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 FACIL: 50-315 Donald C. Cook Nuclear Power Plant, Unit 1, Indiana & 05000315  
 50-316 Donald C. Cook Nuclear Power Plant, Unit 2, Indiana & 05000316  
 AUTH. NAME AUTHOR AFFILIATION  
 DOLAN, J. E. Indiana & Michigan Power Co.  
 RECIP. NAME RECIPIENT AFFILIATION  
 DENTON, H. R. Office of Nuclear Reactor Regulation

SUBJECT: Forwards slides presented at 790829 public info meeting on proposed spent fuel pool capacity expansion.

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# INDIANA & MICHIGAN POWER COMPANY

P. O. BOX 18  
BOWLING GREEN STATION  
NEW YORK, N. Y. 10004

September 13, 1979  
AEP:NRC:00213C

Donald C. Cook Nuclear Plant Unit Nos. 1 and 2  
Docket Nos. 50-315 and 50-316  
License Nos. DPR-58 and DPR-74  
Slides Presented at the Spent Fuel Pool  
Public Information Meeting

Mr. Harold R. Denton, Director  
Office of Nuclear Reactor Regulation  
U.S. Nuclear Regulatory Commission  
Washington, D. C. 20555

Dear Mr. Denton:

As requested by your staff, this letter transmits a copy of the slides presented by us on August 29, 1979 at the public information meeting on the proposed spent fuel pool capacity expansion at the Donald C. Cook Nuclear Plant.

Very truly yours,

*John E. Dolan*  
John E. Dolan  
Vice President

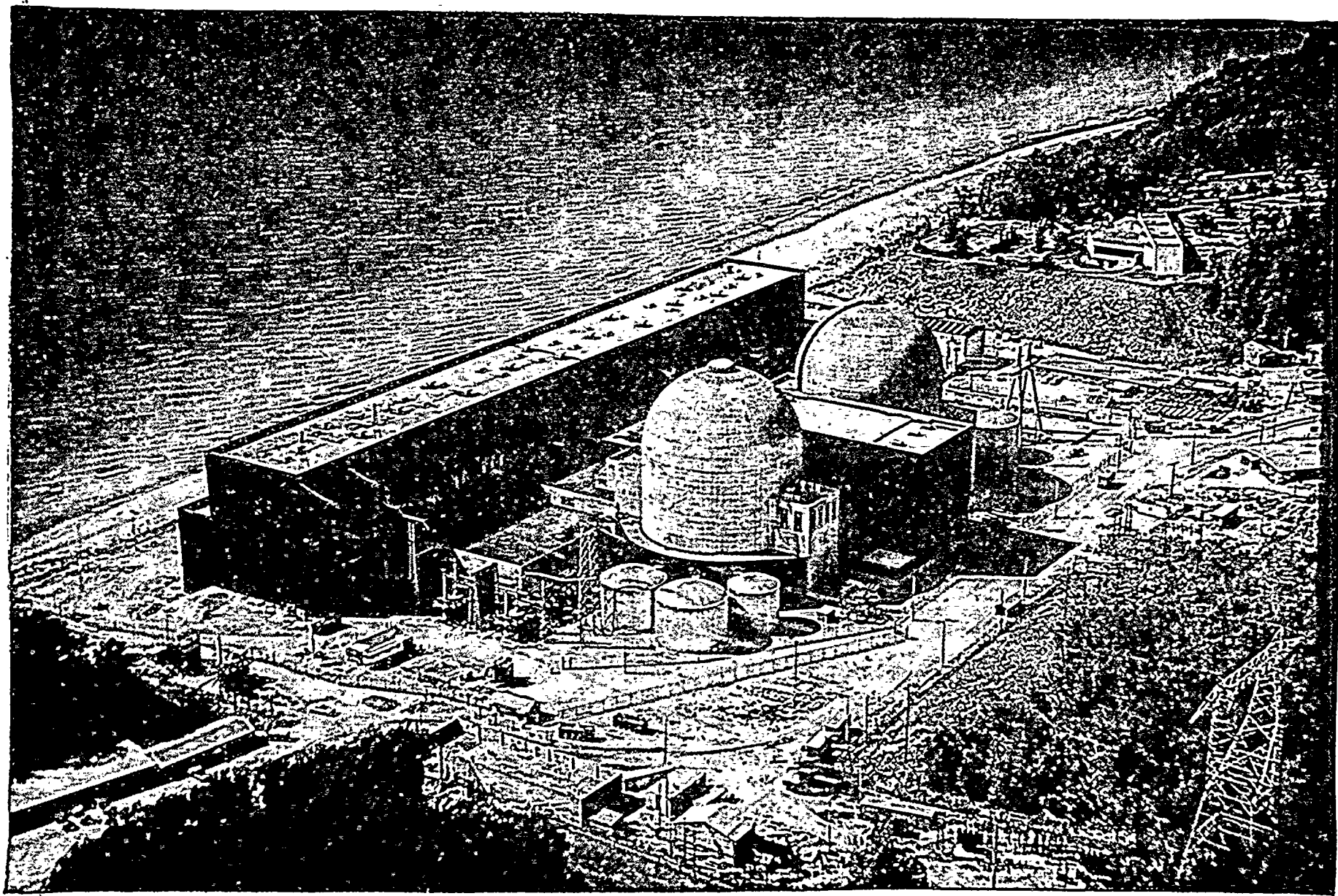
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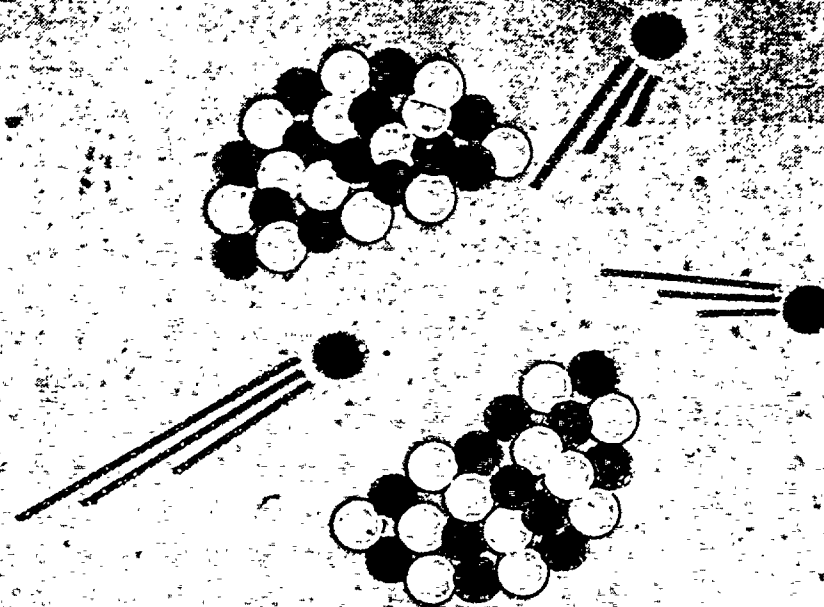
**Donald C. Cook Nuclear Plant**

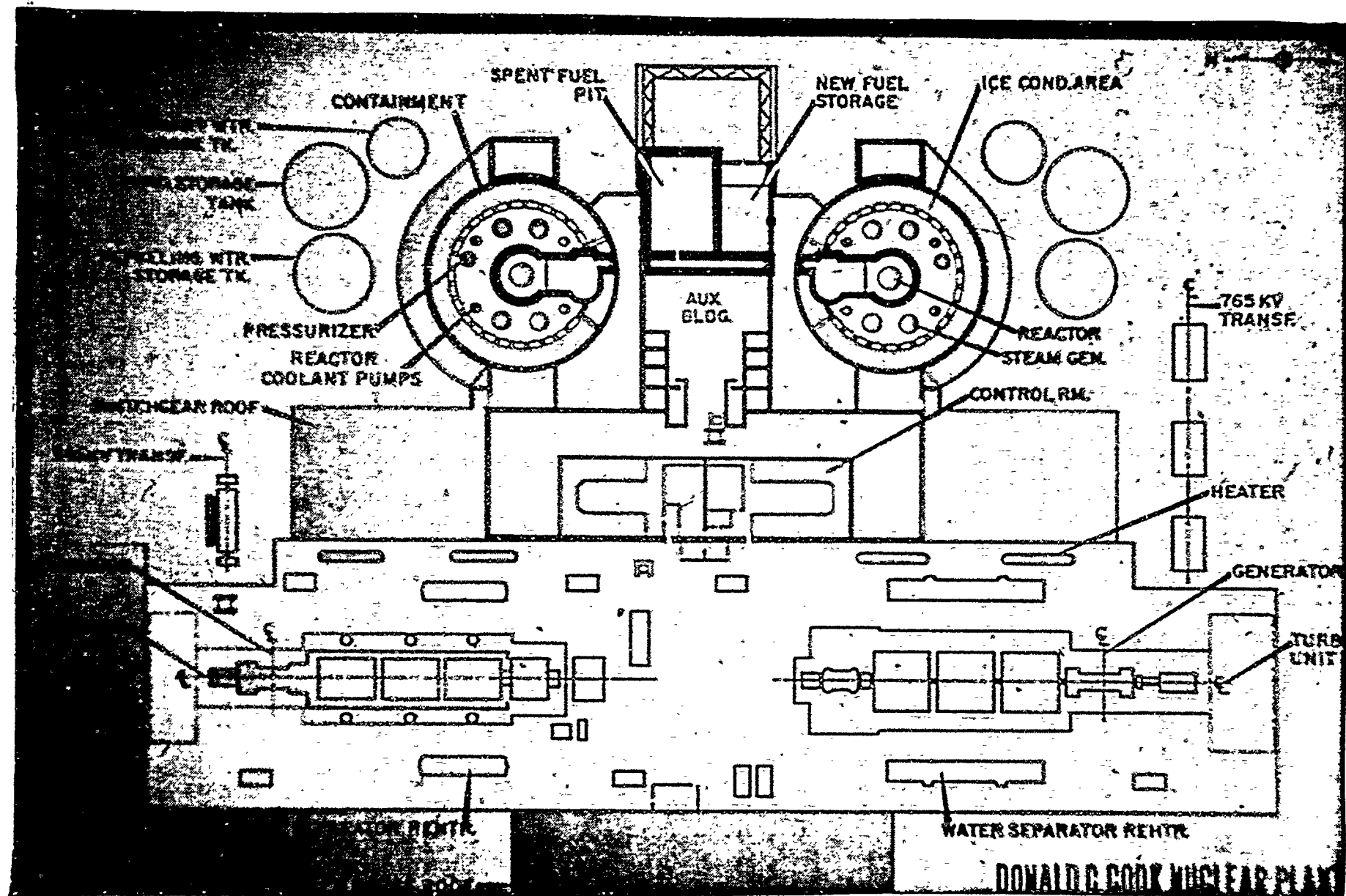
**PUBLIC INFORMATION MEETING**

**SPENT FUEL STORAGE CAPACITY EXPANSION PROGRAM**

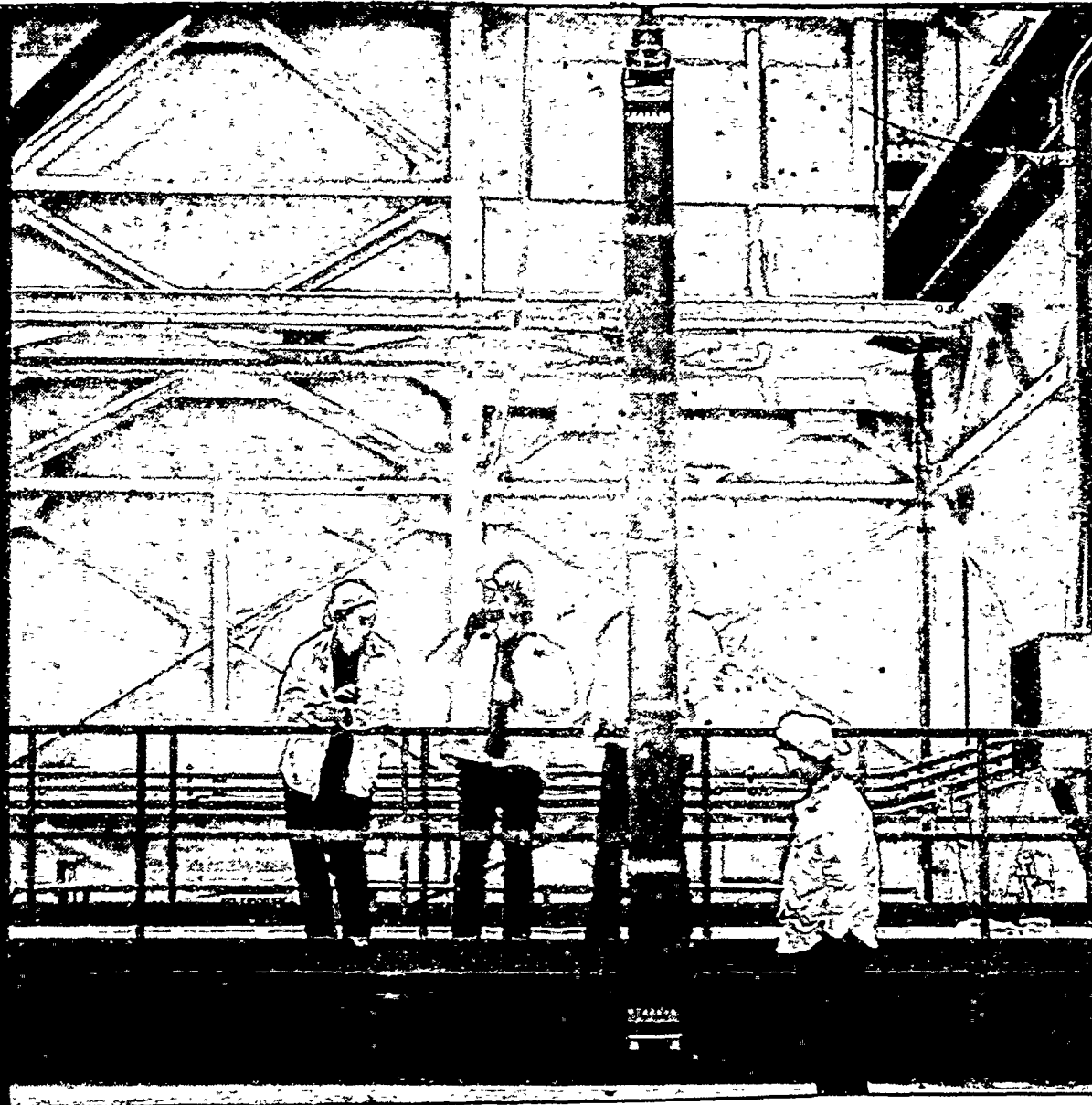


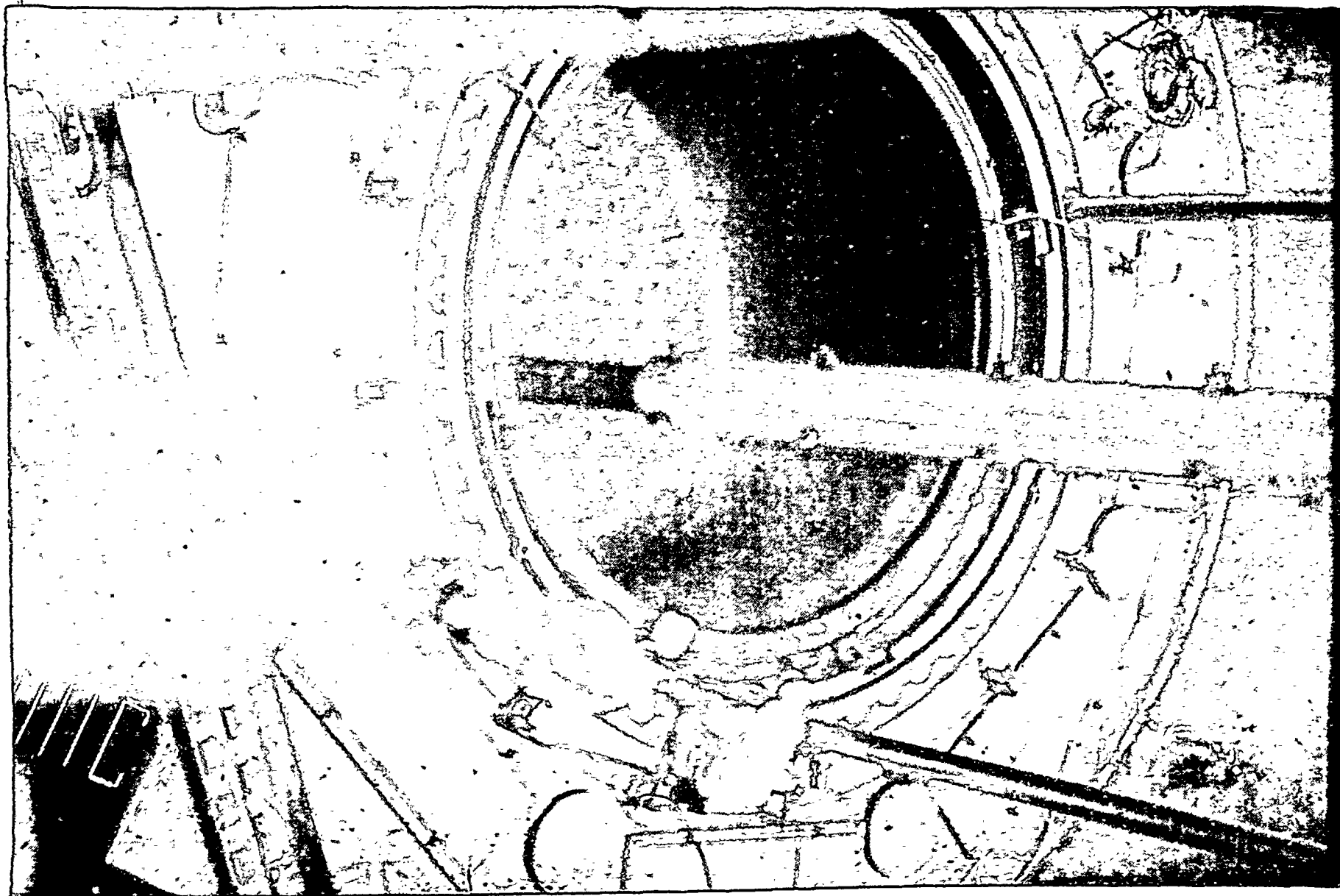
# NUCLEAR FISSION



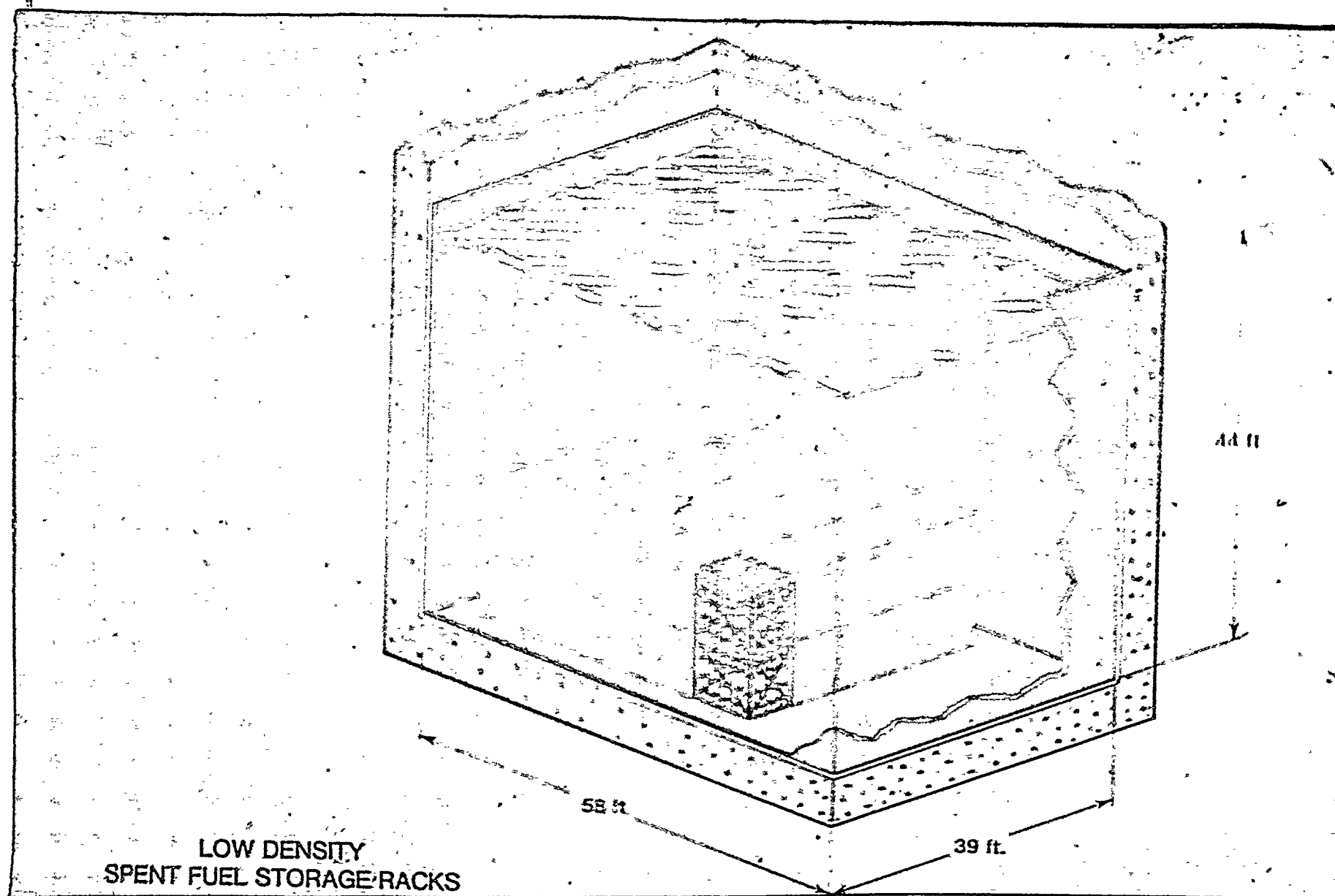


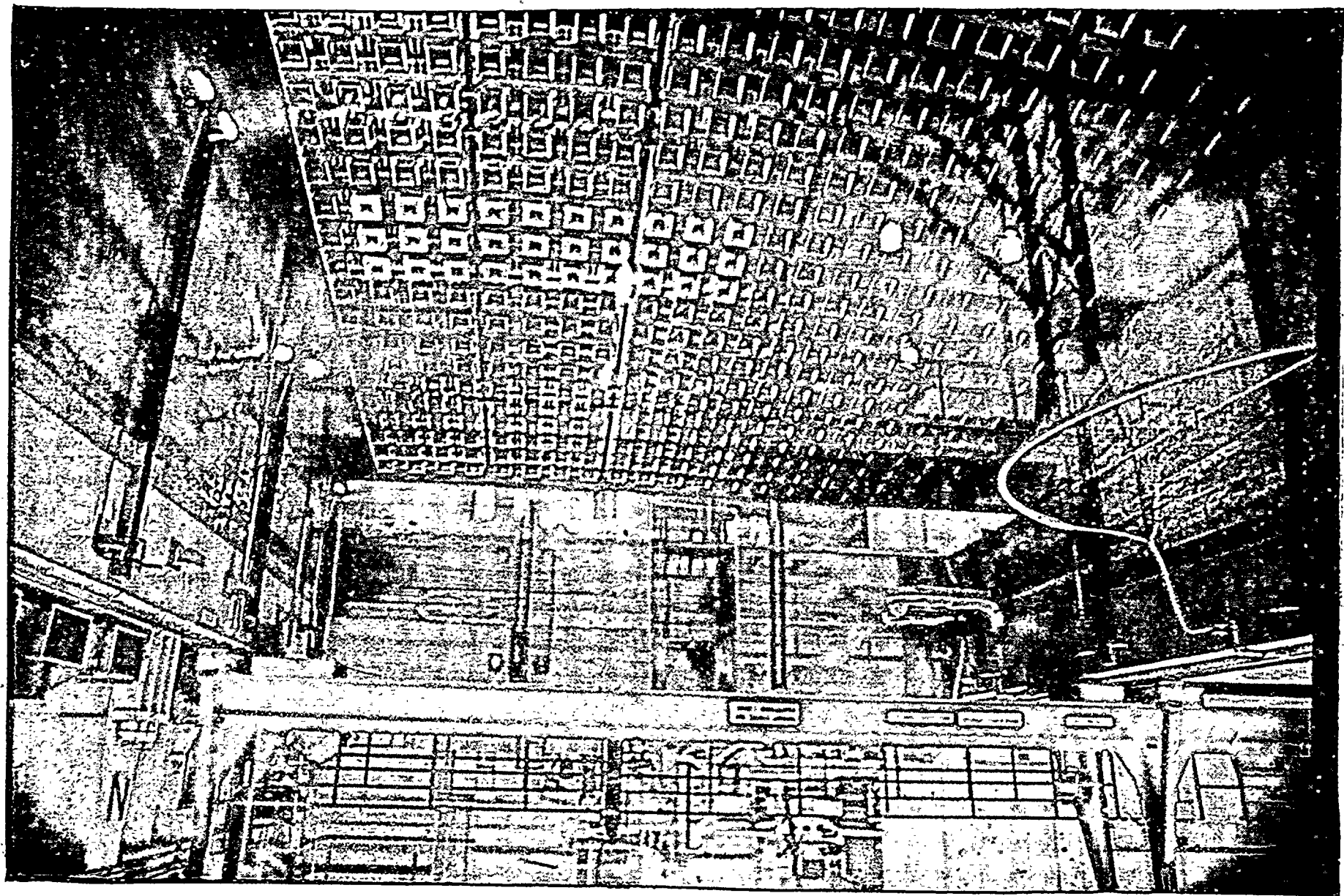




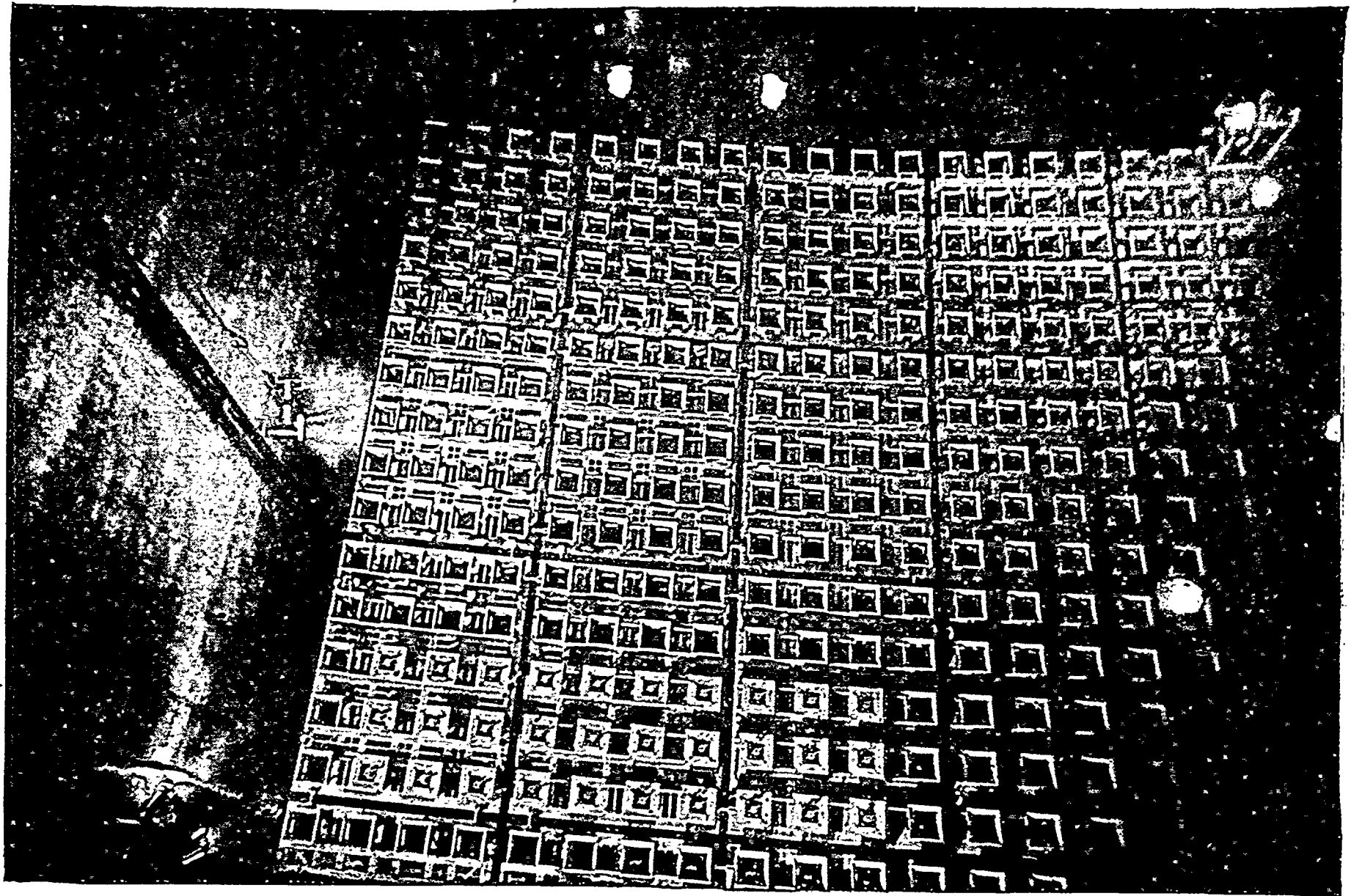




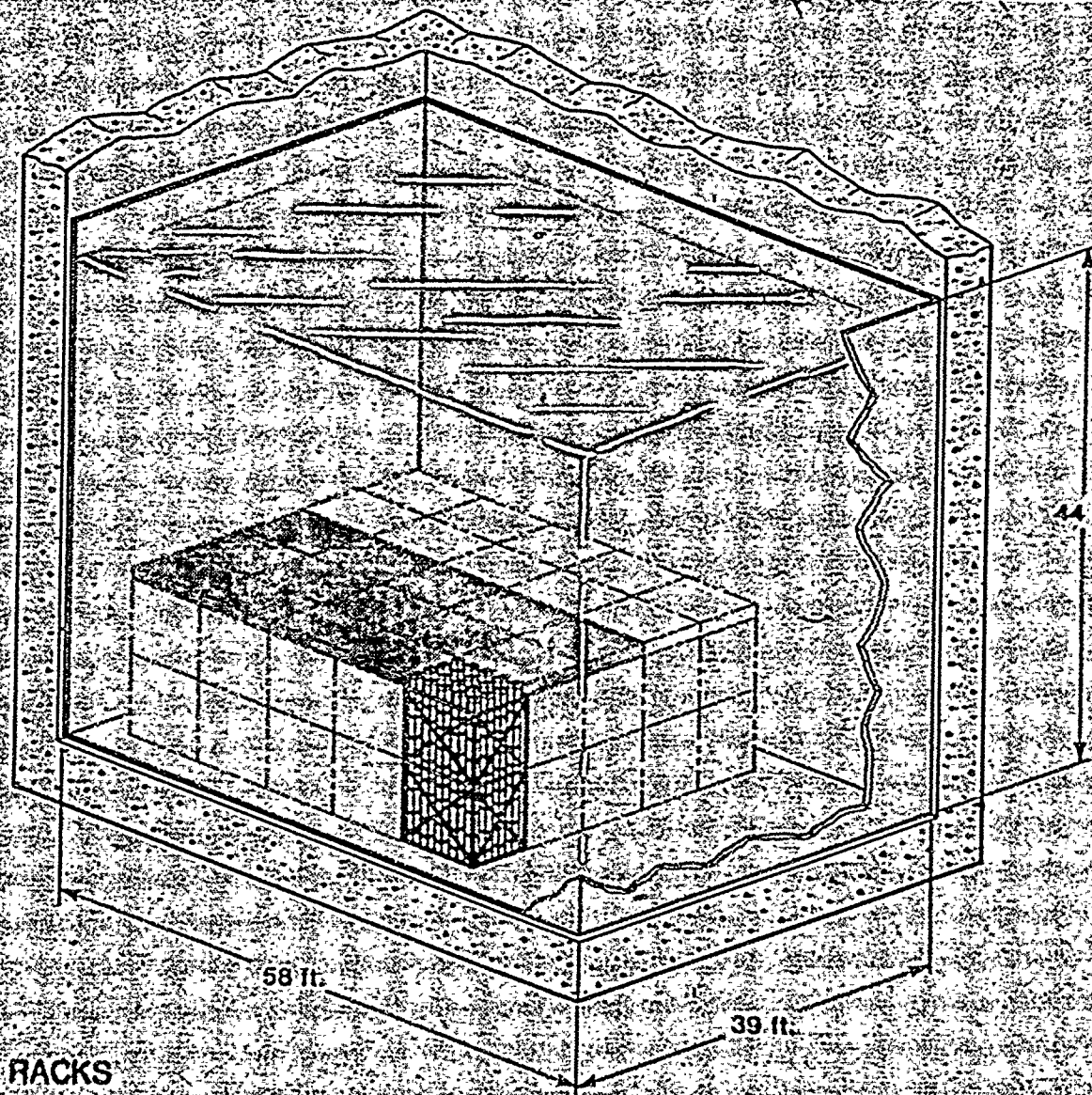






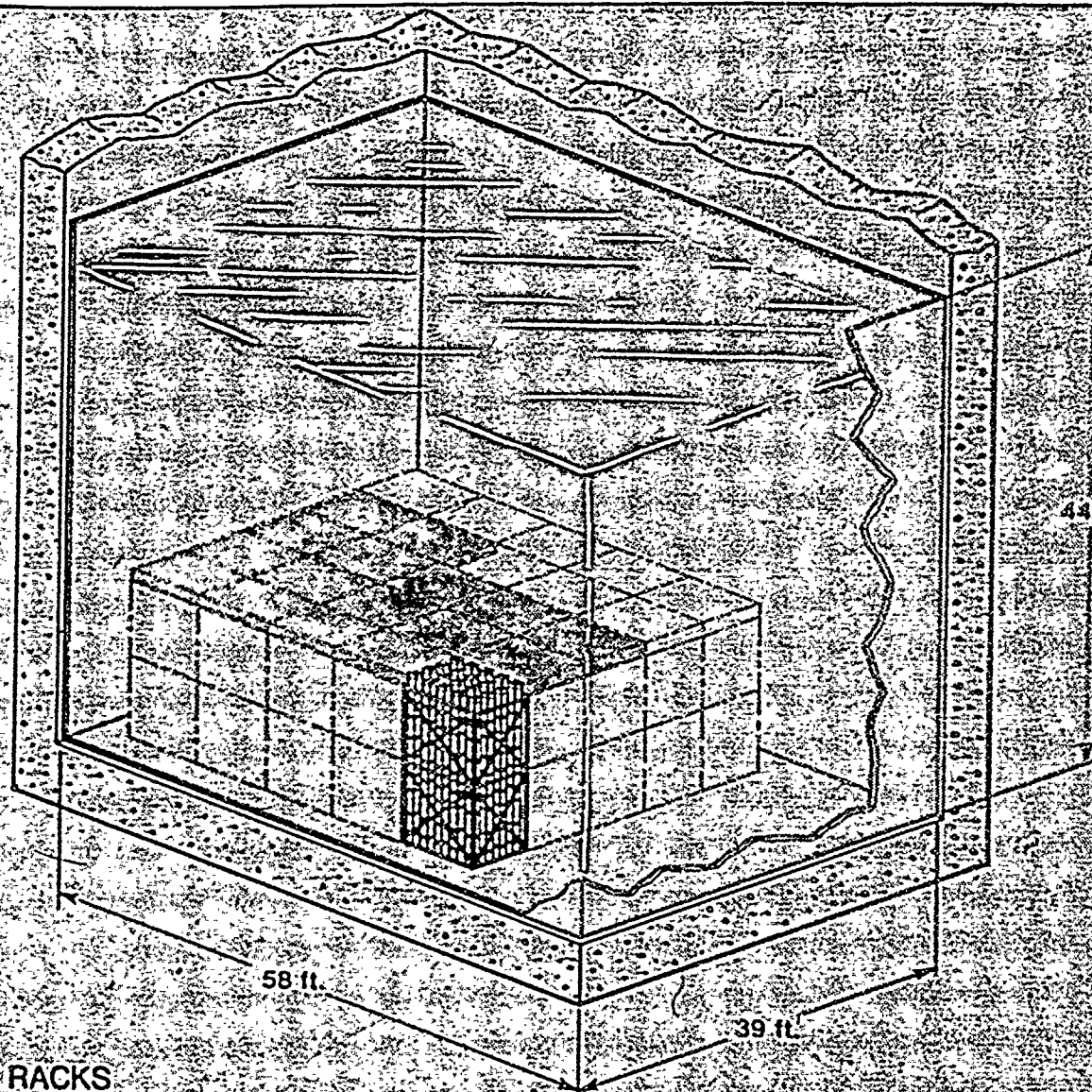




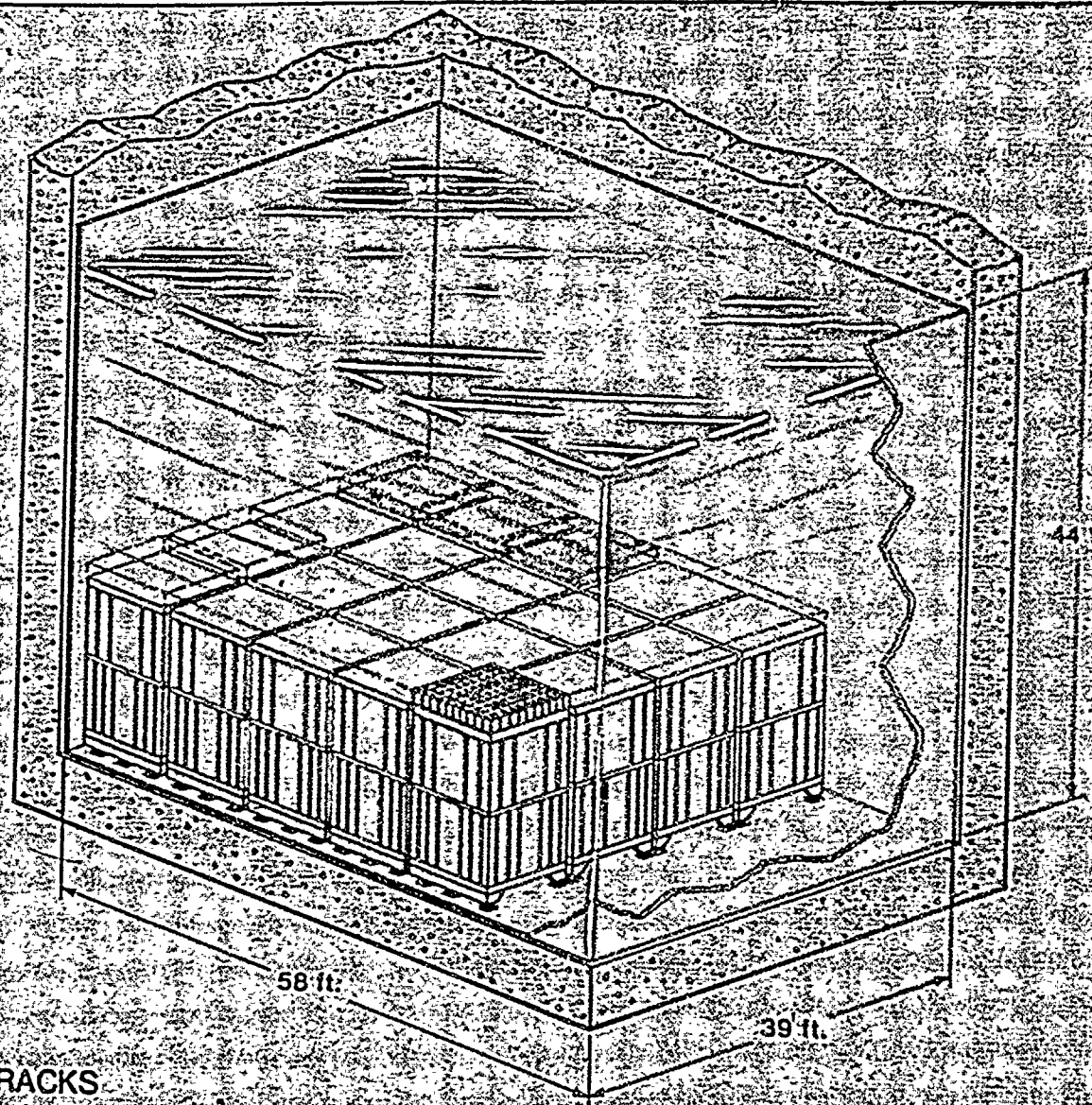


LOW DENSITY  
SPENT FUEL STORAGE RACKS





LOW DENSITY  
SPENT FUEL STORAGE RACKS

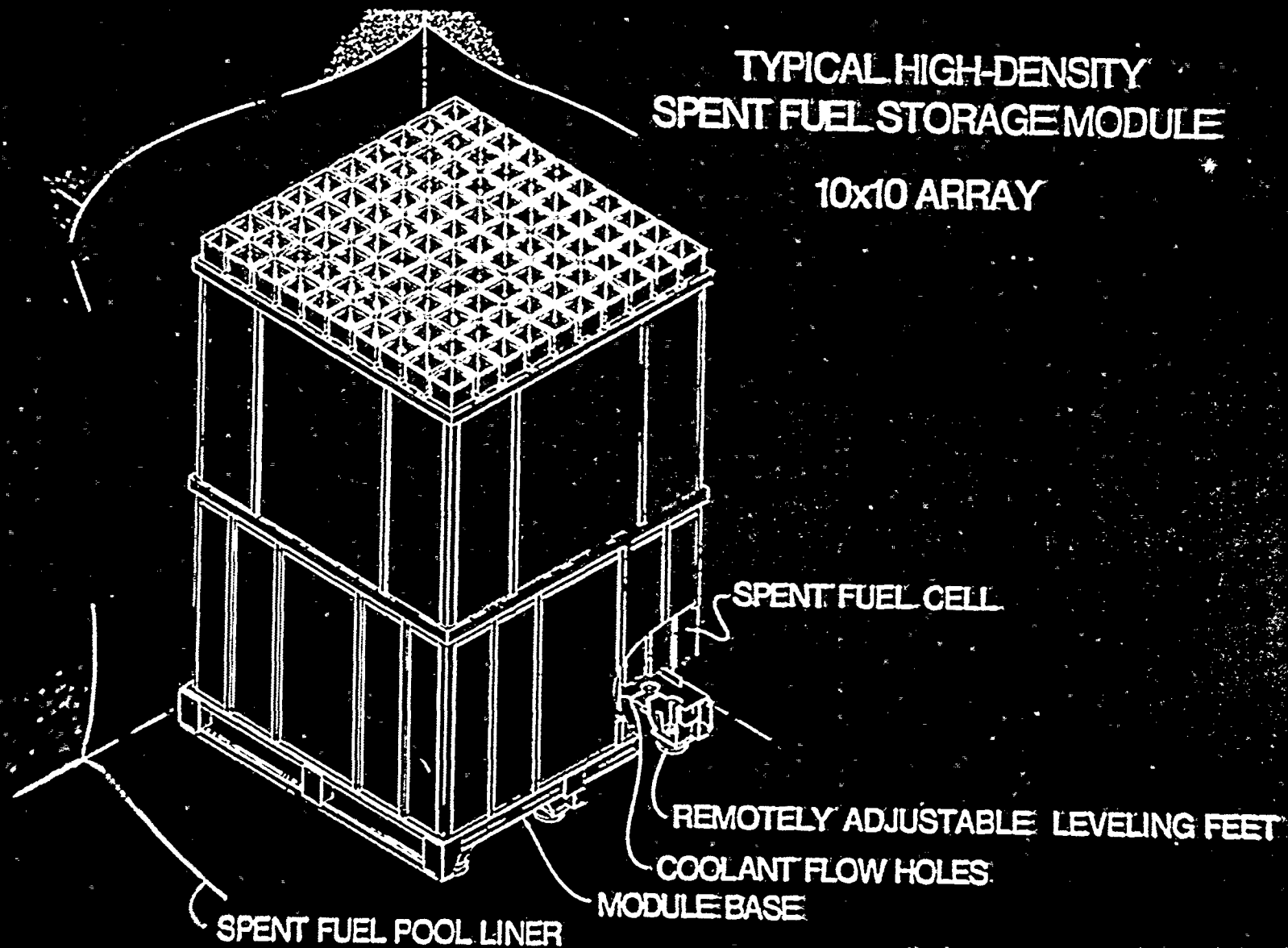


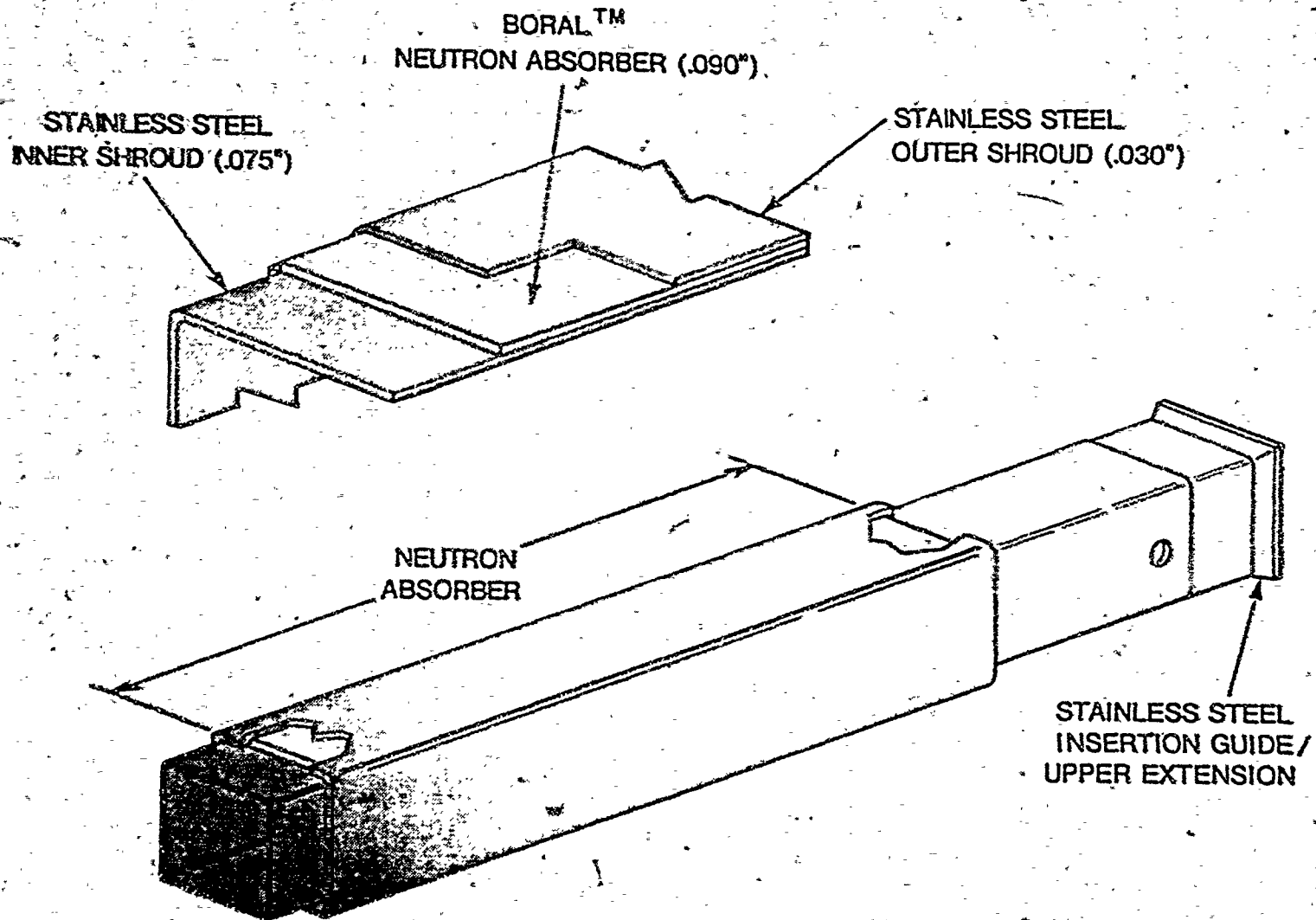
HIGH DENSITY  
SPENT FUEL STORAGE RACKS



TYPICAL HIGH-DENSITY  
SPENT FUEL STORAGE MODULE

10x10 ARRAY





TYPICAL SPENT FUEL STORAGE CELL



# CURRENT SPENT FUEL STORAGE DONALD C. COOK NUCLEAR PLANT

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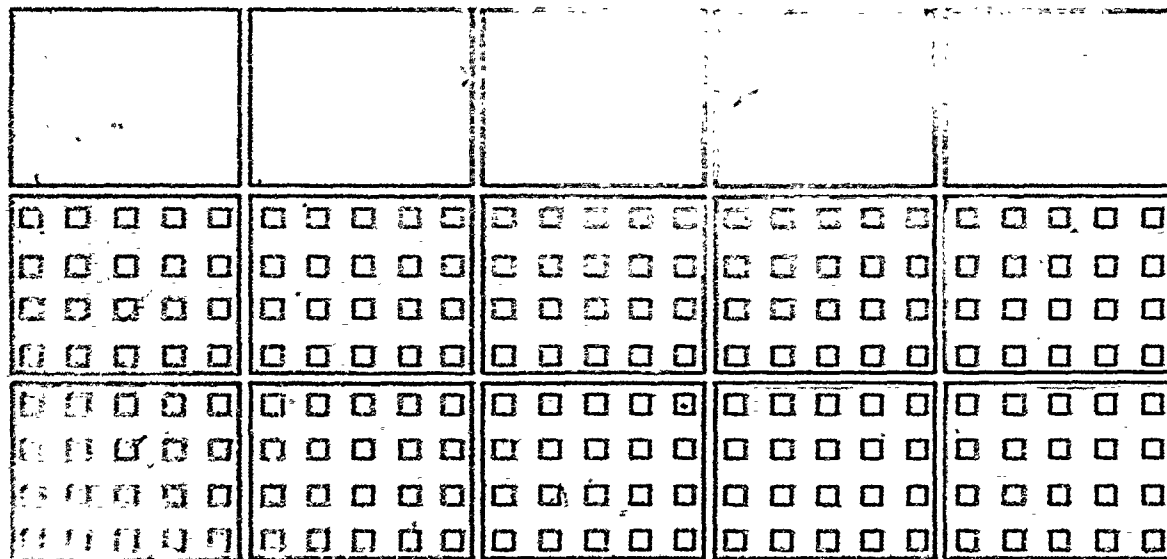
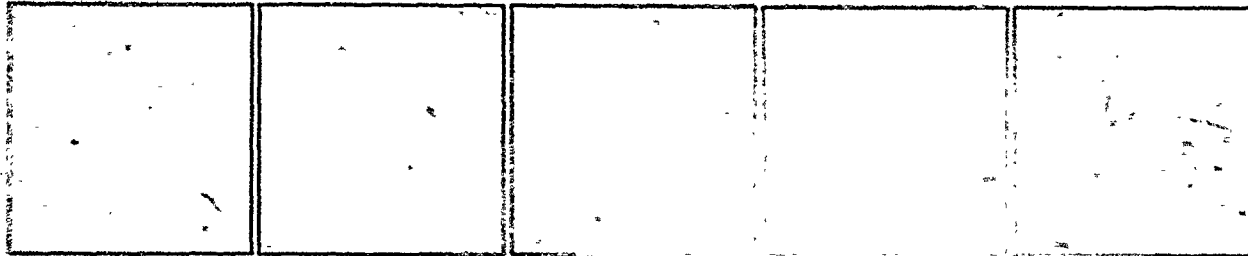
# PHASE ONE

## PARTIAL REMOVAL OF OLD RACKS

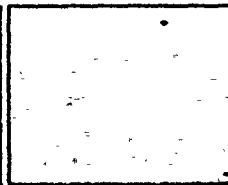
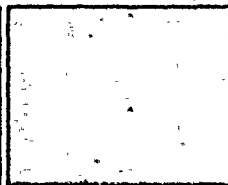
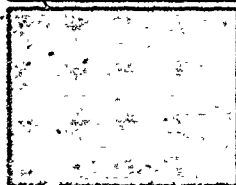
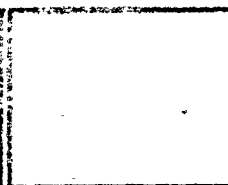
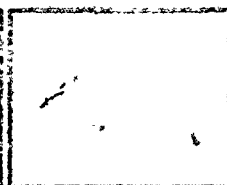
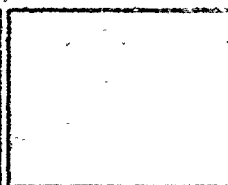
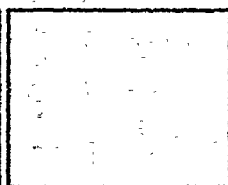
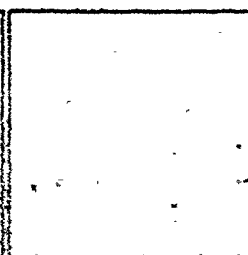
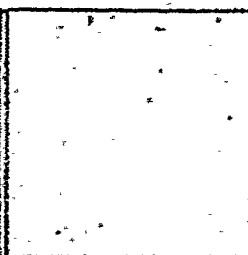
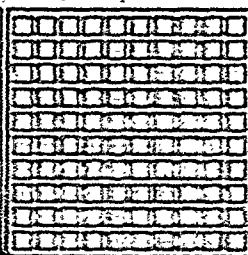
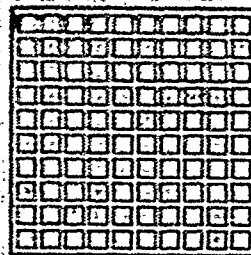
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## INSTALLATION OF FIRST ROW OF NEW RACKS

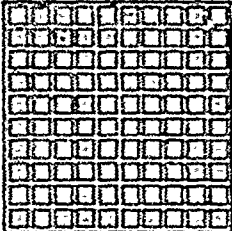
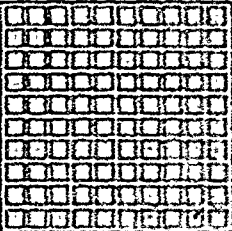

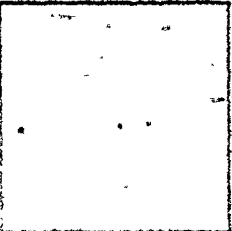
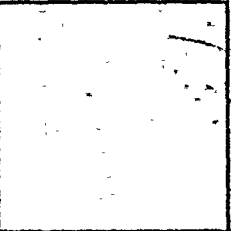


# TRANSFER OF SPENT FUEL TO NEW RACKS



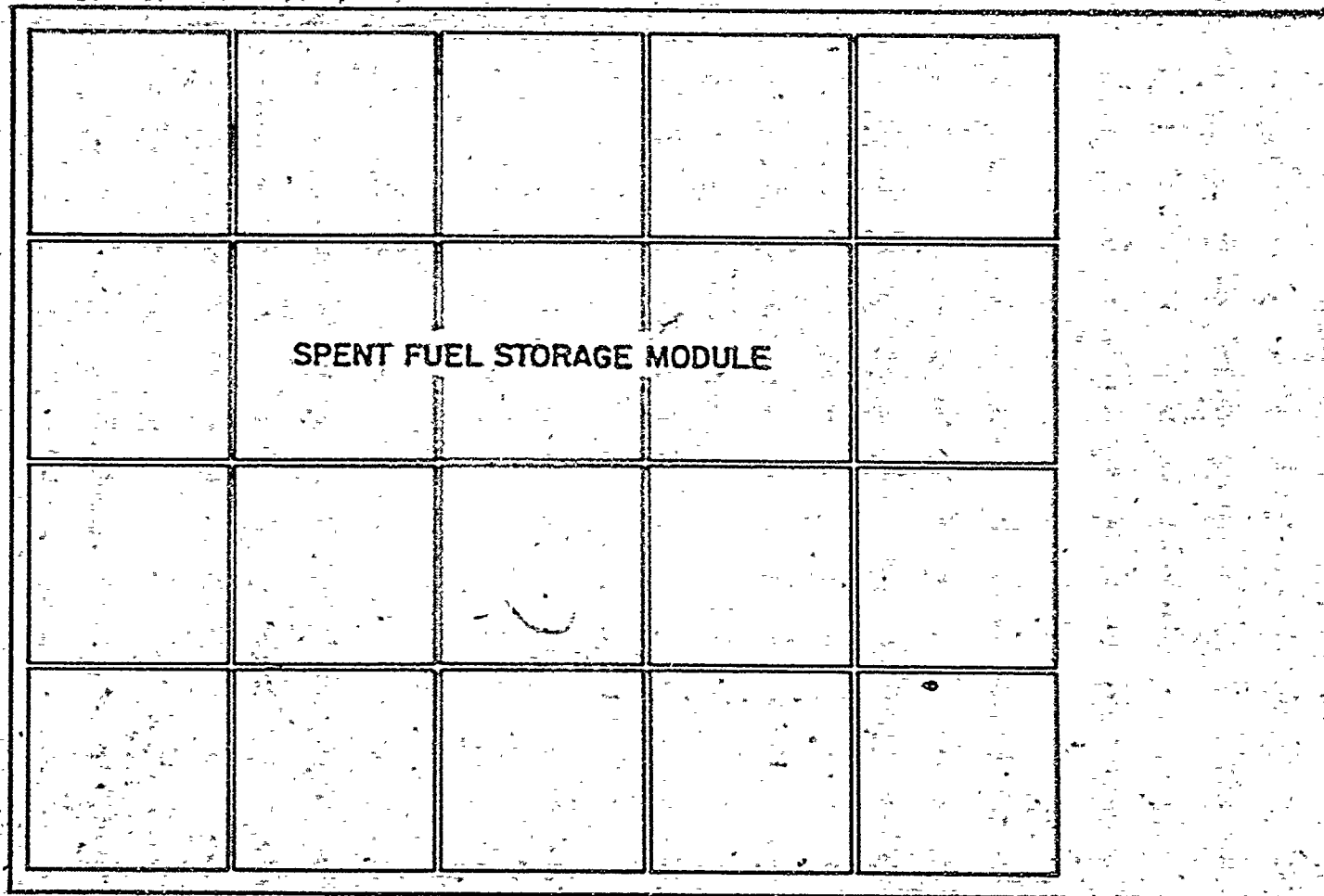
# PHASE TWO

## REMOVAL OF REMAINDER OF OLD RACKS

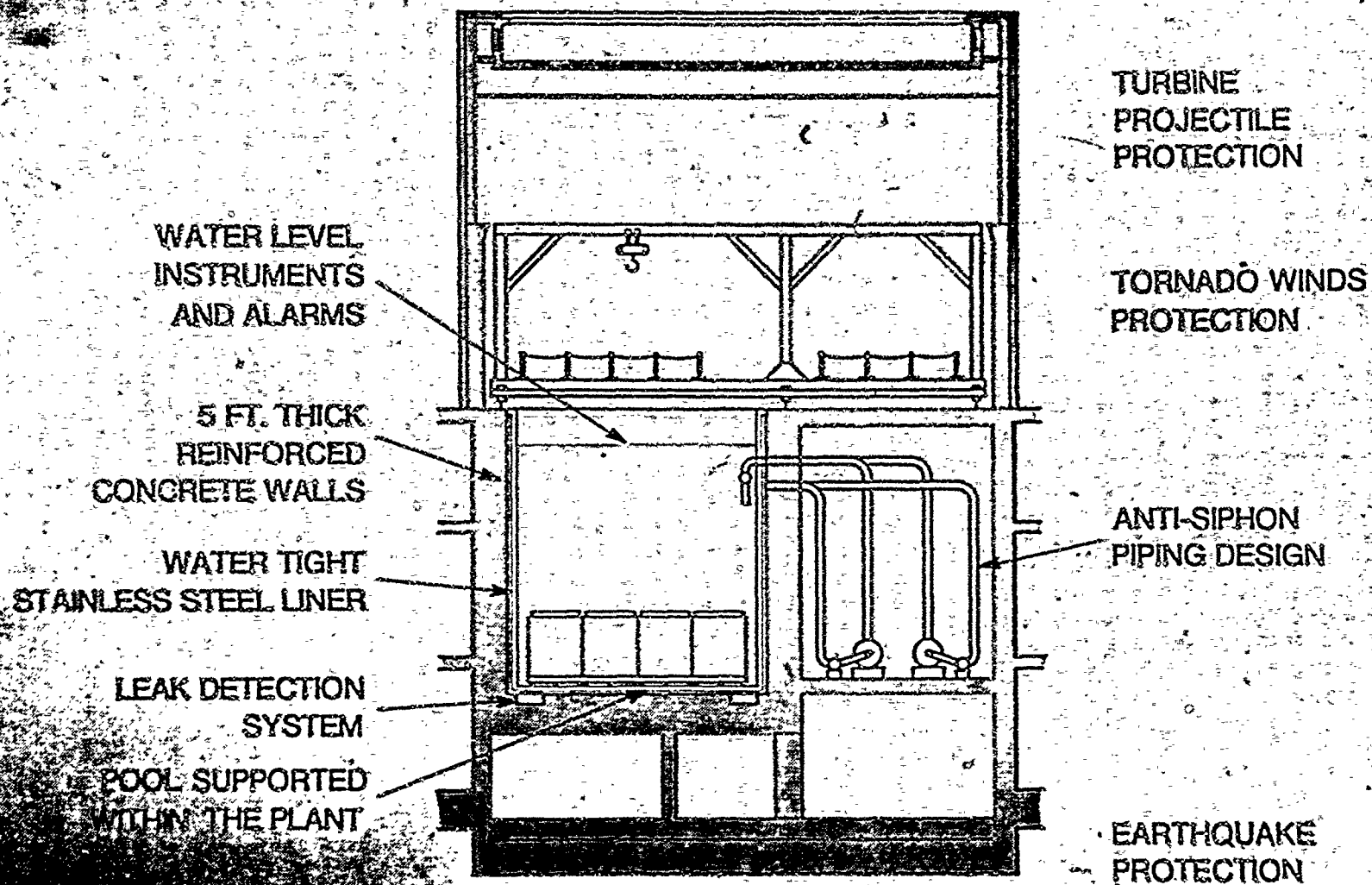
				
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# SPENT FUEL POOL ARRANGEMENT (NEW RACKS)

DONALD C. COOK NUCLEAR PLANT



# DONALD C. COOK AUXILIARY BUILDING





**Analyses which have been Performed for Modified  
Spent Fuel Storage Capacity to Insure Safety :**

- **CRITICALITY**
- **THERMAL-HYDRAULIC**
- **SEISMIC**
- **ACCIDENT**
- **ENVIRONMENTAL**

## **Alternative Solutions Considered to Solve the Spent Fuel Storage Capacity Problem:**

- **Shipment of Spent Fuel to Allied-General Nuclear Services in Accordance with Reprocessing Contract**

## **Alternative Solutions Considered to Solve the Spent Fuel Storage Capacity Problem::**

- **Shipment of Spent Fuel to Allied-General Nuclear Services in Accordance with Reprocessing Contract**
- **Shipment of Spent Fuel to Nuclear Fuel Services or the General Electric Morris Facility**



## **Alternative Solutions Considered to Solve the Spent Fuel Storage Capacity Problem :**

- **Shipment of Spent Fuel to Allied-General Nuclear Services in Accordance with Reprocessing Contract**
- **Shipment of Spent Fuel to Nuclear Fuel Services or the General Electric Morris Facility**
- **Shipment of Spent Fuel to Other Reactors**



## Alternative Solutions Considered to Solve the Spent Fuel Storage Capacity Problem :

- Shipment of Spent Fuel to Allied-General Nuclear Services in Accordance with Reprocessing Contract
- Shipment of Spent Fuel to Nuclear Fuel Services or the General Electric Morris Facility
- Shipment of Spent Fuel to Other Reactors
- Ship Spent Fuel to an Away-From-Reactor (AFR) Independent Spent Fuel Storage Facility

## **Alternative Solutions Considered to Solve the Spent Fuel Storage Capacity Problem :**

- **Shipment of Spent Fuel to Allied-General Nuclear Services in Accordance with Reprocessing Contract**
- **Shipment of Spent Fuel to Nuclear Fuel Services or the General Electric Morris Facility**
- **Shipment of Spent Fuel to Other Reactors**
- **Ship Spent Fuel to an Away-From-Reactor (AFR) Independent Spent Fuel Storage Facility**
- **Shut Down The Donald C. Cook Units**

**IMPACT DUE TO DONALD C. COOK NUCLEAR PLANT  
SHUT-DOWN BECAUSE OF INSUFFICIENT  
SPENT FUEL STORAGE CAPACITY**

- **Forced to Seek Replacement of up to 2.1 Million Kilowatts  
Net Electrical Energy Production.**
- **If Possible to Purchase Energy, it Could Cost  
As Much As \$1.5 Million Per Day Extra  
for Fossil Generated Electricity.**



- **Loss of an Estimated Several Hundred Jobs from the Cook Plant. This is a Loss of Over \$10 Million Per Year in Personal Income.**
- **Loss of Millions of Dollars in Revenue from Locally Purchased Materials and Services for the D.C. Cook Plant. This Would Result in Additional Loss of Jobs.**
- **Loss of the Major Portion of Approximately \$10 Million Per Year in Tax Revenue to the State and Local Communities.**

## Alternative Solutions Considered to Solve the Spent Fuel Storage Capacity Problem :

- Shipment of Spent Fuel to Allied-General Nuclear Services in Accordance with Reprocessing Contract
- Shipment of Spent Fuel to Nuclear Fuel Services or the General Electric Morris Facility
- Shipment of Spent Fuel to Other Reactors
- Ship Spent Fuel to an Away-From-Reactor (AFR) Independent Spent Fuel Storage Facility
- Shut Down The Donald C. Cook Units
- Increase Spent Fuel Storage Capacity On-Site

**Estimated Cost of Governmental Temporary Storage  
and Savings to Customers Associated with Expanded  
On-Site Storage Capacity (in 1978 Dollars)**

○ Estimated Cost of 12 Years Worth of Government  
Temporary Spent Fuel Storage :  
 $\$6.6 \text{ Million per Year for 12 Years} = \$79 \text{ Million}$

○ Estimated Cost of Installing 12 Years Worth of Spent  
Fuel Storage Capacity :  
 $\$4.7 \text{ Million}$

○ Total Savings :  
 $\$79 \text{ Million} - \$4.7 \text{ Million} = \$74.3 \text{ Million}$



## **Conclusions :**

- **We must do something about Spent Fuel Storage in order to keep The Donald C. Cook Plant Operable**
- **On-Site Spent Fuel Storage Capacity Expansion is the Best Alternative**
- **There is No Significant Increase in Safety Risks or Environmental Impact**

