FLORIDA POWER & LIGHT COMPANY

ST. LUCIE UNIT NO. 1

Estimate of Construction Costs

I.	Total Nuclear Production Plant Costs	$337,000,000	(Note 1)
II.	Transmission, Distribution, and General Plant Costs	5,600,000	(Note 2)
III.	Nuclear Fuel Inventory Cost for First Core	23,931,000	(Note 3)

(Note 1) The nuclear production plant cost is based on (1) a contract with Combustion Engineering and estimated escalation, (2) a contract with Ebasco providing a firm price for engineering and home office services, (3) engineering estimates of labor, materials, and construction costs including escalation, (4) Applicant's estimated costs for engineering, consulting services, training, startup, and sales tax, and (5) a firm price contract with Westinghouse Electric Corporation for a turbine-generator. In accordance with Applicant's established policy, the cost of land is excluded.

(Note 2) Of those costs which are classified as "Transmission", "Distribution", and "General Plant" costs by the Uniform System of Accounts of the National Association of Railroad and Public Utility Commissioners, only those associated with the plant switchyard are allocated to the power plant project and are herewith set forth.

(Note 3) Nuclear fuel inventory costs for first core are based on a contract with Combustion Engineering for the supply of a complete core including uranium, enrichment and fabrication, at a firm price except for enrichment escalation. No special nuclear material leased from the Atomic Energy Commission will be utilized in the plant.

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Technical Qualifications of Contractors

EBASCO SERVICES INCORPORATED

Ebasco Services Incorporated furnishes services in engineering and construction of thermal, both conventional and nuclear, and hydroelectric projects in the United States and throughout the world.

The company's present technical staff totals more than 2,000 persons engaged in all phases of public utility engineering, design, construction purchasing, inspection and expediting of material and consultation on utility operating matters. The company has available and is able to bring to bear on any given project a broad range of engineering, construction and consulting experience.

Since its organization in 1905 Ebasco has planned, designed, constructed and placed into operation more than 41,500,000 kilowatts of electric generating capacity. Presently in process of design or construction are 58 thermal electric and hydroelectric units totaling 22,500,000 kilowatts including 5,000,000 kilowatts of nuclear capacity. Of these, 35 units are in the United States. The total dollar value of projects constructed or being constructed by Ebasco exceeds $8 billion.

Ebasco's nuclear experience includes engineering studies, the evaluation of reactor systems, selection of the nuclear sites, hazards evaluations, detailed engineering design, construction and startup and testing of nuclear power facilities as described below:

a. Louisiana Power & Light Co. - Waterford Steam Electric Station Units Nos. 3 & 4

   Ebasco is providing engineering and construction management services for a two-unit plant of 1100 Mwe each using Combustion Engineering, Inc. nuclear steam supply system.

b. Taiwan Power Company - Chin-Shan Units Nos. 1 & 2

   Ebasco is responsible for the engineering design and construction supervision for Chin-Shan Units Nos. 1 & 2. General Electric A.P.E.D. is supplying the BWR nuclear steam supply system. Unit output is rated at 636 Mwe.

c. Public Service Company of Colorado - Ft. St. Vrain Plant

Ebasco is engaged by Gulf General Atomic Incorporated to construct a 330 Mwe nuclear power plant utilizing a high temperature gas-cooled reactor (HTGR). The plant will be owned and operated by the Public Service Company of Colorado.

This station will be the first HTGR in the United States with a prestressed concrete reactor vessel.

d. Vermont Yankee Nuclear Power Corporation - Vermont Yankee Plant

Ebasco is engaged as Agent of the Vermont Yankee Nuclear Power Corporation for the engineering and construction of a 540 Mwe nuclear power plant using a General Electric Company boiling water nuclear steam supply system. The nuclear plant will be owned and operated by the Yankee group of 11 investor-owned electric utility companies.

e. Carolina Power & Light Company - H. B. Robinson No. 2

Ebasco is working with Westinghouse Electric Corporation, the prime contractor, in the design engineering and construction of a 670 Mwe nuclear power plant. Using a Westinghouse pressurized water nuclear steam supply system, the plant will be owned and operated by the Carolina Power & Light Company.

f. Millstone Point Company - Northeast Utilities - Millstone Unit No. 1

Ebasco is a subcontractor to GE, the prime contractor, performing the design engineering and construction of the 650 Mwe Millstone Nuclear Power Plant. Using a GE boiling water nuclear steam supply system the plant will be located at Millstone Point, Connecticut. The plant will be owned and operated by the Millstone Point Company which is comprised of The Connecticut Light and Power Company, The Hartford Electric Light Company, and Western Massachusetts Electric Company.

g. Centrales Nucleares del Norte - Nuclenor (Spain)

Ebasco is a subcontractor to GE, the prime contractor, in the design engineering and construction management of a 440 Mwe nuclear power plant. The plant, using a General Electric boiling water nuclear steam supply system, will be located at Santa Maria de Garona on

the Ebro River in Spain. It will be owned and operated by Centrales Nucleares del Norte, S A (Nuclenor), comprised of the investor-owned electric utilities, Iberduero and Viesgo.

h. Japan Atomic Power Company - Tsuruga

Ebasco is a subcontractor to GE for design engineering and inspection of construction of the 350 Mwe Tsuruga Nuclear Power Plant. The plant, using a GE boiling water nuclear steam supply system, will be located on the Tsuruga Peninsula in Japan and will be owned by The Japan Atomic Power Company.

i. Tokyo Electric Power Company - Fukushima No. 1 and No. 2

Ebasco is a subcontractor to GE, providing design engineering and inspection of construction of the 440 Mwe Unit No. 1 and has initiated work on the 780 Mwe Unit No. 2 of the Fukushima Nuclear Electric Station. This station will be owned and operated by The Tokyo Electric Power Company, Inc.

j. Advanced Test Reactor

Ebasco has prime contract responsibility for the engineering, design and the engineering inspection of construction of the Advanced Test Reactor Project. This project is being built for the Atomic Energy Commission at the National Reactor Testing Station in Idaho. This is a 250 Mwt test reactor facility containing a total of nine test loops, "hot cells" and other supporting services and installations. The basic design and construction are now complete and criticality was attained on July 2, 1967.

k. Power Burst Facility

Ebasco has responsibility for engineering, design and inspection of the Power Burst Facility being constructed for the U. S. Atomic Energy Commission at the National Reactor Testing Station in Idaho. The reactor will have the capability of generating power bursts as high as 3000 Mw-second with initial asymptotic periods as short as one millisecond.

l. SENN Nuclear Plant

Ebasco performed engineering design and construction management for the 150 Mwe (upgraded to 180 Mwe) nuclear power plant for the Societa Elettronucleare Nazionale (SENN) in Italy.

m. JPDR Nuclear Plant

The scope of Ebasco's design and construction work on this project (the Japan Power Demonstration Reactor -- JPDR) was similar in nature to that described for the SENN project. Criticality was attained in June 1963 and the first commercial power delivered to the system the first quarter 1964.

COMBUSTION ENGINEERING INCORPORATED

Combustion's nuclear power activities are of three general types: design, development, construction and operation of reactor systems; design and fabrication of nuclear components; and support of design, development and analytical projects.

A summary of the company's principal efforts and accomplishments in the light water cooled and moderated reactor field is provided on the following pages.

a. Naval Propulsion System

During the period 1955 through 1960, Combustion was a major contributor to the U. S. Naval Reactors program. The company designed and built, at its Windsor, Connecticut site, the prototype of a small attack submarine power plant. This prototype (SIC) went into operation in 1959 and has been operated by Combustion as a naval training facility. A second plant of this type was also designed and built by Combustion for installation in the SSN Tullibee which has been operated as a part of the United States nuclear submarine fleet for ten years. In the design, development, construction and operation of the prototype system and the submarine power plant, Combustion's responsibilities included all safety aspects of the reactor systems.

b. Boiling Nuclear Superheat (BONUS) Plant

Combustion has been responsible for the nuclear design and for the direction of startup and initial operation of the BONUS plant in Puerto Rico.

The BONUS plant achieved full power operation in September 1965 and was the first nuclear power plant in the United States operating with an integral superheating core.

c. Consumers Power Company - Palisades Plant

Early in 1966, Combustion was awarded a contract to design and provide components for an 800 Mwe Nuclear Steam Supply System and fabricate its initial fuel loading.

d. Omaha Public Power District - Fort Calhoun Station

In October 1966, Combustion was awarded a contract to furnish a 475 Mwe Nuclear Steam Supply System, a matching turbine generator and fuel for three cores.

e. Maine Yankee Atomic Power Company

In early 1967, Combustion was awarded a contract to furnish an 800 Mwe Nuclear Steam Supply System, and fuel for two cores.

f. Baltimore Gas & Electric Company - Calvert Cliffs Units 1 & 2

In May 1967, Combustion was awarded a contract to furnish two 850 Mwe Nuclear Steam Supply Systems and fuel for 3-1/3 cores.

g. Northeast Utilities Services - Millstone Unit No. 2

In December 1967, Combustion was awarded a contract to furnish an 850 Mwe Nuclear Steam Supply System and fuel for two (2) cores.

h. Jersey Central Power & Light - Forked River No. 2

In December 1969, Combustion Engineering was awarded a contract to furnish 1130 Mwe Nuclear Steam Supply System and fuel for two (2) cores.

i. Southern California Edison - San Onofre Units Nos. 2 & 3

In February 1970, Combustion was awarded a contract to furnish two 1180 Mwe Nuclear Steam Supply Systems and initial fuel loads.

j. Arkansas Power & Light - Arkansas Nuclear One - Unit 2

In May 1970, Combustion was awarded a contract to furnish a 950 Mwe Nuclear Steam Supply System and initial fuel.

k. Louisiana Power & Light - Waterford Unit No. 3

In July 1970, Combustion was awarded a contract to furnish 1150 Mwe Nuclear Steam Supply System and initial fuel.

The development and design by Combustion of a pressurized water reactor for utility service dates back to 1958. At that time, the company was selected by the AEC to undertake the design, analysis and economic evaluation of a 250 Mwe PWR plant, in conjunction with an architect-engineer. This effort provided initial technical and economic guidelines for Combustion's commercial development of the PWR.

Combustion's nuclear laboratories have been engaged in the development and testing of fuels, fuel elements, control assemblies, reactor components and materials for reactor application. Particular emphasis has been given to UO_2 and Zircaloy cladding technology, involving both in-pile and out-of-pile investigations. The initial efforts in the laboratories were associated with submarine reactor programs. Since 1960, the personnel of the nuclear laboratories have actively participated in the joint United States AEC - Euratom research and development program for fuels development. In addition to these programs, personnel in the nuclear laboratories have been responsible for materials design activities for the HWOCR study and for pressurized water, boiling water, nuclear superheat, and fast breeder reactor systems.

During the period 1955 - 1961, Combustion was a major supplier of nuclear cores for naval propulsion service. The company has fabricated the boiling and the superheating fuel for the BONUS reactor. The boiling section of this core is made up of Zircaloy-clad rod type UO_2 fuel elements fundamentally similar to those being utilized in this plant. The superheater fuel utilizes Inconel-clad rod type UO_2 fuel elements. The superheater cladding is designed for an operating temperature of 1250° F.

Combustion has fabricated and shipped many reactor vessels for utility plant service and for naval service. Additional vessels for plant sizes up through 850 Mwe are now in process for future service.

The company has been fabricating nuclear steam generators for naval service for approximately ten years. In addition, the company designed and fabricated the ten steam generators in the Hanford New Production Reactor facility.

The P. F. Avery Company, a subsidiary of Combustion, is a highly experienced organization with the facilities for manufacturing all reactor vessel internal structures.

The Windsor facilities of Combustion are equipped to fabricate and provide the necessary quality control for the fabrication of fuel assemblies, control assemblies, control assembly drive mechanisms, and other specialized nuclear components.

Combustions' Chattanooga Plant includes a separate facility which is equipped and staffed to design and fabricate, and to provide quality control for large reactor pressure components. The facility has such special equipment as heavy duty cranes and large capacity machine tools capable of performing work on large, heavy parts to close tolerances and fine surface finishes. It is also equipped with the latest testing and quality control equipment, including a linear accelerator for weld examination.

Combustion's Utility Division nuclear activities are centered in three locations: The Nuclear Power Department at Windsor, Connecticut; the Naval Reactors Division at Windsor, Connecticut; and the Nuclear Components Department at Chattanooga, Tennessee.