BEFORE THE

United States Atomic Energy Commission

Docket No. 50-286

Regulatory Suppl File Cy.

Received w/Ltr Dated APR 26 1967

In the Matter of

CONSOLIDATED EDISON COMPANY OF NEW YORK, INC.

APPLICATION FOR LICENSES
UNDER THE ATOMIC ENERGY ACT OF 1954

notarized 4-25-67

April, 1967 670425

BEFORE THE

UNITED STATES ATOMIC ENERGY COMMISSION

DOCKET NO. 50-

In the Matter of

Consolidated Edison Company of New York, Inc.

APPLICATION FOR LICENSES

Pursuant to the Atomic Energy Act of 1954, as amended ("the Act") and Part 50 of the regulations of the Atomic Energy Commission ("the Commission"), Consolidated Edison Company of New York, Inc. ("Applicant") hereby files its application for licenses (including a construction permit as envisaged by Section 185 of the Act) to construct (with the assistance primarily of Westinghouse Electric Corporation), own, use and operate a utilization facility (as defined in the aforesaid regulations and herein called "the facility") in Westchester County, New York, having a net electrical capacity of approximately 965 megawatts, derived from a thermal capacity of approximately 3,025 megawatts. The earliest date for completion of the facility is January 1, 1971, and the latest date is June 1, 1971.

Pursuant to Section 50.37 of the Commission's regulations, Applicant agrees that it will not permit any individual to have access to Restricted Data until the Civil Service Commission shall have made an investigation and report to the Commission on the character,

associations and loyalty of such individual, and the Commission shall have determined that permitting such person to have any access to Restricted Data will not endanger common defense and security.

The facility will be located adjacent to and south of Applicant's existing utilization facility which is the subject of the Commission's License No. DPR-5, and which has been designated as Indian Point Station Unit No. 1. Applicant proposes to designate the electric generating plant of which the facility the subject of this application is a part as Indian Point Station Unit No. 3. In Docket No. 50-247 Applicant received a construction permit to construct a utilization facility which has been designated as part of Indian Point Station Unit No. 2. This Unit No. 2 facility, which is almost identical to Unit No. 3, is located adjacent to and north of Indian Point Station Unit No. 1.

In support of its application, Applicant states as follows:

I. APPLICANT'S BUSINESS

Applicant is a corporation incorporated in the State of New York, and its address is 4 Irving Place, New York, New York, 10003. It is not owned, controlled or dominated by an alien, a foreign corporation, or a foreign government. All of its directors and all of its principal officers are citizens of the United States; their names are listed in Part 1 of Exhibit A, which also summarizes their business and other affiliations, as indicative of the corporate managerial responsibility and competence of the Applicant. That Exhibit and Exhibit B, also accompanying this application, are incorporated by reference herein.

Applicant does business in New York City and in Westchester, Putnam and Dutchess Counties. It is engaged in the generation, manufacture, purchase and sale of electricity, gas and steam in certain

parts of these areas. It serves an area of 660 square miles.

Electric Operations

Applicant supplies electric service in the New York City Boroughs of Manhattan, Bronx, Brooklyn, Richmond and Queens (excepting the Fifth Ward) and in Westchester County except for the northeastern portions thereof. Applicant also operates under valid municipal franchises, limited to the transmission, sale and purchase of electricity at wholesale, in certain towns in Putnam and Dutchess Counties, New York.

Applicant's electric requirements are supplied by twelve generating stations owned by it, with a net generating capability of approximately 7,600,000 kilowatts as of December 31, 1966. One of the aforesaid generating stations is Applicant's facility presently being operated pursuant to the Commission's License DPR-5. Energy is interchanged by means of interconnections with Long Island Lighting Company, Niagara Mohawk Power Corporation, Central Hudson Gas & Electric Corporation, New York State Electric and Gas Corporation, Rochester Gas & Electric Corporation, Orange & Rockland Utilities, Inc., Public Service Electric & Gas Company and the Connecticut Light & Power Company.

Applicant's electric transmission system on December 31, 1966 consisted of 1,154 conductor miles of 138,000-volt and 345,000-volt underground electric cable and 1,343 conductor miles of 138,000-volt and 345,000-volt overhead electric wire. Its electric distribution system then consisted of approximately 52,500 miles of underground electric cable and 25,100 miles of overhead electric wire and served about 2,900,000 customers on the aforesaid date.

Gas and Steam Operations

Applicant distributes natural gas in the Boroughs of Manhattan, Bronx and parts of Queens and in most of Westchester County. As of December 31, 1966, it distributed gas to about 1,250,000 customers. Applicant also operates five steam generating plants in Manhattan and in Queens which had a net capacity on December 31, 1966 of 3,810,000 pounds of steam per hour. In addition, the steam distributing system is connected with certain other plants of Applicant in order to obtain 7,875,000 pounds of steam per hour.

II. FINANCIAL QUALIFICATIONS

Applicant is one of the largest electric generating and electric and gas distributing companies in the United States. Its financial qualifications to assume responsibility for the payment of Commission charges on special nuclear material for such time as such charges may continue to apply and to engage in activities under licenses issued in response to this application are evidenced by the information contained in its 1966 Annual Report which is Part II of Exhibit A hereto. As shown therein Applicant's assets as of December 31, 1966 exceeded $3,500,000,000, and its net income for 1966 was $110,306,608.

III. TECHNICAL QUALIFICATIONS

Applicant's technical qualifications to construct and operate the facility are evidenced in the first instance by the skills and experience of Applicant's personnel, of its consultants and of its contractors assisting in the design, construction and initial operation of the facility.

Applicant acted as the equivalent of a general contractor for the construction of its Indian Point Station Unit No. 1. Applicant was found by the Commission in Docket No. 50-3 to be technically qualified to

construct and operate a utilization facility similar to the one here proposed. Applicant has safely operated Indian Point Station Unit No. 1 for over four years and has generated 4,500,000 megawatt hours of electricity from the facility since its initial criticality in August, 1962. Many of Applicant's officers and employees, in several departments, have become familiar with and experienced in the safety and engineering aspects of the operation of a nuclear facility through their involvement in and review of the operation of Indian Point Station Unit No. 1.

In Docket No. 50-247, the proceeding in which Applicant received its construction permit to construct Unit No. 2, the utilization facility almost identical to the one herein proposed, the Commission also found that Applicant was technically qualified to construct that facility. As is true with Indian Point Unit No. 1, many of Applicant's officers and employees are familiarizing themselves with various aspects of Indian Point Unit No. 2 and will, by the time Indian Point Unit No. 3 is ready for operation, have had about two years' operating experience with Unit No. 2.

In addition to the foregoing directly applicable experience, Applicant has participated actively in several organizations devoted to the study and development of atomic power. Among such organizations are Atomic Power Development Associates, Inc., a non-profit corporation which carries on research and development in fast neutron breeder technology; the Industrial Reprocessing Group, an association of corporations which investigated the problems incident to the reprocessing of spent nuclear fuels and was a stimulus for the organization of Nuclear Fuel Services, Inc.; and Empire State Atomic Development Associates, Inc., which sponsors studies of nuclear technology having as their

ultimate objective the most economical supply of power for the consumers of New York State.

IV. DESCRIPTION OF THE FACILITY

Site

Applicant owns a site of approximately two hundred and fifty acres on the Hudson River in the Village of Buchanan, Westchester County, New York. Part of that site is occupied by Indian Point Station Unit No. 1 and Unit No. 2 which together cover a fourteen-acre strip along the Hudson River. The facility which is the subject of this application will be constructed to the south of and adjacent to Unit No. 1, on a tract of approximately seven acres.

Information relating to the site is contained in Exhibit B, Volume 1. Among matters therein detailed by narrative, charts and maps are: the location of the site and its relationship to the surrounding area; the use to which the surrounding land is put; sources of potable and industrial water supplies and watershed areas; population distribution and projections; public utilities located in the area; and information on meteorology, hydrology, geology and seismology.

All of the foregoing information demonstrates the suitability of the site for the location, construction and operation of the facility.

Facility Systems

Included in the facility will be a pressurized water reactor which will produce heat and special nuclear material, namely plutonium. Applicant expects to use such heat in the generation of electricity and to transfer such special nuclear material as authorized by law during the period of operation of the facility. The first core proposed for the reactor will utilize approximately 99,200 kilograms of uranium dioxide.

Associated with the reactor inside the containment vessel hereinafter described is the reactor coolant system, instrumentation necessary to send out data signals, a ventilation system with air recirculation filters and coolers, containment spray equipment and a system to provide information on any leakage from containment.

Outside the containment vessel are various instrumentation and control systems, auxiliary and emergency systems and a waste disposal system. Also outside the containment vessel is the turbo-generating portion of the plant in which the steam ultimately produced by the operation of the reactor will be used to generate electricity.

More detailed information on the reactor and other facility systems and the turbo-generating portion of the plant is contained in Exhibit B, Volume 2.

V. NUCLEAR SAFETY

Reactor Type

The reactor to be utilized in this facility is a pressurized water reactor which means that the reactor is cooled by ordinary water kept under sufficient pressure to prevent bulk boiling. The water after leaving the reactor vessel passes through a heat exchanger where it yields its heat to another separate stream of water which is thereby converted into steam. The safety of this type of reactor has been demonstrated in the United States in the operation of the naval reactors, in the Shippingport power facility, the Yankee power facility, the Saxton experimental facility and Applicant's Indian Point Station Unit No. 1. Other similar reactors have been operated safely abroad.

Control of Core Reactivity During Operation

Short-term control of reactivity of the core will be provided

during operation by neutron-absorbing clusters of control rods which will also assure shutdown capability. Long-term control of reactivity will be provided by a chemical shim system by which boric acid, an absorber of neutrons, will be dissolved in the coolant water.

Instrumentation in the core will provide information on neutron flux and temperature distribution within the core. This information will help to verify the margins of safety established in the core design.

Shielding

Shielding will be provided for the protection of employees and the public against radiation resulting from normal plant operation. The design of the shielding will be such that the radiation levels will conform to the requirements of 10 CFR 20 of the Commission's regulations.

Principal Safety Devices

In addition to the automatic and manual control features provided for normal operation, the facility proposed herein will be provided with safety devices to shut down the reactor before it reaches an unsafe operating condition.

Protection Against Consequences of Accidents

The possibility of the escape of fission products during an accident is impeded by the matrix of uranium dioxide in the core which by nature tends to retain fission products. Also, the fuel rods will be fabricated in such fashion as to minimize the escape of fission products therefrom. Even should fission products escape from the fuel rods, the concentration of such products outside the reactor fuel rods will be monitored and the consequences held within safe operating limits by purification processes and by the control of radioactive releases to the environment.

The design will include a steel-lined, reinforced concrete containment vessel. All penetrations and welds will incorporate double barriers to the escape of fission products to the area outside the facility. The spaces between the double barriers in the penetrations, airlocks and ventilation ducts will be pressurized during operation. A block valve seal water system is included to prevent the escape of fission products through pipelines, the only other credible source of leakage. Massive concrete structures inside the containment vessel will provide adequate protection against damage to the steel liner by missiles. The welded joints of the steel liner will be pressurized continuously and, if necessary, can be tested by zones to verify continued integrity of the joints.

Other types of engineered safeguards included in the design of the facility so as to insure control of fission products and protection of employees and the public in the event of an accident are: a system which injects borated water into the hot and cold sides of each reactor coolant loop, which limits damage to the reactor core and also limits the amount of energy released from the reactor after an accident involving loss of coolant; a spray system for reducing pressure inside the containment vessel and for independently and rapidly removing iodine; and air recirculation coolers and filters which reduce the pressure within containment and remove radioactive particulate from the air after an accident involving loss of coolant. Description of all controls and safeguards is set forth in Exhibit B.

Numerous credible types and combinations of malfunction in the operation of the facility which might cause a nuclear incident have been analyzed or will be analyzed by Applicant during the evolution of

the design of the facility; and the results of such analyses will be incorporated in the final design of the facility. These analyses are described or detailed in Exhibit B, Volume II.

Liquid and Gaseous Effluents

The system to process liquid wastes will be designed so as to permit the reuse or discharge to the environment of the fluid wastes under the control of the operator, subject to hold-back when necessary, and within the radiation tolerances established by applicable governmental regulations. All radioactive gaseous effluents will be discharged from an elevated vent. All gaseous and liquid releases from the plant will be under the control of the operator and will be released from the site in accordance with 10 CFR 20 of the Commission's regulations.

Off-Site Waste Disposal

Any radioactive solid waste will be shipped from the facility, after storage and preparation for shipment as required by applicable governmental regulations, to a disposal area approved by the Commission.

Operating Organization and Procedures

Applicant will operate the facility in such a manner as to insure the public health and safety notwithstanding any requirements for the generation and distribution of electric power on its system. The organizational and operating procedures for the facility will be such as to assure this stated objective. Persons in direct charge of the operation of the facility will be qualified and licensed as required by the Commission.

As is the case with Unit No. 1 at Indian Point and as will be the case with Unit No. 2 when constructed, responsibility for the safety and operation of Unit No. 3 will rest with the Production Department of Applicant. The operating organization will continue to function under the

General Superintendent of the entire station, under whose direction all licensed activities will be performed. Since it is expected that Unit No. 2 will be in commercial operation by June 1, 1969, the knowledge and background of those persons responsible for its safety and operation, as well as those experienced in the operation of Unit No. 1, will be utilized in most cases, for the start-up and operation of Unit No. 3. The chemistry, radio-chemistry, and health physics facilities will be separate for Unit No. 3, but the personnel presently engaged in support of Unit No. 1 operations and those who will be utilized for operation of Unit No. 2 will also be used for Unit No. 3.

Since in most respects Unit No. 3 is a duplicate of Unit No. 2, training of personnel for the operation of Unit No. 3 will be greatly simplified. Nevertheless, a training program will be developed in cooperation with Westinghouse which will include on-site field training.

Operating procedures for Unit No. 3 will, as was the case with Unit No. 1, and as will be the case for Unit No. 2, be written by the operating group. The experience of those people, especially those who will have experience in the operation of Unit No. 2, will qualify them for the writing of procedures which will be done with the aid of Westinghouse.

Procedures for the review of operations will remain essentially the same as those which are presently in effect for Unit No. 1 and which will be used for Unit No. 2. Thus, the start-up and operation of Unit No. 3 will reflect an orderly evolution of procedures and practices developed over the then nine years of testing and operation of Unit No. 1 and the expected two years of testing and operation of Unit No. 2.

VI. COMMUNICATIONS REGARDING APPLICATION

Communications with respect to this application should be sent to:

Mr. W. Donham Crawford
Administrative Vice President
Consolidated Edison Company of New York, Inc.
4 Irving Place
New York, New York 10003

and to its attorneys:

Messrs. LeBoeuf, Lamb & Leiby
1821 Jefferson Place, N. W.
Washington, D. C. 20036

Attn: Arvin E. Upton, Esquire

VII. SUMMARY OF ALLEGATIONS

Based upon the statements hereinabove set forth, as substantiated and amplified by the aforementioned exhibits, Applicant alleges that: it is qualified to receive the licenses required to conduct the activities described herein; the research and development activities, of which the construction and operation of the facility are a part, will lead to a demonstration of practical value of the type of facility involved for industrial or commercial purposes; and the facility site and characteristics and the utilization, production, receipt, transfer and disposal of source material, special nuclear material and by-product material in connection with the operation of said facility will not be inimical to the common defense and security or to the health and safety of the public.

VIII. PRAYER

WHEREFORE, Applicant prays:

1. That the Commission issue to Applicant a construction permit to construct the facility.

2. That, upon the completion of the facility in accordance with Section 185 of the Act and applicable regulations of the Commission,

the Commission issue to Applicant licenses (each valid for a period of forty years), to authorize Applicant to engage in the following activities:

a. The possession, use and operation of the facility, as a utilization facility, in accordance with Section 104b of the Act or such similar or equivalent provision of law as may then be in effect.

b. The possession, use, receipt, transfer, ownership and production of special nuclear material, in connection with the construction and operation of the facility, as authorized by Section 53a of the Act.

c. The possession, transfer or receipt in interstate commerce, transfer, delivery and receipt of possession of or title to source material, as authorized by Sections 62 and 63 of the Act.

d. The possession, transfer or receipt in interstate commerce, manufacture, production, transfer, acquisition and ownership of by-product material, as authorized by Sections 81 and 82 of the Act.

IN WITNESS WHEREOF, CONSOLIDATED EDISON COMPANY OF NEW YORK, INC. has caused its name to be hereunto signed by W. Donham Crawford, its Administrative Vice President, and its corporate seal to be hereto affixed by E. T. Roche, its Secretary, this 25th day of April 1967.

CONSOLIDATED EDISON COMPANY
OF NEW YORK, INC.

By W. Donham Crawford
W. Donham Crawford
Administrative Vice President

ATTEST:

E. T. Roche, Secretary

STATE OF NEW YORK)
:ss:
COUNTY OF NEW YORK)

W. DONHAM CRAWFORD, being first duly sworn, deposes and says: That he is the Administrative Vice President of Consolidated Edison Company of New York, Inc., the Applicant for licenses hereunder; that he has read the foregoing Application for Licenses and knows the contents thereof; and that the same are true to the best of his knowledge and belief.

W. Donham Crawford

Subscribed and sworn to before me this 25th day of April, 1967.

Frances E. Flynn
Notary Public

FRANCES E. FLYNN
Notary Public, State of New York
24-1258285
Qualified in Kings County
Cert. Filed in New York County
Commission Expires March 30, 1969

EXHIBIT "A"
PART I

Biographies of Trustees (Directors) & Principal Officers of Consolidated Edison Company of New York, Inc.

HENRY C. ALEXANDER (November 1964), Chairman of the Executive Committee, Morgan Guaranty Trust Company of New York. He is a Director of the General Motors Corporation, Johns-Manville Corporation, Johns-Manville Foundation and Standard Brands, Incorporated. He is also a Trustee of the Alfred P. Sloan Foundation, Metropolitan Museum of Art and Standard Brands Charitable, Educational and Scientific Foundation; Vice President, Board of Trustees of The Presbyterian Hospital in the City of New York, Vice President, Board of Trust and Trustee of Vanderbilt University and Treasurer and Trustee of the United States Churchill Foundation.

His business address is 23 Wall Street, New York, N. Y. 10005.

JOHN V. CLEARY (December 1965), President of Consolidated Edison and was first employed in 1925. He is Chairman of the Greater New York Safety Council, Inc., a Director of the Greater New York Fund, Inc., and Public Utilities Reports, Inc. and a Member of the American Gas Association Committee of Executives on Taxation, The Cooper Union Alumni Association, Edison Electric Institute - Accounting Div. Executive Committee and Tax Policy Committee, Financial Executives Institute of America, Manhattan College Council on Engineering Affairs - Consultor Comm. on Nuclear Studies, National Association of Manufacturers, The Newcomen Society in North America and New York Chamber of Commerce.

His business address is 4 Irving Place, New York, N. Y. 10003.

FREDERICK M. EATON (May 1962), Partner, Shearman & Sterling - Attorneys. He is Director of The Commonwealth Fund, The Corning Museum of Glass, First National City Bank, Great American Insurance Company, Monsanto Company and New York Life Insurance Company. He is a Trustee of Carnegie Corporation of New York, Vice President and Trustee of The American Museum of Natural History and Assistant Secretary and Trustee of The Presbyterian Hospital in the City of New York.

His business address is 20 Exchange Place, New York, N. Y. 10005.

CHARLES E. EBLE (July 1957), Chairman of the Board of Consolidated Edison and was first employed in 1916. He is a Director of the Commerce and Industry Association of New York, East River Savings Bank, Economic Development Council of New York City, Inc., Edison Electric Institute and Empire State Atomic Development Associates. He is a Trustee of the Educational Broadcasting Corporation, Hall of Science and Voorhees Technical Institute. He is also a Member of the Advisory Committee, Hudson River Valley Commission, Association of Edison Illuminating Companies, Citizens' Advisory Panel to the Mayor's

Council, General Advisory Committee in Atomic Energy (New York State), National Industrial Conference Board and Vice President of the New York Chamber of Commerce.

His business address is 4 Irving Place, New York, N. Y. 10003.

GILBERT W. FITZHUGH (May 1963), Chairman of the Board of Metropolitan Life Insurance Company. He is Chairman of the Greater New York Fund, Director of American Academy of Actuaries, The Chase Manhattan Bank, The Commerce & Industry Association of New York, Inc., Economic Development Council of New York City, Inc., Institute of Life Insurance, Life Insurance Association of America, New York City Public Development Corporation and The Singer Company. He is also a Trustee of the Committee for Economic Development, National Industrial Conference Board, Y. M. C. A. Retirement Fund, Inc., Vice President, New York Chamber of Commerce and Member, Board of Governors, Society of Actuaries.

His business address is 1 Madison Avenue, New York, N. Y. 10010.

THOMAS C. FOGARTY (May 1964), Chairman of the Board of Continental Can Company, Inc. He is a Director of the American Sugar Company and the Irving Trust Company. He is also a Trustee of the Presbyterian Hospital in the City of New York.

His business address is 633 Third Avenue, New York, N. Y. 10017.

HARLAND C. FORBES (October 1948), Former Chairman of the Board of Consolidated Edison. He is Chairman of the Board of the Community Blood Council of Greater New York and Director and Member of Executive Committee of the Erie-Lackawanna Railroad. He is a Trustee and Member of Executive Committee of The New York Bank for Savings and a Fellow of the American Institute of Electrical Engineers.

His business address is 4 Irving Place, New York, N. Y. 10003.

GRAYSON L. KIRK (September 1961), President of Columbia University. He is President of American Society of French Legion of Honor, Association of American Universities, President and Director of the Council on Foreign Relations and Chairman of Morningside Heights, Inc. He is a Director of the Academy of Political Science, Dividend Shares, Inc., International Business Machines Corporation, Mobil Oil Company, Inc. and the Nation-Wide Securities Company. He is Trustee of the Asia Foundation, Asia Society, Carnegie Foundation Advancement Teaching, Greenwich Savings Bank and Institute of International Education.

His business address is 116th Street and Broadway, New York, N. Y. 10027.

OTTO W. MANZ, JR. Executive Vice President of Consolidated Edison and was first employed by a predecessor in 1925. He is a Director of the Regional Plan Association, Inc., and The Better Business Bureau of Metropolitan New York, Inc. He is also a Trustee of the South Nassau

Communities Hospital, the Williamsburg Savings Bank, an Associate Trustee of the University of Pennsylvania, a Member of the Executive Board-Lay Advisory Committee of St. Vincent's Hospital of New York and a Fellow of the I. E. E. E.

His business address is 4 Irving Place, New York, N. Y. 10003.

MILTON C. MUMFORD (May 1964), Chairman of the Board of Lever Brothers Co. He is a Director of Crown Zellerbach Corp., The Equitable Life Assurance Society of the United States, Federal Reserve Bank of New York, Lever Brothers Ltd. (Canada), National Education Television, National Merit Scholarship Corporation, Nutrition Foundation, Soap and Detergent Association, Stamford Hospital and Thomas J. Lipton, Inc. He is Chairman of the Board of The Educational Facilities Laboratories, Inc. A Member of the National Industrial Conference Board and Advisory Director of Unilever, Ltd.

His business address is 390 Park Avenue, New York, N. Y. 10022.

J. WILSON NEWMAN (May 1962), Chairman of the Board of Dun and Bradstreet, Inc. He is a Director of Chemical Bank New York Trust Company, Downtown Lower Manhattan Association, General Foods Corp. and a Director at Large of the National Bureau of Economic Research. He is also a Trustee of Atlantic Mutual Insurance Co., Committee for Economic Development, Mutual Life Insurance Company of New York, and the Presbyterian Hospital in the City of New York. He is Chairman of the Board of Overseers of Sweet Briar College, a Member of the Advisory Committee on Business Programs of the Brookings Institution and a Member of the Committee to Visit the Department of Economics, Harvard University.

His business address is 99 Church Street, New York, N. Y. 10007.

RICHARD K. PAYNTER, JR. (May 1966), Chairman of the Board of New York Life Insurance Company. He is a Director of The Chemical Bank New York Trust Company, Commerce and Industry Association of New York, Delaware and Bound Brook Railroad Company, Economic Development Council of New York, Inc. Josiah Macy, Jr. Foundation, Life Insurance Association of America, National Society for the Prevention of Blindness, Otis Elevator Company, Pennsylvania-Reading Seashore Lines and Princeton Inn. He is also a Trustee of Church Pension Fund, Colonial Williamsburg, Inc., General Theological Seminary, The Seamen's Bank for Savings and a Member of The Newcomen Society of England, Society of Colonial Wars and The United States Investment Committee of the Employers' Liability Assurance Corporation, Ltd.

His business address is 51 Madison Avenue, New York, N. Y. 10010.

RICHARD S. PERKINS (February 1965), Chairman of the Executive Committee of First National City Bank. He is a Director and Member of the Executive Committee of Allied Chemical Corporation, Downtown Lower Manhattan Association, International Telephone & Telegraph

Company, Director and Member of the Finance Committee of New York Life Insurance Company and Director of International Executive Service Corps., New York City Public Development Corporation, New York-London Trustee Co., Ltd. and the Southern Pacific Company. He is also a Trustee of the Boys Club of America, Carnegie Institution of Washington, Metropolitan Museum of Art, Miss Porter's School, Seeing Eye, and Vincent Astor Foundation. He is Chairman of the Board of Trustees of the Y. M. C. A. of Greater New York, a Member of Controllers' Advisory Committee, New York State Employees Retirement Association and a Member, Investment Committee of Royal-Globe Insurance Companies. He is President and Trustee of The Chapin School, Trustee and Chairman of Finance Committee of Community Service Society and Member of Advisory Council of the Bond Club of New York.

His business address is 399 Park Avenue, New York, N. Y. 10022.

EDMUND F. WAGNER (July 1955), Chairman of the Board of The Seamen's Bank for Savings. He is a Director of Adams Express Company and American International Corp., Home Life Insurance Company, Remedco Corporation and Morningside Heights, Inc. and Uris Buildings Corp. He is a Director and Member of the Executive Committee of the Economic Development Council of New York City, Inc., President and Director of the Downtown Lower Manhattan Association. He is a Trustee of The Wartburg Orphan Farm School, Vice President and Trustee of the Citizens' Budget Commission and President of the Board of Trustees of the Interchurch Center. He is also a Member, Board of Managers of American Bible Society; Member, Board of Governors of Bankers Club of America, Federal Hall Memorial Associates, Inc. and New York City National Shrines Advisory Board, President of The Common Investing Fund of LCA, First Vice President and Governor of Hundred Year Association of New York, Inc., Vice President of Seamen's Church Institute, Member of Executive Council Lutheran Church in America, Member of the Lower Manhattan Advisory Board-Chemical Bank New York Trust and President, Board of Trustees, Interchurch Center.

His business address is 30 Wall Street, New York, N. Y. 10005.

MOWTON L. WARING Executive Vice President of Consolidated Edison and was first employed in 1933. He is a Director of Atomic Industrial Forum, a Trustee of the Harlem Savings Bank, a Member of the Manhattan College Council on Engineering Affairs and a Fellow of I. E. E. E.

His business address is 4 Irving Place, New York, N. Y. 10003

LAWRENCE A. WIEN (May 1963), Senior Member, Wien, Lane, Klein & Malkin - Attorneys. He is a Director of Borden Company, Community Blood Council of Greater New York, Jonathan Logan, Inc., Morse Shoe, Inc., and United Nations Association of the United States of America, Lincoln Center for the Performing Arts and President and Director of Charles and Rosanna Batchelor Memorial, Inc. He is Vice Chairman, Board of Trustees of Brandeis University, Past President and Associate

Chairman, Board of Trustees of the Federation of Jewish Philanthropies of New York, Member of the Board of Trustees of Citizens' Budget Commission, Columbia University and Educational Broadcasting Corporation.

His business address is 60 East 42nd Street, New York, N. Y. 10017.

JAMES D. WISE (January 1952), Former Chairman of the Board of Bigelow-Sanford, Inc., and now a Director. He is Chairman of the Board of Trustees of Bank Street College of Education, Member of the National Industrial Conference Board, Member of Advisory Board of Boston Manufacturers Mutual Fire Insurance Co. and Member, Planning Council, American Management Association.

His address is 870 United Nations Plaza, New York, N. Y. 10017.

3-27-1967

COMMENTS OF THE

HUDSON RIVER FISHERMEN'S ASSOCIATION

AND

SAVE OUR STRIPERS

ON THE

DRAFT ENVIRONMENTAL STATEMENT

FOR SELECTION OF THE

PREFERRED CLOSED-CYCLE COOLING SYSTEM

AT

INDIAN POINT UNIT NO. 3

Prepared by

Sarah Chasis
(Natural Resources Defense Council, Inc.)
122 East 42nd Street
New York, New York 10017

With the assistance of

Nicholas A. Robinson
Marshall, Bratter, Greene, Allison
& Tucker
430 Park Avenue
New York, New York 10022

These comments are being submitted on behalf of the Hudson River Fishermen's Association (HRFA) and Save Our Stripers (SOS). HRFA and SOS are non-profit membership organizations dedicated to protection of the natural resources of the Hudson River and the conservation of the striped bass fishery in the waters of the State of New York. Both HRFA and SOS were parties to the licensing proceeding for Indian Point Unit No. 3. By order of October 12, 1976 both organizations were also admitted as parties to the Nuclear Regulatory Commission (NRC) proceeding to designate the preferred alternative closed-cycle cooling system for Indian Point Unit No. 3.

The significant harm posed to the Hudson River fishery by operation of the Indian Point 3 plant with its present once-through cooling system was thoroughly documented in the Final Environmental Statement related to operation of Indian Point Nuclear Generating Plant Unit No. 3 (February, 1975). No evidence presented to date and exposed to the tests of independent expert analysis and cross-examination in a hearing indicates to HRFA and SOS that the harm to the fishery is anything but extremely serious. For this reason, HRFA and SOS support the installation of a closed-cycle cooling system at Indian Point 3 which will most effectively reduce the harm to the Hudson River ecosystem from plant operation and which will pose the least threat of environmental harm in other respects, as well.

The Draft Environmental Statement (DES) on alternative closed-cycle cooling systems for Indian Point 3 makes clear that there are several alternative systems which are feasible and which may be constructed and operated in an environmentally acceptable manner. The statement also makes clear that in several important respects the alternative proposed by the Applicant, the wet natural draft cooling tower, is the most desirable alternative from both an environmental and economic point of view. With certain important exceptions, detailed below, the DES lays a firm foundation for choosing the wet natural draft cooling tower as the preferred alternative through its detailed review of the data relating to the potential adverse impacts of the different systems.

The Staff's analysis in the DES of potential problems from saline drift, fogging, icing, and noise indicates that for the wet natural draft cooling tower a maximum of 20 hours/year of additional fogging can be expected, as compared with an estimated 110 hours/year of naturally occurring fog (pp. 5-14 and 5-15); that additional icing in the general vicinity due to the tower is likely to be on the order of 11 hours/year (pp. 5-16, 5-65 and Figure 5-12); that the aerosol salt concentrations generated by the tower are significantly lower than any recorded values that are known to have caused damage to plants (p. 5-16); that the maximum cumulative drift deposition of the tower would be 5.3 lbs./acre/year at a distance of one mile from the tower, of 2.2 lbs./acre/year at a distance of 2.5 miles from the tower

(Table 5-1 at p. 5-7); that the predicted operational acoustical effects will not significantly exceed the ambient acoustical environment (p. 5-80). The predicted increase in fogging, icing and saline drift are not predicted to cause any permanent damage to vegetation (pp. 5-64 and 5-65). In addition, with respect to the potential impacts from drift and noise, the wet natural draft cooling tower is the least environmentally damaging, compared with the other cooling tower types examined, and after the wet/dry mechanical draft tower, has the least potential for weather modification (pp. 5-100 and 5-101).

In contrast to the great detail with which certain alternatives and their impacts are treated, there are certain alternatives which we believe the DES has dealt with inadequately. We would like to see these more fully amplified in the FES.

We believe that the spray pond alternative, because it could if feasible eliminate the visual problem associated with a cooling tower, should be afforded more complete treatment than is provided in Section 2.3. The unavailability of land near the site should be documented. In addition, it should be explained why if land near the site is unavailable, land farther from the site could not be used. The total cost of the spray pond alternatives should be included.

At one point in the DES, it is stated that the size of the cooling towers proposed by the Applicant appears to be reasonable except for the natural draft cooling tower and that

smaller sizes for the natural draft cooling towers could be possible for the site. (p. 3-14). We failed to find in the DES any further examination of the important alternative of a smaller natural draft cooling tower. The NRC Staff has the responsibility under NEPA not simply to react passively to the alternatives proposed by the Applicant, but to undertake an independent analysis of alternatives, and to pursue affirmatively the soundest environmental alternative. We would like to see further discussion of the alternative of a smaller size natural draft cooling tower for Indian Point 3.

A calculation should be made of the replacement cost for vegetation lost in the vicinity because of salt drift from the cooling towers. It should be noted in this regard that there apparently exists a disease affecting hemlocks, one of the trees found most sensitive to salt drift, in the vicinity of Indian Point. This may affect the calculation of replacement costs.

The schedule set out in Section 4 needs to address how the relocation of the Algonquin gas pipeline will be coordinated with excavation and construction work at both Units 2 and 3. This poses a potential problem because of the blasting which has to occur in connection with the latter activities. There appears to be an error in setting the date for commencement of construction activities at Indian Point 2 for June 1, 1981. Shouldn't it be June 1, 1980 in view of the fact that excavation

which is due to commence on June 1, 1979 should last only one year, not two?

We recommend that consultation with the U.S. Fish and Wildlife Service pursuant to the Fish and Wildlife Coordination Act be included under permits and regulatory approvals required. We also understand from Con Edison that an FPC permit is not needed from the FPC to relocate the gas pipeline. Finally, with respect to the Village of Buchanan approval, we believe it should be stated that to date, the courts and the NRC have all ruled that the Village may not block construction of the cooling tower.

The FES should set forth not only which approvals may be needed for construction and operation of the natural draft cooling tower, but the schedule which must be met if the May 1, 1982 date is to be met and the Applicant's progress to date in meeting this schedule.

Finally, we believe that the DES should make clear that the installation of the natural draft cooling tower will have the benefit of saving an extremely valuable fishery. To this end, we suggest that in the socio-economic section, the overall importance and value of saving the natural resource should be explained whether by cross-reference to the FES on operation of Indian Point 3 or other means.