

NRC DISTRIBUTION FOR PART 50 DOCKET MATERIAL

FILE NUMBER

TO:
Mr. Victor Stello, Jr.

FROM:
Florida Power & Light Company
Miami, Florida
Mr. Robert E. Uhrig

DATE OF DOCUMENT
7/30/76

DATE RECEIVED
8/3/76

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DESCRIPTION

Ltr. notorized 7/30/76..trans the following:

PLANT NAME:
Turkey Point #3

(2-P)

ENCLOSURE

Amdt. to ol/change to tech spec..seeking to amend section 2.B which will allow storage of 235 fuel assemblies in the unit 3 spent fuel pit.

(9-P)

ACKNOWLEDGED
DO NOT REMOVE

SAFETY

FOR ACTION/INFORMATION

ENVIRO 8/4/76

RJL

ASSIGNED AD:
 BRANCH CHIEF: Lear (6)
 PROJECT MANAGER:
 LIC. ASST.: Parrish

ASSIGNED AD:
BRANCH CHIEF:
PROJECT MANAGER:
LIC. ASST.:

INTERNAL DISTRIBUTION

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			SITE TECH.
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HELTEMES	AT & I		BUNCH
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	RUTBERG		KREGER

EXTERNAL DISTRIBUTION

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TIC:

NSIC:

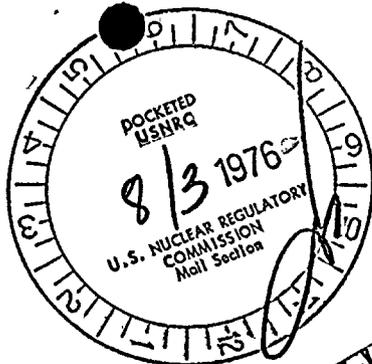
ASLB:

ACRS/6 CYS HOLDING/SENT: PARRISH.

NAT LAB:
REG. VIE
LA PDR
CONSULTANTS

BROOKHAVEN NAT LAB
ULRIKSON(ORNL)

CONTROL NUMBER
7826

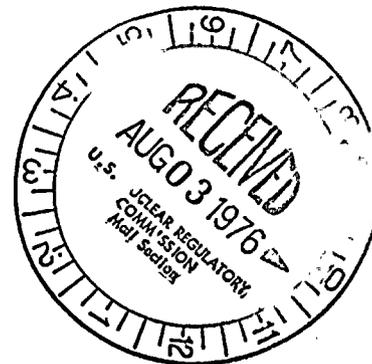


Regulatory Docket File



July 30, 1976
L-76-273

Office of Nuclear Reactor Regulation
Attn: Victor Stello, Jr., Director
Division of Operating Reactors
U. S. Nuclear Regulatory Commission
Washington, D. C. 20555



Dear Mr. Stello:

Re: Turkey Point Plant Unit No. 3
Docket No. 50-250
Proposed Amendment to Facility
Operating License DPR-31

In accordance with 10 CFR 50.30, Florida Power & Light Company submits herewith three (3) signed originals and forty (40) conformed copies of a request to amend Facility Operating License DPR-31.

This submittal proposes a change to Section 2.B which will allow storage of 235 fuel assemblies in the Unit 3 spent fuel pit. This increase from 217 fuel assemblies will be a temporary change which will be in effect less than one year. The revised section should read as follows:

Pursuant to the Act and 10 CFR Part 70, and specifically, to limit spent fuel pit storage capacity to 235 assemblies, also to receive, possess, and use at any time, special nuclear material as reactor fuel, in accordance with the limitations for storage and amounts required for reactor operation.

The eighteen additional fuel assemblies will be stored in temporary racks which meet the same criteria as the original storage racks. Attached is the Safety Analysis performed for this proposed license amendment which discusses the temporary fuel storage racks.

The Turkey Point Plant Nuclear Safety Committee and the Company Nuclear Review Board have reviewed the proposed license amendment and safety analysis and have concluded that the proposed amendment does not involve a significant hazards consideration.

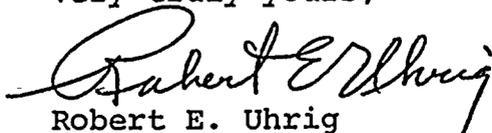
7826

To: Victor Stello, Jr.
Re: Turkey Point Plant Unit No. 3
Proposed Amendment to Facility
Operating License DPR-31

July 30, 1976
Page -2-

Approval of this amendment is requested by September 15, 1976 in order to support our schedule for rack installation shown in the attached Safety Analysis.

Very truly yours,



Robert E. Uhrig
Vice President

REU/GDW/WA/hlc
Attachment

cc: Norman C. Moseley, Region II
Jack R. Newman, Esq.

INTRODUCTION

Reference 1 described the overall spent fuel storage modification for Turkey Point Units 3 and 4. That report stated that temporary storage racks would be installed in the Unit 3 storage pool in order to accommodate the spent fuel currently in Unit 3, the spent fuel from the Unit 3, November 1976, refueling, and all the spent fuel from Unit 4 while the fuel pool modifications are accomplished. These temporary storage racks will be required until the spent fuel transferral back to Unit 4, which is scheduled to begin in May, 1977.

This report provides a more detailed description of the temporary storage racks than presented in Reference 1 (page 35) (also note that the number of storage positions is herein amended to 18 positions). Reference 2 described the details of the fuel transfer operations.

DESCRIPTION OF THE TEMPORARY RACKS

The temporary storage racks are designed to the same criteria as the existing racks which are described in the Turkey Point FSAR (Section 9.5). The racks are designed so that it is not possible to insert fuel assemblies into other than the prescribed locations, thereby ensuring the necessary spacing between assemblies. The dimensional tolerances, material specifications, and fabrication procedures ensure proper interface with the fuel assemblies. The stainless steel materials conform to ASTM A 276 Type 302 for structural shape and plate and to ASTM A 479 Type 302 for fittings and boltings.

The temporary storage racks will be fabricated into a Seismic Class 1 structural module containing 18 storage locations. The existing rack dimensions, center-to-center spacing (21"), and structural characteristics are maintained in the temporary storage module. The module will be placed in the Unit 3 spent fuel cask area of the pool and will be fitted to the existing structural framework. The module will be lifted by four lifting lugs. After the module is in place, the lifting slings are removed and the lifting lugs swing down and act as a shim (See Figure 1, Sheet 3) to close the measured gap between the existing racks and the temporary module. The shimming of the module to the existing racks and spent fuel pit wall creates a seismically integrated assembly. Details of the temporary fuel storage module are shown in Figure 1.

The module will be braced in both the vertical and horizontal directions and can withstand the forces that could be imparted due to the maximum seismic event (E', as defined in Appendix 5A of the FSAR). The lateral forces from the rack module will be transferred to the existing framework and then to the pool structure. The lateral loads imparted by the additional storage module will be relatively small and well within the structural capacity of the existing spring and pool structure system. The module is analyzed as a two dimensional frame with forces applied at the top and bottom main members (See Figure 1, Sheet 4). Diagonal bracing is provided for rigidity of the module during installation. The magnitude of the horizontal forces associated with the temporary module is calculated to be about 1.1 kips for the maximum seismic event. The maximum floor loading by the temporary storage racks when filled with spent fuel will not exceed the capacity of the pool structure. Reference 3 discussed the loading on the pool by 621 fuel racks and the increase discussed herein is small in comparison.

INSTALLATION

The stainless steel temporary storage module will be a rigid open frame structure. The module will weigh approximately two tons and will be lowered into place using the cask crane. Installation will be performed using approved procedures to restrict movement to within the cask loading area. Cask crane stops

will also be utilized to restrict movement over the spent fuel area (see Reference 2). All applicable radiation precautions and procedures will be observed.

EVALUATION

Reference 1 showed that the effects of increasing the spent fuel storage capacity to 621 fuel assemblies on the fuel pit cooling system, the pool makeup requirements, the fuel building HVAC system, and the pit cleanup system are minimal. Therefore, the effects of the additional 18 storage locations on these systems will be negligible in comparison. Similarly, References 1 and 2 analyzed loss of pit cooling, loss of makeup water, radioactive releases, operational radiation exposures, and offsite doses for the larger increase in storage capacity that is planned. The same analyses for the 18 additional storage locations described herein are upper-bounded by these previous analyses.

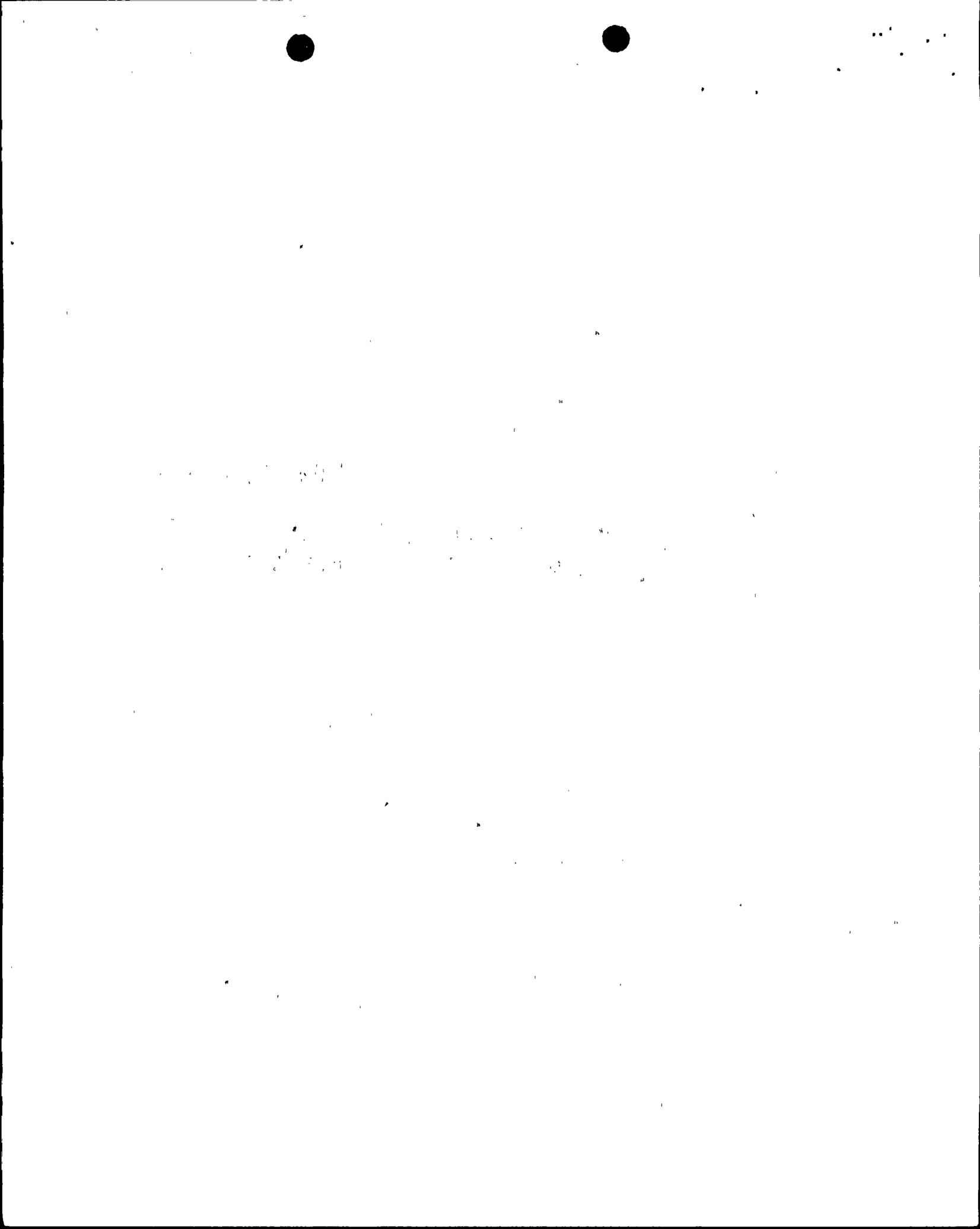
The modification reduces the existing cask loading area as shown in Figure 1. However, during the time the temporary racks are in use, fuel transfer operations will be accomplished using a single element cask. Cask handling is described further in Reference 2. In the unlikely event of an unscheduled cask descent, the evaluation of offsite doses remain the same as that described in Reference 2.

An uncontrolled descent of a temporary rack may be postulated during installation. All aspects of this unlikely event have consequences which are bounded by the analysis performed for the cask (reported in Reference 2) with respect to fuel pool integrity and potential offsite doses. The likelihood of an uncontrolled descent of a rack during installation is small due to the cask crane safety margins and administrative controls which limit movement of the racks over spent fuel. Reference 2 provides additional detail on crane safety margins.

The original k_{eff} calculations, for the existing spent fuel storage racks, were made by the NSSS vendor by diffusion codes for an infinite array with 21 inch spacing. Since the temporary module duplicates the existing rack cell spacing of 21 inches, the k_{eff} numbers would remain less than or equal to .90. Therefore, k_{eff} calculations are not necessary.

QUALITY ASSURANCE

Quality Assurance requirements applied to temporary storage racks are in accordance with 10 CFR 50, Appendix B. The Quality Assurance Program is applied, as discussed in the Bechtel Quality Assurance Program for Nuclear Power Plants, BQ-TOP-1, Rev. 1A, which was approved without exception by the USNRC on May 30, 1975. The



Quality Assurance Program is implemented through the use of the Bechtel Gaithersburg Power Division Nuclear Quality Assurance Manual. The Florida Power & Light Quality Assurance Manual will be used to implement the Quality Assurance Program during the installation of the temporary racks.

CONCLUSION

We have concluded, based on the considerations discussed above, that:

- (1) because the changes do not involve an increase in the probability or consequences of accidents previously considered, and do not involve a significant decrease in a safety margin, the changes do not involve a significant hazards consideration;
- (2) there is reasonable assurance that the health and safety of the public will not be endangered by operation in the proposed manner; and
- (3) such activities will be conducted in compliance with the Commission's regulations and the issuance of this amendment will not be inimical to the common defense and security, or to the health and safety of the public.

SCHEDULE

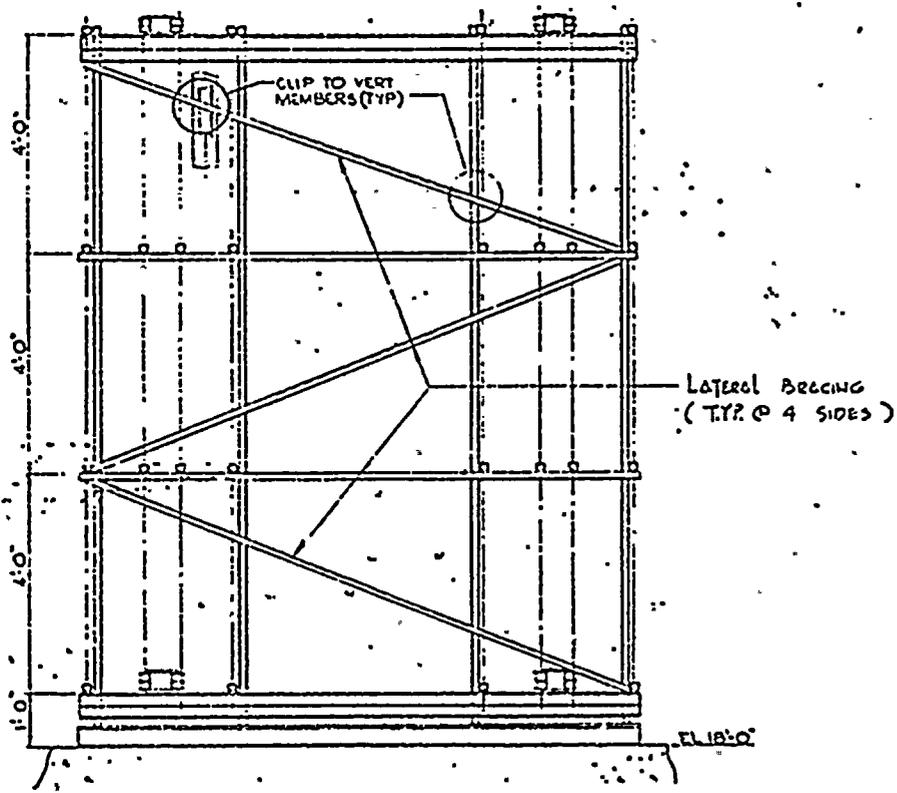
Submittal of proposed amendment to NRC	July 30, 1976
Approval of the proposed amendment by the NRC	September 15, 1976
Installation of temporary racks completed	October 15, 1976

References:

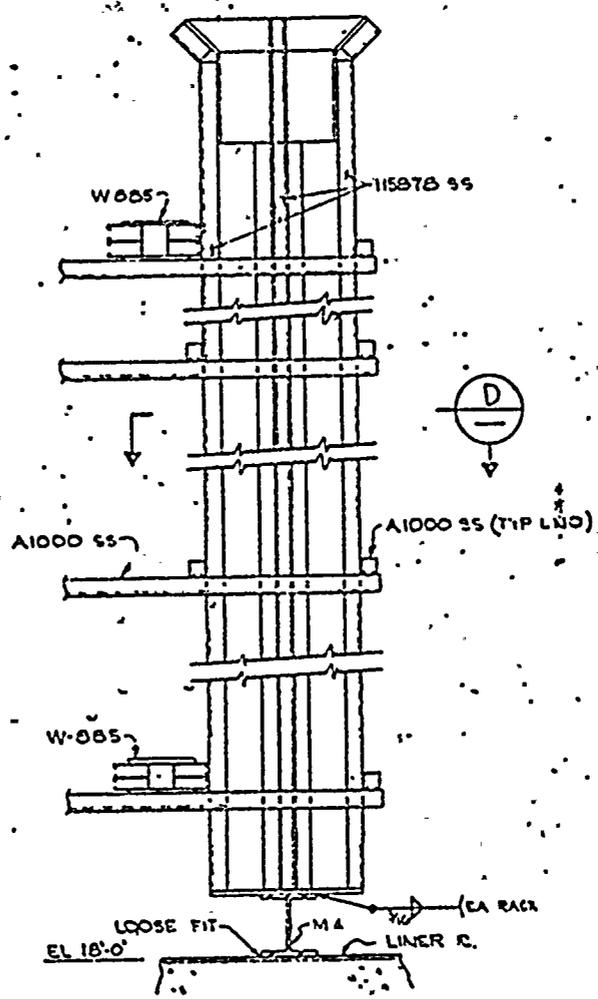
1. Dr. Robert E. Uhrig's letter to Victor Stello, Jr., 4-30-76
2. Dr. Robert E. Uhrig's letter to Victor Stello, Jr., 6-23-76
3. Dr. Robert E. Uhrig's letter to Victor Stello, Jr., 1-29-76



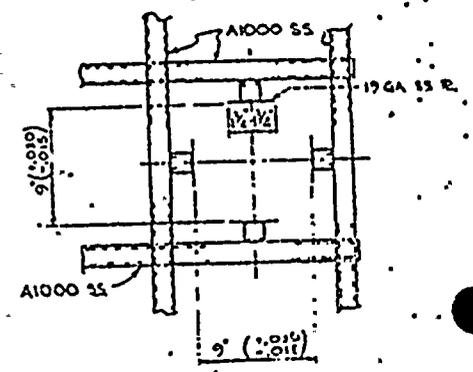
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SECTION E
SCALE 1/2"=1'-0"



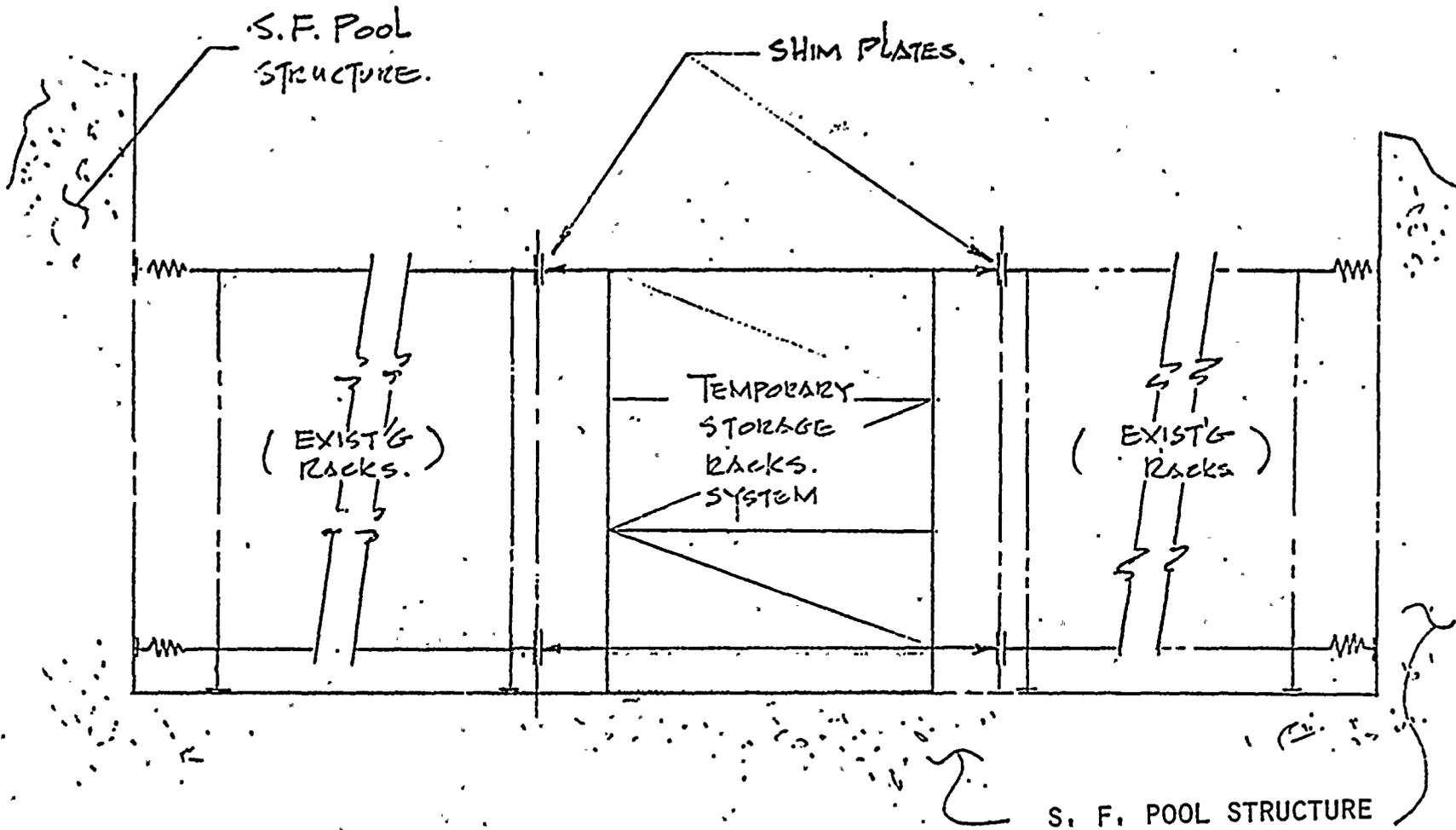
SECTION B TYP
SCALE 1/2"=1'-0"
RACK



SECTION D
SCALE 1/2"=1'-0"

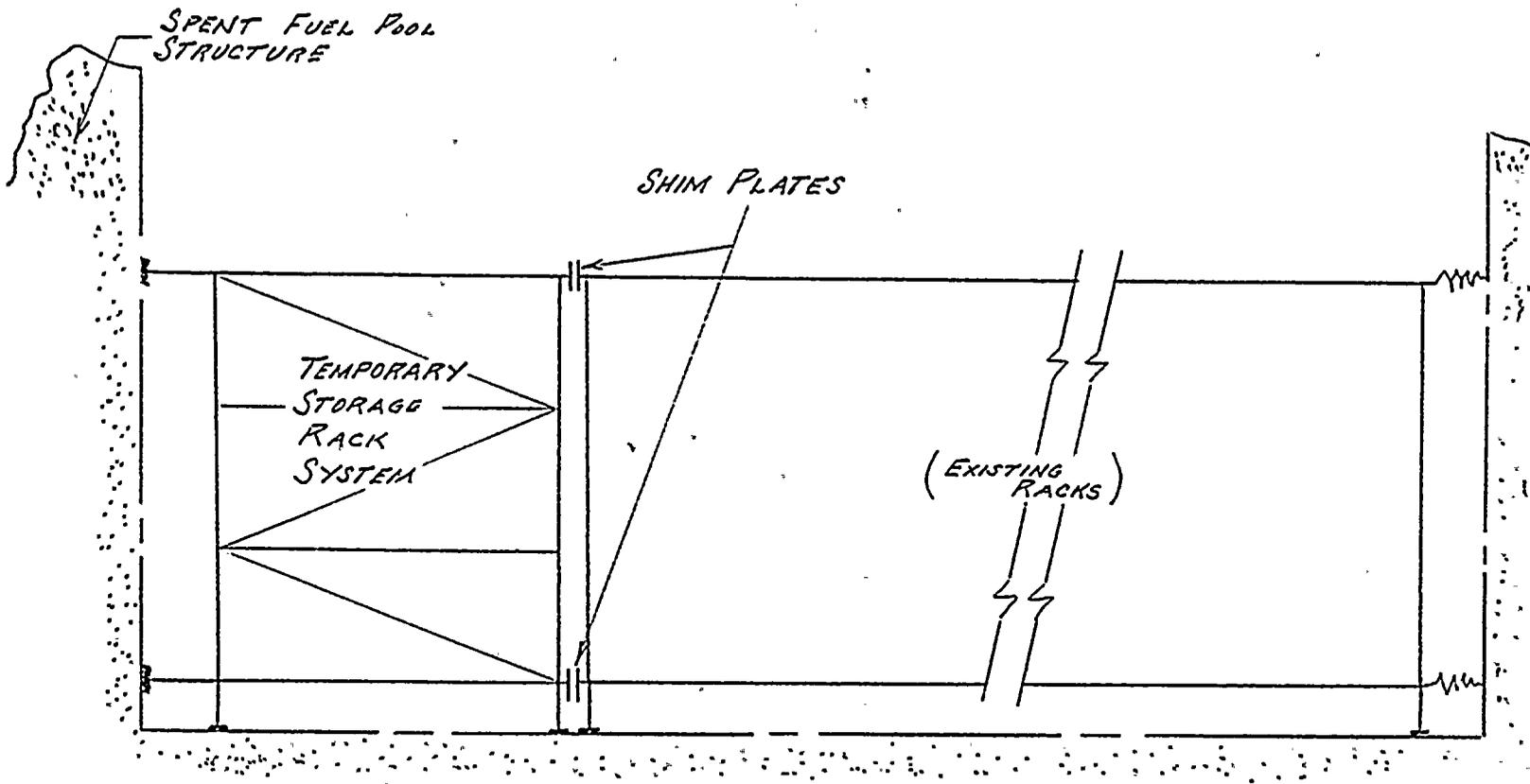
TEMPORARY SPENT FUEL STORAGE RACK MODULE

FIGURE 1 - SHEET 2



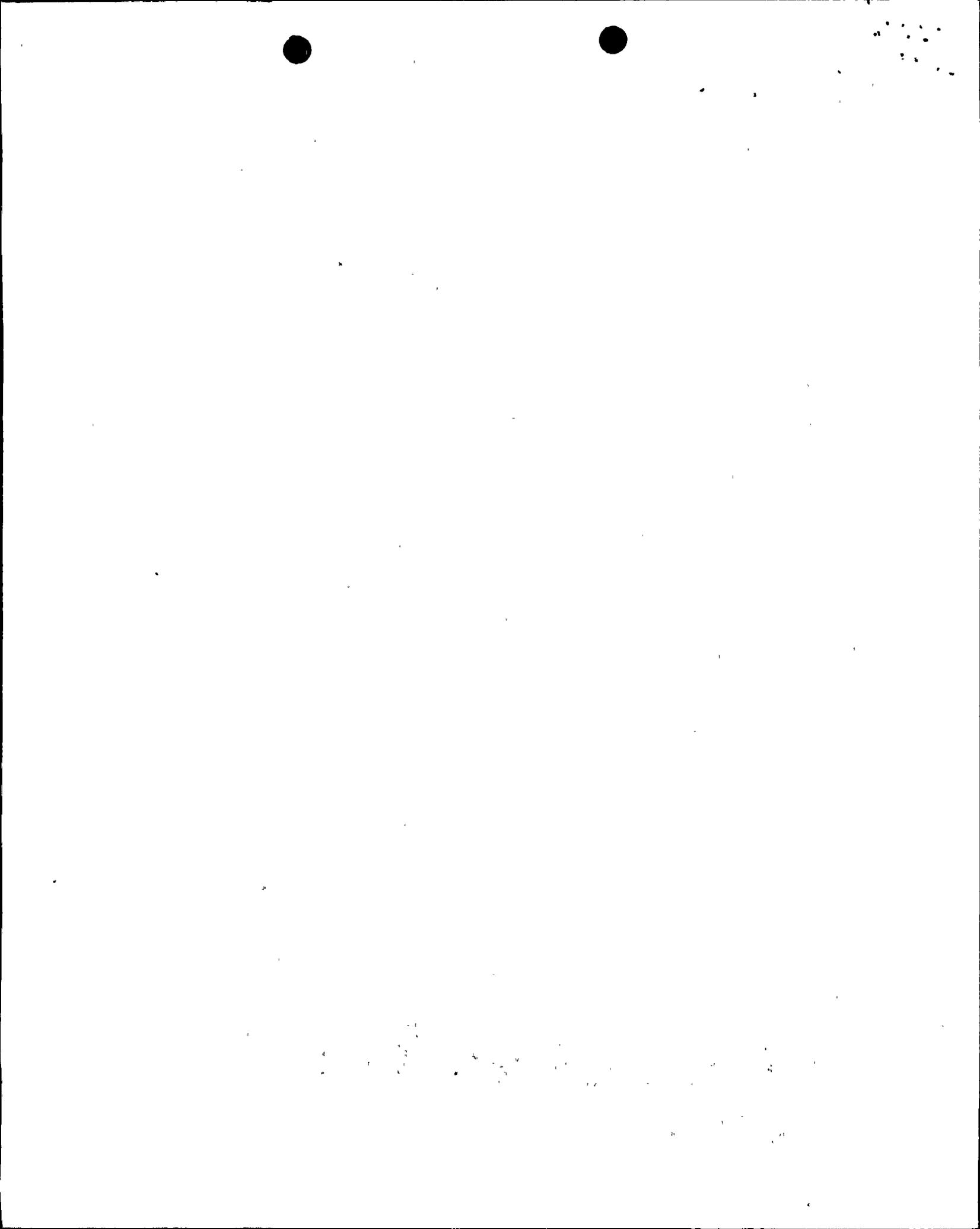
TEMPORARY STORAGE RACK
ANALYTICAL MODEL
ELEVATION FACING WEST

FIGURE 1-SHEET 4



TEMPORARY STORAGE RACK
ANALYTICAL MODEL
ELEVATION FACING SOUTH

FIGURE 1 - SHEET 5



STATE OF FLORIDA)
)
) ss.
COUNTY OF DADE)

Robert E. Uhrig, being first duly sworn, deposes and says:

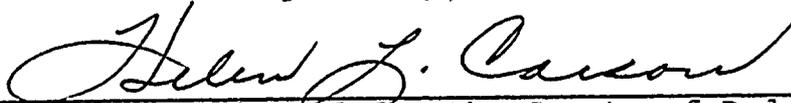
That he is a Vice President of Florida Power & Light Company,
the Licensee herein;

That he has executed the foregoing document; that the state-
ments made in this said document are true and correct to the
best of his knowledge, information, and belief, and that he
is authorized to execute the document on behalf of said
Licensee.


Robert E. Uhrig

Subscribed and sworn to before me this

30th day of July, 19 76



NOTARY PUBLIC, in and for the County of Dade,
State of Florida

NOTARY PUBLIC STATE OF FLORIDA AT LARGE
MY COMMISSION EXPIRES NOV. 30 1979

My commission expires: _____
BONDED THRU GENERAL INS. UNDERWRITERS

