

INDIANA & MICHIGAN ELECTRIC COMPANY

DONALD C. COOK NUCLEAR PLANT
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September 18, 1981

Mr. J.G. Keppler, Regional Director
Office of Inspection and Enforcement
United States Nuclear Regulatory Commission
Region III
799 Roosevelt Road
Glen Ellyn, IL 60137



Operating License DPR-58
Docket No. 50-315

Dear Mr. Keppler:

In accordance with my August 31, 1981, letter, enclosed please find a special report relative to the UL rating of fire doors at the D. C. Cook Nuclear Plant. A one-week extension was granted to our Mr. R.W. Jurgensen - AEPSC, by your office on September 11, 1981.

Sincerely,

D.V. Shaller
Plant Manager

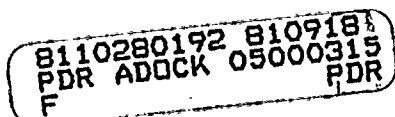
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To Be Ack. in a report by DETI per 9AG-10/23/81

SPECIAL REPORT - FIRE DOORS

The AEPSC fire protection engineer had been reviewing the fire doors at the Donald C. Cook Plant for the purpose of establishing a surveillance program for them. During that review, he found doors which appeared to be fire doors having the proper closing hardware; however, he was unable to find a UL label on the doors. Except for the lack of the UL label these doors have the same outward appearance as fire doors. Upon discovery of this problem the fire protection engineer decided to conduct a thorough investigation of all fire doors. This investigation found 16 doors which do not have the UL label and we reported that to Region III. At the time we were reaching our conclusions and preparing to report them to the NRC, Mr. J. Grobe of your inspection staff questioned why the four doors to the auxiliary feedwater pump enclosures did not have the UL label. These two events, namely the completion of our investigation and the questions raised by Mr. Grobe, occurred virtually within a day or two of one another.

Concerning the doors to the auxiliary feedwater pump enclosures, our fire protection engineer considered them acceptable as installed since our Fire Hazards Analysis (Reference 1) for this area analyzed the four separate enclosures connected by their common hallway as one fire zone. The doors at either end of this hallway which lead to the Turbine Building, are Class A fire rated to protect the entire zone from fire hazards originating outside the zone. Since the Fire Hazards Analysis took no credit for these four doors, the lack of a fire rating on these doors was acceptable. Mr. Grobe however, raised the question of the adequacy of the Fire Hazards Analysis of the auxiliary feedwater pump area and the basis for not having fire rated doors on each pump enclosure. His concern, apparently, was that a fire could extend from one individual pump enclosure to the common hallway possibly rendering circuits for the other pumps inoperable. This concern is similar to one raised in 1977 by the NRC fire protection staff when reviewing our Fire Hazards Analysis Report.

On August 28, 1981 our investigation revealed that this concern was already addressed in our response to question No. 31 on our Fire Hazards Report submitted on August 19, 1977 and the follow-up to our response to question No. 31 submitted on November 22, 1977. In the attachment to that November 22, 1977 letter, however, we stated that these four doors on the auxiliary feedwater pump enclosures were three-hour fire rated to prevent an extension of a postulated fire from going into the common hallway if the sprinkler system in the pump enclosures did not operate. In addition, our investigation also confirmed on August 28, 1981 that the statements in the Fire Hazards Analysis Report regarding 12 other doors were incorrect since these doors did not have the required UL labels to confirm their fire rating. The matter was brought to the attention of AEPSC management and subsequently reported to Region III by the Plant Manager that evening. The total complement of the 16 affected doors is listed in Table 1.

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The analysis of a Design Basis Fire assumes no fire detection functioning, no manual or automatic fire suppression and gives no credit for the inherent fire retardant properties of the combustible materials in the fire zone. We also assume complete combustion of all combustible material in the zone which results in the maximum BTU per square foot released. The method of fire containment is to assure that a postulated fire will not damage other safety-related equipment by spreading to adjacent zones. The automatic detection and suppression systems associated with the involved fire zones are required to be operable. In addition, appropriate manual backup methods of fire fighting are available as well as a trained fire brigade. Hence, the ability to safely shut down the Plant under a Design Basis Fire, is assured even though these 16 doors apparently are not fire rated. As a result of these backup systems, it is our conclusion that at no time was the health and safety of the public ever compromised due to these 16 doors apparently not being fire rated.

An investigation of this matter was conducted to determine the basis for making the statement concerning the subject fire doors in the Fire Hazards Analysis and our November 22, 1977 letter responding to additional staff questions on that analysis. The Cook Plant door schedule and Architectural Drawings showing the door detailed dimensions were reviewed along with the procurement documents. These documents do not show the subject doors to be fire rated. However, 14 of the 16 doors have UL recommended fire door hardware in the form of fusible links or, for CO₂ protected areas, gas operated door releases.

When preparing the Fire Hazards Analysis, input was provided from physical plant inspections. It is very probable that the fact that these doors had fire door hardware led to the conclusion that the doors were indeed fire rated. The two remaining doors without the UL approved self-closing hardware (doors 373 and 374) were not part of the Fire Zone 6 boundary in the Fire Hazards Analysis. However, the fire door review showed that these two doors were indeed boundary doors for Zone 6 and therefore should be fire rated. Our subsequent investigation has shown that the Zone 6 boundary on Drawing No. 12-5973 in the Fire Hazards Analysis Report is incorrect. When the proper Zone 6 boundary is drawn (see Figures 1 and 2 attached), the need for these two doors to be fire rated is apparent. The actual statement in the Fire Hazards Analysis Report never applied to these doors due to the incorrectly drawn boundary. Hence, the lack of fire door hardware, indicating that these two doors are not fire rated is consistent with the Fire Hazards Analysis assumptions and as such, the doors could never have been considered to be fire rated.

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The door manufacturer has been contacted and is not able to certify that any of the 16 doors involved can be fire rated. A visual check of each door was made to determine if there are similarities in their construction to fire rated doors. This check could not establish any firm conclusions. However, without the required UL label on the door, we cannot state that the doors are fire rated. As such, the "as-found" situation of these doors represents a condition requiring corrective measures.

We have initiated steps to replace all of the 16 doors with fire rated doors as the permanent solution to this matter. In the interim, a fire patrol has been established.

REFERENCE 1: Letter from G. P. Maloney to B. C. Rusche dated March 31, 1977 transmitting the Donald C. Cook Nuclear Plant Fire Hazards Analysis Report dated March 31, 1977.

September 11, 1981

TABLE 1
COOK PLANT FIRE DOORS

<u>FIRE ZONE*</u>	<u>DOOR NUMBER</u>
6	373
6	374
9	323
10	325
17	226
17	227
17	228
17	229
24	326
25	324
38	385
38	387
39	386
39	388
79	339
85	340

* The fire zones for Cook Plant are listed in the Fire Hazards Analysis dated March 31, 1977.

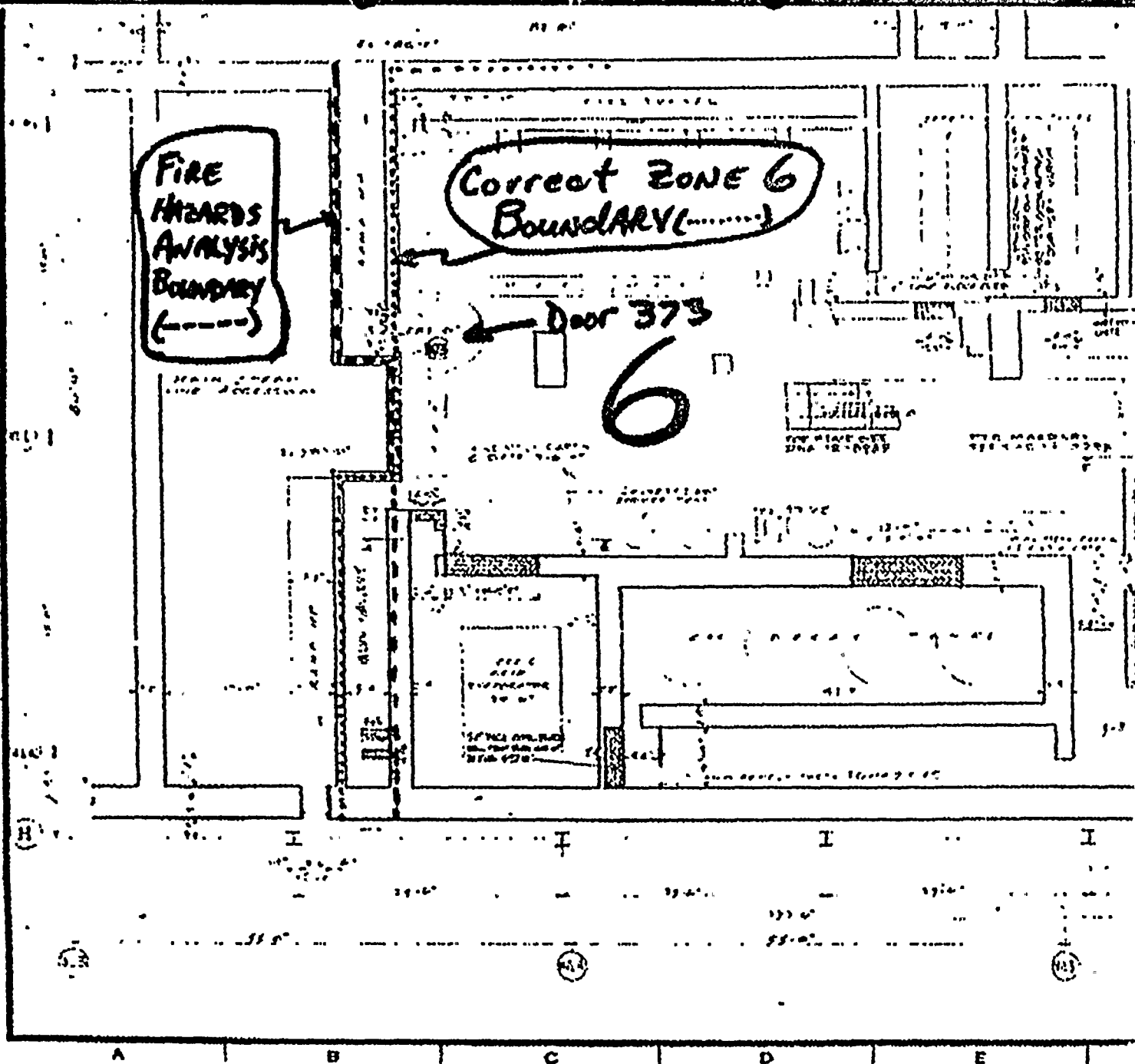


Figure 1
D.C. Cook Unit 1 door 373

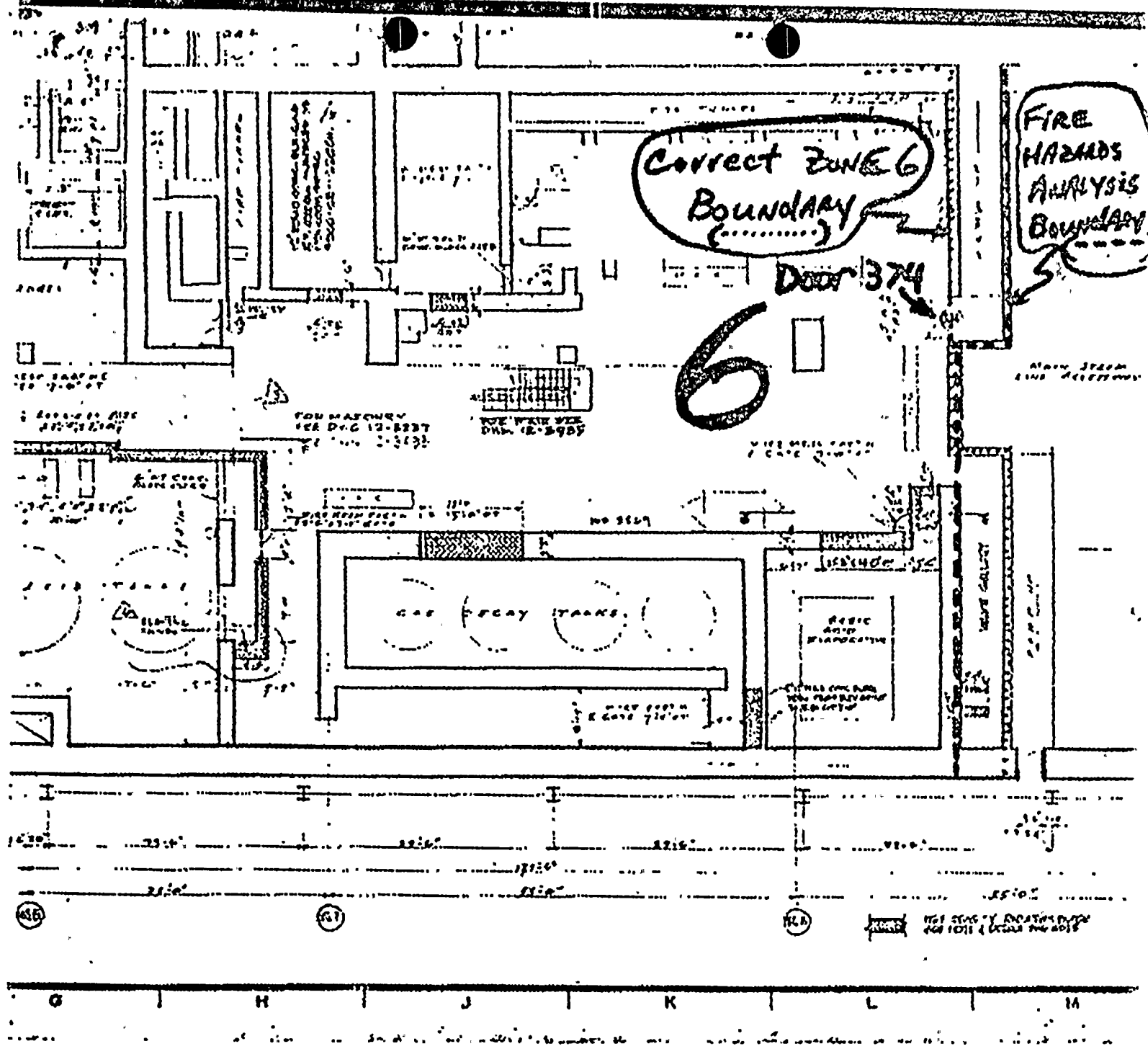


Figure 2
D.C. Cook Unit 2 door 374

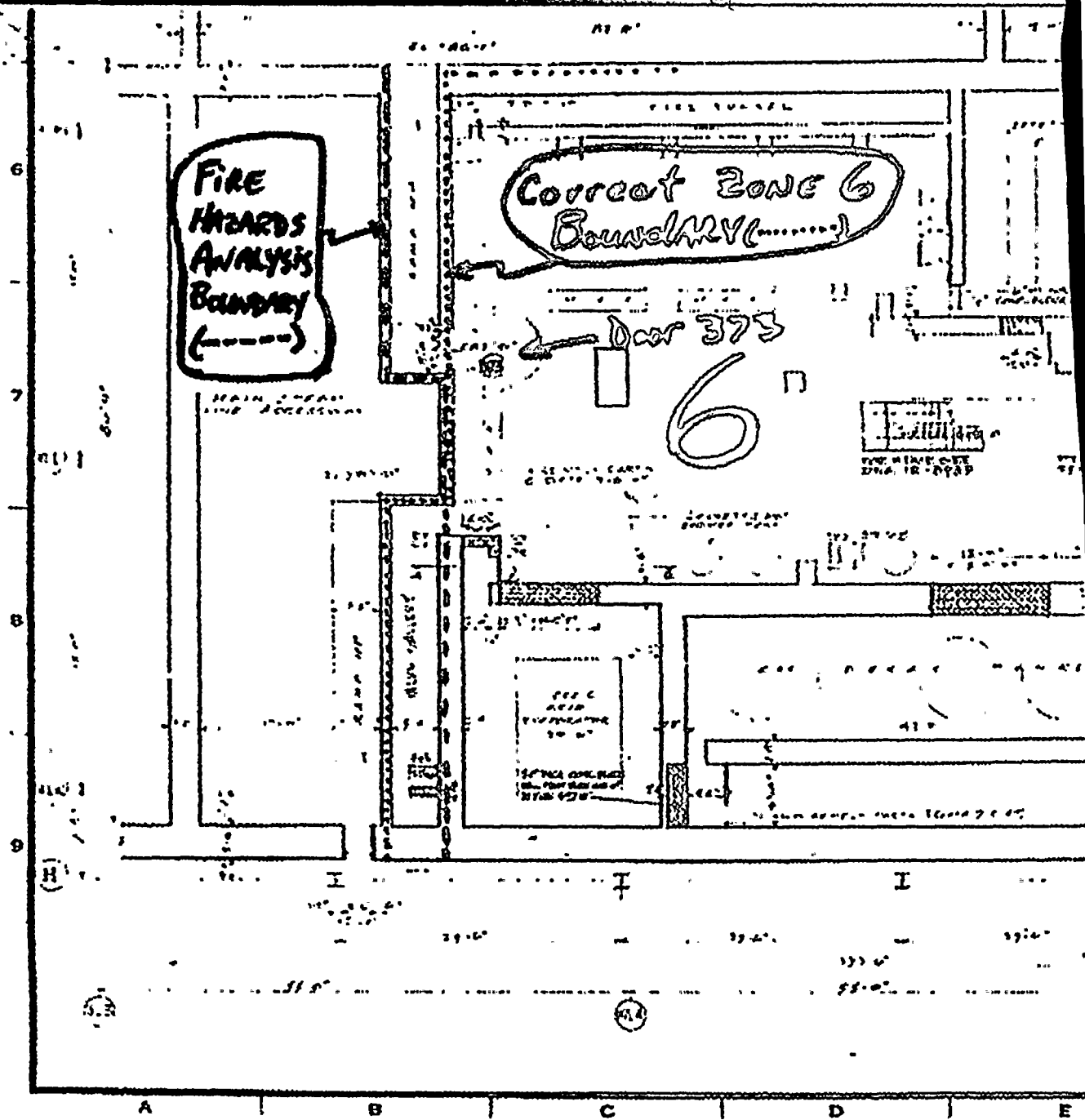


Figure 1
D.C. Cook Unit 1 door 373

