL. 281')				RG16A	A	RG16A	INST.	PRESS XMTR. (RC3A)
					A	RG18A	INST.	PRESS XMTR. (RC3A)
					A	RG201A	INST.	PRESS XMTR. (RC3A)
				RG17A	A	RG17A	INST. (RTD)	RC OUTLET (1RC4A-TE2)
				RP491A	A	RP491A	IND.	ISOL. VLV. (CAV-4A)
				CQ36A	A	CQ36A	PWR.	ISOL. VLV. (CAV-4A)
				CQ431A	A	CQ431A	CONT.	ISOL. VLV. (CAV-4A)
				CQ431A	A	CQ431A	CONT.	ISOL. VLV. (CAV-4A)
					A	RP491A	IND.	ISOL. VLV. (CAV-4A)
				RG211A	A	RG211A	CONT.	RC PUMP (RC-F-1A)
					A	RG212A	CONT.	RC PUMP (RC-P-1A)
				CR35A	B	CR35A	PWR.	SAMPLE VLV. (CAV-4B)
				CR421A	B	CR421A	CONT.	SAMPLE VLV. (CAV-4B)
				RG60A	B	RG60A	INST.	RC FLOW (1RC14A-DPT2)
				RG202B	B	RG202B	INST.	RC PRESS (RC3A-PT4)
				RG223A	B	RG223A	CONT.	REACT. COOL PUMP (RC-P-1B)
					B	RG224A	CONT.	REACT. COOL PUMP (RC-P-1B)
				RR491A	B	RR491A	IND.	ISOL. VLV. (CAV-4B)
				RG105A	C	RG105A	INST. (RTD)	RC OUTLET (1RC4A-TE3)
				RG106A	C	RG106A	INST.	RC PRESS (1RC3A-PT2)
				*CG1052A	A	CG1052A	PWR.	ISOL. VLV. (FW-V94A)
				*CG1053A	A	CG1053A	CONT.	ISOL. VLV. (FW-V94A)

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FIRE AREA - ZONE		CND IN ZONE	CHAN	CRK W/IN CND	FUNCTION	USE
REACTOR BUILDING OUTSIDE SECONDARY SHIELD SOUTHWEST AT RB-1c (ELEVATION 281')	CG21A	A	CG21A	PWR.	VENT. FAN (AH-E-1A)	
	CG22A	A	CG22A	PWR.	VENT. FAN (AH-E-1A)	
	CQ34A	A	CQ34A	PWR.	ISOL. VLV. (WDGV-3)	
		A	CQ36A	PWR.	ISOL. VLV. (CAV-4B)	
	CQ36A	A	CQ36A	PWR.	ISOL. VLV. (CAV-4B)	
	CQ161A	A	CQ161A	CONT. & IND.	ISOL. VLV. (AHV-1B)	
		A	CQ331A	CONT.	ISOL. VLV. (MUV-25)	
		A	CQ335A	CONT.	ISOL. VLV. (MUV-25)	
		A	CQ361A	CONT.	SAMPLE VLV. (CFV-2B)	
		A	RP492A	IND.	SAMPLE VLV. (CFV-2B)	
		A	RP523A	IND.	ISOL. VLV. (AHV-1B)	
		A	RP542A	IND.	ISOL. VLV. (MUV-25)	
	CQ351A	A	CQ351A	CONT.	SAMPLE VLV. (CFV-2A)	
		A	RP511A	IND.	SAMPLE VLV. (CFV-2A)	
	CQ361A	A	CQ361A	CONT.	SAMPLE VLV. (CFV-2A)	
	CQ421A	A	CQ421A	CONT.	ISOL. VLV. (WDGV-3)	
		A	CQ521A	CONT.	OUTLET VLV. (WDLV-303)	
		A	RP493A	IND.	OUTLET VLV. (WDLV-303)	
		A	RP541A	IND.	ISOL. VLV. (WDGV-3)	
	CQ431A	A	CQ431A	CONT.	ISOL. VLV. (CAV-4A)	
A		RP491A	IND.	ISOL. VLV. (CAV-4A)		
CQ2A	A	CQ2A	PWR.	ISOL. VLV. (AH-V-1B)		
	A	CQ17A	PWR.	ISOL. VLV. (MUV-25)		
	A	CQ23A	PWR.	SAMPLE VLV. (CFV-2B)		
RG1A	A	RG1A	INST. (SIG.)	CH. NI-1 PRE AMP		
	A	RG2A	INST. (H.V.)	CH. NI-1 PRE AMP		
	A	RG3A	INST. (L.V.)	CH. NI-1 PRE AMP		
RG4	A	RG4	INST.	CH. NI-1 PRE AMP		

REACTOR BUILDING  
OUTSIDE SECONDARY  
SHIELD SOUTHWEST  
AT RB-1c (ELEVATION 281')

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REACTOR BUILDING  
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SHIELD SOUTHWEST  
AT RB-1c (ELEVATION 281')

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REACTOR BUILDING  
OUTSIDE SECONDARY  
SHIELD SOUTHWEST  
AT RB-1c (ELEVATION 281')

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REACTOR BUILDING  
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SHIELD SOUTHWEST  
AT RB-1c (ELEVATION 281')

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	CONSTRUCTION	
	BIDDING PURPOSES	
DATE	RELEASED FOR	ENGR.

FIRE AREA - ZONE				CND IN ZONE	CHAN	CRK W/IN CND	FUNCTION	USE
	RG5A	A	RG5A	INST. (H.V.)	CH. NI-5 PWR. RANGE DET.			
		A	RG6A	INST.	CH. NI-5 PWR. RANGE DET.			
		A	RG8A	INST.	CH. NI-5 PWR. RANGE DET.			
	RG213A	A	RG213A	CONT.	RC PUMP (RC-P-1A)			
		A	RG214A	CONT.	RC PUMP (RC-P-1A)			
	RG15A	A	RG15A	INST.	RC FLOW (IRC14B-DPT1)			
	RG16A	A	RG16A	INST.	PRESS. XMTR. (RC3A)			
		A	RG18A	INST.	PRESS. XMTR. (RC3A)			
		A	RG201A	INST.	PRESS. XMTR. (RC3A)			
	RG17A	A	RG17A	INST. (RTD)	RC OUTLET (IRC4A-TE2)			
	RG211A	A	RG211A	CONT.	RC PUMP (RC-P-1A)			
		A	RG212A	CONT.	RC PUMP (RC-P-1A)			
	RG211A	A	RG211A	CONT.	RC PUMP (RC-P-1A)			
		A	RG212A	CONT.	RC PUMP (RC-P-1A)			
		A	RG213A	CONT.	RC PUMP (RC-P-1B)			
		A	RG214A	CONT.	RC PUMP (RC-P-1B)			
		A	RG216A	CONT.	RC PUMP (RC-P-1C)			
		A	RG217A	CONT.	RC PUMP (RC-P-1C)			
		A	RG218A	CONT.	RC PUMP (RC-P-1D)			
		A	RG219A	CONT.	RC PUMP (RC-P-1D)			
	RV583A	A/B	RV583A	CONT.	ISOL. VLV. (AHV-1B)			
	RV603A	A/B	RV603A	CONT.	ISOL. VLV. (AHV-1C)			
	RR521A	B	RR521A	IND.	CLG. RET. VLV. (NSV-35)			
	RR531A	B	RR531A	IND.	ISOL. VLV. (ICV-2)			
	RR542A	B	RR542A	IND.	OUTLET VLV. (MUV-2A)			
	RR543A	B	RR543A	IND.	OUTLET VLV. (MUV-2B)			

FIRE AREA - ZONE	CND IN ZONE	CHAN	CRK W/IN CND	FUNCTION	USE
	CR17A	B	CR17A	PWR.	OUTLET VLV. (MUV-2B)
		B	CR25A	PWR.	OUTLET VLV. (MUV-2B)
	CR25A	B	CR25A	PWR.	OUTLET VLV. (MUV-2B)
	CR331A	B	CR331A	CONT.	OUTLET VLV. (MUV-2B)
		B	CR381A	CONT.	OUTLET VLV. (MUV-2B)
		B	RR542A	IND.	OUTLET VLV. (MUV-2A)
		B	RR543A	IND.	OUTLET VLV. (MUV-2B)
	CR381A	B	CR381A	CONT.	OUTLET VLV. (MUV-2B)
	RG202	B	RG202	INST.	RC PRESS. RC3A-PT4
	CR331A	B	CR331A	INST.	OUTLET VLV. (MUV-2A)
	CR17A	B	CR17A	PWR.	OUTLET VLV. (MUV-2A)
	CH14A	B	CH14A	PWR.	VENT. FAN (AH-E-1B)
	CH15A	B	CH15A	PWR.	VENT. FAN (AH-E-1B)
	CR21A	B	CR21A	PWR.	VENT. FAN (AH-E-1A)
	CR23A	B	CR23A	PWR.	SAMPLE VLV. (CAV-13)
		B	CR37A	PWR.	SAMPLE VLV. (CAV-3)
		B	CR44A	PWR.	ISOL. VLV. (CAV-1)
	CR2A	B	CR2A	CONT.	ISOL. VLV. (AHV-1C)
	CR35A	B	CR35A	PWR.	SAMPLE VLV. (CAV-4B)
	CR48A	B	CR48A	PWR.	ISOL. VLV. (NSV-35)
	CR161A	B	CR161A	CONT. & IND.	ISOL. VLV. (AHV-1C)
		B	RR541A	IND.	SUPPLY VLV. (AHV-1C)
	CR361A	B	CR361A	CONT.	ISOL. VLV. (ICV-2)
		B	CR364A	CONT.	ISOL. VLV. (ICV-2)

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		CONSTRUCTION			
		BIDDING PURPOSES			
DATE		RELEASED FOR		ENGR.	
FIRE AREA - ZONE	CND IN ZONE	CHAN	CRK W/IN CND	FUNCTION	USE
000000	CR371A	B	CR371A	CONT.	SAMPLE VLV. (CAV-13)
		B	CR431A	CONT.	SAMPLE VLV. (CAV-3)
		B	CR481A	CONT.	ISOL. VLV. (CAV-1)
		B	RR492A	IND.	SAMPLE VLV. (CAV-3)
		B	RR493A	IND.	SAMPLE VLV. (CAV-13)
		B	RR514A	IND.	ISOL. VLV. (CAV-1)
	CR421A	B	CR421A	CONT.	SAMPLE VLV. (CAV-4B)
		B	RR491A	IND.	SAMPLE VLV. (CAV-4B)
	CR521A	B	CR521A	CONT.	ISOL. VLV. (NSV-35)
	RG49	B	RG49	INST.	CH. NI-2 PRE AMP
	RG46A	B	RG46A	INST. (SIG.)	CH. NI-2 PRE AMP
		B	RG47A	INST. (H.V.)	CH. NI-2 PRE AMP
		B	RG48A	INST. (L.V.)	CH. NI-2 PRE AMP
	RG50A	B	RG50A	INST. (H.V.)	CH. NI-6 PRE AMP
		B	RG51A	INST.	CH. NI-6 PRE AMP
		B	RG53A	INST.	CH. NI-6 PRE AMP
	RG59A	B	RG59A	INST.	RC FLOW (1RC14B-DPT2)
	RG60A	B	RG60A	INST.	RC FLOW (1RC14A-DPT2)
	RG62A	B	RG62A	INST. (RTD)	RC PRESS. (1RC3B-PT1)
	RG61A	B	RG61A	INST. (RTD)	RC OUTLET (1RC4B-TE2)
	RG202B	B	RG202B	INST.	RC PRESS RC3A-PT4
	RG221A	B	RG221A	CONT.	RC PUMP RC-P-1A
		B	RG222A	CONT.	RC PUMP RC-P-1A
		B	RG223A	CONT.	RC PUMP RC-P-1B
		B	RG224A	CONT.	RC PUMP RC-P-1B
		B	RG226A	CONT.	RC PUMP RC-P-1C
		B	RG227A	CONT.	RC PUMP RC-P-1C
		B	RG228A	CONT.	RC PUMP RC-P-1D
		B	RG229A	CONT.	RC PUMP RC-P-1D
METROPOLITAN EDISON COMPANY THREE MILE ISLAND NUCLEAR STATION UNIT 1 ELECTRICAL FIRE HAZARD ANALYSIS CONDUIT-TO-CONDUIT SEPARATION REVIEW (RB) RB-1c EL. 281'					
MADE CHND SO LCM ENG INTERP SCALE NO 044692-094 REV MADE CH SOL APP DATE REV MADE CH SOL APP DATE ENGINEER APPROVAL GILBERT ASSOCIATES, INC. ENGINEERS AND CONSULTANTS READING, PA.					
DRAWING NO. 044692-S-FHA-600 SH. NO. 9 REV 0					



METROPOLITAN EDISON COMPANY						THREE MILE ISLAND NUCLEAR STATION UNIT 1	
ELECTRICAL						FIRE HAZARD ANALYSIS	
CONDUIT-TO-CONDUIT SEPARATION REVIEW						(RB) RB-1c EL. 281'	
SCALE						0446921S-FHA-600	
ENGINEER APPROVAL						ENGINEERS AND CONSULTANTS	
DESIGN NO.						SH. NO.	
REV. MADE CH. 13/1/81 DATE 12/1/81						REV. MADE CH. 13/1/81 DATE 12/1/81	
FIRE AREA - ZONE	CND IN ZONE	CHAN	CRK W/IN CND	FUNCTION	USE		
	CS99A	C	CS99A	PWR.	VENT. FAN MTR. (AH-E-1C)		
	CS100A	C	CS100A	PWR.	VENT. FAN MTR. (AH-E-1C)		
	RG91A	C	RG91A	INST.	CH. NI-3 IONIZ. CHMBR.		
		C	RG92A	INST.	CH. NI-3 IONIZ. CHMBR.		
		C	RG93A	INST.	CH. NI-3 IONIZ. CHMBR.		
	RG94A	C	RG94A	INST. (H.V.)	CH. NI-7 PRE AMP		
		C	RG95A	INST.	CH. NI-7 PRE AMP		
		C	RG97A	INST.	CH. NI-7 PRE AMP		
	RG103A	C	RG103A	INST.	RC FLOW (1RC14B-DPT3)		
	RG104A	C	RG104A	INST.	RC FLOW (1RC14A-DPT3)		
	RG105A	C	RG105A	INST. (RTD)	RC OUTLET (1RC4A-TE3)		
	RG106A	C	RG106A	INST.	RC PRESS. (1RC3A-PT2)		
	RG203	C	RG203	INST.	RC PRESS. (RC3B-PT3)		
	RG203B	C	RG203B	INST.	RC PRESS. (RC3B-PT3)		
	RG131A	D	RG131A	INST.	CH. NI-4 IONIZ. CHMBR.		
		D	RG132A	INST.	CH. NI-4 IONIZ. CHMBR.		
		D	RG133A	INST.	CH. NI-4 IONIZ. CHMBR.		
	RG134A	D	RG134A	INST. (H.V.)	CH. NI-8 PWR. RANGE DET.		
		D	RG135A	INST.	CH. NI-8 PWR. RANGE DET.		
		D	RG137A	INST.	CH. NI-8 PWR. RANGE DET.		
	RG143A	D	RG143A	INST.	RC FLOW (1RC14B-DPT4)		
	RG144A	D	RG144A	INST.	RC FLOW (1RC14A-DPT4)		
	RG145A	D	RG145A	INST. (RTD)	RC OUTLET (1RC14B-DPT4)		
	RG146A	D	RG146A	INST.	RC PRESS (1RC3B-PT2)		

CONSTRUCTION BIDDING PURPOSES		RELEASED FOR		ENGR.	
DATE					
FIRE AREA - ZONE	CND IN ZONE	CHAN	CRK W/IN CND	FUNCTION	USE
*INTERIM	*CG1052A	A	CG1052A	PWR.	ISOL. VLV. (FW-V94A)
	*CG1053A	A	CG1053A	CONT.	ISOL. VLV. (FW-V94A)
		A	RP721A	IND.	ISOL. VLV. (FW-V94A)
	*CH1085A	B	CH1085A	PWR.	ISOL. VLV. (FW-V94B)
	*CH1086A	B	CH1086A	CONT.	ISOL. VLV. (FW-V94B)
		B	RR721A	IND.	ISOL. VLV. (FW-V94B)

METROPOLITAN EDISON COMPANY  
THREE MILE ISLAND NUCLEAR STATION UNIT 1  
ELECTRICAL  
FIRE HAZARD ANALYSIS  
CONDUIT-TO-CONDUIT SEPARATION REVIEW  
(RB) AREA RB-1c (EL. 281')

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ENGINEERS AND CONSULTANTS  
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METROPOLITAN EDISON COMPANY					
THREE MILE ISLAND NUCLEAR STATION UNIT 1					
ELECTRICAL					
FIRE HAZARD ANALYSIS					
CONDUIT-TO-CONDUIT SEPARATION REVIEW					
(RB) AREA RB-2 (EL. 308')					
SCALE					
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GILBERT ASSOCIATES, INC.					
ENGINEERS AND CONSULTANTS					
READING, PA.					
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FIRE AREA - ZONE	CND IN ZONE	CHAN	CRK W/IN CND	FUNCTION	USE
	CQ361A	A	CQ361A	CONT.	SAMPLE VLV. (CFV-2B)
	CQ361A	A	CQ361A	CONT.	SAMPLE VLV. (CFV-2B)
		A	RP492A	IND.	SAMPLE VLV. (CFV-2B)
	CQ421A	A	CQ421A	CONT.	ISOL. VLV. (WDGV-3)
	CQ421A	A	CQ421A	CONT.	ISOL. VLV. (WDGV-3)
		A	RP541A	IND.	ISOL. VLV. (WDGV-3)
	CQ421A	A	CQ421A	IND.	ISOL. VLV. (WDGV-3)
		A	CQ521A	CONT.	OUTLET VLV. (WDLV-303)
		A	RP493A	IND.	OUTLET VLV. (WDLV-303)
		A	RP541A	IND.	ISOL. VLV. (WDGV-3)
	CQ431A	A	CQ431A	CONT.	ISOL. VLV. (CAV-4A)
	CQ521A	A	CQ521A	CONT.	OUTLET VLV. (WDLV-303)
	RG15A	A	RG15A	INST.	RC FLOW (1RC14B-DPT1)
	RG16A	A	RG16A	INST.	RC FLOW (1RC14A-DPT1)
	RG16A	A	RG16A	INST.	RC FLOW (1RC14A-DPT1)
		A	RG18A	INST.	RC PRESS. (1RC3A-PT1)
		A	RG201A	INST.	RC PRESS. (RC3A-PT3)
	RG17A	A	RG17A	INST. (RTD)	RC OUTLET (1RC4A-TE2)
	RG18A	A	RG18A	INST.	RC PRESS. (1RC3A-PT1)
	RG211A	A	RG211A	CONT.	RC PUMP (RC-P-1A)
		A	RG212A	CONT.	RC PUMP (RC-P-1A)
		A	RG213A	CONT.	RC PUMP (RC-P-1B)
		A	RG214A	CONT.	RC PUMP (RC-P-1B)
		A	RG216A	CONT.	RC PUMP (RC-P-1C)
		A	RG217A	CONT.	RC PUMP (RC-P-1C)
		A	RG218A	CONT.	RC PUMP (RC-P-1D)
		A	RG219A	CONT.	RC PUMP (RC-P-1D)

METROPOLITAN EDISON COMPANY  
THREE MILE ISLAND NUCLEAR STATION UNIT 1  
ELECTRICAL  
FIRE HAZARD ANALYSIS  
CONDUIT-TO-CONDUIT SEPARATION REVIEW  
(RB) AREA RB-2 (EL. 308')

SCALE  
NO. 044892-094  
REV. MADE CH. SQL APP. DATE  
ENGINEER APPROVAL  
DEPT. DATE  
GILBERT ASSOCIATES, INC.  
ENGINEERS AND CONSULTANTS  
READING, PA.

DRAWING NO. 044892-S-FHA-600  
SH. NO. 13  
REV. 0

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METROPOLITAN EDISON COMPANY THREE MILE ISLAND NUCLEAR STATION UNIT 1 ELECTRICAL FIRE HAZARD ANALYSIS CONDUIT-TO-CONDUIT SEPARATION REVIEW (RB) AREA RB-2 (EL. 308')						MADE CHND SQ LDR ENGINEER GILBERT ASSOCIATES, INC. ENGINEERS AND CONSULTANTS READING, PA.			
DRAWING NO. 04-4692-S-FHA-600		SH. NO. 14		REV. 0					
FIRE AREA - ZONE	END IN ZONE	CHAN	CRK W/IN CND	FUNCTION	USE	NO. 044892-0941	ENGINEER APPROVAL	DEPT	DATE
*INTERIM	RP491A	A	RP491A	IND.	ISOL. VLV. (CAV-4A)	REV. MADE CH	ISOL. APPROV. DATE	REV. MADE CH	ISOL. APPROV. DATE
	EP492A	A	RP492A	IND.	SAMPLE VLV. (CFV-2B)				
	RP493A	A	RP493A	IND.	OUTLET VLV. (WDLV-303)				
	RP511A	A	RP511A	IND.	SAMPLE VLV. (CFV-2A)				
	RP541A	A	RP541A	IND.	ISOL. VLV. (WDCV-3)				
	RP542A	A	RP542A	IND.	ISOL. VLV. (MOV-25)				
	*CG1052A	A	CG1052A	PWR.	ISOL. VLV. (FW-V94A)				
	*CG1053A	A	CG1053A	CONT.	ISOL. VLV. (FW-V94A)				
	*RP721A	A	RP721A	IND.	ISOL. VLV. (FW-V94A)				
	RV583A	A/B	RV583A	CONT.	ISOL. VLV. (AHV-1B)				
	RV603A	A/B	RV603A	CONT.	ISOL. VLV. (AHV-1C)				
	CR2A	B	CR2A	CONT.	ISOL. VLV. (AHV-1C)				
	CR23A	B	CR23A	PWR.	SAMPLE VLV. (CAV-13)				
		B	CR37A	PWR.	SAMPLE VLV. (CAV-3)				
		B	CR44A	PWR.	ISOL. VLV. (CAV-1)				
	CR35A	B	CR35A	PWR.	SAMPLE VLV. (CAV-43)				
CR48A	B	CR48A	PWR.	ISOL. VLV. (MSV-35)					
CR161A	B	CR161A	CONT. & IND.	ISOL. VLV. (AHV-1C)					
	B	RR541	IND.	ISOL. VLV. (AHV-1C)					



FIRE AREA - ZONE	CND IN ZONE	CHAN	CRK W/IN CND	FUNCTION	USE
	CR371A	B	CR371A	CONT.	SAMPLE VLV. (CAV-13)
		B	CR431A	CONT.	SAMPLE VLV. (CAV-3)
		B	CR481A	CONT.	ISOL. VLV. (CAV-1)
		B	RR492A	IND.	SAMPLE VLV. (CAV-3)
		B	RR493A	IND.	SAMPLE VLV. (CAV-13)
		B	RR514A	IND.	ISOL. VLV. (CAV-1)
	CR421A	B	CR421A	CONT.	SAMPLE VLV. (CAV-4B)
	CR521A	B	CR521A	CONT.	ISOL. VLV. (NSV-35)
	RG59A	B	RG59A	INST.	RC FLOW (1RC14B-DPT2)
	RG60A	B	RG60A	INST.	RC FLOW (1RC14A-DPT2)
	RG61A	B	RG61A	INST. RTD.	RC OUTLET (1RC4B-TE2)
	RG62A	B	RG62A	INST. RTD.	RC PRESS (1RC3B-PT1)
	RG202B	B	RG202B	INST.	RC PRESS (RC3A-PT4)
	RG221A	B	RG221A	CONT.	RC PUMP (RC-P-1A)
		B	RG222A	CONT.	RC PUMP (RC-P-1A)
		B	RG223A	CONT.	RC PUMP (RC-P-1B)
		B	RG224A	CONT.	RC PUMP (RC-P-1B)
		B	RG226A	CONT.	RC PUMP (RC-P-1C)
		B	RG227A	CONT.	RC PUMP (RC-P-1C)
		B	RG228A	CONT.	RC PUMP (RC-P-1D)
		B	RG229A	CONT.	RC PUMP (RC-P-1D)
	RR491A	B	RR491A	IND.	ISOL. VLV. (CAV-4B)
	RR521A	B	RR521A	IND.	CLG. RET. VLV. (NSV-35)
	*CH1085A	B	CH1085A	PWR.	ISOL. VLV. (FW-V94B)
	*CH1086A	B	CH1086A	CONT.	ISOL. VLV. (FW-V94E)
	*RR721A	B	RR721A	IND.	ISOL. VLV. (FW-V94B)

5/13/2005

\*INTERIM

METROPOLITAN EDISON COMPANY  
THREE MILE ISLAND NUCLEAR STATION UNIT 1  
ELECTRICAL  
FIRE HAZARD ANALYSIS  
CONDUIT-TO-CONDUIT SEPARATION REVIEW  
(RB) AREA RB-2 (EL. 308')

SCALE  
04 46921S-FHA-600  
ENGINEERS AND CONSULTANTS  
GILBERT ASSOCIATES, INC.  
READING, PA.

NO. 046921-094  
REV. MADE CH. 1  
ENGINEER APPROVAL  
DATE  
DEPT.  
DATE  
REV. MADE CH. 1  
APPROPRIATE  
DATE

MADE CH. 1  
ENGINEER APPROVAL  
DATE  
DEPT.  
DATE  
REV. MADE CH. 1  
APPROPRIATE  
DATE

FIRE AREA - ZONE		CND IN ZONE	CHAN	CRK W/IN CND	FUNCTION	USE
	RG103A	C	RG103A	INST.	RC FLOW (1RC14B-DPT3)	
	RG104A	C	RG104A	INST.	RC FLOW (1RC14A-DPT3)	
	RG105A	C	RG105A	INST. RTD	RC OUTLET (1RC4A-TE3)	
	RG106A	C	RG106A	INST.	RC PRESS (1RC3A-PT2)	
	RG201A	C	RG201A	INST.	PRESS XMTR (RC3A-PT3)	
	RG203B	C	RG203B	INST.	PRESS XMTR (RC3A-PT3)	
	RG145A	D	RG145A	INST. RTD	RC OUTLET (1RC4B-TE3)	
	RG146A	D	RG146A	INST.	RC PRESS. (RC3B-PT2)	

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FIRE AREA - ZONE		CND IN ZONE	CHAN	CRK W/IN CND	FUNCTION	USE
REACTOR BUILDING (RB) INSIDE SEC- ONDARY SHIELD EAST AT RB-1d EL. 346'	RG17A	A	RG17A	INST. (RTD)	RC OUTLET (1RC4A-TE2)	
	RG105A	C	RG105A	INST. (RTD)	RC OUTLET (1RC4A-TE3)	
	RG211A	A	RG211A	CONT.	RC PUMP (RC-P-1A)	
		A	RG212A	CONT.	RC PUMP (RC-P-1A)	
	RG213A	A	RG213A	CONT.	RC PUMP (RC-P-1B)	
		A	RG214A	CONT.	RC PUMP (RC-P-1B)	
	RG221A	B	RG221A	CONT.	RC PUMP (RC-P-1C)	
		B	RG222A	CONT.	RC PUMP (RC-P-1C)	
	RG223A	B	RG223A	CONT.	RC PUMP (RC-P-1D)	
		B	RG224A	CONT.	RC PUMP (RC-P-1D)	

METROPOLITAN EDISON COMPANY  
THREE MILE ISLAND NUCLEAR STATION UNIT 1  
ELECTRICAL  
FIRE HAZARD ANALYSIS  
CONDUIT-TO-CONDUIT SEPARATION REVIEW  
(RB) AREA RB-1d (EL. 346')

SCALE  
W.C. 044692-094  
REV MADE CH SQL  
ENGINEER APPROVAL  
DATE

MADE CHKD  
04 4692-S-FHA-600  
SQ LDR  
ENG INTERF  
GILBERT ASSOCIATES, INC.  
ENGINEERS AND CONSULTANTS  
REV. ING. PA.

DRAWING NO.  
SH. NO.  
REV

910208

CONST. CTION  
BIDDING PURPOSES

DATE

RELEASED FOR

ENGR.

FIRE AREA - ZONE	CND IN ZONE	CHAN	CRK W/IN CND	FUNCTION	USE										
INSIDE SECONDARY SHIELD WEST AT RB-1e EL. 346'	RG61A	B	RG61A	INST. (RTD)	RC OUTLET (1RC4B-TE2)										
	RG145A	D	RG145A	INST. (RTD)	RC OUTLET (1RC4B-TE3)										
	RG221A	B	RG221A	CONT.	RC PUMP (RC-P-1A)										
	RG221A		RG222A	CONT.	RC PUMP (RC-P-1A)										
		B	RG221A	CONT.	RC PUMP (RC-P-1A)										
		B	RG222A	CONT.	RC PUMP (RC-P-1A)										
		B	RG223A	CONT.	RC PUMP (RC-P-1B)										
		B	RG224A	CONT.	RC PUMP (RC-P-1B)										
		B	RG226A	CONT.	RC PUMP (RC-P-1C)										
		B	RG227A	CONT.	RC PUMP (RC-P-1C)										
		B	RG228A	CONT.	RC PUMP (RC-P-1D)										
		B	RG229A	CONT.	RC PUMP (RC-P-1D)										
	RG226A	B	RG226A	CONT.	RC PUMP (RC-P-1C)										
		B	RG227A	CONT.	RC PUMP (RC-P-1C)										
	RG228A	B	RG228A	CONT.	RC PUMP (RC-P-1D)										
		B	RG229A	CONT.	RC PUMP (RC-P-1D)										
	RG223A	B	RG223A	CONT.	RC PUMP (RC-P-1B)										
		B	RG224A	CONT.	RC PUMP (RC-P-1B)										
	RG211A	A	RG211A	CONT.	RC PUMP (RC-P-1A)										
		A	RG212A	CONT.	RC PUMP (RC-P-1A)										
	RG211A	A	RG211A	CONT.	RC PUMP (RC-P-1A)										
		A	RG212A	CONT.	RC PUMP (RC-P-1A)										
		A	RG213A	CONT.	RC PUMP (RC-P-1B)										
		A	RG214A	CONT.	RC PUMP (RC-P-1B)										
		A	RG216A	CONT.	RC PUMP (RC-P-1C)										
		A	RG217A	CONT.	RC PUMP (RC-P-1C)										
		A	RG218A	CONT.	RC PUMP (RC-P-1D)										
		A	RG219A	CONT.	RC PUMP (RC-P-1D)										
	RG213A	A	RG213A	CONT.	RC PUMP (RC-P-1B)										
		A	RG214A	CONT.	RC PUMP (RC-P-1B)										

METROPOLITAN EDISON COMPANY				MADE	CHKD	DRAWING NO.		SH. NO.	REV
THREE MILE ISLAND NUCLEAR STATION UNIT 1									
ELECTRICAL									
FIRE HAZARD ANALYSIS									
CONDUIT-TO-CONDUIT SEPARATION REVIEW									
(RB) AREA RB-1e (EL. 346')									
				SCALE					
				NO. 044692-094		ENGINEER APPROVAL		DEPT	DATE
				REV. MADE CH. SQL. APP. DATE		REV. MADE CH. SQL. APP. DATE			
				SQ. LDR		ENG. INTERF.		GILBERT ASSOCIATES, INC.	
								ENGINEERS AND CONSULTANTS	
								READING, PA.	

613229



METROPOLITAN EDISON COMPANY	MADE	CHKD	DRAWING NO.	S.H. NO.	REV
THREE MILE ISLAND NUCLEAR STATION UNIT 1			04 4692 S-FHA-600	20	0
ELECTRICAL	SQL LDR	ENG INTERF	GILBERT ASSOCIATES, INC. ENGINEERS AND CONSULTANTS READING, PA.		
FIRE HAZARD ANALYSIS	SCALE				
CONDUIT-TO-CONDUIT SEPARATION REVIEW	W.O.-044692-094	ENGINEER APPROVAL	DEPT	DATE	
(RB) AREA RB-1e (EL. 346')	REV	MADE	CH	SQL	APP DATE

FIRE AREA - ZONE	CND IN ZONE	CHAN	CRK W/IN CND	FUNCTION	USE
	RG216A	A	RG216A	CONT.	RC PUMP (RC-P-1C)
		A	RG217A	CONT.	RC PUMP (RC-P-1C)
	RG218A	A	RG218A	CONT.	RC PUMP (RC-P-1D)
		A	RG219A	CONT.	RC PUMP (RC-P-1D)