

ARKANSAS NUCLEAR ONE

UNITS 1 and 2

ARKANSAS POWER & LIGHT COMPANY

RESULTS OF REANALYSIS AGAINST NRC
CLARIFICATION/INTERPRETATION OF APPENDIX R
TO 10CFR50 - SUPPLEMENTAL INFORMATION

AUGUST 30, 1985

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PDR ADOCK 05000313
F PDR

ANO-1

FIRE AREA A

Revisions to August 15, 1984 Submittal

- An evaluation has been performed to determine the necessity of installing a three-hour rated fire door in lieu of watertight door 5. However, based upon fire loadings in fire area "B" and fire area "A" in the vicinity of the door, and separation of the decay heat pumps, it was not considered to provide an additional measure of safety to the plant, nor increase the margin of safety to the public. (Ref. page 8, paragraph 3)

Modifications Completed

- Barrier upgrade was completed

Current Exemption Requests

- None required

FIRE AREA B

Revisions to August 15, 1984 Submittal

- ANO-2 fire zones 2225-WW, Pump and Tank Area (El. 335') and 2114-I, H&V Air Intake Area (El. 386') are also included in fire area "B", but were omitted from the list of zones in the area. Fire zone 16-EE should not be included in the fire-area "B" list since there is no zone designated as such. (Ref. page 9).
- For ANO-1, the diesel generator exhaust fans and associated cabling are redundant components included in fire area "B", fire zones 1-E and 2E. For ANO-2 the diesel generator exhaust fans are also redundant components included in fire area "B", fire zone 2114-I. The redundancies were not addressed in the August, 1984 submittal. The exhaust fan cabling for ANO-1 is also routed through fire zone 149-E, the Upper North Electrical Penetration Room. Since the cable routing did not satisfy Appendix R separation requirements for redundant trains, a one-hour wrap was installed on one train to meet the Appendix R requirements, as suppression was already installed in Zone 149-E. An evaluation of partial suppression coverage in this area is presently being conducted. Additional modifications required in order to comply with Appendix R in these zones are described below. (Ref. page 9, paragraph 2)

- An evaluation to verify adequacy of partial detection/suppression at various locations in fire area "B" is presently undergoing review and approval. Preliminary conclusions indicate that due to protection provided in locations containing safe shutdown-related equipment, installation of one-hour barriers, and protection of locations containing large fire hazards, full coverage detection/suppression is not deemed to increase the margin of safety to the public.
- An evaluation was performed to verify the adequacy of the elevator doors which are installed in the elevators between elevation 335' and 404' of the ANO-1 and ANO-2 auxiliary buildings. The doors are of 1½ hour rated construction, but are not labeled. Based upon the evaluation of redundancies located in the respective fire areas, as well as fire protection features in the areas, it is considered that the elevator hoistway doors provide adequate barriers to a fire from outside the area.
- An engineering evaluation was conducted to determine the adequacy of the expansion joint between the Reactor/Auxiliary Buildings for ANO-1 and ANO-2. There presently is a 1" seismic gap filled with a resilient material termed Darvon FR-100. The evaluation determined that based upon the low flame spread of the resilient material and low fire loadings in respective fire zones being low to moderate, upgrading the expansion joint was not deemed necessary. The expansion joint is also between the following areas:

"B" and "EE" - Elevations 335', 354' and 372' (ANO-2)

"B" and "G" - Elevations 386' and 404' (ANO-2)

"B" and "GG" - Elevation 354' (ANO-2)

"B" and "C" - Elevation 335' and 354' (ANO-1)

"B" and "I" - Elevation 372' and 386' (ANO-1)

Modifications Completed

- Barrier upgrades were completed during 1R6.
- One-hour barrier has been provided where redundant diesel generator room exhaust fan cabling is separated by less than 20 feet (Zone 149-E).
- One-hour barrier has been provided where redundant valve conduits are separated by less than 20 feet (Zone 79-U).
- Local automatic partial suppression system installed to protect makeup isolation valves CV1220 and CV1227 (Zone 79-U).

Current Exemption Requests

(*) New or revised exemption request

- Omission of a three-hour barrier as roof of Zones 1-E and 2-E of ANO-1 and Zone 2114-I of ANO-2. (*) These fire zones are open to the atmosphere, and detection capability is provided at the air intakes.

- Exemption to requirement for 20 feet separation for the diesel generator exhaust fans (ANO-1 and ANO-2).(*)

Proposed Modifications

- The following modification is presently planned for 1R7 in order that Appendix R requirements for separation of ANO-1 redundant diesel generator exhaust fans and associated cabling will be satisfied. At present, fire watches have been maintained until Appendix R compliance can be achieved.

For ANO-1 a three-hour wrap will be installed on the conduit to the north room fans as will a wall between the A, B & C, D fans; also power cables to louvers will be rerouted so that louvers are powered from vital power sources.

A wall will also be installed between the ANO-2 A, B & C, D fans. Conduit for ANO-2 fans is embedded, therefore a three-hour wrap is not required.

- The seismic gap between the Shift Supervisor's Office and the turbine building at elevation 386' will be upgraded for ANO-1 and ANO-2 to a three-hour rated barrier.

FIRE AREA C

Revisions to August 15, 1984 Submittal

- The watertight doors connecting the north wall of Zone 34-Y, area "C" with Zone 2026-Y of area "B" are doors numbered 356 and 455. These doors are 5/8" thick, not 1" as previously noted. Additional analyses have been performed since August, 1984 to confirm that no additional safety is gained by having these doors upgraded to a three-hour rated construction based upon fire loadings in the locations adjacent to these doors (Ref. page 14, paragraph 2).
- The west wall of the EFW pump room, Zone 38-Y in area "C" connects with the east wall of the south piping penetration room, Zone 46-Y of area "B". The wall has been upgraded to a three-hour rating and a three-hour fire door has been installed (#19). An analysis has been performed to evaluate the suitability of a special modified latch (i.e. no latch at all). The analysis has indicated that based upon the fire loading in zone 46-Y it is unlikely that a pressure buildup would exceed the HELB analysis of 0.25 psig thereby forcing Door 19 to open prematurely. The door would no longer pass a hose stream test if a stream was capable of being directed at the door from within Zone 46-Y (Ref. page 18, paragraph 3).

Modifications Completed

- "Red" and "green" cabling for the service water supply valves to each Makeup/HPI pump oil cooler was rerouted to provide greater than 20 feet of separation between redundant circuits.
- One-hour rated barrier was installed on cabling associated with the electric EFW pump (P7B).
- A local mechanical discharge pressure gauge was installed adjacent to the trip throttle valve on P7A.
- Barriers upgrades were completed.

Current Exemption Requests

(*) New or revised exemption request

- Omission of a three-hour rated barrier in the opening over BWST outlet valves CV1407 and CV1408 into Zone b7-U of fire area "B", and less than 20 feet separation between these valves. (*) This exemption request has been revised to indicate that there is less than 20 feet between the valves. This was, however, previously considered in the granting of the exemption for full coverage suppression in Zone 20-Y in letter ØCNAØ38328.
- Omission of a door latch on three-hour fire door (#19), west wall of Zone 38-Y into Zone 46-Y of fire area "B".

- Omission of automatic suppression capability for the EFW pump room, Zone 38-Y, and less than 20 feet separation between the EFW pumps P7A and P7B. (*) This exemption request has been revised to indicate that there is less than 20 feet between EFW pumps P7A and P7B. Steam driven pump P-7A is, however, enclosed in heavy gauge metal and the pumps are separated by a partial height noncombustible shield wall of approximately six feet.

- Omission of structural steel coatings in the lower north piping penetration room, (Zone 53-Y).

- Omission of suppression for makeup conduit with one-hour wrap, (Zone 31-Y). (*) There are no in-situ combustibles in the zone and the total heat load is considered low at 142 BTU/FT². Adjacent fire zone 34-Y was granted an exemption for omission of suppression in ØCNAØ38328 based upon similar fire protection features and characteristics. Although Zone 31-Y does not have detection capability, the location of the makeup conduit with respect to detectors installed in adjacent Zone 34-Y would ensure prompt alarms in the control room.

FIRE AREA D

Revision to August 15, 1984 Submittal

- An evaluation was performed to determine the necessity of installing three-hour rated fire dampers in exhaust fan duct openings, the ventilation port in the west wall, and the intake air louver openings. Based upon fire loadings, fire protection in the area, and the necessity for fresh air ventilation this is considered not to be required.
- This area no longer contains functional heat detectors; they were either removed or disconnected as a result of previous SER commitments. It presently contains smoke and flame detectors (Ref. page 21, paragraph 3).

Modifications Completed

- The west wall and floor of this area were upgraded to achieve a three-hour fire resistant rating with exceptions noted above.

Current Exemption Requests

- None required

FIRE AREA E

Revisions to August 15, 1984 Submittal

- None required

Modifications Completed

- Modifications were completed to ensure the "swing" makeup and service water pumps may be powered from the "green" switchgear located in fire area "I".

Current Exemption Requests

- None required

FIRE AREA F

Revisions to August 15, 1984 Submittal

- The partial detection capability identified in this area is located in Room 109, "red" d.c. equipment room of fire area "F". The installation of detection in the battery room is being evaluated at this time.

Modifications Completed

- The floor and west wall of Room 109 was upgraded to a three-hour rating.

Current Exemption Requests

- None required

FIRE AREA G

Revisions to August 15, 1984 Submittal

- The health physics area of ANO-2, Zone 2136-I, contains a partial coverage, manually actuated deluge system in the controlled access corridor and a closed head suppression system in the "uncontrolled" portion of the room. Both these systems were not identified in the referenced submittal. An exemption for fixed fire suppression in this zone was previously granted per ØCNAØ38328. (Ref. page 26, paragraph 5).
- The Core Protection Calculator Room, Zone 2150-C, actually has a ceiling of reinforced concrete with a covering of metal decking and no penetrations. An exemption for fixed suppression in this zone was previously granted in ØCNAØ38328 (Ref. page 24, paragraph 3).
- The south, east, and west walls of the elevator were upgraded during the last outage; these were previously identified as the south, east, and north walls (Ref. page 27, paragraph 4).
- An evaluation was performed to determine the necessity of installing a three-hour rated fire damper in the west wall of Zone 2136-I, north of the auxiliary building elevator shaft. Based

upon fire loadings, fire protection features in the immediate area, the location of the opening approximately 30 feet from potential fire access from another fire area, and the area being continually manned, the installation of a three-hour damper is not deemed necessary.

Modifications Completed

- Barrier upgrades for ANO-1 and ANO-2 have been completed (Ref. page 27, "Modifications").
- Unit 1 alternative shutdown capability has been installed.

Current Exemption Requests

(*) New or revised exemption request

- Omission of automatic suppression in Unit 2 Control Room and adjoining Printer Room. (*) This was not addressed in our August, 1984 submittal, however, we believe it should be granted based upon the following;
 - alternate shutdown capability is provided
 - there is physical separation within control panels
 - smoke detection is installed in each safety related cabinet

- the rooms are protected by a continuous fire watch in the form of operations personnel
- portable extinguishers are included in the control room.

FIRE AREA H

Revisions to August 15, 1984 Submittal

- An evaluation was performed to determine the necessity of installing three-hour rated fire dampers in exhaust fan duct openings, the ventilation port in the west wall, and the intake air louver openings. Based upon fire loadings, fire protection in the area, and the necessity for fresh air ventilation this is not considered to be required.
- This area no longer contains functional heat detectors; they were either removed or disconnected as a result of previous SER commitments. It presently contains smoke and flame detectors (Ref. page 29, paragraph 5).

Modifications Completed

- The west wall of this area was upgraded to achieve a three-hour fire resistant rating with the exception noted above.

Current Exemption Requests

- None required

FIRE AREA I

Revisions to August 15, 1984 Submittal

- An evaluation to verify the adequacy of the partial coverage suppression system in this area is presently undergoing review and approval. Preliminary conclusions indicate that partial coverage suppression is acceptable based upon existing coverage in the area, potential equipment damage from inadvertent actuation of a suppression system, and fire loadings in the immediate area. (Ref. page 31, paragraph 2)
- At present the RPS T(hot) Monitor is being utilized for indication of hot leg temperature, since modifications to the hot leg temperature loop (red) will be completed during 1R7 in order to comply with Regulatory Guide 1.97 (Ref. page 31, paragraph 3).

Modifications Completed

- The west wall of Zone 112-I and the floor and ceiling of Zones 98-J and 112-I have been upgraded to a three-hour fire resistant rating. (Ref. page 31, paragraph 3).
- One-hour barriers have been provided to enclose a circuit powering the "red" RS panel, RS1.

- Modifications to power circuitry to ensure that "swing" makeup and service water pumps can be operated from either "red" or "green" power were completed.

Current Exemption Requests

- Omission of three-hour rated coatings for structural steel supporting the ceiling of Zones 98-J and 112-I.

FIRE AREA J: ANO-1 REACTOR BUILDING

Revisions to August 15, 1984 Submittal

- An evaluation has been conducted to determine adequacy of penetration seals since they are not fire resistant rated. Based upon the rigid pressure maintenance requirements, other fire protection features, and restricted access to the area during plant operations, installation of fire-rated seals is not considered to increase the safety of the unit. (Ref. page 66).

Modifications Completed

- None required

Current Exemption Requests

- None required

FIRE AREA K

Revisions to August 15, 1984 Submittal

- This fire area, which was not addressed in the referenced submittal, consists of the Clean Waste Receiver Tank Area of Unit 1 (Zone 16-Y) and the Boron Management Holdup Tank Vault of Unit 2 (Zone 2020-JJ). Each of these tank areas, below grade at elevation 327', contains four tanks in separate underground enclosures. The fire load in the area is extremely low and consists of only transient combustibles. These are normally classified as high radiation zones and access is only obtained via the removal of a heavy reinforced concrete hatch. The area is bounded on one side by a three-hour rated fire resistant barrier. For Unit 1, this barrier separates the area from fire area "C". For Unit 2, this three-hour rated barrier separates the area from fire area "DD". (See Figures 5-2, 5-8, 5-10, 5-16).

Modifications Completed

- None required

Current Exemption Requests

- None required

FIRE AREA N: ANO-1 INTAKE STRUCTURE

Revisions to August 15, 1984 Submittal

- None required

Modifications Completed

- Power cables to redundant service water pumps have been rerouted and one-hour barriers provided to satisfy Section III.G.

Current Exemption Requests

- None required

ANO-2

FIRE AREA AA

Revisions to August 15, 1984 Submittal

- The suppression system located along the east wall of this area has been modified to require manual actuation since redundancies were eliminated via modifications to the "B" service water pump power circuitry. (Ref. page 34, paragraph 2).
- An evaluation was performed to determine the adequacy of watertight door 206 in lieu of a three-hour rated fire door. Based upon fire loadings in the area, fire protection features, the recent installation of a one-hour barrier around one redundant train of service water pump power cabling, and a manually operated suppression system to protect this cabling, it is not deemed to increase the margin of safety in the area. (Ref. page 33, paragraph 3).

Modifications Completed

- Modifications have been completed for the circuitry to the "B" service water pump in order to eliminate the redundancy in this area (Zone 2007-LL).

Current Exemption Requests

- None required

FIRE AREA CC

Revisions to August 15, 1984 Submittal

- Watertight door number 306, which was exempted from the three-hour rating requirement in letter ØCNAØ38328, is actually $\frac{1}{4}$ " thick, not 1" as previously identified. An evaluation was performed to determine the adequacy of the watertight door in lieu of installation of a three-hour rated fire door. Based upon the fire loadings in fire area "CC" and adjoining fire area "DD", it was determined that the installation of a three-hour rated fire door would not increase the margin of safety in this area. (Ref. page 35).

Modifications Completed

- None required

Current Exemption Requests

- None required

FIRE AREA DD

Revisions to August 15, 1984 Submittal

- The south wall of Zone 2040-JJ, adjacent to Zone 2026-Y of fire area "B", contains normally closed watertight doors 357 and 358, not only 358. In addition, these doors are 5/8" thick, not 1" as previously noted. (Ref. page 38, paragraph 1). An evaluation to determine the necessity of installing a three-hour rated fire door indicated that based upon fire loadings and fire protection features in the area, it is not deemed to increase the margin of safety to the public.
- On elevation 335' the hatch covers have been fabricated and installed in 3 sections and covered with Pyrocrete 241 to a thickness of 8". An engineering evaluation has been performed to ensure that the hatchcovers installed in the ceiling of the southeast corner of Zone 2040-JJ are equivalent to a three-hour rated assembly, since no test report exists on the actual configuration.

Modifications Completed

- Installation of fireproof coated steel hatches in the southeast corner of Zone 2040-JJ to achieve a three-hour equivalent fire rating.

- Installation of a suppression system on elevation 354' to protect the redundant diesel generator jacket cooling valve cables in fire area "HH". The system also serves as a "water curtain" to protect the bay opening in the ceiling of Zone 2040-JJ, although it was not specifically designed as such.
- Barrier upgrades were completed during 2R4.

Current Exemption Requests

- Omission of a three-hour rated barrier in bay opening in ceiling along west wall of Zone 2040-JJ.
- Omission of structural steel coating in Zone 2040-JJ under rooms. 2082, 2083.

FIRE AREA EE

Revisions to August 15, 1984 Submittal

- Room numbers 2082, and 2083 previously identified as a portion of Zone 2073-DD have been redesignated as a portion of Zone 2084-DD. This change does not impact the area fire loading or fire durations previously noted for fire area "EE". The appropriate zone boundary change is reflected on Figure 5-11. (Ref. page 40).
- An exemption request for the omission of automatic suppression in Zone 2055-JJ was inadvertently omitted from our August, 1984 submittal. The justification for this exemption request is provided on page 42 of that submittal since the fire protection features and characteristics of the zone are similar to those described for Zone 2084-DD, also included in fire area "EE".
- An analysis has been performed to evaluate the suitability of a modified latch (i.e. no latch) on door 210 which separates Zone 2055-JJ and Zone 2040-DD. Based upon the existing fire protection features and calculated fire duration in the area, it was determined that the modified latch on the door would not adversely effect the margin of safety to the public, nor would it increase the likelihood of a fire spreading through the area. An exemption for this door as a three-hour barrier was previously granted in ØCNAØ38328.

A reevaluation of the necessity for a modified latch on the door to satisfy HELB criteria is presently being performed. Based upon these results the previously referenced exemption may no longer be necessary.

Modifications Completed

- Barrier upgrades for fire area "EE" were completed during 2R4.

Current Exemption Request

(*) New or revised exemption request

- Omission of coating for structural steel supporting roof of Zone 2111-T.
- Omission of automatic suppression in Zone 2084-DD.
- Omission of automatic suppression in Zone 2055-JJ.(*) This was inadvertently omitted from our August, 1984 submittal.

FIRE AREA FF

Revisions to August 15, 1984 Submittal

- The watertight door which separates fire area "FF" from fire area "DD" should be identified as 355, not 335 (Ref. page 45).
- An evaluation was performed to determine the necessity of installing a three-hour rated fire door in lieu of this door (355). However, based upon fire loadings, fire protection features in the area, and separation of redundant components, it is not considered to increase the margin of safety to the public.
- The redundant components, the Emergency Feedwater Pumps, are in fire areas "FF" and "CC" and are separated by two watertight doors (355 and 306) which are $\frac{1}{2}$ " and $\frac{1}{4}$ " thick, respectively. The areas previously identified as containing the EFW pumps were "FF" and "DD". However, as stated in the August, 1984 submittal there are other redundant components located in areas "FF" and "DD" (Ref. page 45, paragraph 3).

Modifications Complete

- None required

Current Exemption Requests

- None required

FIRE AREA GG

Revisions to August 15, 1984 Submittal

- At elevation 335', three-hour rated fire door (#223) separates fire area "GG" (Zone 2081-HH) from fire area "DD", (Zone 2040-JJ). Since the fire loading in Zone 2081-HH is very low (83 BTU/Ft²) a fire in this zone, including that portion of the zone on elevation 354', would last about four minutes. (An exemption for fixed fire suppression in 2081-HH was previously granted in ØCNAØ38328). It is unlikely that a pressure buildup would exceed the latch modification of 0.25 psig, forcing the door to open if a fire should occur. The door (#223) would not pass a hose stream test if a stream was directed at the door from within Zone 2081-HH. In addition, if a fire should occur in Zone 2081-HH, alternate shutdown capability is provided by crosstie thereby permitting the use of the ANO-1 diesel fuel oil transfer pumps to pump to ANO-2.

Modifications Completed

- Barrier upgrades (floor of Zone 2076-HH) were completed during 2R4.

Current Exemption Requests

(*) New or revised exemption request

- Omission of a door latch on three-hour fire door (#223), east wall of Zone 2081-HH. (*)
- Omission of structural steel coatings supporting the roof of the Upper North Piping Penetration Room (Zone 2081-HH). (*) Zone 2081-HH contains no in-situ combustibles, piping, and motor-operated valves. Based upon the low heat load of 83 BTU/Ft² in this zone, and full coverage ionization detection capability, coating of structural steel is not deemed necessary. An exemption for fixed suppression in this zone was previously granted in ØCNAØ38328.

FIRE AREA HH

Revisions to August 15, 1984 Submittal

- Page 50 of the referenced document incorrectly identifies door number 375 as the watertight door separating fire area "HH" from the adjacent Zone 162-A in fire area "B" of Unit 1. Door 375 is a three-hour rated fire door and does separate these two areas, however, there is an additional door (#236) which is the watertight door included in this passageway.
- Based upon a fire loading analysis, the addition of a three-hour fire door in lieu of the watertight door (#249) in the west end of Zone 2073-DD will not significantly increase the level of fire protection for this area nor will it increase the margin of safety afforded the public.
- The hatchway in the floor of the southeast corner of Zone 2073-DD, which connects fire area "DD" and "HH", has been installed in 3 sections and coated with Pyrocrete 241 to achieve a three-hour equivalent rating. The hatch plug is constructed of Pyrocrete and structural steel with 8" of pyrocrete surrounding 6" to 8" structural steel beams. The top of each section is covered with 1/2" steel plate to provide a wear surface. (Ref. page 50, paragraph 3).

Modifications Completed

- The diesel generator jacket cooler valve suppression system has been installed at elevation 354'. This also acts as a "water curtain" to protect the bay opening along the west wall of Zone 2073-DD even though it was not specifically designed as such.
- The hatchway in the floor of the southeast corner of Zone 2073-DD has been coated with Pyrocrete 241 to achieve a three-hour equivalent fire resistant rating instead of one-hour as previously noted (Ref. page 50, paragraph 3).
- Barrier upgrades have been completed.

Current Exemption Requests

- None required

FIRE AREA II

Revision to August 15, 1984 Submittal

- None required

Modifications Completed

- Installation of disconnect switches to ensure that "green" power may be supplied to "swing" charging pump from fire area "JJ" was completed during 2R4.

Current Exemption Requests

- None required

FIRE AREA JJ

Revision to August 15, 1984 Submittal

- During the recent refueling outage (2R4) the one-hour barrier enclosing vital instrument AC panel 2RS4 has been removed (Ref. page 54, paragraph 3 and "Modifications Completed" section below).
- An evaluation to verify the adequacy of the partial suppression system in the area is presently undergoing review and approval. Preliminary conclusions indicate that based upon fire loadings in the area, separation of redundant trains, and other fire protection features, full coverage suppression is not considered to be required.
- Zone 2094-Q, the north diesel generator room, contains ionization and flame detection capability only. Heat detectors were either removed or disconnected as a result of previous SER commitments (Ref. page 54, paragraph 2).

Modifications Completed

- Barrier upgrades were completed

- During 2R4 the one-hour barrier enclosing vital instrument panel 2RS4, located in Zone 2109-U was removed. To maintain Appendix R compliance, power to one channel of necessary instrumentation in the control room was made independent of fire area "JJ" and also fire area "G". Therefore the previous exemption request regarding the testing configuration and qualification of the one-hour barrier enclosing 2RS4 is no longer required.

Current Exemption Requests

- Omission of coatings for exposed structural steel supporting the ceiling slab of Zone 2109-U.

FIRE AREA KK

Revisions to August 15, 1984 Submittal

- Fire area "KK" contains Zones 2093-P and 2115-I which are located on elevations 368' and 386', respectively, not only elevation 368' as noted on page 56 of the August, 1984 submittal (Ref. Figure 5-16). The area contains only partial coverage suppression and full coverage detection, not full coverage suppression as previously noted. The tank room, Zone 2115-I, contains 2 boric acid tanks and their outlet valves, and has smoke detection capability. The fire load is considered low since transient combustibles constitute the only heat load. The area is enclosed by three-hour barriers. (Ref. page 57).

Modifications Completed

- None required

Current Exemption Requests

- None required

FIRE AREA MM

Revisions to August 15, 1984 Submittal

- None required

Modifications Completed

- None required

Current Exemption Request

- None required

FIRE AREA NN: ANO-2 CONTAINMENT BUILDING

Revisions to August 15, 1984 Submittal

- An evaluation has been conducted to determine adequacy of penetration seals since they are not fire resistant rated. Based upon the rigid pressure maintenance requirements, other fire protection features, and restricted access to the area during plant operation, installation of fire rated seals is not considered to increase the safety of the plant.

Modifications Completed

- None required

Current Exemption Requests

- None required

FIRE AREA 00: ANO-2 INTAKE STRUCTURE

Revisions to August 15, 1984 Submittal

- Due to structural constraints below elevation 354' of the ANO-2 intake structure, separation of redundant service water cables by greater than 20 feet could not be achieved. Therefore three-hour rated fire barriers were provided below elevation 354' in order to comply with Section III.G. It was previously noted that one-hour rated fire barriers would be provided (Ref. page 63, 64).

Modifications Completed

- Three-hour barriers have been provided where redundant service water cables are separated by less than 20 feet (below elevation 354').

Current Exemption Requests

- None required

FIRE AREA L: DIESEL FUEL STORAGE VAULTS

Revisions to August 15, 1984 Submittal

- None required

Modifications Completed

- None required

Current Exemption Requests

- None required

FIRE AREA: YARD AREA MANHOLES

(1MH04, 1MH06, 2MH01E, 2MH02E, 2MH03E)

Revisions to August 15, 1984 Submittal

- None required

Modifications Completed

- Cables leading to the redundant switchgear of the opposite division have been installed (Ref. page 61).

Current Exemption Requests

- None required

FIRE AREA: YARD MANHOLES (1MH09, 1MH10)

Revisions to August 15, 1984 Submittal

- None required

Modifications Completed

- None required

Current Exemption Requests

- None required

APPENDIX R, SECTION III.J

EMERGENCY LIGHTING

Revision to August 15, 1984 Submittal

- In accordance with Appendix R, Section III.J AP&L has installed numerous self-contained battery powered lighting units for Units 1 and 2. This includes the installation of 8 hr lights in all areas needed for operation of safe shutdown equipment needed for hot shutdown in both units. Such lighting has not been installed at elevation 317' in Unit 1, nor portions of access paths to the Unit 1 Steam Pipe Area at elevation 404', the intake structure, or the diesel fuel storage vaults.

Modifications Completed

- Modifications are discussed above.

Current Exemption Requests

(*) New or revised exemption request

- The equipment at elevation 317' includes the decay heat pumps, their associated valves, and room coolers. This equipment is not required until cold shutdown, approximately 113 hours for ANO-1.

By this time normal AC lighting would be restored, but in any event the operator could use flashlights to provide sufficient illumination. In addition there is diesel backed AC lighting installed in these areas.

The access path to the ANO-1 steam pipe area which is not lighted is across the start-up boiler room roof from the turbine building and up a set of stairs to a door at the entrance to the steam pipe area. The portions of the access paths to the intake structures and the diesel fuel vaults that are not lighted use the yard area between the turbine buildings and these buildings.

All of these are lighted by yard lighting which is part of the station security system and therefore are backed by the security diesel. This comes on with a loss of power to the administration building. An operator could access these areas with the use of a flashlight.(*)

1

WEST
DECAY
HEAT
REMOVAL

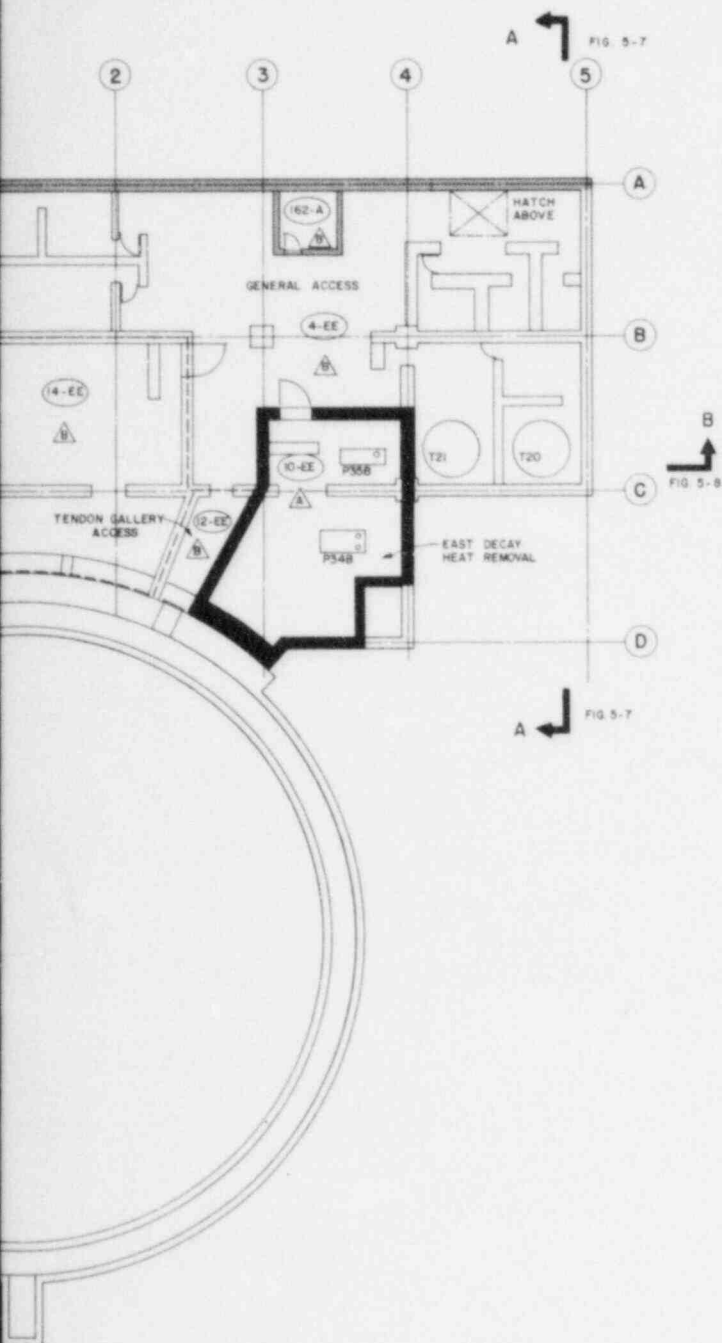
B

FIG. 5-8



TI APERTURE CARD

Also Available On
Aperture Card



LEGEND

- TECH SPEC FIREWALLS
- - - - - NON-TECH SPEC FIREWALLS
- ▤ TECH SPEC FIRE-RATED FLOORS
- ▦ NON-TECH SPEC FIRE-RATED FLOORS
- 104-S FIRE ZONE
- △ FIRE AREA
- - - - - DENOTES FIRE ZONE BOUNDARY

FIRE ZONE	ZONE DESCRIPTION
FIRE AREA A	
10-EE	EAST DECAY HEAT REMOVAL PUMP ROOM (EL. 317)
FIRE AREA B	
12-EE	TENDON GALLERY ACCESS AREA (EL. 317)
14-EE	WEST DECAY HEAT REMOVAL PUMP ROOM (EL. 317)
4-EE	GENERAL ACCESS AREA (EL. 317)
162-A	STAIRWELL NO. 1 (EL. 317 TO 404)

DRAWING REFLECTS FIREWALLS AND
FIRE-RATED FLOORS AFTER
COMPLETION OF MODIFICATIONS
IDENTIFIED IN THE APPENDIX R
AREA ANALYSIS

THIS DRAWING TO BE USED FOR
FIRE PROTECTION
ONLY

BACKGROUND EQUIPMENT MAY NOT BE
CORRECT AS TO LOCATION OR SIZE

ARKANSAS POWER AND LIGHT COMPANY
ARKANSAS NUCLEAR ONE-UNIT 1
FIRE PROTECTION PROGRAM

FIRE AREA AND ZONE BOUNDARIES

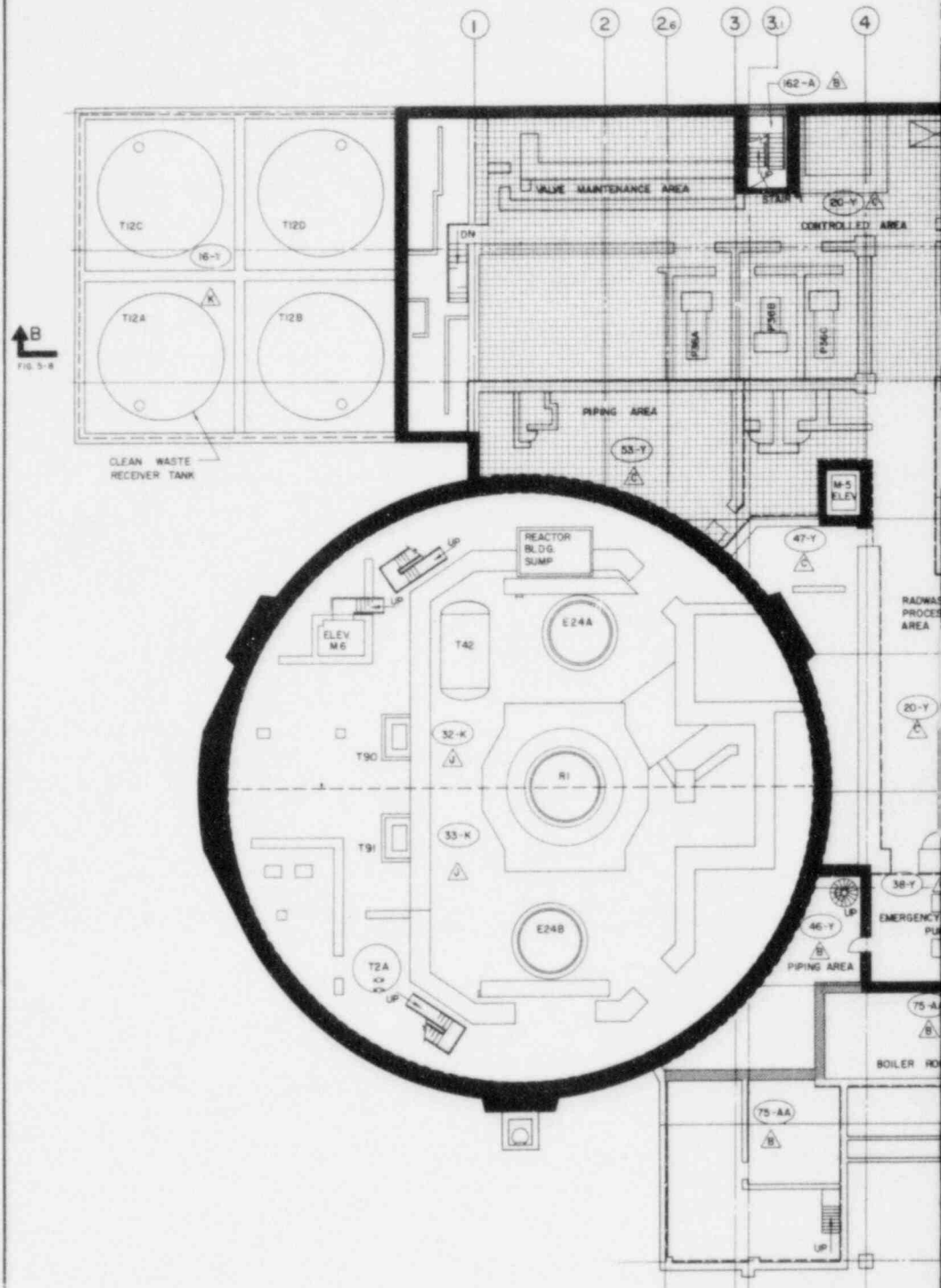
ELEVATION 317'-0"

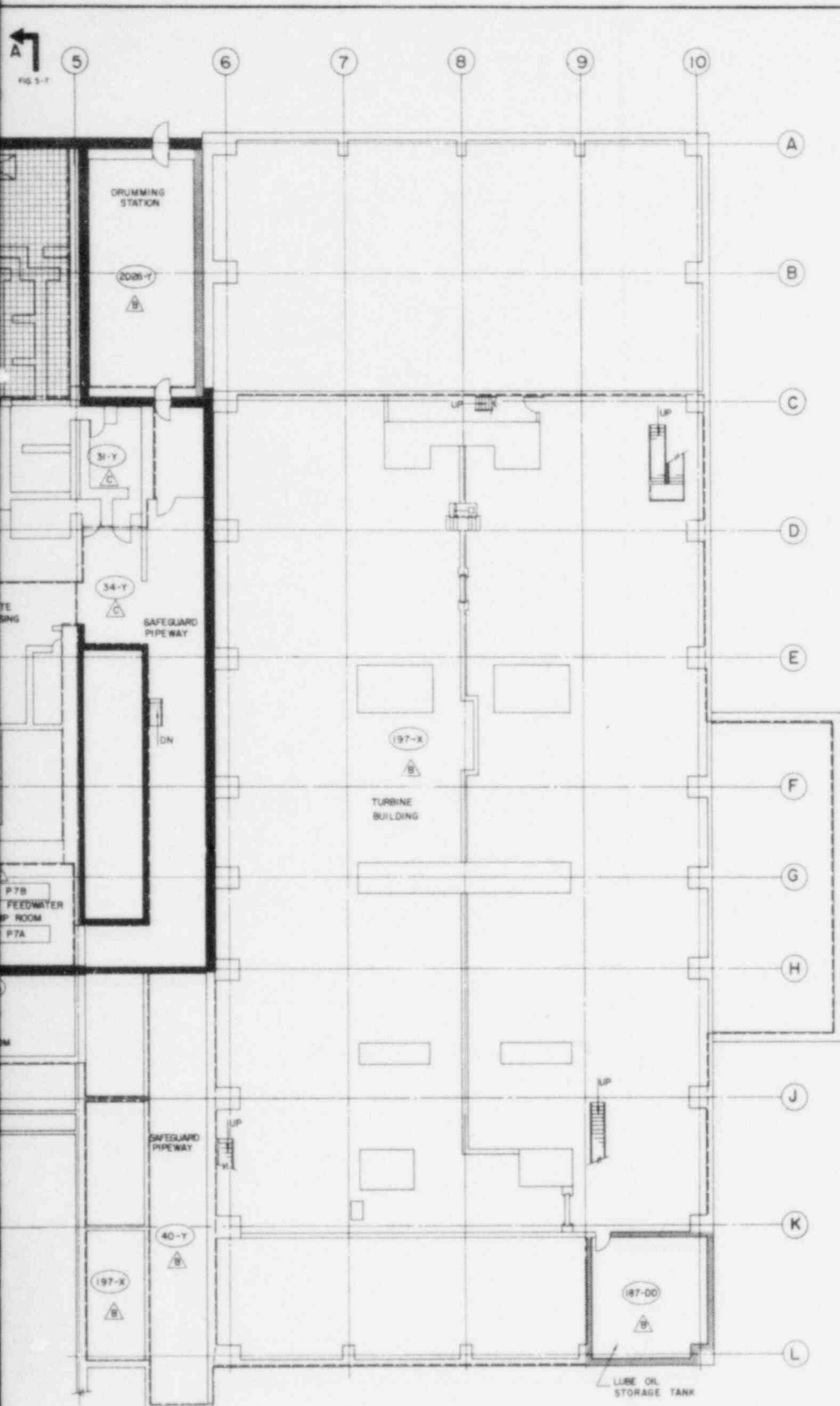


FIGURE 5-1

REV
0

8509270090-01





LEGEND

- TECH SPEC FIRE WALLS
- NON-TECH SPEC FIRE WALLS
- TECH SPEC FIRE-RATED FLOORS
- NON-TECH SPEC FIRE-RATED FLOORS
- FIRE ZONE
- FIRE AREA
- DENOTES FIRE ZONE BOUNDARY

FIRE ZONE	ZONE DESCRIPTION
FIRE AREA B	
167-A	STAIRWELL NO. 1 (EL. 317 TO 404)
2026-Y	DRUMMING STATION (UNIT A - EL. 335)
46-Y	LOWER SOUTH PIPING PENETRATION AREA (EL. 335)
75-AA	BOILER ROOM (EL. 354)
197-X	TURBINE BUILDING (EL. 335 TO 404)
40-Y	PIPE AREA (EL. 341)
197-DO	DIRTY & CLEAN LUBE OIL STORAGE TANK ROOM (EL. 335)
FIRE AREA C	
20-Y	RADWASTE PROCESSING AREA (EL. 335)
53-Y	LOWER NORTH PIPING PENETRATION AREA (EL. 335)
47-Y	PENETRATION VENTILATION AREA (EL. 335)
34-Y	PIPE AREA (EL. 341)
31-Y	PURIFICATION DEMINERALIZER AREA (EL. 335)
36-Y	EMERGENCY FEEDWATER PUMP AREA (EL. 335)
FIRE AREA K	
16-Y	CLEAN WASTE RECEIVER TANK AREA (EL. 327)
FIRE AREA J	
32-K	NORTH SIDE CONTAINMENT BUILDING
33-K	SOUTH SIDE CONTAINMENT BUILDING

DRAWING REFLECTS FIREWALLS AND FIRE-RATED FLOORS AFTER COMPLETION OF MODIFICATIONS IDENTIFIED IN THE APPENDIX H AREA ANALYSIS

THIS DRAWING TO BE USED FOR
FIRE PROTECTION
ONLY
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CORRECT AS TO LOCATION OR SIZE

ARKANSAS POWER AND LIGHT COMPANY
ARKANSAS NUCLEAR ONE-UNIT 1
FIRE PROTECTION PROGRAM

FIRE AREA AND ZONE BOUNDARIES

ELEVATION 335'
BELOW GRADE

FIGURE 5-2

REV
1

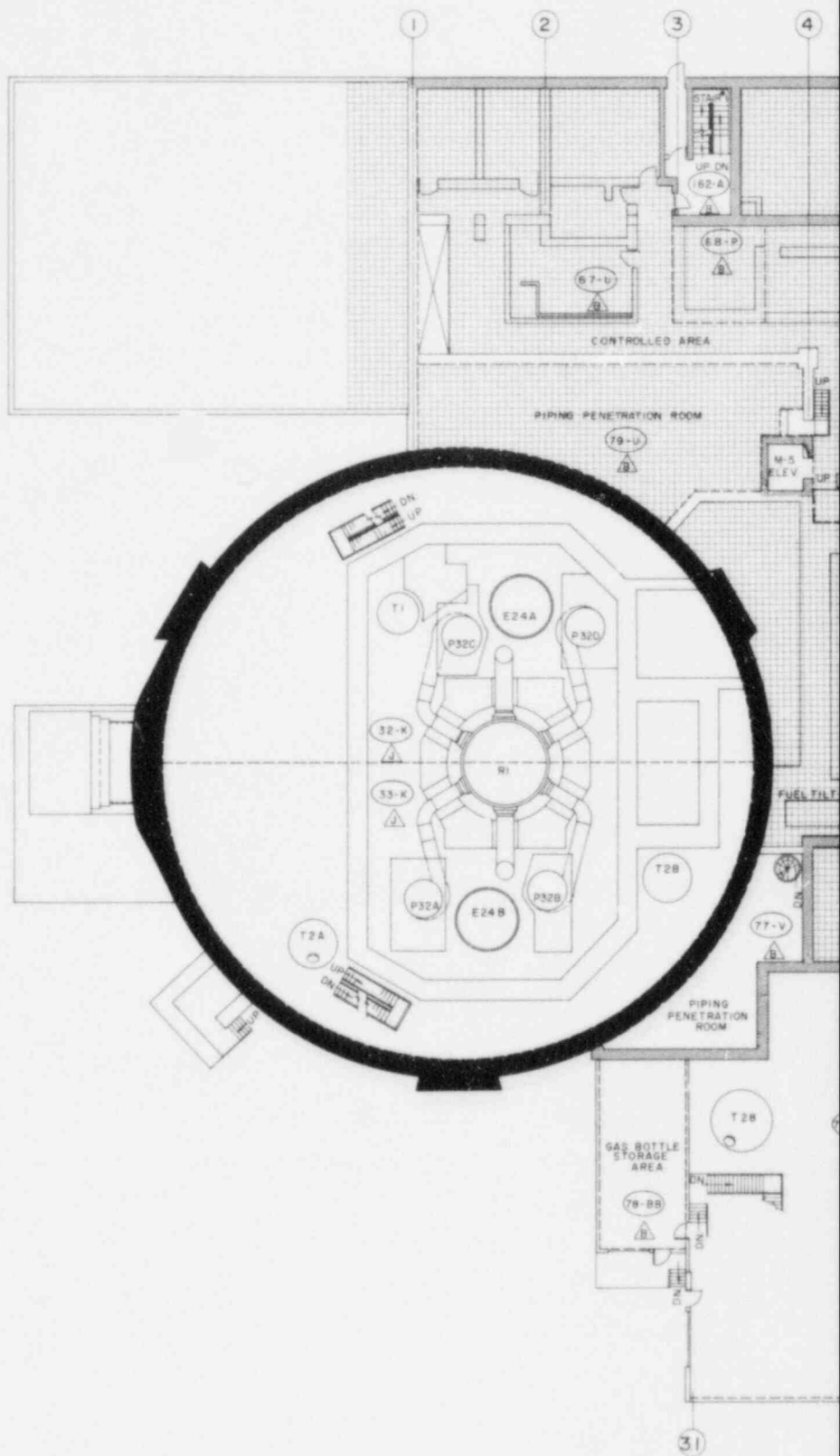
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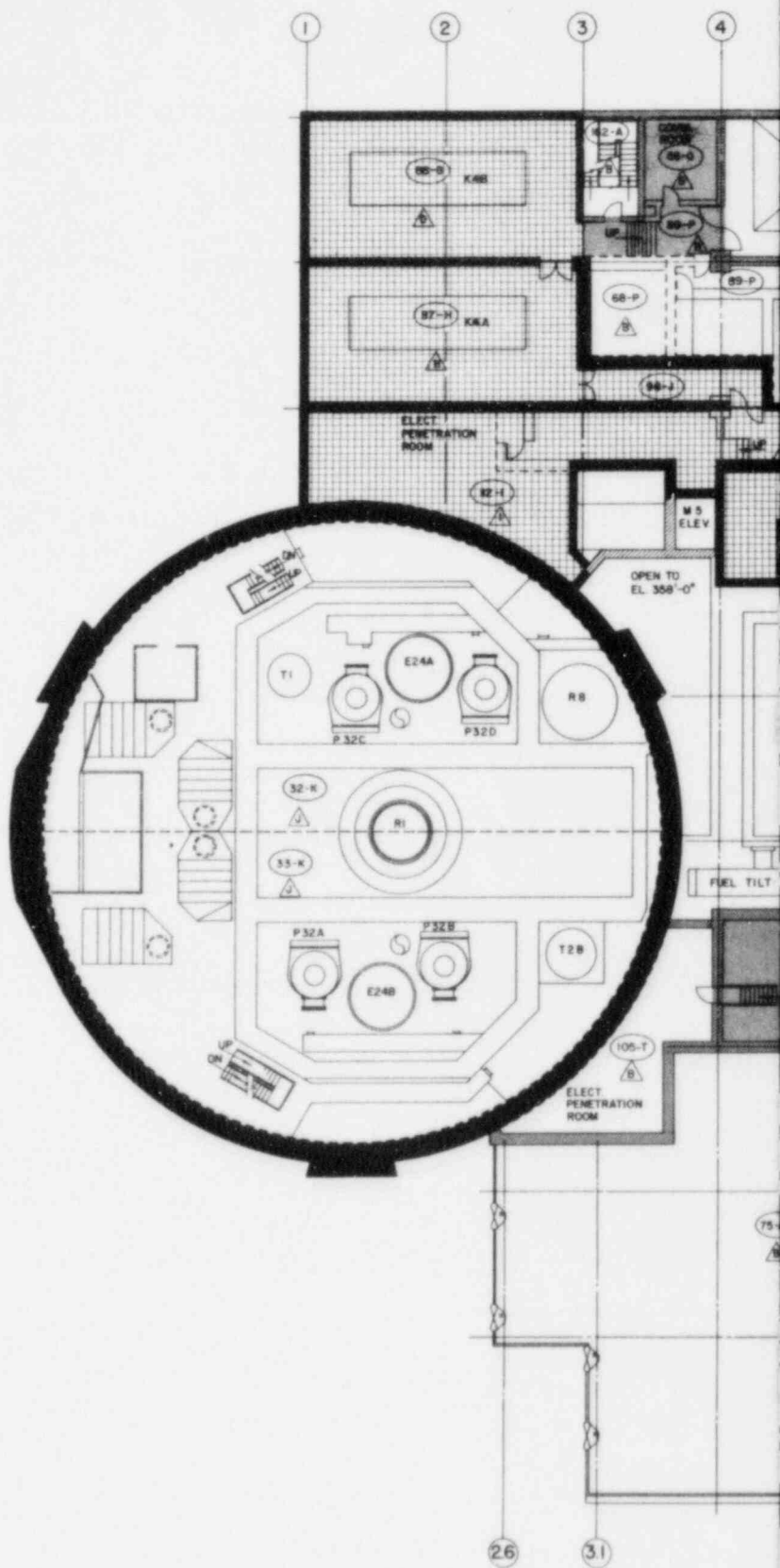
1-B-BB ADDED ROLLING STEEL DOOR IN NE CORNER OF ZONE 80-Y
REV 01/2072

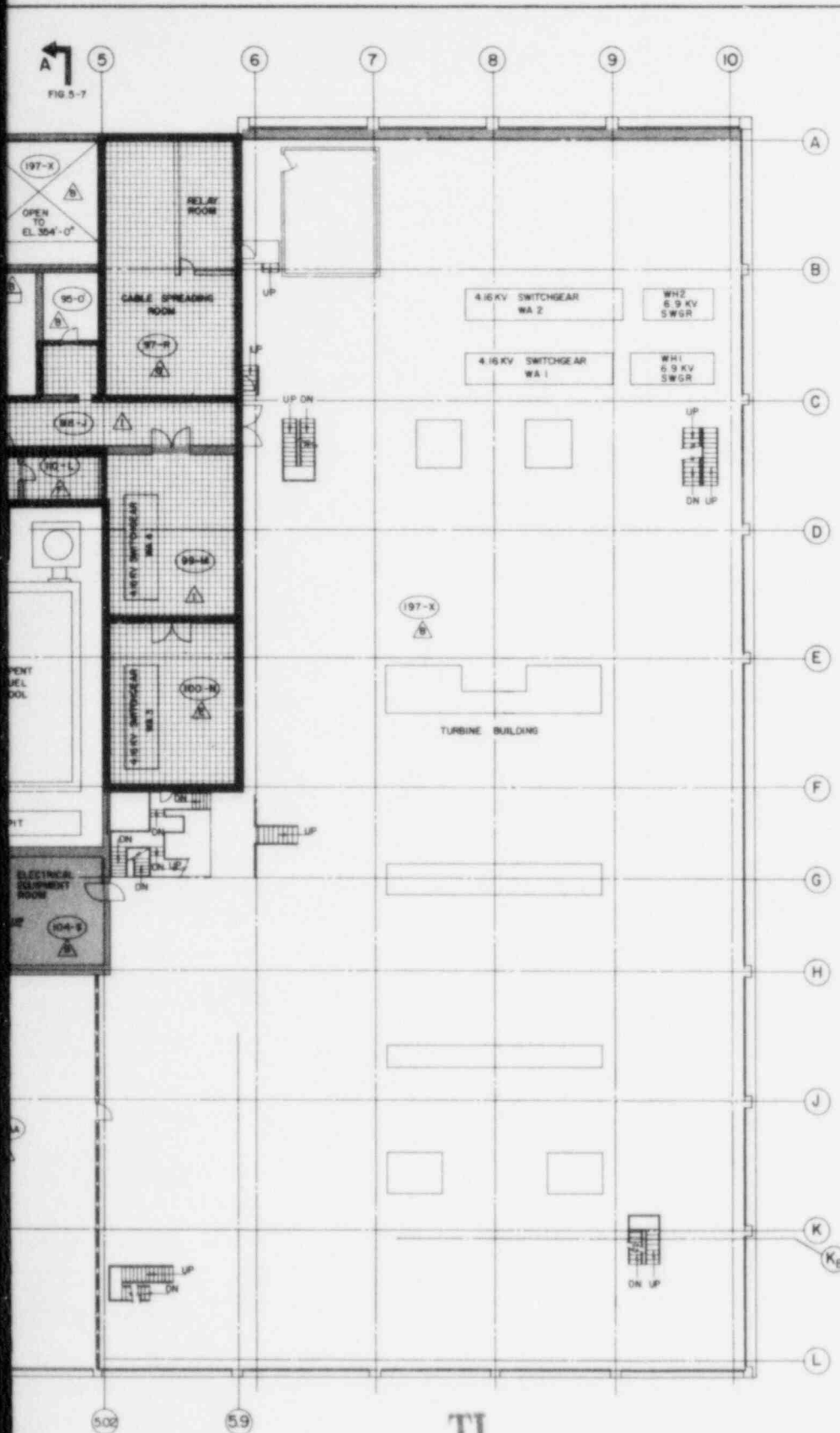
8509270090-02

↑ B
FIG. 5-8



↑B
FIG 5-8





LEGEND

- TECH SPEC FIRE WALLS
- NON-TECH SPEC FIRE WALLS
- TECH SPEC FIRE-RATED FLOORS
- NON-TECH SPEC FIRE-RATED FLOORS
- FIRE ZONE
- FIRE AREA
- DENOTES FIRE ZONE BOUNDARY

FIRE ZONE	ZONE DESCRIPTION
FIRE AREA B	
105-T	LOWER SOUTH ELECTRICAL PENETRATION ROOM (EL 374-6)
104-S	ELECTRICAL EQUIPMENT ROOM (EL 368)
75-AA	BOILER ROOM (EL 354)
197-X	TURBINE BUILDING (EL 335 TO 404)
95-O	NORTH BATTERY ROOM (EL 372)
98-P	REACTOR COOLANT MAKEUP TANK ROOM (EL 354 & 368)
89-P	CONTROLLED ACCESS (EL 374)
88-G	COMMUNICATIONS ROOM (EL 374)
102-B	STAIRWELL NO. 1 (EL 317 TO 404)
FIRE AREA D	
96-G	NORTH DIESEL GENERATOR ROOM (EL 368)
FIRE AREA E	
100-N	SOUTH SWITCHGEAR ROOM (EL 372)
FIRE AREA F	
110-L	SOUTH BATTERY ROOM (EL 372)
FIRE AREA G	
97-R	CABLE SPREADING ROOM AND RELAY ROOM (EL 372)
FIRE AREA H	
87-H	SOUTH DIESEL GENERATOR ROOM (EL 368)
FIRE AREA I	
99-M	NORTH SWITCHGEAR ROOM (EL 372)
98-J	UNCONTROLLED ACCESS (EL 372)
112-L	LOWER NORTH ELECTRICAL PENETRATION ROOM (EL 373-6)
FIRE AREA J	
32-K	NORTH SIDE CONTAINMENT BUILDING
33-K	SOUTH SIDE CONTAINMENT BUILDING

DRAWING REFLECTS FIREWALLS AND FIRE-RATED FLOORS AFTER COMPLETION OF MODIFICATIONS IDENTIFIED IN THE APPENDIX R AREA ANALYSIS

THIS DRAWING TO BE USED FOR FIRE PROTECTION ONLY
BACKGROUND EQUIPMENT MAY NOT BE CORRECT AS TO LOCATION OR SIZE

ARKANSAS POWER AND LIGHT COMPANY
ARKANSAS NUCLEAR ONE-UNIT 1
FIRE PROTECTION PROGRAM
FIRE AREA AND ZONE BOUNDARIES
ELEVATION 368'-374'-6"
INTERMEDIATE FLOOR

APL
FIGURE 5-4
REV 1

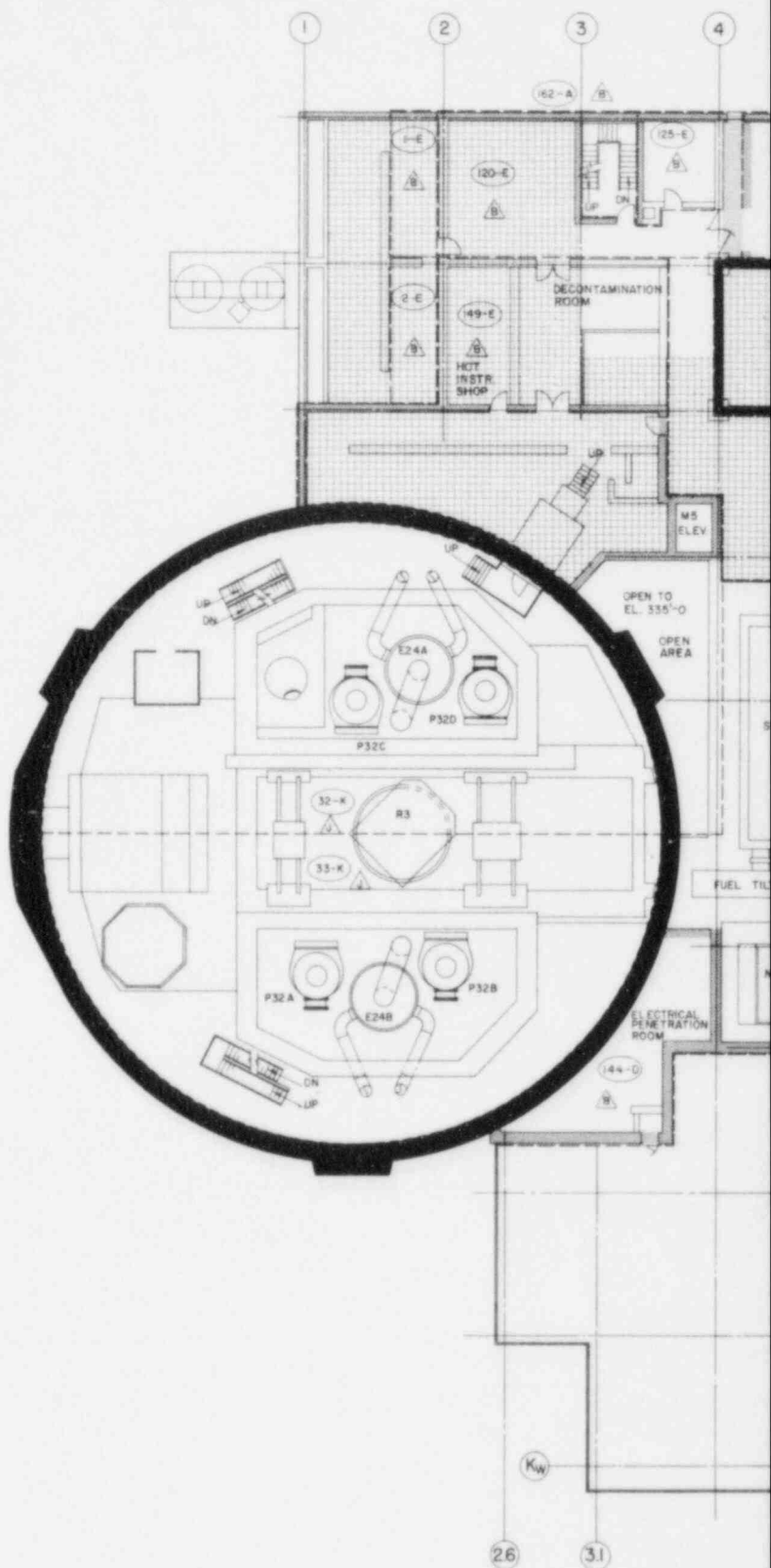
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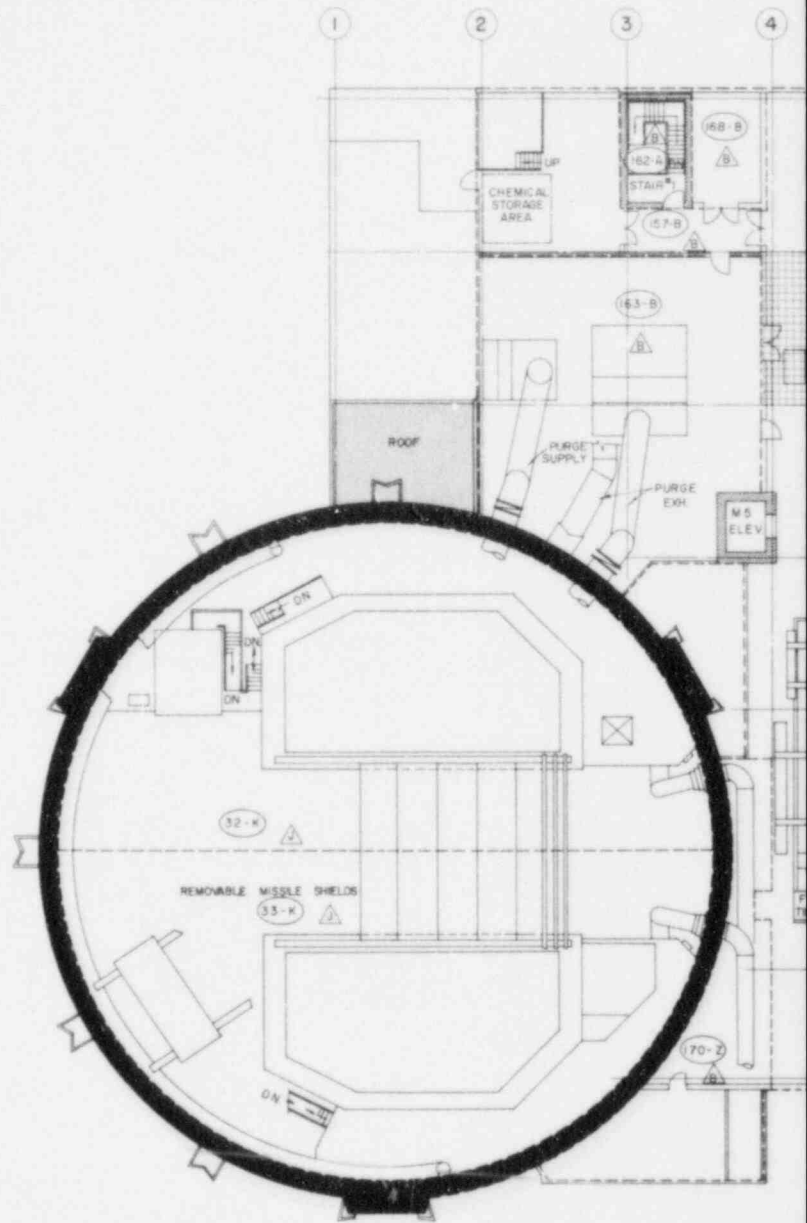
1. 7-8-87 ADDED ROOMS AND ZONE DESIGNATION LEADING TO 0-0 ROOM
REVISED DATE: 05-08-90

8509270090-04

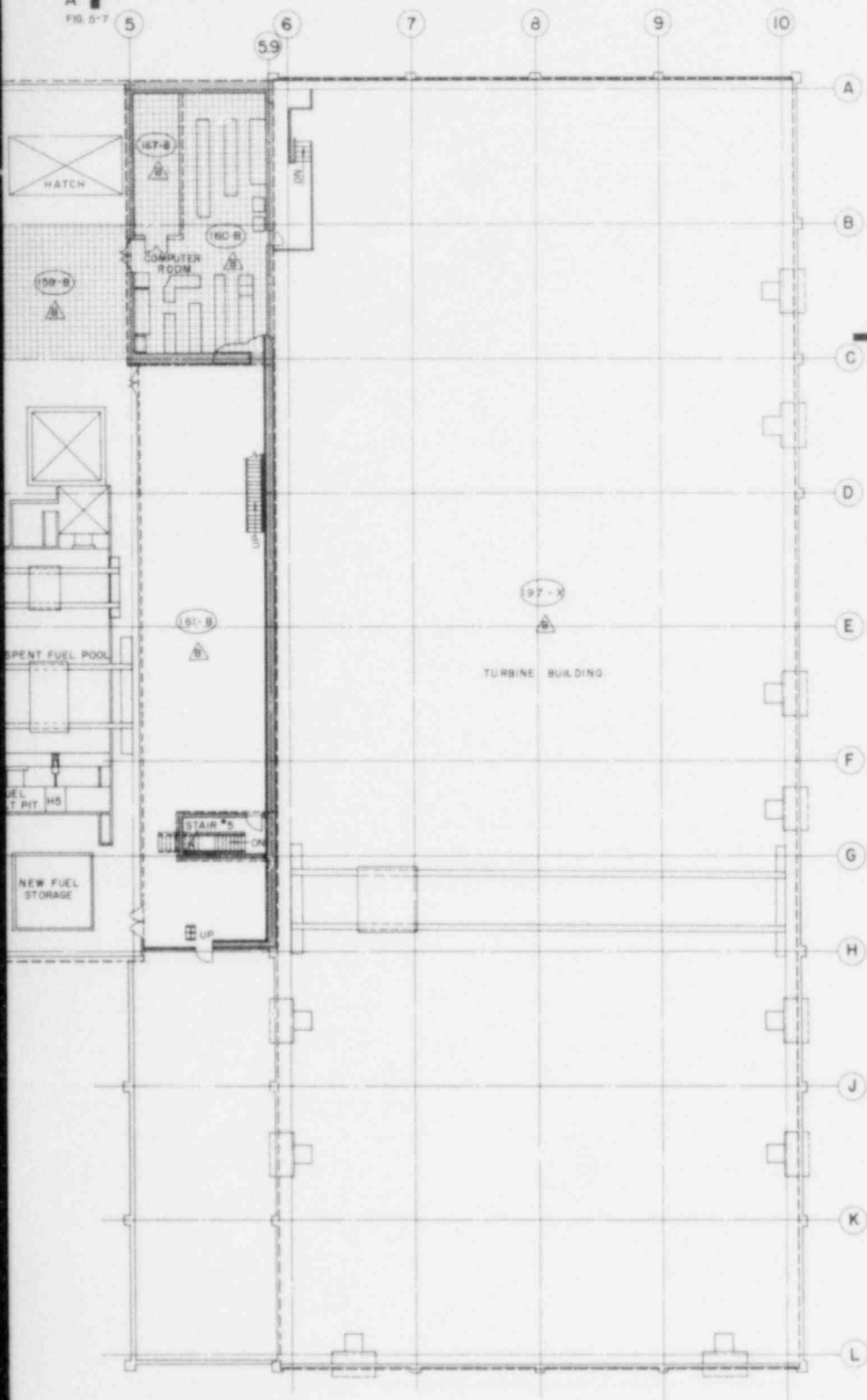

 FIG. 5-8



B
↑
FIG. 5-8



A1
FIG. 5-7



LEGEND

- TECH SPEC FIRE WALLS
- NON-TECH SPEC FIRE WALLS
- ▨ TECH SPEC FIRE-RATED FLOORS
- ▨ NON-TECH SPEC FIRE-RATED FLOORS
- 157-B FIRE ZONE
- △ FIRE AREA
- DENOTES FIRE ZONE BOUNDARY

FIRE ZONE	ZONE DESCRIPTION
FIRE AREA B	
157-B	CHEMICAL ADDITION AREA (EL. 404)
170-B	STEAM PIPING AREA (EL. 404)
163-B	REACTOR BUILDING PURGE ROOM (EL. 404)
157-X	TURBINE BUILDING (EL. 335 TO 404)
162-A	STAIRWELL NO. 1 (EL. 317 TO 404)
159-B	SPENT FUEL AREA (EL. 404)
160-B	COMPUTER ROOM (EL. 404)
161-B	VENTILATION EQUIPMENT AREA (EL. 404 TO 420)
167-B	COMPUTER TRANSFORMER ROOM (EL. 404)
168-B	TRANSFORMER ROOM (EL. 404)
FIRE AREA J	
152-K	NORTH SIDE CONTAINMENT BUILDING
153-K	SOUTH SIDE CONTAINMENT BUILDING

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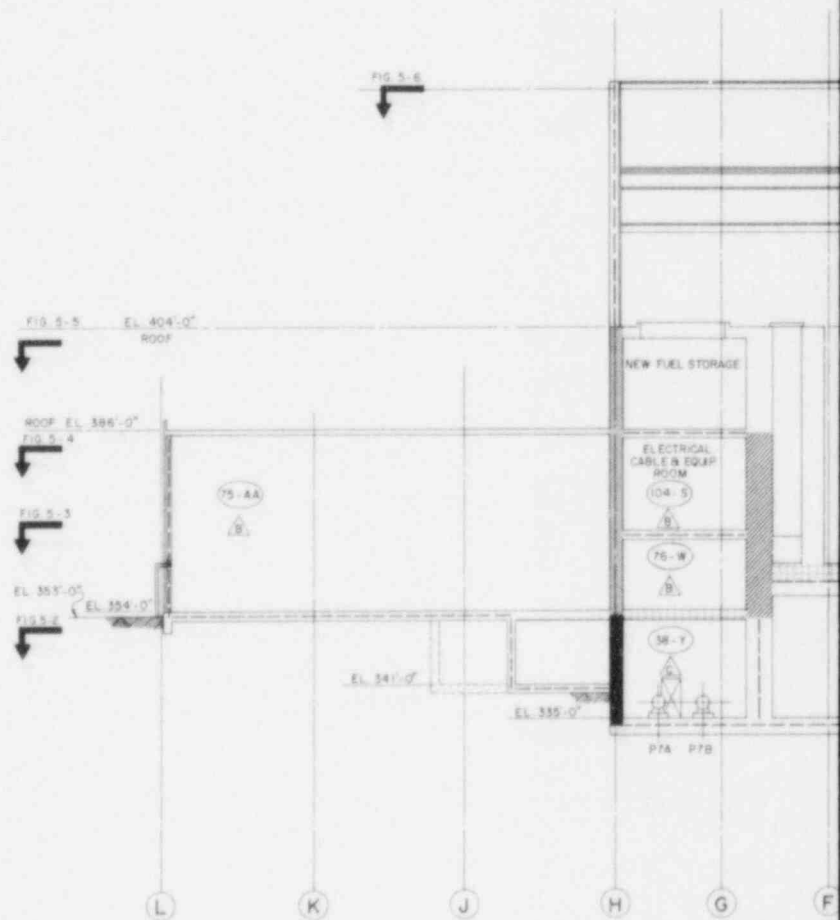
ARKANSAS POWER AND LIGHT COMPANY
ARKANSAS NUCLEAR ONE-UNIT 1
FIRE PROTECTION PROGRAM

FIRE AREA AND ZONE BOUNDARIES

ELEVATION 404'
FUEL HANDLING FLOOR

AP FIGURE 5-6 REV. 0

8509270090-06

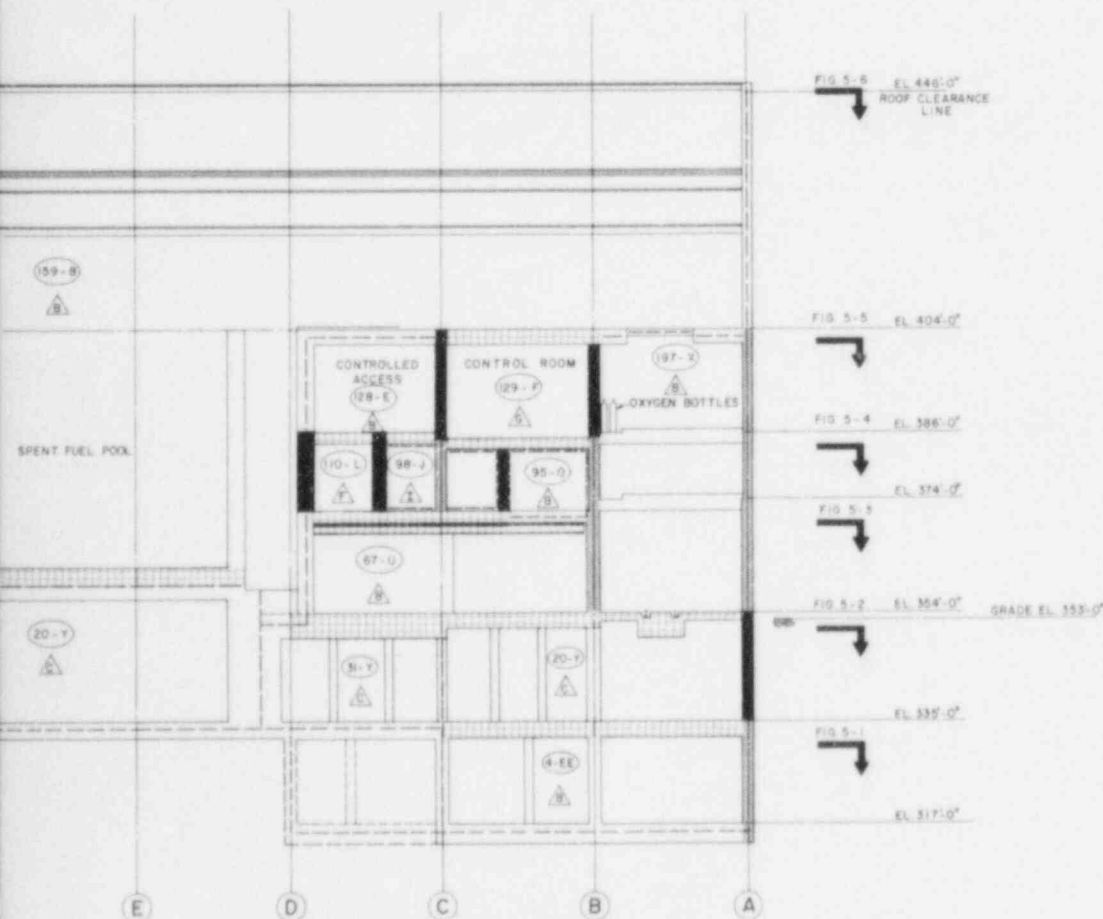




LEGEND

- TECH SPEC FIREWALLS
- NON-TECH SPEC FIREWALLS
- TECH SPEC FIRE-RATED FLOORS
- NON-TECH SPEC FIRE-RATED FLOORS
- FIRE ZONE
- FIRE AREA
- DENOTES FIRE ZONE BOUNDARY

FIRE ZONE	ZONE DESCRIPTION
FIRE AREA B	
70-1A	BOILER ROOM (EL. 354)
70-W	COMPRESSOR ROOM (EL. 354)
104-S	ELECTRICAL EQUIPMENT ROOM (EL. 360)
109-B	SPENT FUEL AREA (EL. 404)
4-EE	GENERAL ACCESS AREA (EL. 371)
67-U	LAR & DEMINERALIZER ACCESS AREA (EL. 354)
95-O	NORTH BATTERY ROOM (EL. 372)
129-E	CONTROLLED ACCESS AREA (EL. 386)
127-X	TURBINE BUILDING (EL. 335 TO 404)
FIRE AREA C	
58-Y	EMERGENCY FEEDWATER PUMP AREA (EL. 335)
20-Y	RAHWASTE PROCESSING AREA (EL. 335)
50-Y	PURIFICATION DEMINERALIZER AREA (EL. 335)
FIRE AREA F	
100-L	SOUTH BATTERY ROOM (EL. 372)
FIRE AREA G	
129-F	CONTROL ROOM (EL. 386)
FIRE AREA I	
98-L	UNCONTROLLED ACCESS AREA (EL. 372)



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CORRECT AS TO LOCATION OR SIZE

ARKANSAS POWER AND LIGHT COMPANY
ARKANSAS NUCLEAR ONE-UNIT 1
FIRE PROTECTION PROGRAM

FIRE AREA AND ZONE BOUNDARIES

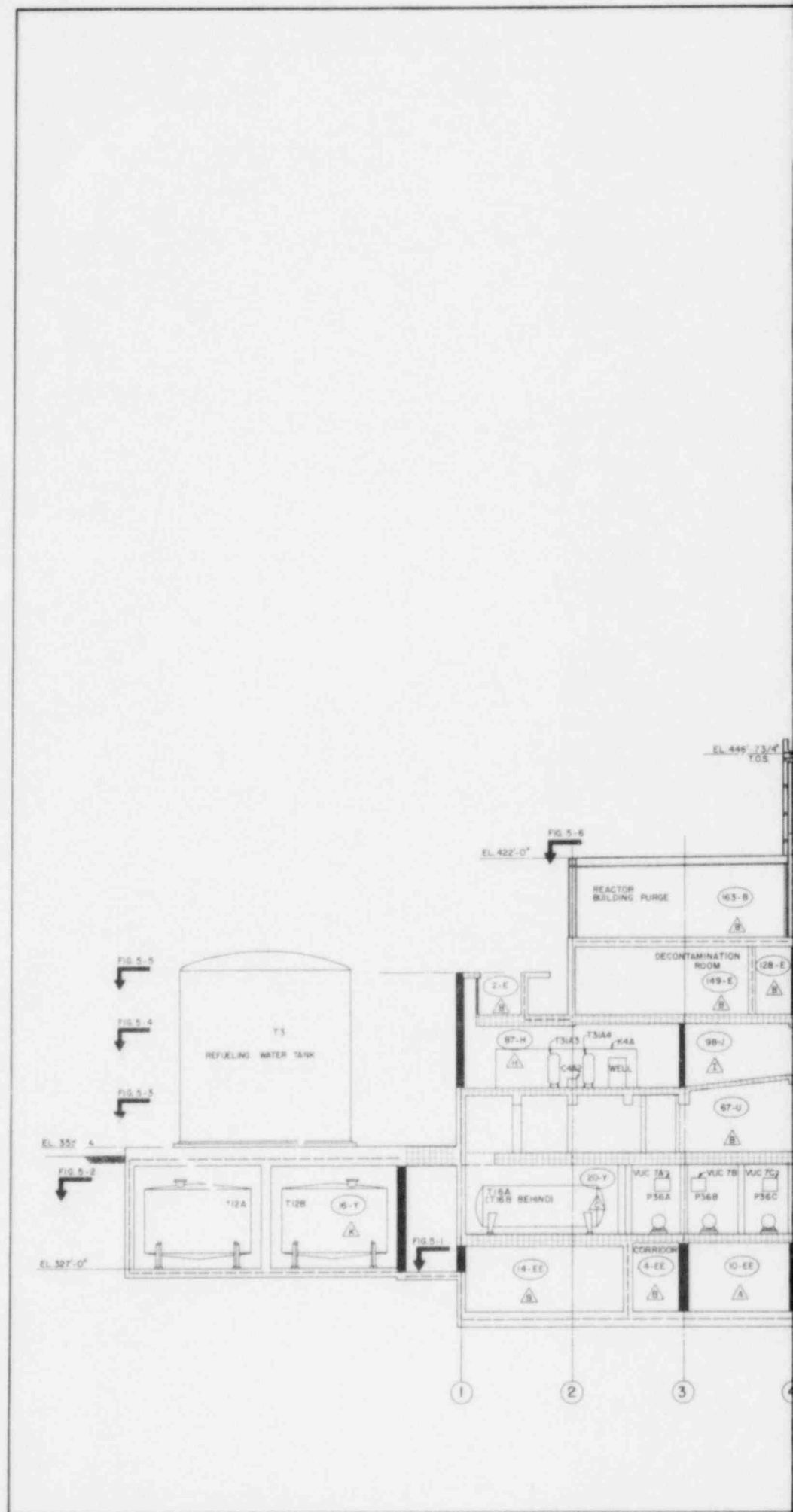
SECTION A-A



FIGURE 5-7

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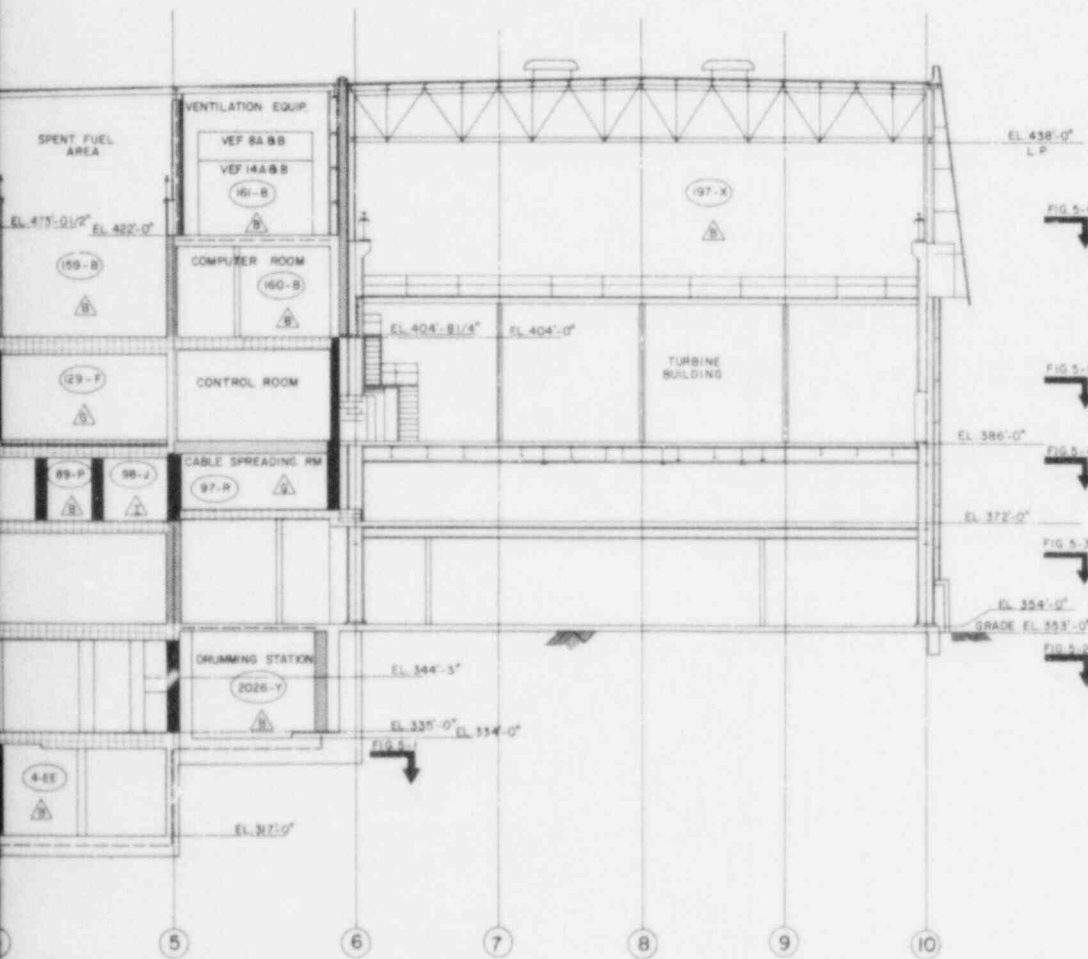
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LEGEND

- TECH SPEC FIREWALLS
- NON-TECH SPEC FIREWALLS
- TECH SPEC FIRE-RATED FLOORS
- NON-TECH SPEC FIRE-RATED FLOORS
- FIRE ZONE
- FIRE AREA
- DENOTES FIRE ZONE BOUNDARY



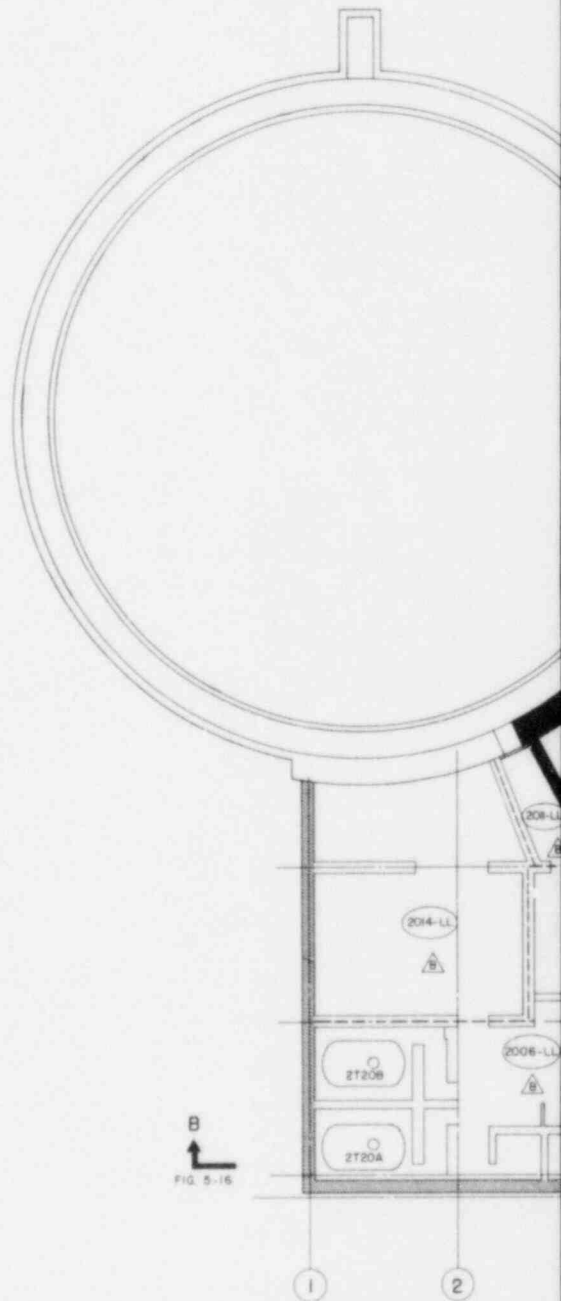
FIRE ZONE	ZONE DESCRIPTION
FIRE AREA A	
10-EE	EAST DECAY HEAT REMOVAL PUMP ROOM (EL 317)
FIRE AREA B	
14-EE	WEST DECAY HEAT REMOVAL PUMP ROOM (EL 317)
4-E	GENERAL ACCESS AREA (EL 317)
2026-Y	DRUMMING STATION UNIT (EL 335)
67-U	LAR-B DEMINERALIZER ACCESS AREA (EL 354)
2-E	SOUTH EMERGENCY DIESEL GENERATOR EXHAUST FANS (EL 386)
149-E	UPPER NORTH ELECTRICAL PENETRATION ROOM HOT TOOL ROOM, DECONTAMINATION ROOM (EL 386)
128-E	CONTROLLED ACCESS (EL 386)
153-B	REACTOR BUILDING PUMP ROOM (EL 404)
100-B	COMPUTER ROOM (EL 404)
181-B	VENTILATION EQUIPMENT AREA (EL 404 & 422)
155-B	SPENT FUEL AREA (EL 404)
197-X	TURBINE BUILDING (EL 335 TO 404)
FIRE AREA C	
20-Y	RADWASTE PROCESSING AREA (EL 335)
FIRE AREA D	
129-F	CONTROL ROOM (EL 386)
97-R	CABLE SPREADING ROOM & RELAY ROOM (EL 372)
FIRE AREA E	
87-H	SOUTH DIESEL GENERATOR ROOM
FIRE AREA F	
98-J	UNCONTROLLED ACCESS (EL 372)
FIRE AREA G	
15-T	CLEAN WASTE RECEIVER TANK AREA (EL 327)

DRAWING REFLECTS FIREWALLS AND FIRE-RATED FLOORS AFTER COMPLETION OF MODIFICATIONS IDENTIFIED IN THE APPENDIX R AREA ANALYSIS

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ARKANSAS POWER AND LIGHT COMPANY ARKANSAS NUCLEAR ONE-UNIT 1 FIRE PROTECTION PROGRAM	
FIRE AREA AND ZONE BOUNDARIES	
SECTION B-B	
AP	FIGURE 5-B
REV 1	

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B
↑
FIG. 5-16

1

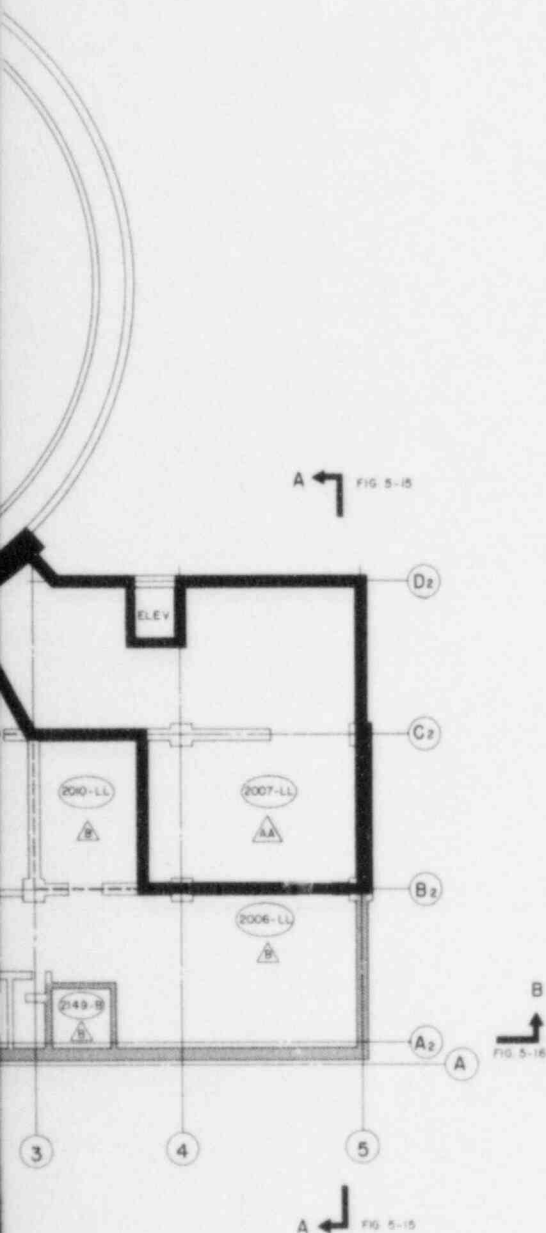
2



LEGEND

- TECH SPEC FIREWALLS
- NON-TECH SPEC FIREWALLS
- TECH SPEC FIRE-RATED FLOORS
- NON-TECH SPEC FIRE-RATED FLOORS
- FIRE ZONE
- FIRE AREA
- DENOTES FIRE ZONE BOUNDARY

FIRE ZONE	ZONE DESCRIPTION
FIRE AREA B	
2006-LL	GENERAL ACCESS AREA (EL 317)
2010-LL	"C" HPIS PUMP AREA (EL 317)
2011-LL	TENDON GALLERY ACCESS (EL 317)
2014-LL	WEST HPIS (LPS) B CONTAINMENT SPRAY PUMP AREA (EL 317)
2149-B	STAIRWAY NO. 2001 (EL 317 TO 422)
FIRE AREA AA	
2007-LL	EAST HPIS (LPS) B CONTAINMENT SPRAY PUMP AREA AND GALLERY (EL 317)



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ARKANSAS POWER AND LIGHT COMPANY
ARKANSAS NUCLEAR ONE-UNIT 2
FIRE PROTECTION PROGRAM

FIRE AREA AND ZONE BOUNDARIES

ELEVATION 317'

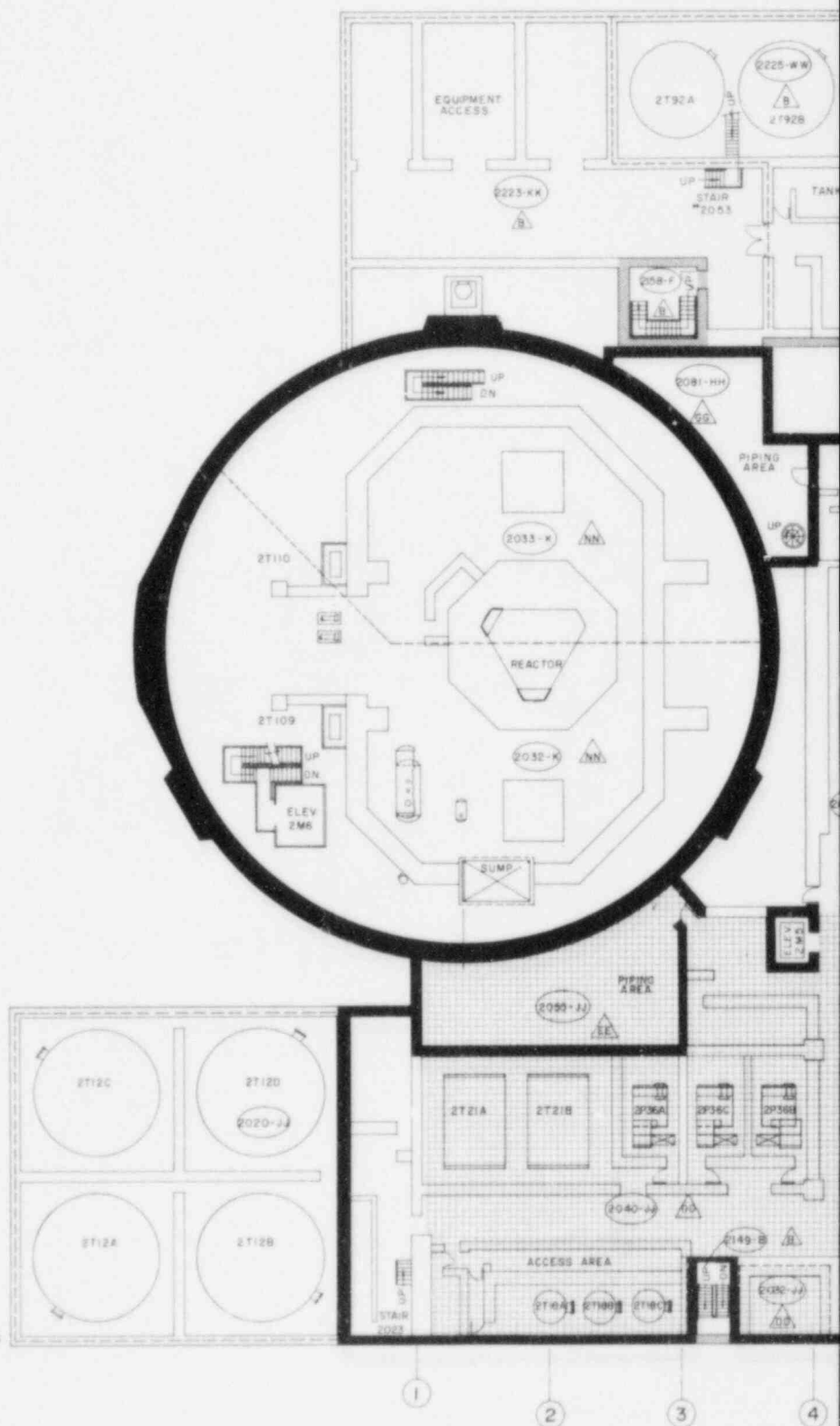


FIGURE 5-9

REV
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B
FIG. 3-16

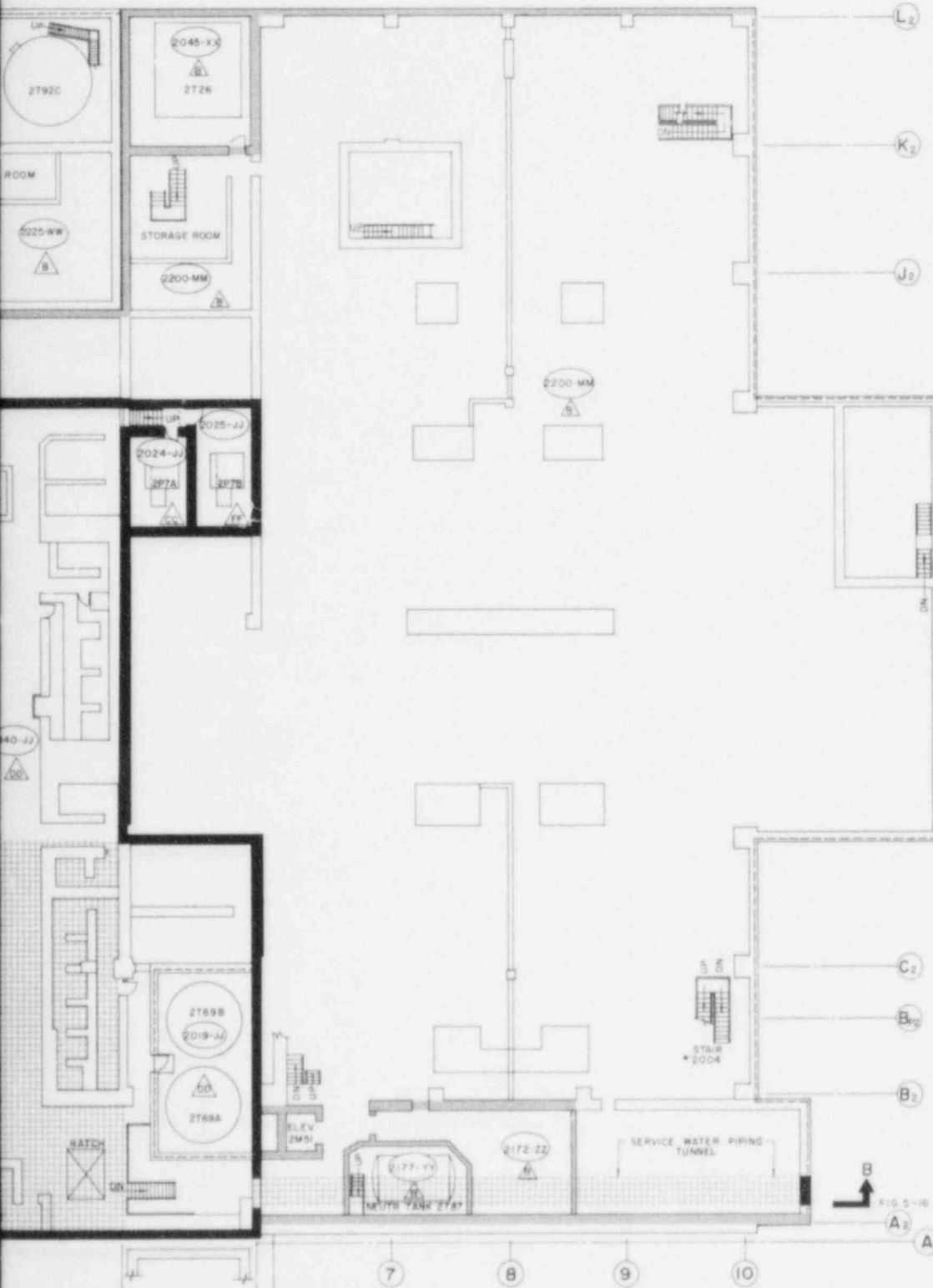


A1 FIG 5-15



LEGEND

- TECH SPEC FIREWALLS
- NON-TECH SPEC FIREWALLS
- TECH SPEC FIRE-RATED FLOORS
- NON-TECH SPEC FIRE-RATED FLOORS
- 249-B FIRE ZONE
- FIRE AREA
- DENOTES FIRE ZONE BOUNDARY



FIRE ZONE	ZONE DESCRIPTION
FIRE AREA B	
2225-KK	PIPEWAY EQUIPMENT ACCESS AREA (EL. 335)
2045-KK	TURBINE LUBE OIL STORAGE TANK ROOM (EL. 335)
2200-MM	TURBINE BUILDING (EL. 335 TO 404)
2149-B	STAIRWAY NO. 200 (EL. 317 TO 422)
2177-VV	NEUTRALIZER TANK ROOM (EL. 336)
2172-ZZ	LAUNDRY STORAGE & BOTTLED AIR REFILL ROOM (EL. 334 & LOWER STORAGE AREA (EL. 335))
2158-Y	STAIR NO. 203 (EL. 335 TO 404)
2225-WW	REGENERATIVE WASTE PUMP & TANK AREA (EL. 335)
FIRE AREA CC	
2029-JJ	TURBINE DRIVEN EMERGENCY FEEDWATER PUMP ROOM (EL. 329)
FIRE AREA DD	
2042-JJ	TANK ROOMS, PUMP ROOMS & CORRIDORS (EL. 335)
2032-JJ	SPENT RESIN STORAGE TANK ROOM (EL. 335)
2019-JJ	SULFURIC ACID CONDENSATE TANK ROOM (EL. 335)
FIRE AREA EE	
2055-JJ	UPPER SOUTH PIPING PENETRATION AREA (EL. 335)
FIRE AREA FF	
2025-JJ	MOTOR DRIVEN EMERGENCY FEEDWATER PUMP ROOM (EL. 335)
FIRE AREA GG	
2081-HH	UPPER NORTH PIPING PENETRATION AREA (EL. 336) & LOWER NORTH PIPING PENETRATION AREA (EL. 332)
FIRE AREA HH	
2030-K	CONTAINMENT BUILDING SOUTH SIDE (EL. 335 TO 426-B)
2033-A	CONTAINMENT BUILDING NORTH SIDE (EL. 335 TO 426-B)

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ONLY**
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ARKANSAS POWER AND LIGHT COMPANY
ARKANSAS NUCLEAR ONE-UNIT 2
FIRE PROTECTION PROGRAM

FIRE AREA AND ZONE BOUNDARIES

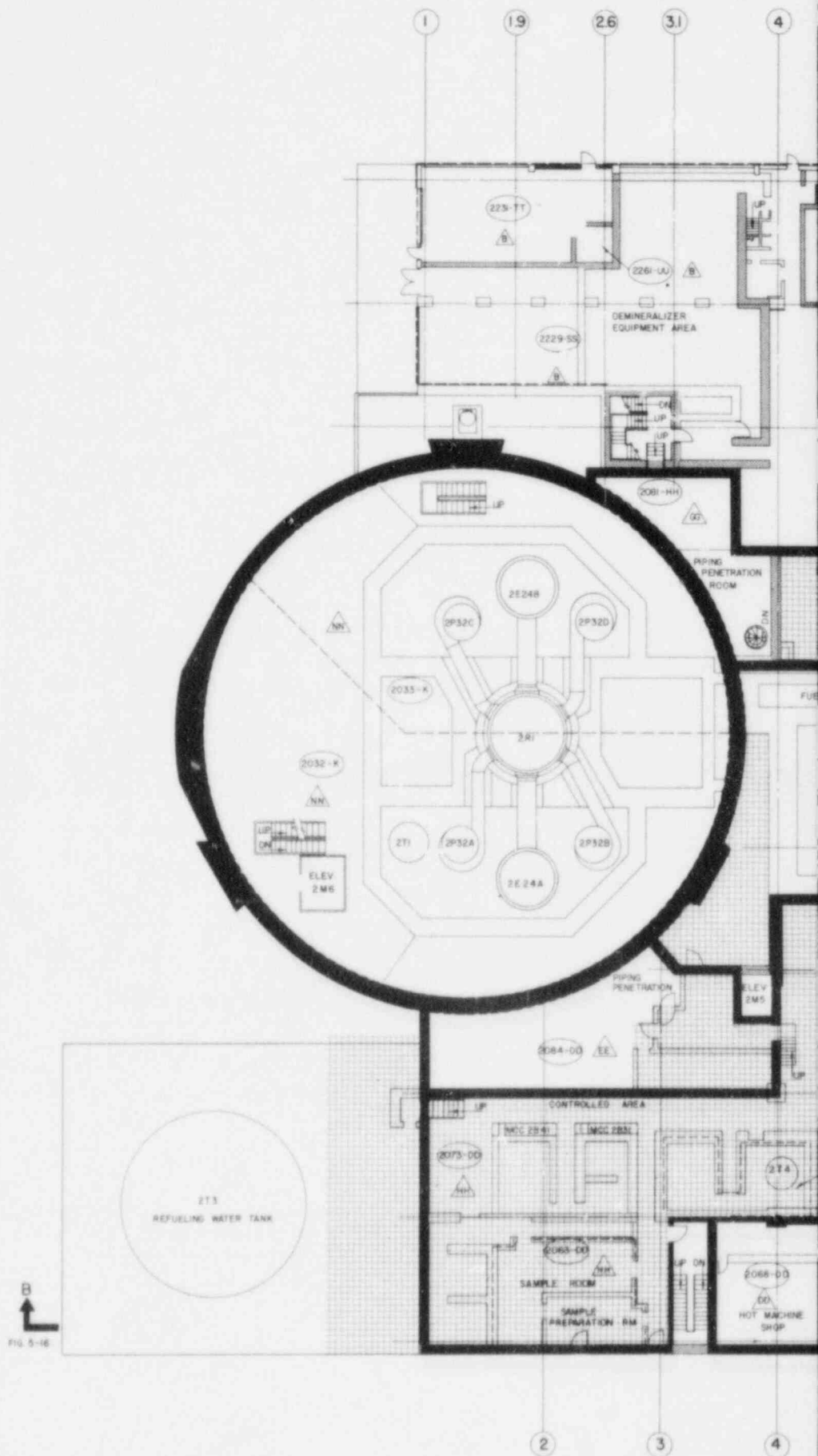
ELEVATION 335'
BELOW GRADE

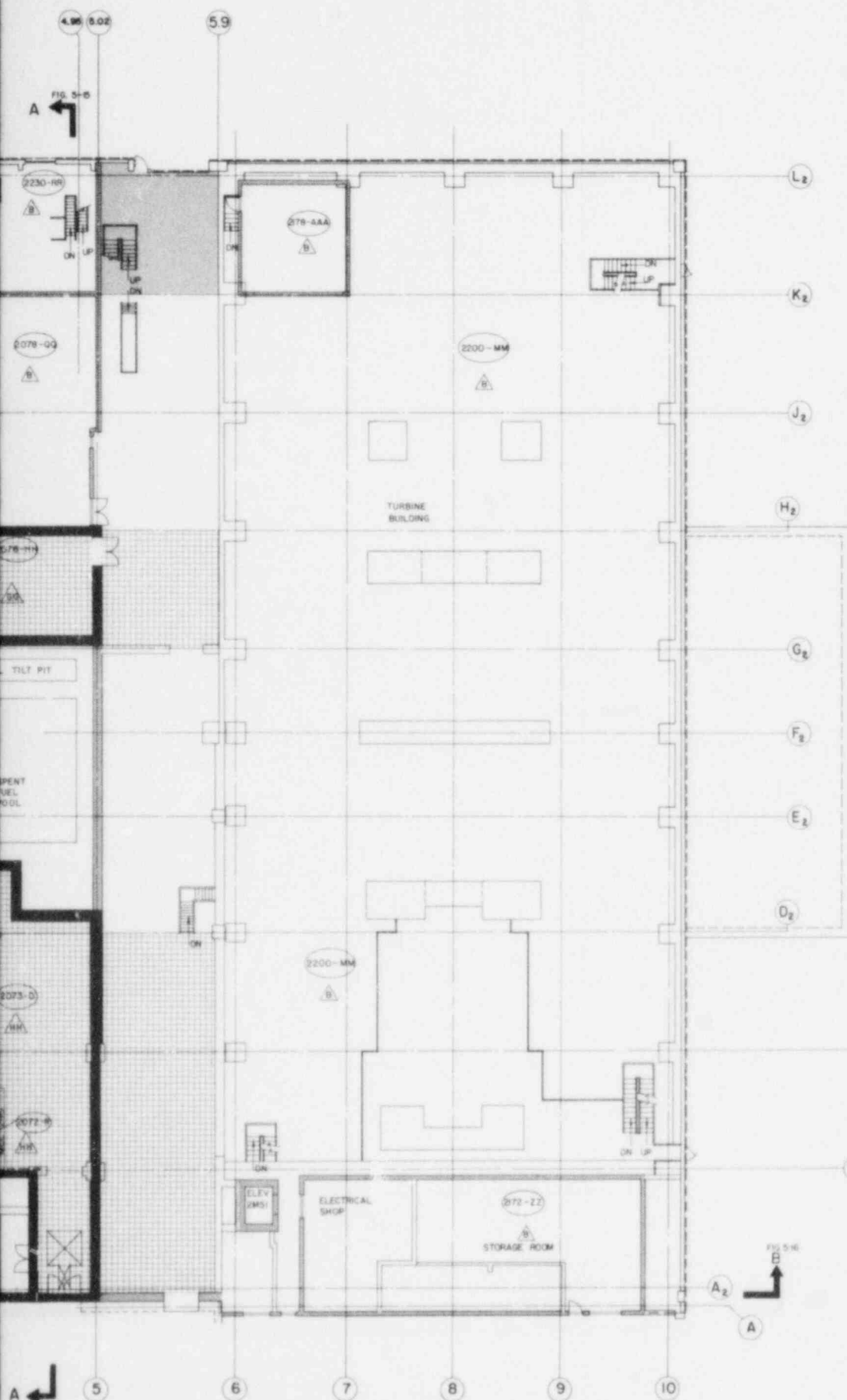


FIGURE 5-10

REV 0

8509270090-10





LEGEND

- TECH SPEC FIRE WALLS
- NON-TECH SPEC FIRE WALLS
- TECH SPEC FIRE-RATED FLOORS
- NON-TECH SPEC FIRE-RATED FLOORS
- FIRE ZONE
- FIRE AREA
- DENOTES FIRE ZONE BOUNDARY

FIRE ZONE	ZONE DESCRIPTION
FIRE AREA B	
2078-GG	COMPONENT COOLING WATER HEAT EXCHANGER EQUIPMENT AREA (EL. 354)
2178-AAA	LURE OIL RESERVOIR (EL. 354)
2200-MM	TURBINE BUILDING (EL. 335 TO 404)
2149-B	STAIRWAY NO. 2001 (EL. 317 TO 422)
2172-ZZ	LAUNDRY STORAGE B, BOTTLED AIR REFILL ROOMS (EL. 354) & LOWER STORAGE AREA (EL. 335)
2158-Y	STAIR NO. 2055 (EL. 335 TO 404)
FIRE AREA B	
2229-SS	DEMINERALIZING EQUIPMENT & LUNCH ROOM AREA (EL. 354)
2261-UU	PLANT HEATING BOILER DAY TANK (EL. 354)
2231-TT	PLANT HEATING BOILER ROOM (EL. 354)
2230-WO	DRUM FILLING ROOM (EL. 354)
FIRE AREA DO	
2068-DD	HOT MACHINE SHOP
FIRE AREA EE	
2084-DD	UPPER SOUTH PIPING PENETRATION ROOM (EL. 354)
FIRE AREA GG	
2076-HH	ELECTRICAL EQUIPMENT ROOM (EL. 354)
2081-HH	UPPER NORTH PIPING PENETRATION AREA (EL. 354) & LOWER NORTH PIPING PENETRATION AREA (EL. 335)
FIRE AREA HH	
2013-DD	ACCESS AREA, PUMP AREA, TANK AREA, WASTE GAS EQUIPMENT AREA & PASSAGEWAY (EL. 354)
2072-R	UPPER VOLUME CONTROL TANK ROOM (EL. 372) & LOWER TANK & PUMP ROOM (EL. 354)
2081-DD	SAMPLE ROOM (EL. 354)
FIRE AREA NN	
2032-K	CONTAINMENT BUILDING SOUTH SIDE (EL. 335 TO 426-6)
2033-W	CONTAINMENT BUILDING NORTH SIDE (EL. 335 TO 426-6)

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IDENTIFIED IN THE APPENDIX
AREA ANALYSIS

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ONLY

BACKGROUND EQUIPMENT MAY NOT BE
CORRECT AS TO LOCATION OR SIZE

ARKANSAS POWER AND LIGHT COMPANY
ARKANSAS NUCLEAR ONE-UNIT 2
FIRE PROTECTION PROGRAM

FIRE AREA AND ZONE BOUNDARIES

ELEVATION 354'
GROUND FLOOR

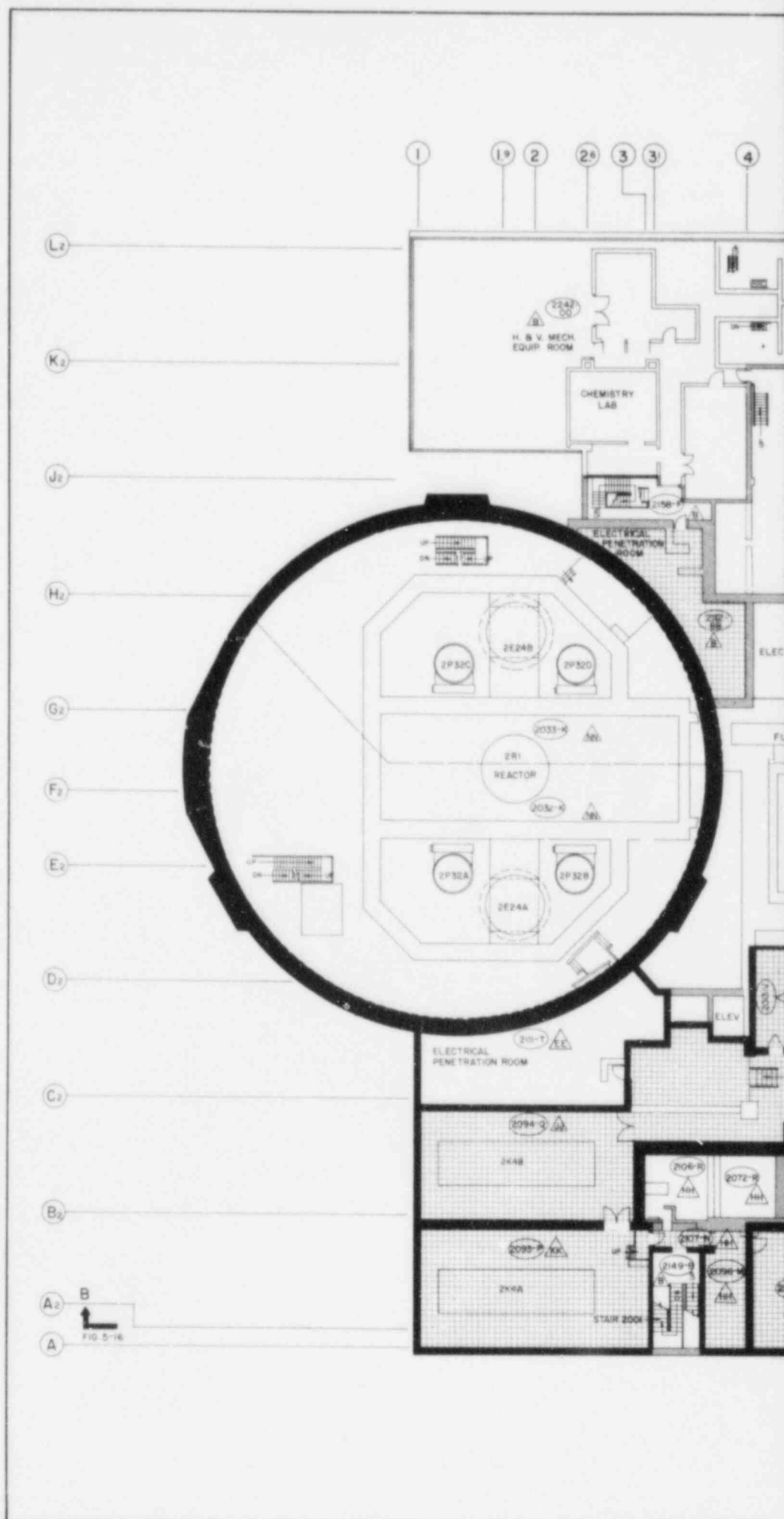
FIGURE 5-11

1 9-2-85 ADDED HATCH IN SE CORNER OF 2073-DD
AND CHANGED 2073-DD ZONE BOUNDARY
REV. NO. DATE REVISION

APL

REV 1

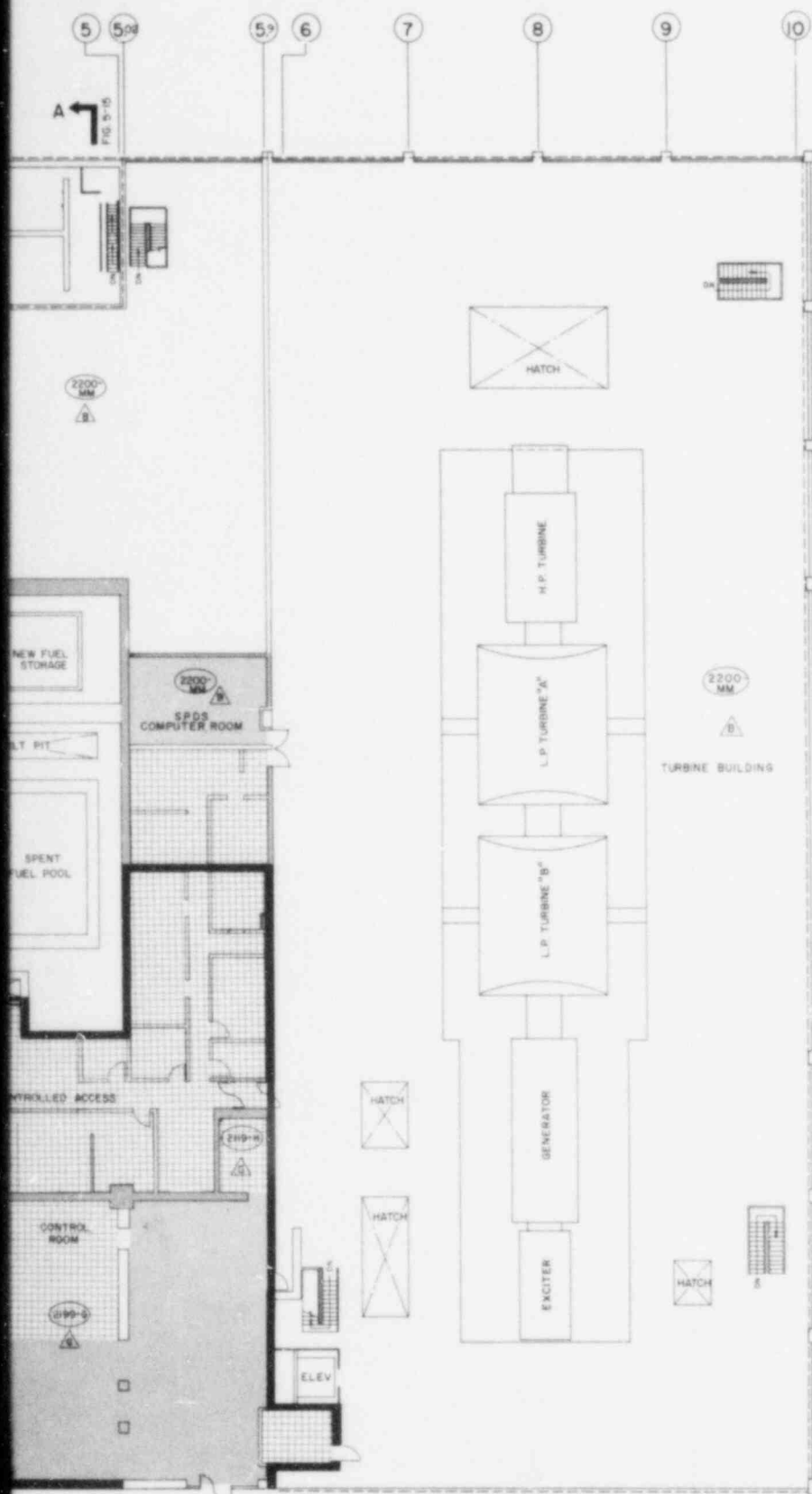
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LEGEND

- TECH SPEC FIRE WALLS
- NON-TECH SPEC FIRE WALLS
- TECH SPEC FIRE-RATED FLOORS
- NON-TECH SPEC FIRE-RATED FLOORS
- FIRE ZONE
- FIRE AREA
- DENOTES FIRE ZONE BOUNDARY

FIRE ZONE	ZONE DESCRIPTION
FIRE AREA B	
214-I	H.V. AIR INTAKE AREA (EL. 386)
214-B	STAIRWAY NO. 200 (EL. 317 TO 422)
2200-MM	TURBINE BUILDING (EL. 335 TO 404)
218-J	UPPER NORTH ELECTRICAL PENETRATION ROOM (EL. 386)
2242-DD	LAB STORAGE AND H.V. MECHANICAL EQUIPMENT AREA (EL. 374 TO 386)
218-F	STAIR NO. 2055 (EL. 335 TO 404)
2243-W	CHEMISTRY LAB (EL. 389-6)
FIRE AREA G	
2190-B	CONTROL ROOM (EL. 386)
2137-I	UPPER SOUTH ELECTRICAL PENETRATION ROOM, HOT INSTRUMENT SHOP
2119-H	RECORDS STORAGE (EL. 386)
2136-I	HEALTH PHYSICS CORRIDOR
FIRE AREA KX	
215-I	BORIC ACID MAKEUP TANK ROOM (EL. 386)
FIRE AREA NV	
2052-K	CONTAINMENT BUILDING SOUTH SIDE (EL. 335 TO 426-6)
2033-X	CONTAINMENT BUILDING NORTH SIDE (EL. 335 TO 426-6)

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FIRE-RATED FLOORS AFTER
COMPLETION OF MODIFICATIONS
IDENTIFIED IN THE APPENDIX R
AREA ANALYSIS

THIS DRAWING TO BE USED FOR
FIRE PROTECTION
ONLY

BACKGROUND EQUIPMENT MAY NOT BE
CORRECT AS TO LOCATION OR SIZE

B
FIG. 5-15

ARKANSAS POWER AND LIGHT COMPANY
ARKANSAS NUCLEAR ONE-UNIT 2
FIRE PROTECTION PROGRAM

FIRE AREA AND ZONE BOUNDARIES

ELEVATION 386'
OPERATING FLOOR

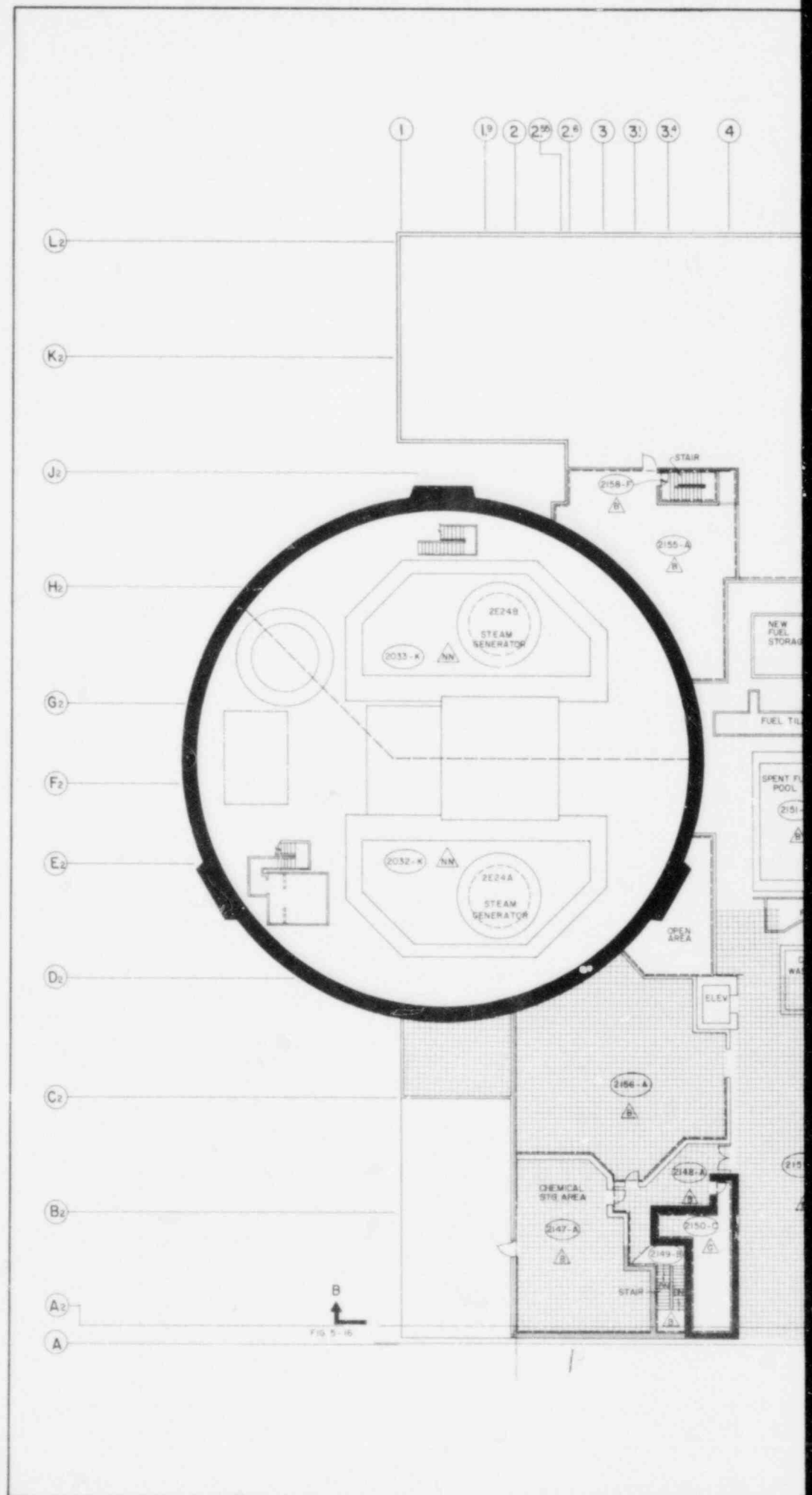
A

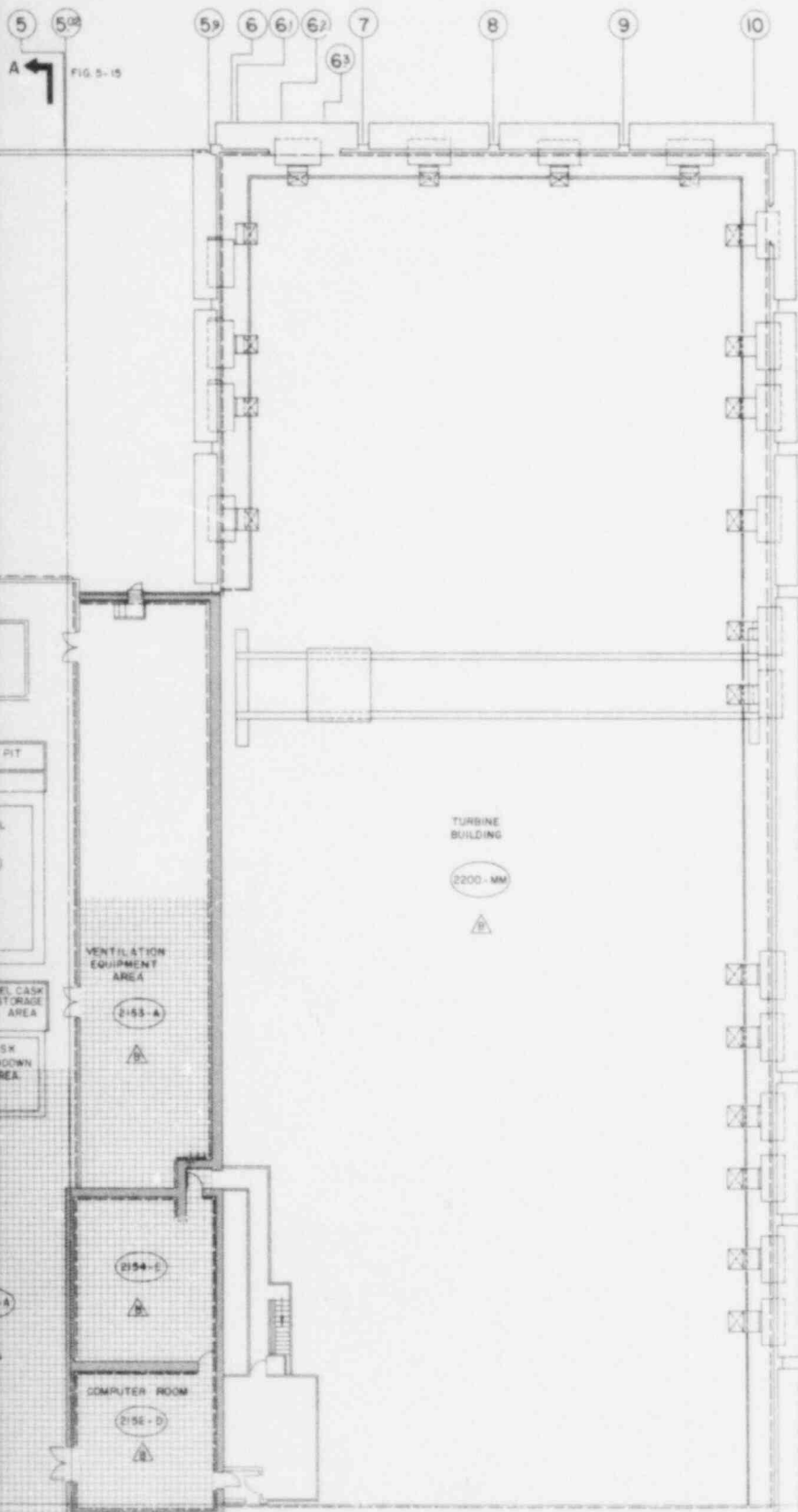
FIGURE 5-13

REV
1

1. ROOMS DELETED AND BOLL IN 2156-1
REV NO. DATE DESCRIPTION

8509270090-13





LEGEND

- TECH SPEC FIREWALLS
- NON-TECH SPEC FIREWALLS
- TECH SPEC FIRE-RATED FLOORS
- NON-TECH SPEC FIRE-RATED FLOORS
- FIRE ZONE
- FIRE AREA
- DENOTES FIRE ZONE BOUNDARY

FIRE ZONE	ZONE DESCRIPTION
FIRE AREA B	
2149-B	STAIRWAY NO. 2001 (EL. 317 TO 422)
2153-A	VENTILATION EQUIPMENT AREA (EL. 404 B 422)
2154-E	CEM. EQUIPMENT ROOM (EL. 404)
2155-A	CONTAINMENT PURGE AIR EQUIPMENT AREA (EL. 404)
2156-D	COMPUTER ROOM (EL. 404)
2200-MM	TURBINE BUILDING (EL. 335 TO 404)
2155-A	STEAM PIPE AREA (EL. 404)
2148-A	CORRIDOR NORTH OF PANEL ROOM AND STAIRWAY NO. 2001 (EL. 404)
2151-A	FUEL HANDLING AREA (EL. 404)
2158-F	STAIR NO. 2055 (EL. 335 TO 404)
2147-A	CHEMICAL STORAGE AREA (EL. 404)
FIRE AREA G	
2150-C	CORE PROTECTION CALCULATOR ROOM (EL. 404)
FIRE AREA NN	
2032-K	CONTAINMENT BUILDING SOUTH SIDE (EL. 335 TO 426-B)
2033-K	CONTAINMENT BUILDING NORTH SIDE (EL. 335 TO 426-B)

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DRAWING REFLECTS FIREWALLS AND
FIRE-RATED FLOORS AFTER
COMPLETION OF MODIFICATIONS
IDENTIFIED IN THE APPENDIX R
AREA ANALYSIS

THIS DRAWING TO BE USED FOR
FIRE PROTECTION
ONLY
BACKGROUND EQUIPMENT MAY NOT BE
CORRECT AS TO LOCATION OR SIZE

ARKANSAS POWER AND LIGHT COMPANY
ARKANSAS NUCLEAR ONE-UNIT 2
FIRE PROTECTION PROGRAM

FIRE AREA AND ZONE BOUNDARIES

ELEVATION 404'-0"
FUEL HANDLING FLOOR

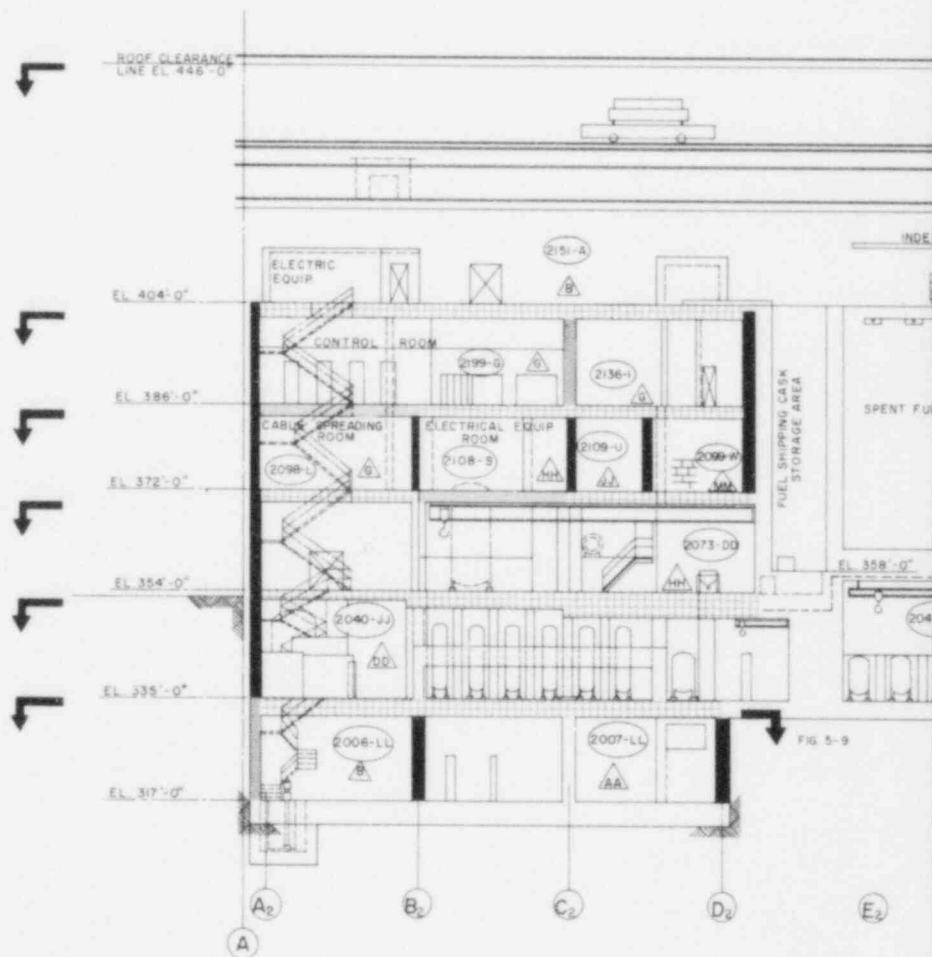


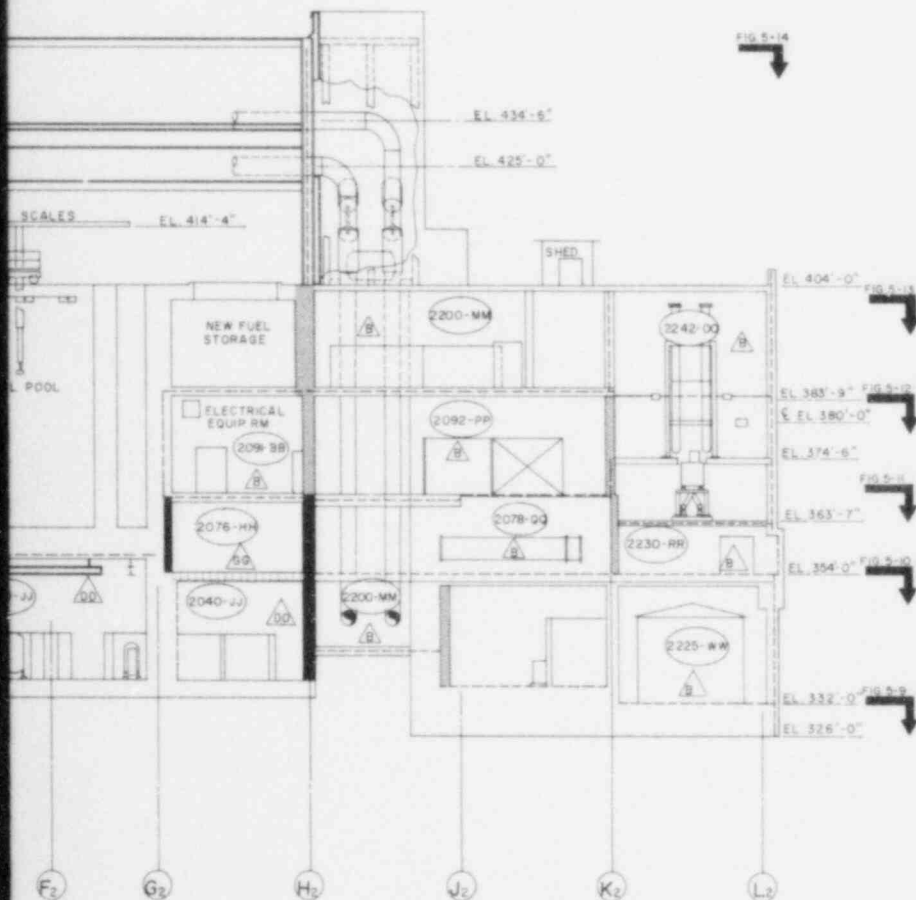
FIGURE 5-14

REV
1

1 7-8-88 4000 1-5 FLOOR N. NE CORNER OF 2154-E
REV. NO. DATE DESCRIPTION

8509270090-14





LEGEND

- TECH. SPEC FIRE WALLS
- NON-TECH. SPEC FIRE WALLS
- TECH. SPEC FIRE-RATED FLOORS
- NON-TECH. SPEC FIRE-RATED FLOORS
- FIRE ZONE
- FIRE AREA
- DENOTES FIRE ZONE BOUNDARY

FIRE ZONE	ZONE DESCRIPTION
FIRE AREA B	
201-A	FUEL HANDLING AREA (EL 404)
2008-L	GENERAL ACCESS AREA (EL 377)
2094-W	NORTH ELECTRICAL EQUIPMENT ROOM (EL 368)
2200-MM	TURBINE BUILDING (EL 335 TO 404)
2092-PP	CHILLER EQUIPMENT ROOM (EL 368)
2078-GG	COMPONENT COOLING WATER HEAT EXCHANGER EQUIPMENT AREA (EL 354)
2242-OD	LAB STORAGE & H.V. MECHANICAL EQUIPMENT AREA (EL 374 & 386)
2225-WW	REGENERATIVE WASTE PUMP AND TANK AREA (EL 335)
2210-RR	DRUM FILLING ROOM (EL 354)
FIRE AREA G	
2199-S	CONTROL ROOM (EL 386)
2138-T	HEALTH PHYSICS AREA (EL 386)
2098-L	CABLE SPREADING ROOM (EL 372)
FIRE AREA AA	
2007-LL	EAST HPSILLPSI AND CONTAINMENT SPRAY PUMP AREA & GALLERY (EL 377)
FIRE AREA DD	
2040-JJ	TANK ROOMS, PUMP ROOMS AND CORRIDORS (EL 355)
FIRE AREA GG	
2078-HH	ELECTRICAL EQUIPMENT ROOM (EL 354)
FIRE AREA HH	
2108-S	ELECTRICAL EQUIPMENT ROOM HH (EL 372)
2073-DD	ACCESS AREA, PUMP AREA, TANK AREA, WASTE GAS EQUIPMENT AREA, AND PASSAGEWAY (EL 354)
FIRE AREA JJ	
2109-LJ	CORRIDOR & MOTOR CONTROL CENTER (EL 372 & 374-S)
FIRE AREA MM	
2099-W	WEST D.C. EQUIPMENT ROOM (EL 372)

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ARKANSAS POWER AND LIGHT COMPANY
ARKANSAS NUCLEAR ONE-UNIT 2
FIRE PROTECTION PROGRAM

FIRE AREA AND ZONE BOUNDARIES

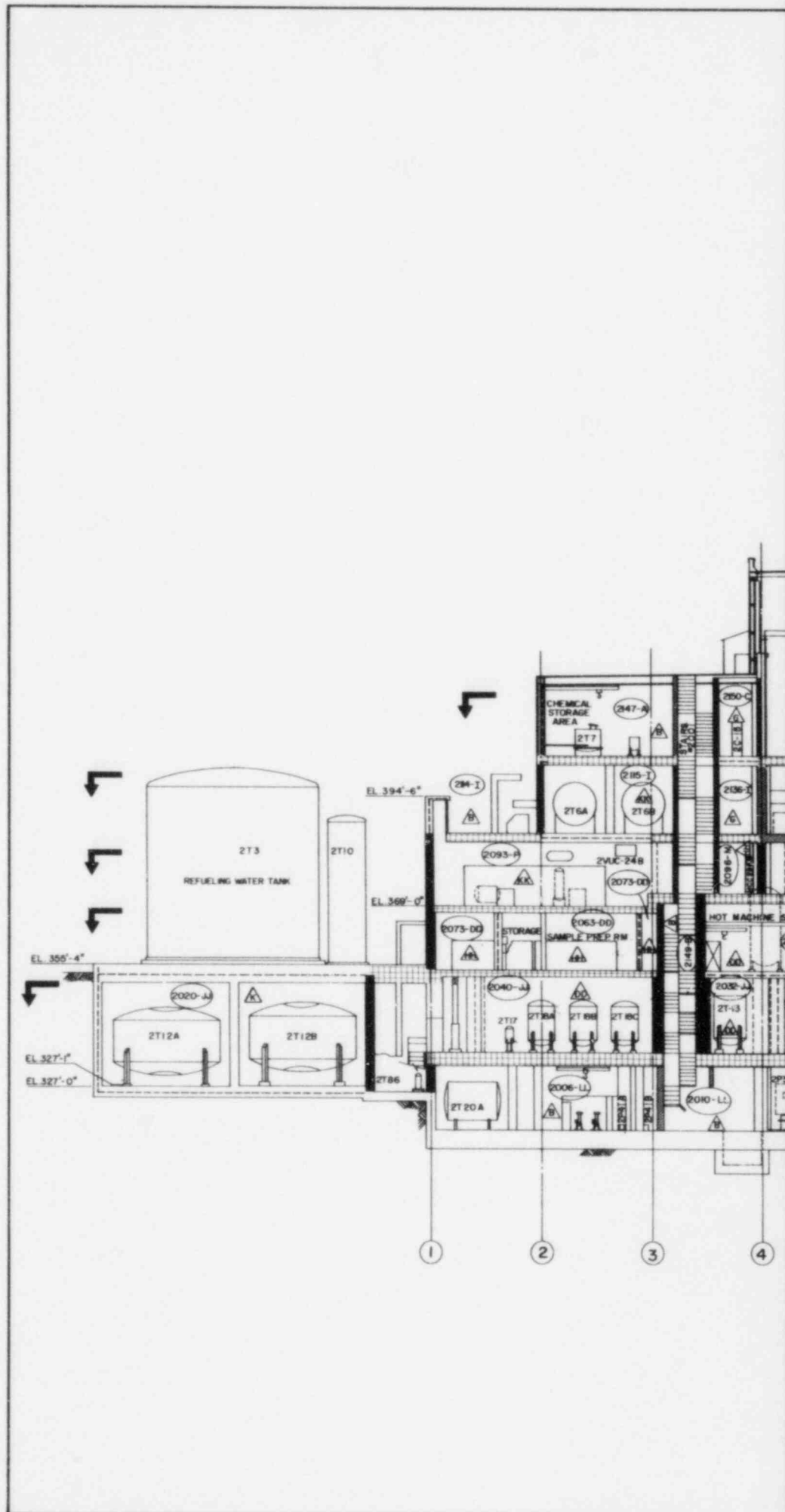
SECTION A-A

AP

FIGURE 5-15

REV
0

8509270090-15





LEGEND

- TECH SPEC FIRE WALLS
- NON-TECH SPEC FIRE WALLS
- TECH SPEC FIRE-RATED FLOORS
- NON-TECH SPEC FIRE-RATED FLOORS
- FIRE ZONE
- FIRE AREA
- DENOTES FIRE ZONE BOUNDARY

FIRE ZONE	ZONE DESCRIPTION
FIRE AREA B	
2006-LL	GENERAL ACCESS AREA (EL. 317)
2040-LL	"C" HPST PUMP AREA (EL. 317)
2149-B	STAIRWAY NO. 200H (EL. 317 TO 422)
2149-J	HV AIR INTAKE AREA (EL. 386)
2147-A	CHEMICAL STORAGE AREA (EL. 404)
2151-A	FUEL HANDLING AREA (EL. 404)
2152-D	COMPUTER ROOM (EL. 404)
2153-A	VENTILATION EQUIPMENT AREA (EL. 404 & 422)
2177-YY	NEUTRALIZER TANK ROOM (EL. 336)
2200-MM	TURBINE BUILDING (EL. 335 TO 404)
2172-ZZ	LAUNDRY STORAGE AND BOTTLED AIR REFILL ROOMS (EL. 354)
	LOWER STORAGE AREA (EL. 335)
FIRE AREA G	
2199-G	CONTROL ROOM (EL. 386)
250-C	CORE PROTECTION CALCULATOR ROOM (ELECTRICAL EQUIPMENT ROOM) (EL. 404)
2098-L	CABLE SPREADING ROOM (EL. 372)
2136-I	HEALTH PHYSICS AREA (EL. 386)
FIRE AREA DD	
2040-JJ	TANK ROOMS, PUMP ROOMS & CORRIDORS (EL. 335)
2032-JJ	SPENT RESIN STORAGE TANK ROOM (EL. 335)
2068-DD	HOT MACHINE SHOP (EL. 354)
FIRE AREA HH	
2073-DD	ACCESS AREA, PUMP AREA, TANK AREA, WASTE GAS EQUIPMENT AREA AND PASSAGEWAY (EL. 354)
2063-DD	SAMPLE ROOM (EL. 354)
2096-M	MOTOR CONTROL CENTER (EL. 372)
FIRE AREA KK	
2093-P	SOUTH DIESEL GENERATOR RM (EL. 368)
2115-I	BORIC ACID MAKEUP TANK ROOM (EL. 368)
FIRE AREA K	
2020-JJ	BORON MANAGEMENT HOLDUP TANK VAULT (EL. 327)

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ARKANSAS POWER AND LIGHT COMPANY
ARKANSAS NUCLEAR ONE-UNIT 2
FIRE PROTECTION PROGRAM

FIRE AREA AND ZONE BOUNDARIES

SECTION B-B

FIGURE 5-16

REV
1

1 8/2/80 ADDED AREA & DESIGNATION
REV NO DATE DESCRIPTION

85092700 90-16