

**MINUTES OF THE REGULAR MEETING
OF THE
POWER AUTHORITY OF THE STATE OF NEW YORK**

November 25, 1997

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Minutes of the regular meeting of the Power Authority of the State of New York held at the New York office at 10:00 a.m.

Present: Clarence D. Rappleyea, Chairman
Thomas R. Frey, Vice Chairman
Hyman M. Miller, Trustee
Louis P. Ciminelli, Trustee
Frank S. McCullough, Jr., Trustee

Eugene W. Zeltmann	President and Chief Operating Officer
David E. Blabey	Secretary and General Counsel
Peter W. Delaney	Executive Vice President and Chief Financial Officer
Robert A. Hiney	Executive Vice President - Project Operations
James Knubel	Senior Vice President and Chief Nuclear Officer
Louise M. Morman	Senior Vice President – Marketing and Economic Development
Arnold M. Bellis	Vice President – Controller
Woodrow W. Crouch	Vice President – Project Management
John M. Hoff	Vice President – Procurement and Real Estate
Charles I. Lipsky	Vice President and Chief Engineer
Stephen P. Shoenholz	Vice President - Public Relations
Vincent Vesce	Vice President - Human Resources
Ronald Ciamaga	Regional Manager – Northern New York
Carmine J. Clemente	Deputy Counsel
John L. Murphy	Director - Public Information
Mark D. O'Connor	Director – Real Estate
William Slade	Director - Environmental
James H. Yates	Director - Business Marketing & Economic Development
George W. Collins	Treasurer
William Ernsthaf	Principal Attorney
Anne Wagner-Findeisen	Deputy Secretary

Chairman Rappleyea presided over the meeting. Secretary Blabey kept the Minutes.

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1. Approval of the Minutes

The minutes of the Regular Meeting held on October 28, 1997 were approved.

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2. Financial Report for the Ten Months Ended October 31, 1997

3. **Revision of Commercial Paper Program
Resolution –Refunding of Series V Bonds**

Messrs. John Miller and Brett Matteo of Public Financial Management, Inc. (“PFM”), the Authority’s Financial Advisor, were present. Also present were Messrs. John Connorton and John Cross, III of Hawkins, Delafield and Wood, the Authority’s Bond Counsel.

Mr. John Miller of PFM presented to the Trustees a financial analysis of the refunding of the Series V bonds with the commercial paper to be issued by the Authority and the economic benefits to be derived from the refunding.

In response to questions from Trustee Miller, Mr. Collins explained that the figure of \$51 million represents the estimated net present value of the savings that will be realized by the Authority. Mr. Collins further explained that, in staff’s estimation, there are no drawbacks to the proposed course of action because the Authority’s variable rate debt is being paid off very rapidly, and the program will enable the Authority to fully pay off the debt on its FitzPatrick nuclear plant.

In response to questions from Trustee Ciminelli, Mr. Delaney explained that any increase in prevailing interest rates would mean a corresponding rise in the interest rates earned on the Authority’s investment portfolio. In response to further questions from Trustee Ciminelli, Mr. Collins explained that the commercial paper is not callable, but rather rolls over at least every 270 days and can be repaid at any such interval.

Mr. Ernsthaft made the following presentation:

There are now before the Board various resolutions for adoption in connection with the expansion of the Commercial Paper Program for the purpose of refunding the Series V Bonds and the elimination of private use restrictions on the FitzPatrick and Blenheim-Gilboa facilities. These are as follows:

(1) Adoption of modifications to the Commercial Paper Resolution, which, among other things, would authorize the issuance of an additional \$650 million in commercial paper notes (from the existing authorization of \$300 million), with three designations of notes:

- (i) Series 1 Notes (tax-exempt), up to \$300 million, which have already been authorized for energy conservation purposes;**
- (ii) new Series 2 Notes (tax exempt), up to \$300 million, for refunding of the Series V Bonds; and**
- (iii) new Series 3 Notes (taxable), up to \$350 million, for refunding certain General Purpose Bonds to accomplish the removal of private use restrictions on FitzPatrick and Blenheim-Gilboa.**

The Notes may also be used to refund or repay outstanding Notes; to pay any indebtedness incurred under the related Revolving Credit Agreement; to pay, in the case of proceeds of the Series 3 Notes; the cost of issuance of any Series 2 or Series 3 Notes, or for any other purposes subsequently authorized by the Trustees. Authorized Officers of the Authority are authorized to enter into such agreements and execute such documentation as is necessary to effectuate the issuance of the Notes and the purposes of the Commercial Paper Resolution.

(2) Authorization of the release of new Commercial Paper Offering Memorandum, substantially in the form presented to the Trustees. with such changes as may be authorized by an Authorized Officer of the Authority.

(3) Authorization of the following agreements in connection with the expansion of the Commercial Paper Program, substantially in the form presented to the Trustees, with such changes as may be authorized by an Authorized Officer of the Authority:

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- (a) a new revolving credit agreement with Morgan Guaranty Trust Company of New York, as Agent, and the banks named in the Agreement, in the amount of \$650 million to provide liquidity support for the Series 2 Notes and the Series 3 Notes;**
- (b) new Dealer Agreements with PaineWebber and Smith Barney for the Series 2 Notes in equal amounts, and with J.P. Morgan and Goldman, Sachs for the Series 3 Notes in equal amounts;**
- (c) a new Issuing and Paying Agency Agreement with The Chase Manhattan Bank for the Series 2 and Series 3 Notes; and**
- (d) a new Escrow Deposit Agreement with The Chase Manhattan Bank for the defeasance and refunding of the Series V Bonds and certain other General Purpose Bonds.**

(4) Authorization to utilize excess Bond Reserve Account monies, up to \$85 million, as necessary, to effectuate the redemption of certain General Purpose Bonds.

(5) Authorization for the Treasurer to utilize up to \$128 million in General Reserve Account monies for retirement of Commercial Paper Notes and for the purpose of defeasing or purchasing General Purpose Bonds.

(6) Authorization to enter into Forward Supply Agreements relating to funds in the Escrow Agreement with such entities as may be selected by an Authorized Officer of the Authority and having such terms as an Authorized Officer of the Authority deems advisable.

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**4. Moses-Willis-Plattsburgh Transmission Line
Plattsburgh Substation – Acquisition of Real
Property, Map No. CB-403, Parcel No. 403**

The President submitted the following report:

SUBJECT

“The Trustees are requested to authorize the acquisition in fee of approximately .37 of an acre including a dwelling, as shown and described as parcel no. 403 on Moses-Willis-Plattsburgh Map No. CB-403, in the Town of Beekmantown, Clinton County, in support of the upgrade of the Plattsburgh Substation.

BACKGROUND

“On September 28, 1956, the Trustees authorized the acquisition of approximately 8.61 acres of property for the construction of the Plattsburgh Substation.

“Vermont Electric Power Company (‘VELCO’), has requested that the Authority install an Interphase Power Controller (‘IPC’) at the Plattsburgh Substation. The IPC installation will include a 75 ohm reactor to be placed in parallel with the existing phase angle regulator, two 25 MVAR capacitor banks, circuit breakers and other related equipment. In order to accommodate this installation, the Authority requires additional lands. The additional land requirements can best be met by the purchase of the Stone property, including the dwelling situated on the property.

“The project cost is proposed to be reimbursed through revenues received from transmitting increased energy over the Authority's transmission system to Vermont. VELCO has stated that it will guarantee that the Authority will be reimbursed for \$2,025,000. The remaining amount will be recovered from the projected increased transmission revenues. The installation of the IPC which is estimated to cost \$2,604,000 will increase the usable capacity of the 115 kV PV20 interconnection by 29 MW.

“Funding for this project has been previously approved by the President in accordance with the Expenditure Authorization Procedures.

DISCUSSION

“The IPC will be situated in and around the current access road to the substation and will border the Stone property line. By acquiring the Stone property, the Authority will have flexibility to relocate the access road and utilize this property for staging and work area space, as well as accommodate any future expansions. Additionally, the residence can be used in place of construction trailer and the lawn as a laydown area. Mr. Roy F. Stone is willing to sell the property for \$59,900; a review of recent comparable sales indicate that this is a fair and reasonable value for this property.

“In accordance with the Expenditure Authorization Procedures, the Trustees are requested to authorize the purchase of the Stone residence.

FISCAL INFORMATION

“Payment will be made from the Operating Fund.

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RECOMMENDATION

“The Director - Real Estate, the Regional Manager - Northern New York, and the Vice President - Procurement and Real Estate recommend that the Trustees approve the acquisition of this real property in fee to support the construction of the Interphase Power Controller.

“The Vice President and Chief Engineer - Power Generation, the Vice President – Project Management, the Executive Vice President – Project Operations, the Secretary and General Counsel, the Executive Vice President – Chief Financial Officer, and I concur in the recommendation”.

Trustee McCullough asked whether the proposed purchase price of \$59,900 is firm. Mr. Hoff responded in the affirmative, explaining that Mr. Ray Stone, the owner of the property, and Authority staff members had reached a binding agreement on that amount, subject to the Trustees' authorization of the transaction.

Trustee Miller inquired whether Authority representatives had initiated discussions with the Village of Beekmantown concerning the Village's future tax revenues from this property. Mr. O'Connor responded in the negative. Trustee Miller suggested that the Authority should discuss such issues with the Village.

The attached resolution, as recommended by the President, was unanimously adopted.

RESOLVED, That pursuant to the provisions of Article 5, Title 1 of the Public Authorities Law, the Authority hereby finds it necessary to acquire the real property shown and described as Parcel no. 403 on Moses-Willis-Plattsburgh Transmission Line Map No. CB-403 from Mr. Roy F. Stone, and determines that the acquisition of such property is reasonably necessary and desirable for the operation and maintenance of the St. Lawrence/F.D.R. Power Project; and be it further

RESOLVED, That the President & Chief Operating Officer, the Executive Vice President and Chief Financial Officer, or the Director - Real Estate of the Authority be, and hereby is, authorized to execute on behalf of the Authority such agreements, certificates, requests, and directions on terms and conditions substantially in accord with the foregoing report, as are necessary or desirable for the acquisition of such real property; and be it further

RESOLVED, That the Director - Real Estate of the Authority be, and hereby is, authorized on behalf of the Authority to execute any and all other agreements, papers, or instruments which may be deemed necessary or desirable to carry out the foregoing.

5. **James A. FitzPatrick Nuclear Power Plant - Emergency Core Cooling System Suction Strainer – Expenditure Authorization**

The President submitted the following report:

SUMMARY

“The Trustees are requested to approve a capital expenditure of \$8.25 million for the engineering, design, and installation of replacement strainers to upgrade the existing Emergency Core Cooling System at the James A. FitzPatrick Nuclear Power Plant (‘JAF’). The new strainers will be installed to meet recent criteria imposed by the Nuclear Regulatory Commission (‘NRC’) to assure these strainers are sufficiently sized so as not to become plugged with debris during an accident condition. All nuclear power plants of a Boiling Water Reactor design are required to meet the NRC's criteria of being able to filter accident-generated debris within the Torus and still maintain a sufficient flow of cooling water to the reactor during these accident conditions. These criteria must be met before the plant can restart from the upcoming October 1998 Refueling Outage.

“These criteria are inapplicable to the Indian Point 3 Nuclear Power Plant (‘IP3’), since that plant is of a different design known as a Pressurized Water Reactor.

BACKGROUND

“There is a suppression pool called the Torus located under the reactor that contains approximately 800,000 gallons of water. This pool is a source of cooling water for use in the reactor in case there was an accident that would render the normal cooling water unavailable. If this suppression pool were ever called upon during an emergency the Residual Heat Removal pumps would engage drawing 10,000 gallons of water per minute through the Emergency Core Cooling System. The strainers on the intake side of this piping system were originally designed to accommodate a 50% reduction in available flow area due to postulated impingement of post-accident debris. The 50% reduction was based on judgment (both by industry and regulatory personnel) but was not rigorously traceable to test results or an engineering quantification. The Nuclear Regulatory Commission (‘NRC’) has been investigating the potential for these strainers to clog since the 1970's and operating events in both the United States and foreign facilities have shown that the potential does exist for strainer blockage resulting in loss of emergency core cooling and containment heat removal systems operability. In retrospect, during the initial plant design the amount of debris generation was severely underestimated accounting for the small strainers which were installed during plant construction.

“This issue has come to the forefront as the identification of a phenomenon previously not considered in the original plant design. This phenomenon known as "thin film effect", identified a sequence of events where a relatively small amount of fibrous material, such as insulation, could become attached to a strainer. The fibrous material begins to trap small particles (dust, dirt, etc.) contained in the water, effectively reducing its ability to provide sufficient water to flow to the core for cooling. Tests have shown that less than ten pounds of insulation is sufficient to restrict the required flow through the present strainers.

“The NRC issued Bulletin No. 96-03, "Potential Plugging of Emergency Core Cooling Suction Strainers by Debris In Boiling Water Reactors" to address this issue. In response to this bulletin and to assure that JAF can meet the required flow rate of the Emergency Core Cooling System, an extensive engineering effort has been underway to determine how much debris can potentially be generated and of what type. The results of this analysis will determine the final design of the new strainers.

DISCUSSION

“In order to maintain the high level of safety at a nuclear facility, each safety system must constantly be reviewed to assure that a backup safety system is available and will successfully fulfill its mission. These Emergency Core Cooling Strainers fall into such a category. This equipment is in place to assure that cooling water will be available to the reactor in the event that there were piping failures (ruptures) within the plant that would render the normal systems inoperable. If there were such an event, all plant steam normally used to turn the turbine would be diverted to the Torus. This massive injection of high energy steam, at 1000psi and 547 F(, could stir up sediment and break loose coatings and other material within the Torus that would then become debris to clog the strainers. The larger replacement strainers will provide sufficient surface area so that this material will not impede the water flow rate required to provide continuous cooling to the reactor during an accident scenario.

“The President had previously approved preliminary funding of \$500,000 to begin the debris generation analysis and preliminary engineering. The debris analysis has determined the current strainers have insufficient surface area to filter out this debris and still maintain the required 10,000 gal/min. water flow rate. Based on results of this engineering evaluation, it has been determined that the present 2 foot long strainers must be replaced with units that are much larger, the specific size and design will be determined by the ongoing engineering effort.

“Similar upgrades have already been installed in other Boiling Water Reactor type nuclear power plants. The replacement strainers at these plants have been as large as 20 feet. The NRC will begin auditing the basis and design criteria used at each nuclear plant starting January 1, 1999. Upon a successful inspection the NRC will then give JAF notification that the plant complies with Bulletin 96-03.

FISCAL INFORMATION

“The James A. FitzPatrick Improvement Project Proceeds Account has a current balance of \$52.9 million of which \$20.4 million is available to fund this request and additional tasks not yet authorized or identified in the capital plan. Based upon current cash flow projections, funds are available through the year 2000. Payment will be made from the appropriate Construction Fund - James A. FitzPatrick Improvement Project Proceeds Account.

RECOMMENDATION

“The Site Executive Officer - James A. FitzPatrick Nuclear Power Plant, the Vice President - Nuclear Engineering, and the Chief Nuclear Officer recommend that the Trustees approve capital expenditures in the amount of \$8.25 million for the Emergency Core Cooling System Suction Strainer Replacement.

“The Vice President - Controller, the Executive Vice President – Project Operations, the Secretary and General Counsel, the Executive Vice President and Chief Financial Officer, and I concur in the recommendation”.

Mr. Knubel described the general functioning of the core cooling equipment and explained the safety significance which underlies the NRC's requirement that all boiling water reactor plants install such strainers. Any plant failing to comply with this mandate will be shut down by the NRC. Mr. Knubel added that the actual expenditures will be made during JAF's next refuel outage.

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The attached resolution, as recommended by the President, was unanimously adopted:

RESOLVED, That expenditures are hereby approved in accordance with the Authority's Expenditure Authorization Procedures, as recommended in the foregoing report of the President, in the amount and for the purpose listed below:

<u>Capital</u>	<u>Expenditure Authorization</u>
James A. Fitzpatrick Nuclear Power Plant Emergency Core Cooling Systems Suction Strainer Replacement Project	
Previous Authorization	\$ 500,000
Current Request	<u>\$8,250,000</u>
Total Authorization	<u>\$8,750,000</u>

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6. St. Lawrence/FDR Power Project -Life Extension and Modernization -Concurrence in Initiation of the Program and Expenditure Authorization for Necessary Refurbishments

The President submitted the following report:

SUMMARY

“The Trustees are requested to approve the initiation of a program estimated to cost \$254,000,000 to renew the generation assets at the St. Lawrence/FDR Power Project and to authorize capital expenditures of \$2,211,000 to begin the effort. The first phase will include Authority engineering and refurbishment tasks which have already been initiated to assure continued operation of critical equipment and availability of the Plant.

BACKGROUND

“St. Lawrence has been operating original equipment in the Powerhouse since commissioning in 1958. The turbine will reach end of design life within the next 15 years and most of the other apparatus will require renovation or replacement within that term. In order to address these concerns, an Authority team was formed in late 1996 to systematically assess equipment life expectations, identify operation and maintenance requirements, evaluate refurbishment options, develop costs and schedules, and recommend an implementation plan. The team has completed its work and recommends a program to extend the life of the plant and modernize it. The team recommends that a renovation program commence as soon as is practical.

“Significant improvements in operational and maintenance efficiency are possible by replacing and updating the 1950's era equipment. Most notable, a two to four percent increase in efficiency is anticipated with new turbines.

“The study team evaluated the economics and determined that the modernization effort will pay for itself.

“The St. Lawrence Life Extension and Modernization Program will deliver:

- Reduced probability of catastrophic equipment failures;
- A renovated plant that is maintainable for another 50 years;
- Improved efficiency;
- A facility capable of remote operation and improved response;
- Reduced O & M labor requirements; and
- Fulfillment of the Authority stewardship role as seen by New York State and the Federal Energy Regulatory Commission (‘FERC’).

“The Trustees are requested to approve initiation of a life extension and modernization program to begin in 1998. The program will take about 15 years to complete. The program schedule allows four years for engineering through the testing of a prototype unit and then rehabilitation of approximately three units every two years until completion. This timetable is thought to be optimal in that it minimizes generation revenue loss while the units are being modernized.

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“The total estimated cost for the life extension and rehabilitation of \$254,000,000 in as spent dollars is summarized below:

<u>Description</u>	<u>Total</u>
Engineering, Turbine Model Fabrication, Testing of Model and Prototype, and CM	\$ 36,871,000
Procurement	100,461,000
Construction	93,180,000
Authority Direct/Indirect	<u>23,627,000</u>
Total	<u>\$254,139,000</u>

“The current funding request is for \$2,211,000 and will enable staff to begin engineering associated with the purchase of the prototype and two new transformers, overhaul gantry cranes, and refurbish intake gates and gate seals.

“In mid-1998, subsequent to presentation of the proposed program with the Cooperative Consultation Process Team and discussion with the FERC, the Trustees will be requested to approve the first phase of the program which will include turbine prototype design, manufacturing and installation.

FISCAL INFORMATION

“Payments will be made from the General Reserve Account.

RECOMMENDATION

“The Regional Manager - Northern New York, the Vice President and Chief Engineer - Power Generation, and the Vice President - Project Management recommend that the Trustees authorize capital funding of \$2,211,000 for the engineering and preliminary work of the life extension and modernization of the St. Lawrence/FDR Power Project.

“The Secretary and General Counsel, the Executive Vice President – Project Operations, the Executive Vice President - Chief Financial Officer, and I concur in the recommendation”.

Mr. Hiney described the parameters of the overall life extension and modernization effort and also described the specific assessment processes utilized by a cross-disciplinary Authority team in 1996 when evaluating the condition of the original equipment and recommending refurbishment options.

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Mr. Hiney also underscored the prudence of acquiring two additional spare transformers and explained that the proposed replacement of the existing turbine runners is based both on prudence and plant life extension. A resulting increase in electrical output of up to a 4% would offset the costs of replacement.

In response to questions from Trustee McCullough, Mr. Hiney explained that the current expenditure authorization request pending before the Trustees is not intended to authorize any portion of the estimated project cost of \$254 million, which will be expended, if authorized by the Trustees, over a 15-year period. At the present time, the Trustees' expenditure approval is being sought only for the purpose of authorizing payment for the prototype in the amount of \$2,211,000 from the General Reserve Account. The Trustees' approval of future expenditures will be sought by staff on a piece-by-piece basis as work proceeds.

Trustee Ciminelli asked whether the proposed effort is contingent upon relicensing of the Project or represents work that would need to be performed in any event. Mr. Hiney responded that Authority staff will be interacting closely with FERC representatives at every step of the process. Mr. Hiney further noted that this refurbishment work would likely be discussed by the Cooperative Consultation Process participants associated with the St. Lawrence relicensing. Mr. Delaney added that a prudent business approach mandates undertaking initial steps of the life extension program at this time. President Zeltmann underscored that staff will keep the Trustees advised on the progress of the life extension and modernization effort.

The attached resolution, as recommended by the President, was unanimously adopted.

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RESOLVED, That capital expenditures are hereby approved to be committed in accordance with the Authority's Expenditure Authorization Procedures for the Life Extension and Modernization of the St. Lawrence/FDR Power Project in the amounts listed below:

<u>Description</u>	<u>Current Estimate</u>	<u>Previous Authorization</u>	<u>Current Request</u>
Engineering & Construction Management	\$ 36,871,000	\$ 459,000	\$ 923,000
Procurement	\$100,461,000	-0-	\$ 514,000
Construction	\$ 93,180,000	-0-	\$ 568,000
Authority Direct/ Indirect	<u>\$ 23,627,000</u>	<u>-0-</u>	<u>\$ 206,000</u>
	<u>\$254,139,000</u>	<u>\$ 459,000</u>	<u>\$ 2,211,000</u>

AND BE IT FURTHER RESOLVED, That it is hereby authorized that up to \$2,211,000 of General Reserve Account monies be withdrawn from such account and utilized for making the payments specified in the foregoing report; and be it further

RESOLVED, That such amounts to be withdrawn from the General Reserve Account are not required for any of the purposes specified in Paragraphs (1) - (4) of Section 512 of the General Purpose Bond Resolution adopted on November 26, 1974, as amended and supplemented.

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7. **Next Meeting**

“The Regular meeting of the Trustees will be held on **Tuesday, December 16, 1997, at the New York Office at 11:00 a.m.**, unless otherwise designated by the Chairman with the concurrence of the Trustees.”

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Closing

“Upon motion made and seconded, the meeting was closed at 12:30 p.m.”

David E. Blabey
Secretary and General Counsel

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