

May 19, 1992

Docket Nos. 50-373
and 50-374

Mr. Thomas J. Kovach
Nuclear Licensing Manager
Commonwealth Edison Company-Suite 300
OPUS West III
1400 OPUS Place
Downers Grove, Illinois 60515

Dear Mr. Kovach:

SUBJECT: ISSUANCE OF AMENDMENTS (TAC NOS. M82712 AND M82713)

The Commission has issued the enclosed Amendment No. 83 to Facility Operating License No. NPF-11 and Amendment No. 67 to Facility Operating License No. NPF-18 for the LaSalle County Station, Units 1 and 2, respectively. The amendments are in response to your application dated January 21, 1992.

The amendments add new setpoint requirements to Section 4.9.6 of the Technical Specifications (TS) for the main refueling mast. The setpoints are for the fuel hoist loaded and the overload cutoff interlocks and are required due to the station's plan to install a new mast of a slightly different design.

A copy of the Safety Evaluation is also enclosed. The Notice of Issuance will be included in the Commission's biweekly Federal Register notice.

Sincerely,

Original signed by:
Byron L. Siegel, Project Manager
Project Directorate III-2
Division of Reactor Projects - III/IV/V
Office of Nuclear Reactor Regulation

Enclosures:

1. Amendment No. 83 to NPF-11
2. Amendment No. 67 to NPF-18
3. Safety Evaluation

cc w/enclosures:
See next page

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Mr. Thomas J. Kovach
Commonwealth Edison Company

LaSalle County Station
Unit Nos. 1 and 2

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UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555

COMMONWEALTH EDISON COMPANY

DOCKET NO. 50-373

LASALLE COUNTY STATION, UNIT 1

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 83
License No. NPF-11

1. The Nuclear Regulatory Commission (the Commission) has found that:
 - A. The application for amendment filed by the Commonwealth Edison Company (the licensee), dated January 21, 1992, complies with the standards and requirements of the Atomic Energy Act of 1954, as amended (the Act), and the Commission's regulations set forth in 10 CFR Chapter I;
 - B. The facility will operate in conformity with the application, the provisions of the Act, and the regulations of the Commission;
 - C. There is reasonable assurance: (i) that the activities authorized by this amendment can be conducted without endangering the health and safety of the public, and (ii) that such activities will be conducted in compliance with the Commission's regulations set forth in 10 CFR Chapter I;
 - D. The issuance of this amendment will not be inimical to the common defense and security or to the health and safety of the public; and
 - E. The issuance of this amendment is in accordance with 10 CFR Part 51 of the Commission's regulations and all applicable requirements have been satisfied.
2. Accordingly, the license is amended by changes to the Technical Specifications as indicated in the enclosure to this license amendment and paragraph 2.C.(2) of the Facility Operating License No. NPF-11 is hereby amended to read as follows:

(2) Technical Specifications and Environmental Protection Plan

The Technical Specifications contained in Appendix A, as revised through Amendment No. 83 , and the Environmental Protection Plan contained in Appendix B, are hereby incorporated in the license. The licensee shall operate the facility in accordance with the Technical Specifications and the Environmental Protection Plan.

3. This amendment is effective upon date of issuance.

FOR THE NUCLEAR REGULATORY COMMISSION



Richard J. Barrett, Director
Project Directorate III-2
Division of Reactor Projects - III/IV/V
Office of Nuclear Reactor Regulation

Attachment:
Changes to the Technical
Specifications

Date of Issuance: May 19, 1992

ATTACHMENT TO LICENSE AMENDMENT NO. 83

FACILITY OPERATING LICENSE NO. NPF-11

DOCKET NO. 50-373

Replace the following pages of the Appendix "A" Technical Specifications with the enclosed pages. The revised pages are identified by amendment number and contain vertical lines indicating the area of change. Pages identified by an asterisk are provided for convenience.

REMOVE

* 3/4 9-7

3/4 9-8

INSERT

* 3/4 9-7

3/4 9-8

REFUELING OPERATIONS

3/4.9.5 COMMUNICATIONS

LIMITING CONDITION FOR OPERATION

3.9.5 Direct communication shall be maintained between the control room and refueling platform personnel.

APPLICABILITY: OPERATIONAL CONDITION 5, during CORE ALTERATIONS.*

ACTION:

When direct communication between the control room and refueling platform personnel cannot be maintained, immediately suspend CORE ALTERATIONS.*

SURVEILLANCE REQUIREMENTS

4.9.5 Direct communication between the control room and refueling platform personnel shall be demonstrated within one hour prior to the start of and at least once per 12 hours during CORE ALTERATIONS.*

*Except movement of incore instrumentation and control rods with their normal drive system.

REFUELING OPERATIONS

3/4.9.6 CRANE AND HOIST

LIMITING CONDITION FOR OPERATION

3.9.6 All cranes and hoists used for handling fuel assemblies or control rods within the reactor pressure vessel shall be OPERABLE.

APPLICABILITY: During handling of fuel assemblies or control rods within the reactor pressure vessel.

ACTION:

With the requirements for crane and hoist OPERABILITY not satisfied, suspend use of any inoperable crane or hoist from operations involving the handling of control rods and fuel assemblies within the reactor pressure vessel after placing the load in a safe condition.

SURVEILLANCE REQUIREMENTS

4.9.6 Each crane or hoist used for handling of control rods or fuel assemblies within the reactor pressure vessel shall be demonstrated OPERABLE within 7 days prior to the start of such operations with that crane or hoist by:

- a. Demonstrating operation of the overload cutoff when the load exceeds:
 1. For the fuel hoist:
 - a) 1600 +100/-0 pounds with the NF500 mast.
 - b) 1200 +50 pounds with the 762E974 mast.
 2. 1000 ± 50 pounds for the auxiliary hoist.
- b. Demonstrating operation of the loaded interlock when the load exceeds:
 1. For the fuel hoist:
 - a) 700 +50/-0 pounds with the NF500 mast.
 - b) 485 +50 pounds and 550 +50 pounds with the 762E974 mast.
 2. 400 ± 50 pounds for the auxiliary hoist.
- c. Demonstrating operation of the fuel hoist downtravel stop when downtravel exceeds 54 feet below the platform rails.
- d. Demonstrating operation of the fuel hoist and auxiliary hoist up-travel stops when the grapple is lower than or equal to 8 feet below the platform rails.
- e. Demonstrating operation of the fuel hoist slack cable cutoff when the hoist is unloaded.



UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555

COMMONWEALTH EDISON COMPANY

DOCKET NO. 50-374

LASALLE COUNTY STATION, UNIT 2

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 67
License No. NPF-18

1. The Nuclear Regulatory Commission (the Commission) has found that:
 - A. The application for amendment filed by the Commonwealth Edison Company (the licensee), dated January 21, 1992, complies with the standards and requirements of the Atomic Energy Act of 1954, as amended (the Act), and the Commission's regulations set forth in 10 CFR Chapter I;
 - B. The facility will operate in conformity with the application, the provisions of the Act, and the regulations of the Commission;
 - C. There is reasonable assurance: (i) that the activities authorized by this amendment can be conducted without endangering the health and safety of the public, and (ii) that such activities will be conducted in compliance with the Commission's regulations set forth in 10 CFR Chapter I;
 - D. The issuance of this amendment will not be inimical to the common defense and security or to the health and safety of the public; and
 - E. The issuance of this amendment is in accordance with 10 CFR Part 51 of the Commission's regulations and all applicable requirements have been satisfied.
2. Accordingly, the license is amended by changes to the Technical Specifications as indicated in the enclosure to this license amendment and paragraph 2.C.(2) of the Facility Operating License No. NPF-18 is hereby amended to read as follows:

(2) Technical Specifications and Environmental Protection Plan

The Technical Specifications contained in Appendix A, as revised through Amendment No. 67, and the Environmental Protection Plan contained in Appendix B, are hereby incorporated in the license. The licensee shall operate the facility in accordance with the Technical Specifications and the Environmental Protection Plan.

3. This amendment is effective upon date of issuance.

FOR THE NUCLEAR REGULATORY COMMISSION


Richard J. Barrett, Director
Project Directorate III-2
Division of Reactor Projects - III/IV/V
Office of Nuclear Reactor Regulation

Attachment:
Changes to the Technical
Specifications

Date of Issuance: May 19, 1992

ATTACHMENT TO LICENSE AMENDMENT NO. 67

FACILITY OPERATING LICENSE NO. NPF-18

DOCKET NO. 50-374

Replace the following pages of the Appendix "A" Technical Specifications with the enclosed pages. The revised pages are identified by amendment number and contain vertical lines indicating the area of change. Pages identified by an asterisk are provided for convenience.

REMOVE

* 3/4 9-7

3/4 9-8

INSERT

* 3/4 9-7

3/4 9-8

REFUELING OPERATIONS

3/4.9.5 COMMUNICATIONS

LIMITING CONDITION FOR OPERATION

3.9.5 Direct communication shall be maintained between the control room and refueling platform personnel.

APPLICABILITY: OPERATIONAL CONDITION 5, during CORE ALTERATIONS.*

ACTION:

When direct communication between the control room and refueling platform personnel cannot be maintained, immediately suspend CORE ALTERATIONS.*

SURVEILLANCE REQUIREMENTS

4.9.5 Direct communication between the control room and refueling platform personnel shall be demonstrated within one hour prior to the start of and at least once per 12 hours during CORE ALTERATIONS.*

*Except movement of incore instrumentation and control rods with their normal drive system.

REFUELING OPERATIONS

3/4.9.6 CRANE AND HOIST

LIMITING CONDITION FOR OPERATION

3.9.6 All cranes and hoists used for handling fuel assemblies or control rods within the reactor pressure vessel shall be OPERABLE.

APPLICABILITY: During handling of fuel assemblies or control rods within the reactor pressure vessel.

ACTION:

With the requirements for crane and hoist OPERABILITY not satisfied, suspend use of any inoperable crane or hoist from operations involving the handling of control rods and fuel assemblies within the reactor pressure vessel after placing the load in a safe condition.

SURVEILLANCE REQUIREMENTS

4.9.6 Each crane or hoist used for handling of control rods or fuel assemblies within the reactor pressure vessel shall be demonstrated OPERABLE within 7 days prior to the start of such operations with that crane or hoist by:

- a. Demonstrating operation of the overload cutoff when the load exceeds:
 1. For the fuel hoist:
 - a) 1600 +100/-0 pounds with the NF500 mast.
 - b) 1200 +50 pounds with the 762E974 mast.
 2. 1000 ± 50 pounds for the auxiliary hoist.
- b. Demonstrating operation of the loaded interlock when the load exceeds:
 1. For the fuel hoist:
 - a) 700 +50/-0 pounds with the NF500 mast.
 - b) 485 +50 pounds and 550 +50 pounds with the 762E974 mast.
 2. 400 ± 50 pounds for the auxiliary hoist.
- c. Demonstrating operation of the fuel hoist downtravel stop when downtravel exceeds 54 feet below the platform rails.
- d. Demonstrating operation of the fuel hoist and auxiliary hoist up-travel stops when the grapple is lower than or equal to 8 feet below the platform rails.
- e. Demonstrating operation of the fuel hoist slack cable cutoff when the hoist is unloaded.



UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION
RELATED TO AMENDMENT NO. 83 TO FACILITY OPERATING LICENSE NO. NPF-11 AND
AMENDMENT NO. 67 TO FACILITY OPERATING LICENSE NO. NPF-18
COMMONWEALTH EDISON COMPANY
LASALLE COUNTY STATION, UNITS 1 AND 2
DOCKET NOS. 50-373 AND 50-374

1.0 INTRODUCTION

By letter dated January 21, 1992, Commonwealth Edison Company (CECo, the licensee) requested an amendment to Facility Operating License Nos. NPF-11 and NPF-18. The proposed amendment would revise the Surveillance Requirements to Section 4.9.6 of the Technical Specifications (TS) for the refueling platform main hoist. The proposed amendment would allow the station to replace their existing refueling mast with one of a newer design while allowing them to maintain the existing mast as a backup.

2.0 DISCUSSION

LaSalle County Station is replacing their existing General Electric (GE) model 762E974 refueling mast with an improved design by the same manufacturer. The newer design is the GE NF500 model. The reason for the replacement is that the existing mast is no longer being manufactured by GE and spare parts are obsolete and available by special order only.

Refueling and transportation of reactor components is accomplished using a gantry crane. The crane spans across the fuel storage and the reactor vessel pools and rides on tracks embedded in the refuel floor. A trolley system is used to lift, lower, or orient fuel bundles as required to load them into the reactor vessel or into the fuel storage pool rack.

The new refuel mast (NF500) design consists of four concentric, telescoping, solid tube sections (see Figure 1). The mast hangs down vertically from the bottom of the trolley. The top section is fixed to the trolley and does not move in the vertical direction. When the hoist is in the "normal up" position, only the weight of the top section of the refuel mast is transmitted directly to the trolley. The weight of the three lower sections, plus any load on the grapple, is supported by the hoist via the hoist cables. When the hoist is in the "normal down" position, only the weight of the lowest section of the mast, plus any load on the grapple, is supported by the hoist. The other sections of the mast are directly supported by the section above it, and therefore, by the trolley. Since the main fuel hoist is located on the trolley, the total weight of the mast and any load on it is, at all times,

supported by the refuel platform structure via the trolley and gantry crane. It is only the manner in which the load is transmitted to the structure that changes and forms the basis for determining the setpoints for the Fuel Hoist Loaded and the Fuel Hoist Overload Cutoff interlock setpoints.

The existing refuel mast design (762E974) consists of four concentric, triangular, telescoping sections. Each section is constructed of reinforced tubular frame in a lattice work arrangement (see Figure 2). The way the mast operates and transmits the load weight to the crane support structure is similar to the new mast. The main difference is that the existing mast is 420 pounds lighter than the new mast. The weight differential is due primarily to its open lattice construction vice the solid construction of the new mast.

There are several advantages to the new mast design:

1. It can help in the reduction of personnel exposures. The stainless steel cylindrical construction reduces corrosion and the introduction of activated corrosion products into the spent fuel pool or the reactor vessel. The construction also allows for easier decontamination when the mast is removed for maintenance or storage. Since the air hoses and electrical cable are run inside the mast cylinders, Beta radiation doses as well as airborne and fixed contamination to the console operators is reduced. In addition, air hoses and electrical cables have quick connect amphenol design fittings plugged to the top of the innermost mast section. This reduces exposures due to replacement of the air hoses or electrical cable because it is no longer necessary to remove the mast to perform this work.
2. The round design of the mast produces less ripple in the water during movement of the mast, thus improving operator visibility and reducing the probability of a fuel mispositioning event.
3. The new design is more rigid and more resistant to bending or bowing. This results in the mast settling more quickly after a move, thus, improving operator control.
4. The licensee will save time and high costs by not having to special order obsolete parts on an expedited basis.

The licensee proposes to modify the requirements in Section 4.9.6 of the TS for the Overload Cutoff and the Fuel Hoist Loaded interlock setpoints. The existing requirements for the 762E974 mast would remain, but would be clarified to show that they were for that mast only. New requirements would be added for the NF500 mast which would require different setpoints because of its heavier weight. The new setpoints proposed by the licensee are 1600 +100/-0 pounds for the Overload Cutoff setpoint and 700 +50/-0 pounds for the Fuel Hoist Loaded interlock setpoint.

The purpose of the Overload Cutoff setpoint is to prevent damage to the fuel assemblies due to excessive lifting force. The purpose of the Fuel Hoist Loaded interlock setpoint is to provide indication to the operator that the

grapple is loaded. In addition, the Fuel Hoist Loaded interlock initiates a control rod block in order to prevent withdrawing a control rod when the hoist is loaded and located over the reactor vessel. It also prevents lifting a load when the platform is over the reactor vessel with a control rod withdrawn, disengaging the grapple when the fuel hoist is loaded, and lifting a load when the grapple is not fully engaged.

In order for the refueling mast to function properly, the setpoints were selected as follows:

1. A Fuel Hoist Loaded signal should not be present when the hoist is unloaded and should not be present throughout the mast's entire range of travel. The highest load experienced by the cable when unloaded is 620 to 660 pounds when the mast is full up. This is primarily the weight of the grapple and the three lower sections of the mast. When loaded, there should be a Fuel Hoist Loaded signal generated. The signal should continue to be generated throughout the entire range of travel for the mast while it is loaded. The minimum load experienced by the cable when loaded is 830 pounds (130 for the small section of the mast and 650 for the fuel assembly) when the mast is fully extended. The licensee has determined that a setpoint of 700 +50/-0 pounds will be sufficient to meet this criteria since the minimum setpoint is greater than the maximum unloaded weight on the cable and the maximum setpoint is less than the minimum loaded weight on the cable. One setpoint is being used for this interlock instead of two (currently in the TS for the 762E974 mast) because they are both required to be activated when a fuel bundle is grappled to the mast, so they are both being set to the same value.
2. The Fuel Hoist Overload Cutoff signal should not be generated spuriously due to impulse loadings caused by movement of the mast. If the setpoint is too low, this could cause jamming of the mast. In addition, the Fuel Hoist Overload Cutoff setpoint must be low enough to prevent damage from occurring due to excessive lifting force. The weight on the cable when the mast is loaded with a fuel assembly and fully withdrawn is 1300 pounds. Additional margin is required to prevent spurious trips due to normal mast movement. Therefore, the licensee has determined that a setpoint of 1600+100/-0 pounds is sufficient to meet this criteria and is well within the allowable stress limits for core components such as a fuel assembly and top guide. The new setpoint is at least 300 pounds less than the allowable limit of 2000 pounds to prevent damage to the core internals, fuel, and refuel equipment.

3.0 EVALUATION

The mast replacement does not affect the function nor the operation of the main hoist of the refueling platform. The auxiliary hoists of the refueling platform will also remain unchanged. However, since the new mast weighs more, the Fuel Hoist Loaded and Fuel Hoist Overload interlocks must be revised, as these load limits utilized the weight of the mast in the establishment of their setpoints. Since the existing mast will be retained as a backup, the existing setpoints will remain with the clarification that they apply to the 762E974 mast only.

The only accident that could be potentially affected by the new refueling mast is the fuel handling accident (described in the LaSalle UFSAR, Section 15.7.4). The postulated accident is that a failure of the fuel bundle lifting mechanism could cause the occurrence of a dropped fuel bundle, grapple, and mast. The licensee has determined that the calculated number of fuel rod failures with the new mast is 116. This is bounded by the current UFSAR calculations which are based on 124 fuel rod failures.

The new mast is similar in design and function to the old mast and exceeds all design requirements. Therefore, this new mast cannot create a new or different kind of accident. Since the overload cutoff and the loaded interlock still perform their design function, there is no reduction in the margin of safety. In addition, the new mast provides a safety benefit by reducing personnel exposure and minimizing the potential for a fuel mispositioning event. Therefore, the staff finds the proposed TS change to be acceptable.

4.0 STATE CONSULTATION

In accordance with the Commission's regulations, the Illinois State official was notified of the proposed issuance of the amendments. The State official had no comments.

5.0 ENVIRONMENTAL CONSIDERATION

The amendments change surveillance requirements. The NRC staff has determined that the amendments involve no significant increase in the amounts, and no significant change in the types, of any effluents that may be released offsite, and that there is no significant increase in individual or cumulative occupational radiation exposure. The Commission has previously issued a proposed finding that the amendments involve no significant hazards consideration, and there has been no public comment on such finding (57 FR 9440). Accordingly, the amendments meet the eligibility criteria for categorical exclusion set forth in 10 CFR 51.22(c)(9). Pursuant to 10 CFR 51.22(b), no environmental impact statement or environmental assessment need be prepared in connection with the issuance of the amendments.

6.0 CONCLUSION

The Commission has concluded, based on the considerations discussed above, that: (1) there is reasonable assurance that the health and safety of the public will not be endangered by operation in the proposed manner, (2) such activities will be conducted in compliance with the Commission's regulations, and (3) the issuance of the amendments will not be inimical to the common defense and security or to the health and safety of the public.

Principal Contributor: R. Elliott

Date: May 19, 1992

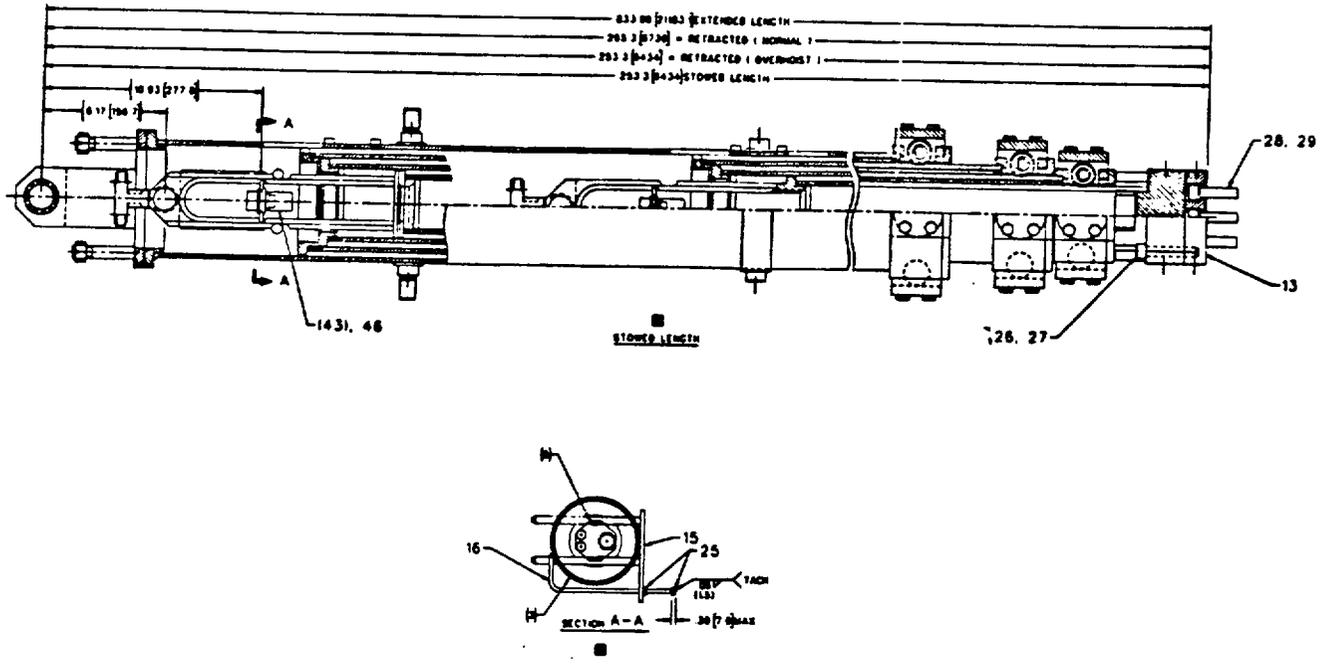


Figure 1

New NF500 Refueling Mast

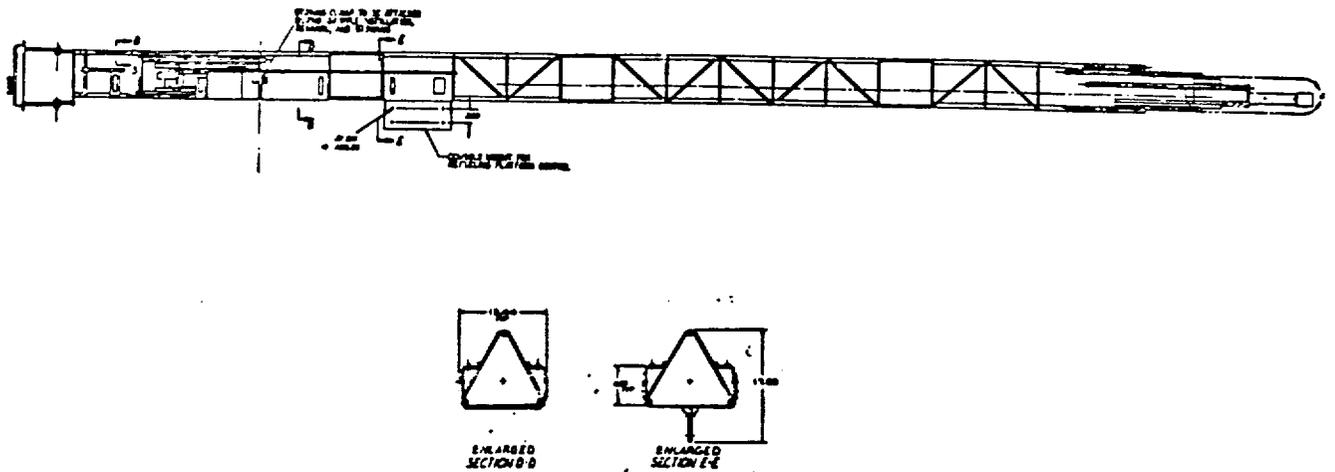


Figure 2

Existing 762E974 Refueling Mast