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HYDRO MANAGEMENT GROUP, LLC

C/O ESSEX HYDRO ASSOCIATES, LLC
55 UNION STREET, 4TH FL
BOSTON, MA 02108

TELEPHONE:

+617-367-0032

E-MAIL:

AL@ESSEXHYDRO.COM

November 19, 2012

Ms. Debra A. Howland
Executive Director and Secretary
State of New Hampshire
Public Utilities Commission
21 S. Fruit St, Suite 10
Concord, NH 03301-2429



Attn: Executive Director and Secretary Howland

Dear Ms. Howland,

Pursuant to New Hampshire Administrative Code Puc 2500 Rule, Puc 2505.02 Application Requirements Laws of 2012, Chapter 0272, please find included with this letter an application for the qualification of Sugar River Hydroelectric Power Company's Sugar River 1 hydroelectric generating facility as a New Hampshire Class IV RPS Resource.

An electronic copy of this application was emailed to you at executive.director@puc.nh.gov and Barbara Bernstein at barbara.bernstein@puc.nh.gov on Monday, November 19th 2012 and three hard copies were delivered to your attention at the New Hampshire PUC via overnight mail on Tuesday, November 20th, 2012.

Thank you in advance for review of this application and please contact me at 617-367-0032 or al@essexhydro.com with any questions

Sincerely,

Sugar River Hydroelectric Power Company
by Hydro Management Group, its agent
as aggregator

Andrew Locke
Vice President



State of New Hampshire
Public Utilities Commission

21 S. Fruit Street, Suite 10, Concord, NH 03301-2429



APPLICATION FORM FOR
RENEWABLE ENERGY SOURCE ELIGIBILITY FOR CLASS IV

HYDRO SOURCES WITH A TOTAL NAMEPLATE CAPACITY OF ONE MEGAWATT OR LESS

*Pursuant to New Hampshire Administrative Code Puc 2500 Rules, Puc 2505.02 Application Requirements
Laws of 2012, Chapter 0272*

- Please submit one (1) original and two (2) paper copies of the completed application and cover letter to:

Debra A. Howland
Executive Director
New Hampshire Public Utilities Commission
21 South Fruit Street, Suite 10
Concord, NH 03301-2429

- Send an electronic version of the completed application and the cover letter electronically to executive.director@puc.nh.gov.

The cover letter must include complete contact information and clearly state that the applicant is seeking certification as a Class IV source. Pursuant to Chapter 362-F:11 I, the Commission is required to render a decision on an application within 45 days upon receiving a completed application.

If you have any questions please contact Barbara Bernstein at (603)271-6011 or Barbara.Bernstein@puc.nh.gov.

Please provide the following:

1. Applicant Name: Hydro Management Group LLC as agent for Sugar River Hydroelectric Power Company

Mailing Address: c/o Essex Hydro Associates, L.L.C. 55 Union Street, 4th Floor

Town/City: Boston State: MA Zip Code: 02108

Primary Contact: Andrew Locke

Telephone: (617) 367-0032 Cell: (617)-367-0032

Email address: al@essexhydro.com

2. Facility Name: Sugar River I Hydroelectric Facility

(physical address) N/A

Town/City: Newport State: NH Zip Code: 03773

If the facility does not have a physical address, the Latitude 43°21'59.61"N & Longitude 72° 9'45.44"W

(To qualify the electrical production for RECs, the facility must be registered with the NEPOOL – GIS).
Contact information for the GIS administrator follows:

James Webb, Registry Administrator, APX Environmental Markets
224 Airport Parkway, Suite 600, San Jose, CA 95110
Office: 408.517.2174, jwebb@apx.com

3. The facility's ISO-New England asset identification number, if available. 898

4. The facility's GIS facility code, if available. MSS898

5. A description of the facility including the following:
 - 5.a. The gross nameplate capacity 0.15MW
 - 5.b. The facility's initial commercial operation date 09/1/1986
 - 5.c. The date the facility began operation, if different than the operation date _____
 - 5.d. A complete description of the facility including related equipment

The Sugar River I hydroelectric project ("the project") is located on the Sugar River, in the town of Newport, Sullivan County, New Hampshire. The project is located at river mile 0.65 on the Sugar River and includes a 4.8-acre impoundment, which is about 1,002 feet long by 214 feet wide with an average depth of 5 feet and a maximum gross storage capacity of about 2.1 acre-feet.

The project is operated as a run-of-river facility. Outflows from the project equal inflows on an instantaneous basis, and water levels above the dam are maintained at the crest of the dam and are not drawn down for the purposes of generating power. The exemptee is required to maintain a minimum flow of 15 cfs to maintain water quality and protect aquatic habitat. Project works consist of: (1) a 93-foot-long and 839-foot-high dam; (2) a 7-foot-diameter, 123-foot-long steel penstock; (3) an existing powerhouse containing one generating unit with a total installed capacity of 150 kilowatts; (4) a 100-foot-long 2.3 kVC transmission line connecting to the existing Public Service Company of New Hampshire transmission line; and (5) appurtenant facilities.

The project was issued an exemption from licensing by the Federal Energy Regulatory Commission dated January 14, 1988.

The project is located on the Sugar River and utilizes a previously existing impoundment and the plant is unmanned, but operation is monitored on a 24/7 basis.

6. A copy of all necessary state and federal (FERC) regulatory approvals as **Attachment A**.

7. A copy of the title page of the Interconnection Agreement between the applicant and the distribution utility, the page(s) that identifies the nameplate capacity of the facility and the signature pages. *Please provide this information as Attachment B.*

8. A description of how the generation facility is connected to the distribution utility.

The Sugar River 1 150 kW hydroelectric generating facility is interconnected with the electric system of Public Service Company of New Hampshire ("PSNH") in accordance with applicable New Hampshire Public Utilities Commission ("NHPUC") Orders and federal law. The delivery point is that point at which the facility interconnects with the 4.16 KV electric system of PSNH. All electric energy delivered to PSNH's system from the Facility is 4.16 KV, three phase, sixty hertz.

Under this Agreement, the Interconnector shall receive and pay for the services necessary for the purpose of connecting, and providing the continued connection of, the Sugar River 1 Facility with the PSNH electrical system, including Pool Transmission Facilities ("PTF") as defined by NEPOOL, and non-PTF.

9. A statement as to whether the facility has been certified under another non-federal jurisdiction's renewable portfolio standard and proof thereof.

The Sugar River 1 Hydroelectric Facility (the "Facility") is not current certified under another non-federal jurisdiction's renewable portfolio standard.

10. A statement as to whether the facility's output has been verified by ISO-New England.

The facility's output is verified by ISO-New England who is responsible for reporting the Facility's generation to the NEPOOL GIS.

11. An affidavit by the applicant attesting that the contents of the application are accurate. *Use either the Affidavit at the bottom of this page, or provide a separate document as **Attachment C**.*

12. The name and telephone number of the facility's operator, **if different from the owner**.

Facility Operator Name: William Ruger, President, Sugar River Hydroelectric Power Company

Phone: (603) 863-6332

13. Other pertinent information that you wish to include to assist in classification of the facility provide as **Attachment D**.

CHECK LIST: The following has been included to complete the application:	YES
• All contact information requested in the application.	x
• A copy of all necessary state and federal (FERC) regulatory approvals as Attachment A .	x
• A copy of the title page of the Interconnection Agreement between the applicant and the distribution utility, the page(s) that identifies the nameplate capacity of the facility and the signature pages as Attachment B .	x
• A signed and notarized attestation or Attachment C .	x
• A GIS number has been provided or has been requested.	x
• Other pertinent information has been provided (if necessary) as Attachment D .	N/A
• This document has been printed and notarized.	x
• The original and two copies are included in the packet mailed to Debra Howland, Executive Director of the PUC.	x
• An electronic version of the completed application has been sent to executive.director@puc.nh.gov .	x

AFFIDAVIT

The Undersigned applicant declares under penalty of perjury that contents of this application are accurate.

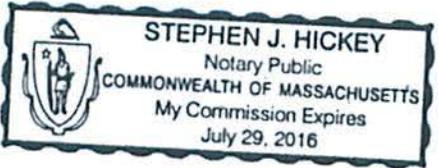
Applicant's Signature  Date 11/17/2012

Subscribed and sworn before me this 19th Day of November (month) in the year 2012

County of Suffolk State of Massachusetts


Notary Public/Justice of the Peace

My Commission Expires July 29, 2016



Attachment A

**Sugar River 1 Hydroelectric Project
(MSS898)**

**ORDER GRANTING EXEMPTION FROM LICENSING (FERC No. 3320)
dtd January 14, 1988**

ORDER GRANTING EXEMPTION FROM LICENSING
(5 MW OR LESS)

(Issued January 14, 1988)

On April 10, 1987, William B. Ruger, Jr. filed an application to exempt the Sugar River 1 Hydroelectric Project from the licensing requirements set forth in Part 1 of the Federal Power Act. The proposed small hydropower project is described in the attached public notice. The comments of interested agencies and individuals, including the U.S. Fish and Wildlife Service and the state fish and wildlife agency, have been fully considered in determining whether to issue this exemption from licensing.

Article 2 of this exemption requires compliance with the terms and conditions prepared by federal or state fish and wildlife agencies to protect fish and wildlife resources. These mandatory terms and conditions are contained in the attached letters commenting on the exemption application. If contested, the Commission will determine whether any mandatory term or condition is outside the scope of article 2.

After considering the mandatory terms and conditions designed to protect fish and wildlife resources, the environmental information in the exemption application, the staff's independent assessment ^{1/}, and other public comments, the Director finds that issuance of this order is not a major federal action significantly affecting the quality of the human environment.

^{1/} Environmental Assessment, Sugar River 1 Hydroelectric Project, FERC Project No. 3320-002-NH, Federal Energy Regulatory Commission, December 15, 1987. This document is available in the Commission's public file associated with this proceeding.

8801780057

(A) The Sugar River 1 Hydroelectric Project is exempted from the licensing requirements of Part 1 of the Federal Power Act, subject to the attached standard articles. See section 4.106 of the Commission's regulations and the following special article.

Article 10. Before commencing any ground-disturbing or spoil-producing activities, the Exemptee, in consultation and cooperation with the appropriate Federal, state, and local agencies (including the Soil Conservation Service and any Federal agency with managerial authority over any part of the project lands), shall prepare a plan to control erosion and dust, stabilize slopes, and minimize the quantity of sediment or other potential water pollutants resulting from construction and operation of the project. The plan shall identify critical areas, include functional design drawings and map locations of control measures, and establish schedules for implementation, monitoring, maintenance, and periodic review.

The Exemptee may commence ground-disturbing or spoil-producing activities 30 days after submitting the final plan to the consulted agencies, or sooner if the plan is approved by the Soil Conservation Service and any Federal agency with managerial authority over any part of project lands. Any consulted agency that objects to the exemptee's final plan should notify the Commission, specify the objection, and recommend alternative measures. The Commission reserves the right to modify the final plan.

(B) Article 2 of this exemption is amended to include the National Marine Fisheries Service as a fish and wildlife agency that can provide terms and conditions.

(C) The Commission reserves the right to assess the exemptee fees pursuant to section 30(e) of the Federal Power Act.

(D) The exemptee shall serve copies of any Commission filing required by this order on any entity specified in this order to be consulted on matters related to that filing. Proof of service on these entities must accompany the filing with the Commission.

(E) This order is issued under authority delegated to the Director and is final unless appealed to the Commission within 30 days from the date of this order.

Edward A. Abrams

Edward A. Abrams
Acting Director, Division
of Project Management

V-3320-002

UNITED STATES OF AMERICA
FEDERAL ENERGY REGULATORY COMMISSION

Notice of Application Filed with the Commission
(June 18, 1987)

Take notice that the following hydroelectric application has been filed with the Federal Energy Regulatory Commission and is available for public inspection:

- a. Type of Application: Exemption (5 MW or Less)
- b. Project No: 3320-002
- c. Date Filed: April 10, 1987
- d. Applicant: William B. Puger, Jr.
- e. Name of Project: Sugar River I Hydroelectric Project
- f. Location: On Sugar River, near town of Newport, in Putnam County, West Virginia.
- g. Filed Pursuant to: Energy Security Act of 1980 Section 15 U.S.C. §2705 and §2708
- h. Applicant Contacts: Mr. Duncan H. Branch
Summit Hydropower
P.O. Box 172
Putnam, WV 26260
(606) 928-2092
- i. FERC Contacts: Sent Coal (202) 376-9816
- j. Comment Date: JUL 3, 1987
- k. Description of Project: This is an existing project which was exempted from licensing under the categorical exemption rule on April 4, 1983 (23 FERC ¶62,008). The project is presently operating without flashboards, and the applicant proposes to install 2-foot-high flashboards as a modification to the project. The proposed project consists of: (1) existing 16-foot-high, 175-foot-long concrete dam owned by the applicant; (2) an existing 93-foot-long concrete spillway at an elevation of 839 feet; (3) new 2-foot-high flashboards; (4) an existing 7-foot-diameter, 173-foot-long steel penstock; (5) an existing powerhouse containing a single generator unit with a rated capacity of 150 kW at a head of 19 feet and (6) an existing 100-foot-long, 2.3-kV transmission line connecting to the existing Public Service Company of West Virginia transmission line. The applicant estimates an average annual generation to be 657,000 kWh.
- l. Purpose of Exemption: An exemption, if issued, gives the applicant priority of control, development and operation of the project under the terms of the exemption from laws and protects the applicant from permit or license applications that would seek to take or develop the project.
- m. This notice also consists of the following standard parts, C and DJa.

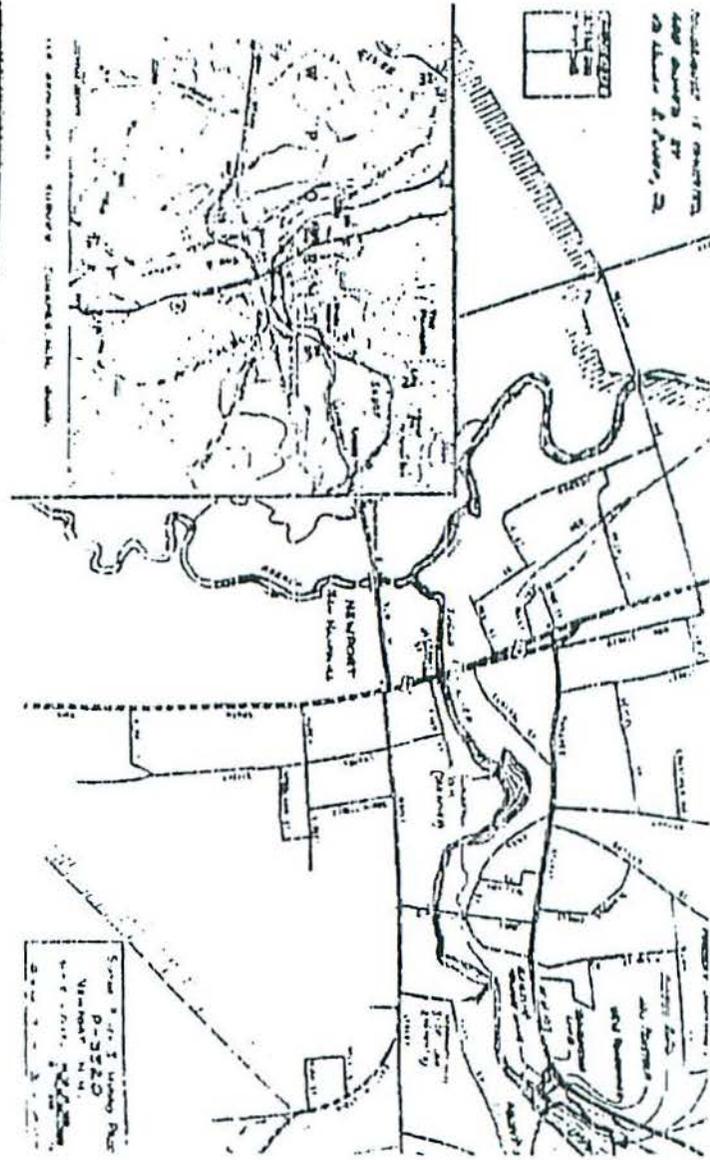
IC-A-4

B. Comments, Protests, or Motions to Intervene - Anyone may submit comments, a protest, or a motion to intervene in accordance with the requirements of the Rules of Practice and Procedure, 18 C.F.R. §§185.210, .211, .214. In determining the appropriate action to take, the Commission will consider all protests or other comments filed, but only those who file a motion to intervene in accordance with the Commission's Rules may become a party to the proceeding. Any comments, protests, or motions to intervene must be received on or before the specified comment date for the particular application.

C. Filing and Service of Responsive Documents - Any document filed in response to a particular application must bear in all capital letters the title "COMMENTS", "RECOMMENDATIONS FOR TERMS AND CONDITIONS", "MOTION TO FILE COMPETING APPLICATION", "MOTION TO FILE APPLICATION", "PROTEST" or "MOTION TO INTERVENE" as applicable, and the Project Number of the particular application to which the filing is in response. The above named documents must be filed by providing original and the number of copies required by the Commission's regulations to: Kenneth F. Plumb, Federal Energy Regulatory Commission, 815 North Street, N.E., Washington, D.C. 20426. An addendum must be sent to: Mr. Fred E. Springer, Director of Project Management, Federal Energy Regulatory Commission, Room 201-EB, at the above address. A copy of all intent, competing application or motion to intervene also be served upon each representative of the applicant specified in the particular application.

D3a. Agency Comments - The U.S. Fish and Wildlife Service, the National Marine Fisheries Service, and the State Fish and Game agency(ies) are requested, for the purposes set forth in Section 403 of the Energy Security Act of 1980, to file within 30 days from the date of issuance of this notice appropriate terms and conditions to protect any fish and wildlife resources or to otherwise carry out the provisions of the Fish and Wildlife Coordination Act. General comments concerning the project and its resources are requested; however, specific terms and conditions to be included as a condition of exemption must be clearly identified in the agency letter. If an agency does not file terms and conditions within this time period, that agency will be presumed to have none. Other Federal, State, and local agencies are requested to provide any comments they may have in accordance with their duties and responsibilities. No other formal requests for comments will be made. Comments should be confined to substantive issues relevant to the granting of an exemption. If an agency does not file comments within 30 days from the date of issuance of this notice, it will be presumed to have no comments. One copy of an agency's comments must also be sent to the Applicant's representatives.

Kenneth F. Plumb
Secretary



§ 4.106 Standard terms and conditions of exemption from licensing

Any exemption from licensing granted under this subpart for a small hydroelectric power project is subject to the following standard terms and conditions:

(a) Article 1. The Commission reserves the right to conduct investigations under sections 4(g), 306, 307, and 311 of the Federal Power Act with respect to any acts, complaints, facts, conditions, practices, or other matters related to the construction, operation, or maintenance of the exempt project. If any term or condition of the exemption is violated, the Commission may revoke the exemption, issue a suitable order under section 4(g) of the Federal Power Act, or take appropriate action for enforcement, forfeiture, or penalties under Part III of the Federal Power Act.

(b) Article 2. The construction, operation, and maintenance of the exempt project must comply with any terms and conditions that the United States Fish and Wildlife Service and any state fish and wildlife agencies have determined are appropriate to prevent loss of, or damage to, fish or wildlife resources or to otherwise carry out the purposes of the Fish and Wildlife Coordination Act, as specified in Exhibit E of the application for exemption from licensing or in the comments submitted in response to the notice of the exemption application.

(c) Article 3. The Commission may revoke this exemption if actual construction of any proposed generating facilities has not begun within two years, or has not been completed within four years from the date on which this exemption was granted. If an exemption is revoked under this article, the Commission will not accept from the prior exemption holder a subsequent application for exemption from licensing or a notice of exemption from licensing for the same project within two years of the revocation.

(d) Article 4. This exemption is subject to the navigation servitude of the United States if the project is located on navigable waters of the United States.

(e) Article 5. This exemption does not confer any right to use or occupy any Federal lands that may be necessary for the development or operation of the project. Any right to use or occupy any Federal lands for those purposes must be obtained from the administering Federal land agencies. The Commission may accept a license application by any qualified license applicant and revoke this exemption, if any necessary right to use or occupy Federal lands for those purposes has not been obtained within one year from the date on which this exemption was granted.

(f) Article 6. In order to best develop, conserve, and utilize in the public interest the water resources of the region, the Commission may require that the exempt facilities be modified in structure or operation or may revoke this exemption.

(g) Article 7. The Commission may revoke this exemption if, in the application process, material discrepancies, inaccuracies, or falsehoods were made by or on behalf of the applicant.

(h) Article 8. Any exempted small hydroelectric power project that utilizes a dam that is more than 33 feet in height above streambed, as defined in 18 CFR 12.31(c) of this chapter, impounds more than 2,000 acre-feet of water, or has a significant or high hazard potential, as defined in 33 CFR Part 222, is subject to the following provisions of 18 CFR Part 12, as it may be amended:

- (1) Section 12.4(b)(1)(i) and (ii), (b)(2)(i) and (iii), (b)(iv), and (b)(v);
- (2) Section 12.4(c);
- (3) Section 12.5;
- (4) Subpart C; and
- (5) Subpart D.

For the purposes of applying these provisions of 18 CFR Part 12, the exempted project is deemed to be a licensed project development and the owner of the exempted project is deemed to be a licensee.

(i) Article 9. Before transferring any property interests in the exempt project, the exemption holder must inform the transferee of the terms and conditions of the exemption. Within 30 days of transferring the property interests, the exemption holder must inform the Commission of the identity and address of the transferee.

Attachment B

**Sugar River 1 Hydroelectric Project
(MSS898)**

**INTERCONNECTION AGREEMENT
dtd May 18, 1986**



Public Service of New Hampshire

FILE COPY

July 14, 1986

Mr. William B. Ruger, Jr.
Sugar River Hydroelectric Power Company
P. O. Box 293
Newport, NH 03773

SUBJECT: Sugar River Hydro (#029), Newport, NH
Interconnection Agreement

Dear Mr. Ruger:

Enclosed is your executed original of the subject Agreement. Please note that the interconnection study, included as Attachment B, has been revised to incorporate your changes as requested. By copy of this letter, we are asking our Law Department to file our original and are notifying the New Hampshire Public Utilities Commission that this Agreement has been executed.

Sincerely,

S. B. Wicker, Jr.
Manager
Supplemental Energy Sources

SMA/dfd

Enclosure

cc: W. E. Arnold (NHPUC)
R. S. Johnson
T. B. Getz (w/original)
*~~SESD~~ File #029

bcc: P. A. Magoun D. D. McManus, Jr.
M. T. Smith I. W. Downing
T. P. Meissner S. K. Bernier
M. L. Swist J. VanOudenhove

INTERCONNECTION AGREEMENT

AGREEMENT, dated May 18, 1986, by and between WILLIAM B. RUGER, JR./dba/SUGAR RIVER HYDROELECTRIC POWER CO., (hereinafter referred to as INTERCONNECTOR), and PUBLIC SERVICE COMPANY OF NEW HAMPSHIRE, a New Hampshire corporation having its principal place of business in Manchester, New Hampshire (hereinafter referred to as PUBLIC SERVICE).

WHEREAS, INTERCONNECTOR desires to interconnect their generating facility, located in Newport, New Hampshire, on the Sugar River, with the electric system of PUBLIC SERVICE in accordance with applicable New Hampshire Public Utilities Commission (hereinafter referred to as NHPUC) Orders; and

WHEREAS, the NHPUC requires that a written interconnection agreement be executed between the parties; and

WHEREAS, it is necessary that certain agreements be made prior to interconnection and the commencement of sales of electricity to insure the safety, reliability and integrity of PUBLIC SERVICE's electric system, and to establish a mechanism of payment of the rate established by the NHPUC, the parties hereby agree as follows:

Article 1. Interconnection and Voltage Characteristics.

The interconnection point shall be that point at which INTERCONNECTOR's generating facility interconnects with the 4.16 kV electric system of PUBLIC SERVICE.

Unless PUBLIC SERVICE converts its interconnection circuit, all electric energy interconnected with PUBLIC SERVICE's system shall be 4.16 kV three-phase, sixty hertz.

Article 2. Metering.

The metering shall be configured so as to represent the generation delivered to PUBLIC SERVICE. The metering may be installed on the generation side of the transformer provided that transformer losses are subtracted from the measured generation by a suitable method.

INTERCONNECTOR will install, own, and maintain all metering equipment as referenced in Article 4, to measure the flow of electrical energy from INTERCONNECTOR to PUBLIC SERVICE. If at any time, the meter is found to be in error by more than two percent fast or slow (+ or - 2%), INTERCONNECTOR shall cause such meter to be corrected and the meter readings for the period of

inaccuracy shall be adjusted to correct such inaccuracy so far as the same can be reasonably ascertained, but no adjustment prior to the beginning of the preceding month shall be made except by agreement of the parties. All tests and calibrations shall be made in accordance with Section V-14 of the NHPUC Rules and Regulations Prescribing Standards for Electric Utilities in effect as of September 8, 1972, as amended. The meter shall be tested as prescribed in said Rules and Regulations.

In addition to the regular routine tests, INTERCONNECTOR shall cause the meter to be tested at any time upon request of and in the presence of a representative of PUBLIC SERVICE. If such equipment proves accurate within two percent fast or slow (+ or - 2%), the expense of the test shall be borne by PUBLIC SERVICE.

PUBLIC SERVICE reserves the right to secure or seal the metering installation, to require INTERCONNECTOR to measure electrical energy sold to PUBLIC SERVICE on an hour-by-hour basis, and to require INTERCONNECTOR to notify PUBLIC SERVICE once each day of INTERCONNECTOR's generation in kilowatthours for each hour during the prior 24 hours.

Article 3. Billing and Payment.

PUBLIC SERVICE shall read the meter on or about the end of each month and shall promptly send INTERCONNECTOR a form showing the month's beginning and ending meter readings and net kwh generation. INTERCONNECTOR shall then transmit to PUBLIC SERVICE a bill showing the amount due for the sale of energy to PUBLIC SERVICE, which amount shall be determined by multiplying the number of kWh's of energy delivered to PUBLIC SERVICE since the prior reading of the meter times the energy rate per kwh (or times the appropriate time-of-day rates, as applicable) set forth in INTERCONNECTOR's rate filing approved by the NHPUC and is, or will be when available, attached hereto as Attachment A.

INTERCONNECTOR shall also include on said bill the appropriate capacity payment, if any, to be made by PUBLIC SERVICE, as approved by the NHPUC. PUBLIC SERVICE will send to INTERCONNECTOR a payment for that amount within 20 days of receipt of INTERCONNECTOR's bill. The foregoing is intended to provide a procedure for the payment of rates established by the NHPUC, and shall not be construed as creating a separate contractual obligation on the part of PUBLIC SERVICE to pay the rate(s) approved by the NHPUC.

INTERCONNECTOR understands that any capacity payments are contingent upon an audit of the generating facility performed by the NHPUC and that INTERCONNECTOR must request the NHPUC to perform said audit.

Article 4. Interconnection & Protection Requirements.

The INTERCONNECTOR shall install all interconnection, protection, metering, and control equipment as specified in PUBLIC SERVICE's study of the INTERCONNECTOR's electric generating facility, which study is, or will be upon mutual consent of both parties, attached hereto as Attachment B and any other such equipment which may be necessary to ensure the safe and reliable operation of INTERCONNECTOR's generating unit in parallel with PUBLIC SERVICE's system. INTERCONNECTOR shall bear all costs associated with said equipment and its installation, including those costs associated with PUBLIC SERVICE's study of the INTERCONNECTOR's electric generating facility. Prior to the aforementioned study, one half of PUBLIC SERVICE's estimated costs of the study shall be paid to PUBLIC SERVICE prior to beginning the study. The balance, based on actual costs incurred, shall be due upon completion of the study.

Up to the interconnection point, all said interconnection, protection, metering, and control equipment including, but not limited to, line extensions, transformers, meters, relays, breakers, and appurtenant equipment shall remain the sole property of INTERCONNECTOR.

INTERCONNECTOR shall have sole responsibility for the operation, maintenance, and repair of its generating unit, including the interconnection, protection, metering, and control equipment. INTERCONNECTOR shall maintain, repair, or replace said generating unit including said equipment whenever necessary for the safe and reliable operation of INTERCONNECTOR's electric facility in parallel with PUBLIC SERVICE's system.

In addition to the above, upon the effective date of this Agreement, and every twelve months thereafter, the INTERCONNECTOR shall test, or cause to be tested, all protection devices including verification of calibration and tripping functions; and INTERCONNECTOR shall notify PUBLIC SERVICE in writing that said tests have been conducted. INTERCONNECTOR shall notify PUBLIC SERVICE of any defect affecting the safety or reliability of said equipment not later than two hours after its discovery of the same.

If either party reasonably determines that the operation or use of any portion of the protection system, as required in this Article, will or may not perform its protective function, including but not limited to opening the interconnecting tie, INTERCONNECTOR shall open the interconnection between PUBLIC SERVICE's system and INTERCONNECTOR's facility. INTERCONNECTOR shall notify PUBLIC SERVICE not more than two days after it has opened said interconnection. PUBLIC SERVICE shall not be obligated to receive electrical energy from INTERCONNECTOR and the interconnection shall remain open, until INTERCONNECTOR has satisfactorily cured said defect at no cost to PUBLIC SERVICE.

Article 5. Right of Access.

Upon prior written or oral notice to INTERCONNECTOR, PUBLIC SERVICE shall have the right to enter the property of INTERCONNECTOR at reasonable times and shall be provided access to INTERCONNECTOR's metering, protection, control, and interconnection equipment.

Article 6. Modification of Facility.

If INTERCONNECTOR plans any modifications to its electric facility, INTERCONNECTOR shall give PUBLIC SERVICE prior written notice of its intentions. In the event that PUBLIC SERVICE reasonably determines that said modifications would necessitate changes to the interconnection, protection, control, or metering equipment or would cause PUBLIC SERVICE to incur additional expenses associated therewith, INTERCONNECTOR shall make such changes as reasonably required by PUBLIC SERVICE and reimburse PUBLIC SERVICE for said expenses before PUBLIC SERVICE is obligated to purchase any increased output.

If the PUBLIC SERVICE interconnecting circuit is converted to a higher voltage in the future, INTERCONNECTOR shall be responsible for all interconnection changes necessitated by the conversion and shall bear all costs associated with said conversion.

Article 7. Liability & Insurance.

- a. Each party will be responsible for its facilities and the operation thereof and will indemnify and save the other harmless from any and all loss by reason of property damage, bodily injury, including death

resulting therefrom suffered by any person or persons including the parties hereto, employees thereof or members of the public (and all expenses in connection therewith, including attorney's fees), whether arising in agreement, warranty, tort (including negligence), strict liability or otherwise, caused by or sustained on, or alleged to be caused by or sustained on, equipment or facilities, or the operation or use thereof, owned or controlled by such party, except that each party shall be solely responsible for and shall bear all costs of claims by its own employees or contractors growing out of any workmen's compensation law.

- b. INTERCONNECTOR hereby agrees to maintain in force and effect, for the duration of this Agreement, Workmen's Compensation Insurance, as required by statute, and Comprehensive General Liability Insurance for bodily injury and property damage at minimum limits of three million dollars (\$3,000,000). At least sixty days prior to the actual, physical interconnection of the facility, the INTERCONNECTOR agrees to provide PUBLIC SERVICE with a certificate of insurance evidencing such coverage.
- c. In no event shall INTERCONNECTOR or PUBLIC SERVICE be liable, whether in agreement, tort (including negligence), strict liability, warranty, or otherwise, for any special, indirect, incidental, or consequential loss or damage, including but not limited to cost of capital, cost of replacement power, loss of profits or revenues or the loss of the use thereof. This provision, Article 7, subsection c, shall apply notwithstanding any other provision of this Agreement.

Article 8. Force Majeure.

Either party shall not be considered to be in default hereunder and shall be excused from interchanging electricity hereunder if and to the extent that it shall be prevented from doing so by storm, flood, lightning, earthquake, explosion, equipment failure, civil disturbance, labor dispute, act of God or

the public enemy, action of a court or public authority, withdrawal of facilities from operation for necessary maintenance and repair, or any cause beyond the reasonable control of either party.

Article 9. Termination.

PUBLIC SERVICE may not terminate this Agreement during such time as its obligations as set forth in the Limited Electrical Energy Producers Act or Public Utility Regulatory Policies Act remains unchanged and in force, except that PUBLIC SERVICE may terminate this Agreement should INTERCONNECTOR fail to substantially perform in accordance with the terms of this Agreement.

The INTERCONNECTOR may terminate this Interconnection Agreement in accordance with the provisions established by the New Hampshire Public Utilities Commission in their applicable orders.

After termination, both parties shall be discharged from all further obligation under the term of this Agreement, excepting any liability which may have been incurred before the date of such termination.

Article 10. Modification of Agreement.

In order for any modification to this Agreement to be binding upon the parties, said modification must be in writing and signed by both parties.

Article 11. Prior Agreements Superseded.

This Agreement with Attachments A and B represents the entire agreement between the parties hereto relating to the subject matter hereof, and all previous agreements, discussion, communications, and correspondence with respect to the said subject matter are superseded by the execution of this Agreement.

Article 12. Waiver of Terms or Conditions.

The failure of either party to enforce or insist upon compliance with any of the terms or conditions of this Agreement shall not constitute a general waiver or relinquishment of any such terms or conditions, but the same shall be and remain at all times in full force and effect.

Article 13. General.

This Agreement shall be binding upon, and inure to the benefit of the respective successors and assigns of the parties hereto, provided that INTERCONNECTOR shall not assign this Agreement except to an affiliated company, without the prior written consent of PUBLIC SERVICE, which consent shall not be unreasonably withheld. The term "affiliated company" shall include any partnership in which INTERCONNECTOR or one of INTERCONNECTOR's subsidiaries, affiliates, principals, or owners is a general partner or any corporation in which INTERCONNECTOR or one of its subsidiaries, affiliates, principals, or owners owns or controls more than 50 percent of the voting stock or otherwise has operating control. In the event of an assignment to an affiliate, INTERCONNECTOR shall notify PUBLIC SERVICE within five (5) days of the effective date of the assignment.

Article 14. Applicable Law.

This Agreement is made under the laws of The State of New Hampshire and the interpretation and performance hereof shall be in accordance with and controlled by the laws of that State.

Article 15. Mailing Addresses.

The mailing addresses of the parties are as follows:

INTERCONNECTOR: Sugar River Hydroelectric Power Co.

P.O. Box 293

Newport, NH 03773

Attn: William B. Ruger, Jr.

PUBLIC SERVICE: Public Service Company of New Hampshire

1000 Elm Street

P.O. Box 330

Manchester, NH 03105

Attn: Ralph S. Johnson, Vice President

Article 16. Effective Date.

This Agreement shall become effective between the parties as of the effective date of the Commission order approving the long term rate, although PUBLIC SERVICE shall not be obligated to make any payments to INTERCONNECTOR, as referred to in Article 3, until INTERCONNECTOR has satisfactorily installed all metering, interconnection and protective equipment as specified in Attachment B.

IN WITNESS WHEREOF, the parties each by its duly authorized representatives have hereunto caused their names to be subscribed, as of the day and year first above written.

SUGAR RIVER HYDROELECTRIC POWER CO.

Carol E. Humphrey
(Witness)

By: William B. Ruger, Jr.
William B. Ruger, Jr.

PUBLIC SERVICE COMPANY OF NEW HAMPSHIRE

Camille Louey
(Witness)

By: Ralph S. Johnson
Ralph S. Johnson, Vice President

ATTACHMENT A
 Interconnection Agreement
 Sugar River Hydroelectric Co - PSNH
 Dated May 18, 1986

<u>YEAR</u>	<u>-----NHPUC RATES-----</u>	
	<u>ALL-HOURS ENERGY</u>	<u>CAPACITY</u>
1986	8.83	86.60
1987	8.83	86.60
1988	8.83	86.60
1989	10.27	100.80
1990	10.27	100.80
1991	10.27	100.80
1992	10.27	100.80
1993	10.27	100.80
1994	10.27	100.80
1995	10.27	100.80
1996	10.27	100.80
1997	10.27	100.80
1998	10.27	100.80
1999	10.27	100.80
2000	10.27	100.80
2001	10.27	100.80
2002	10.27	100.80
2003	10.27	100.80
2004	10.27	100.80
2005	10.27	100.80
2006	10.27	100.80
2007	10.27	100.80
2008	10.27	100.80
2009	10.27	100.80
2010	10.27	100.80
2011	10.27	100.80
2012	10.27	100.80
2013	10.27	100.80
2014	10.27	100.80
2015	10.27	100.47

The above rates are as ordered by the N.H.Public Utilities Commission in its Order Number 18,224 (DR86-99), dated April 18, 1986.

Revised Attachment B
Interconnection Agreement
Sugar River Hydroelectric
Company - PSNH
Dated May 18, 1986

PSNH INTERCONNECTION REPORT FOR
CUSTOMER GENERATION

SUGAR RIVER 1 HYDRO

SESD SITE NO. 029

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I. INTRODUCTION

A study has been performed to determine the impact of this proposed facility on the PSNH system. All technical analysis was based on the equipment listed under Section II, and the facility arrangement illustrated on partial one-line diagram SK-PAM-029-0. Where actual site-specific data was not readily available, estimated or "typical" values were utilized in any required calculations. Any deviation from the listed equipment or the illustrated configuration may have significant safety and/or technical ramifications. Consequently, if changes are anticipated now or in the future, PSNH should be informed immediately so that the requirements and recommendations contained within the report may be revised where necessary. This procedure will ensure that the Developer is informed of PSNH requirements in a timely fashion and should eliminate the delays and expense which could otherwise be experienced by the Developer.

II. DESCRIPTION OF MAJOR COMPONENTS

A. Description Of Facilities

The Sugar River 1 hydroelectric facility is situated in Newport, NH and receives water from the Sugar River impounded behind NHWRB Dam No. 178.02. All electrical output will be delivered to PSNH 4160V circuit 42H2. Station service for the site is taken from a single phase feed from the mill adjacent to this site.

The salient electrical features of this facility are illustrated on Partial One-Line Diagram SK-PAM-029-0 in Section VII.A. of this report.

B. Mechanical Components

1. Turbine - One Rodney Hunt Vertical Shaft, Francis 257 RPM, 215 HP, .85 Eff.
2. Governor - Woodward Hydraulic

C. Electrical Components

1. Generator - G.E. Type TRC-28-187-257 Form DV, 150 KW, .8 PF, 2300V, 257 RPM, 3 Phase, 60 Hertz, Delta Wound
2. Exciter - G.E. Compound Wound Type MPL, Frame 45, Form EV 350054-16, 257 RPM, 125V DC, 40A, 5KW
3. Voltage Regulator - Basler SR-8A

4. Circuit Breaker - Westinghouse 50DH50, 600A, 5 kV, 50,000A I.C.
5. Generator Stepup Transformers - Three 2400/4160V Wye - 2400V Delta 75 kVA, 3.5%, 60 kV BIL, Connected in Ungrounded Wye (PSNH side) - Delta (facility side)
6. High Side Disconnect Switch - 38 kV, 3-Phase, 150 kV BIL, A.B. Chance, Cat. No. D7HS7BL, 600 amp, with interrupters.

III. PSNH REQUIREMENTS - GENERAL

A. Safety Considerations

1. The connection of the facility to the PSNH system must not compromise the safety of PSNH's customers, personnel, or the owner's personnel.
2. The generating facility must not have the capability of energizing a de-energized PSNH circuit.
3. An emergency shutdown switch with facility status indicator lights, and a disconnecting device with a visible open shall be made available for unrestricted use by PSNH personnel. The operation of the switch shall cause all of the facility's generation to be removed from service, and shall block all automatic startup of generation until the switch is reset. The status lights, mounted with the shutdown switch, shall be located outdoors at a position acceptable to PSNH operating division personnel. A red light shall indicate that the facility has generation connected to the PSNH system. A green light shall indicate that all generation is disconnected from the PSNH system. The lights shall be driven directly from auxiliary switches located on the facility's generator circuit breaker(s). The disconnecting device with visible open shall be located between the PSNH system and the facility's generation.
4. The settings for all protective relays required by PSNH will be developed by PSNH at the Developer's expense.
5. A crew of PSNH relay technicians will apply settings to and verify the proper functioning of those protective systems required by PSNH. This work will be performed at the Developer's expense.
6. The generating facility has full responsibility for ensuring that the protective system and the associated devices are maintained in reliable operating condition. PSNH reserves the right to inspect and test all protective equipment at the interconnecting point whenever it is considered necessary. This inspection may include tripping of the breakers.

7. The short circuit interrupting device(s) must have sufficient interrupting capacity for all faults that might exist. The PSNH system impedance at the facility will be supplied on request.
8. All shunt-tripped short circuit interrupting devices applied to generators must be equipped with reliable power sources. A D.C. battery with associated charging facilities is considered a reliable source.
9. All synchronous generator facilities must be equipped with battery-tripped circuit breakers.
10. Any protection scheme utilizing AC control power must be designed in a fail-safe mode. That is, all protective components must utilize contacts which are closed during normal operating conditions, but which open during abnormal conditions or when control power is lost to de-energize the generator contactor coil. These schemes may be utilized only with non-latching contactors and may not be used with synchronous generators.
11. A complete set of AC and DC elementary diagrams showing the implementation of all systems required by PSNH must be supplied for PSNH review. These drawings should be supplied as soon as possible so that any non-conforming items may be corrected by the Developer without impacting the scheduled completion date of the facility.
12. All voltage transformers driving PSNH-required protection systems must be rated by the manufacturer as to accuracy class, and must be capable of driving their connected burdens with an error not exceeding 1.2 percent.
13. All current transformers driving PSNH-required protection systems must be rated by the manufacturer as to accuracy class and must be capable of driving their connected burdens with an error not exceeding 10 percent.
14. All PSNH-required protective relays, and any other relays which PSNH will be requested to test, must be equipped with test facilities which allow secondary quantity injection and output contact isolation.
15. It is not the policy of PSNH to maintain a stock of protective relays for resale to facility developers. Since many protective devices have delivery times of several months, Developers are strongly advised to order them as soon as possible after PSNH type-approval is received.
16. Protection of the generating facility equipment for problems and/or disturbances which might occur internal or external to the facility is the responsibility of the Developer.

17. No operation of the facility's generation is allowed until all requirements in Sections III and IV of this report have been met, and all systems required therein, are in place, calibrated, and, if applicable, proven functional. This requirement may be waived by PSNH for a given system if generation is required to demonstrate the proper functioning of that system.

B. Service Quality Considerations

1. The connection of the facility to the PSNH system must not reduce the quality of service currently existing on the PSNH system. Voltage fluctuations, flicker, and excessive voltage and current harmonic content are among the service quality considerations. Harmonic limitations should conform to the latest IEEE guidelines and/or ANSI standards.
2. In general, induction generators must be accelerated to "synchronous" speed prior to connection to the PSNH system to reduce the magnitude and duration of accelerating current and resulting voltage drop to PSNH customers to acceptable levels.
3. In general, synchronous generators may not use the "pull-in" method of synchronizing due to excessive voltage drops to PSNH customers.
4. Power factor correction capacitors may be required for some facilities either at the time of initial installation, or, at some later date. The installation will normally be done by the Developer at his expense.
5. Certain facilities having installed capacity similar in magnitude to connected circuit load may require that control modifications be made to tap changers in the electrical vicinity. Should they be necessary, the modification will be made at the Developers' expense.
6. Automatic reclosing of the PSNH circuit after a tripping operation may occur after an appropriate time delay. If voltage blocking of automatic reclosing is required, it will be added at the Developers' expense.

C. Metering Considerations

1. Except for metering and protection/control voltage sensing and generator and/or capacitor contactor supply voltage, no unmetered AC power shall be taken from the PSNH system.

IV. PSNH REQUIREMENTS - SPECIFIC

A. System Configuration and Protection

1. The facility must be arranged and equipped as per partial one line diagram SK-PAM-029-0.

2. The following protective functions must be supplied and connected to automatically trip ACB 52-G1. These devices must be utility grade as approved by PSNH.
 - a. Time-Over Frequency (81H)
 - b. Time-Underfrequency (81L)
 - c. Time-Overvoltage (59)
 - d. Time-Undervoltage (27)
 - e. Voltage Controlled Time-Overcurrent (51V)
 - f. Ground Time-Overvoltage (59N)
 - g. Reverse Power (32)
3. The facility generator stepup transformer (GSU) must have an ungrounded wye (HV) - Delta (LV) winding configuration.
4. Three (3) 4200-120V voltage transformers (VT's) must be applied at the high voltage side of the generator step-up transformer (GSU). These VT's must be connected grounded wye (HV) - open-corner-delta (LV) and shall supply operating voltage to item 2.f., above (G.E. Type JW-3 35:1 ratio).
5. The facility must be equipped with a three-phase, gang operated, 5 kV, disconnect.

B. System Metering

1. The facility must be equipped with the metering system as shown on partial one line diagram SK-PAM-029-0.
2. The metering must consist of the following components:
 - 2 - Westinghouse Style 1317178 indoor voltage transformers with 2 primary fuses, 5 KV class, ratio 2400/120 volts, (PSNH tested and approved 4/18/86 by KDP).
 - 2 - General Electric type JKM-3 indoor current transformers, 5 KV class, ratio 50/5 amps, catalog #497X27.
 - 1 - Westinghouse type CB2F polyphase watt-hour meter (calibrated and approved by PSNH Inst. lab. 3/27/86 by PRL).
- 1) Substitutions for the above metering is acceptable, provided it is equivalent and advance approval is obtained from PSNH.
- 2) Items A and B above are designed to be mounted inside switchgear, but may be housed in some other suitable enclosure, providing that the 2.4 kV feeders can be routed to the current transformers.

- 3) Developer is responsible for providing the metering equipment, physically mounting the equipment, installing necessary conduit, and wiring the primary side of the instrument transformers.
- 4) PSNH will wire the metering secondaries, perform the initial meter test, verify the metering connections by vector analysis, and provide overall supervision of the metering installation at the request of the developer. The cost of this service would be billed to the developer.
- 5) The GSU transformer losses will be estimated and subtracted from gross generation by meter calibration.
- 6) Item 3 of the materials list is not suitable for Time-of-Use rates. If the developer elects Time-of-Use rates, a more sophisticated watt-hour meter with a solid state register is required. At the developer's request, PSNH would specify this special meter.
- 7) If the developer wishes to design his own metering system, advance review and approval must be obtained from PSNH prior to ordering the equipment. Any alternatives must, however, be based upon standard utility industry metering practices with respect to accuracy, reliability, applicability, and electrical configuration.

C. Primary Interconnection

PSNH proposes to tap 4160V Line 42H2 at a newly installed pole through a new set of fused cutouts. A three-phase line extension must then be run to the facility generator stepup transformer (GSU) via an intermediate pole and a three-phase, gang operated disconnect. The two possible PSNH work scopes are as follows:

Scenario 1

Work along the road only

Scenario 2

Work along the road plus construction of an H-frame for facility transformers (supplied by Developer) and high-side 3-phase gang operated disconnect (supplied by PSNH).

Newport district's workload may prohibit scenario number 2.

D. System Operation

Loadflow analysis by the PSNH Distribution Engineering Department indicates that this facility causes no excessive voltage rise to PSNH customers. The modeling process also indicates that the power reversals experienced at Newport Substation as a result of this facility are not likely to cause voltage regulator misoperations.

However, should actual operating experience prove that either of these conditions does require the installation of additional equipment, all material and labor costs associated with their installation will be the Developer's responsibility. Also, at such time as the 42H2 circuit is converted to 19.9 kV, the developer will be required to upgrade his equipment to interconnect at this voltage.

V. PSNH PRICE ESTIMATES

The following estimates for labor, materials, and overheads are supplied as an aid to the Developer for financial planning purposes. Should the Developer elect to have PSNH perform any of the work described in the estimates, he will ultimately be billed for the full actual cost of any work performed.

Authorization for PSNH to perform any of the work or supply any of the equipment described below must be forwarded to the Supplemental Energy Sources Department along with a minimum payment covering 50% of the estimated labor and materials cost. PSNH will neither perform work nor order materials until this requirement has been met.

A. System Protection

1. Materials (PSNH will not supply any protection equipment)	\$ 0.0
2. Labor, Overheads, Misc.	<u>1,000.00</u>
SUB TOTAL	\$1,000.00

Engineering labor and expenses to review facility drawings and develop settings for PSNH-required systems. Test technician labor and expenses to apply settings to and verify operation of PSNH-required systems.

B. System Metering

1. Materials (PSNH will not supply any metering equipment)	\$ 0.0
2. Labor, Overheads, Misc.	400.00

PSNH will wire the metering secondaries, perform the initial meter test, verify the metering connections by vector analysis, and provide overall supervision of the metering installation at the request of the Developer.

SUB TOTAL	<u>\$ 400.00</u>
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C. Primary Interconnection

Scenario 1

Work at road only - Developer to do all work in his property.

Install 2 poles, 3 cutouts, arms, and miscellaneous materials - Labor and Materials

SUB TOTAL₁ \$ 2200.00

Scenario 2

Work at road plus construction of an H-frame for facility transformers (supplied by Developer) and high-side 3-phase gang operated disconnect (supplied by PSNH). This scenario takes power to Developer's building.

Install 4 poles, 6 arms, 3 cutouts, 6 lightning arresters, 34.5 kV airbreak switch, 3 power transformers (supplied by Developer) 3 voltage transformers (supplied by Developer), terminators at the structure, U.G. cable, overhead cable, and miscellaneous equipment - Labor and Materials.

SUB TOTAL₂ \$11,500.00

Newport District's workload may prohibit scenario number 2.

GRAND TOTAL₁ (A + B + C₁) \$3,600.00

GRAND TOTAL₂ (A + B + C₂) \$12,900.00

VI. INTERCONNECTION EQUIPMENT OWNERSHIP, OPERATION, AND MAINTENANCE

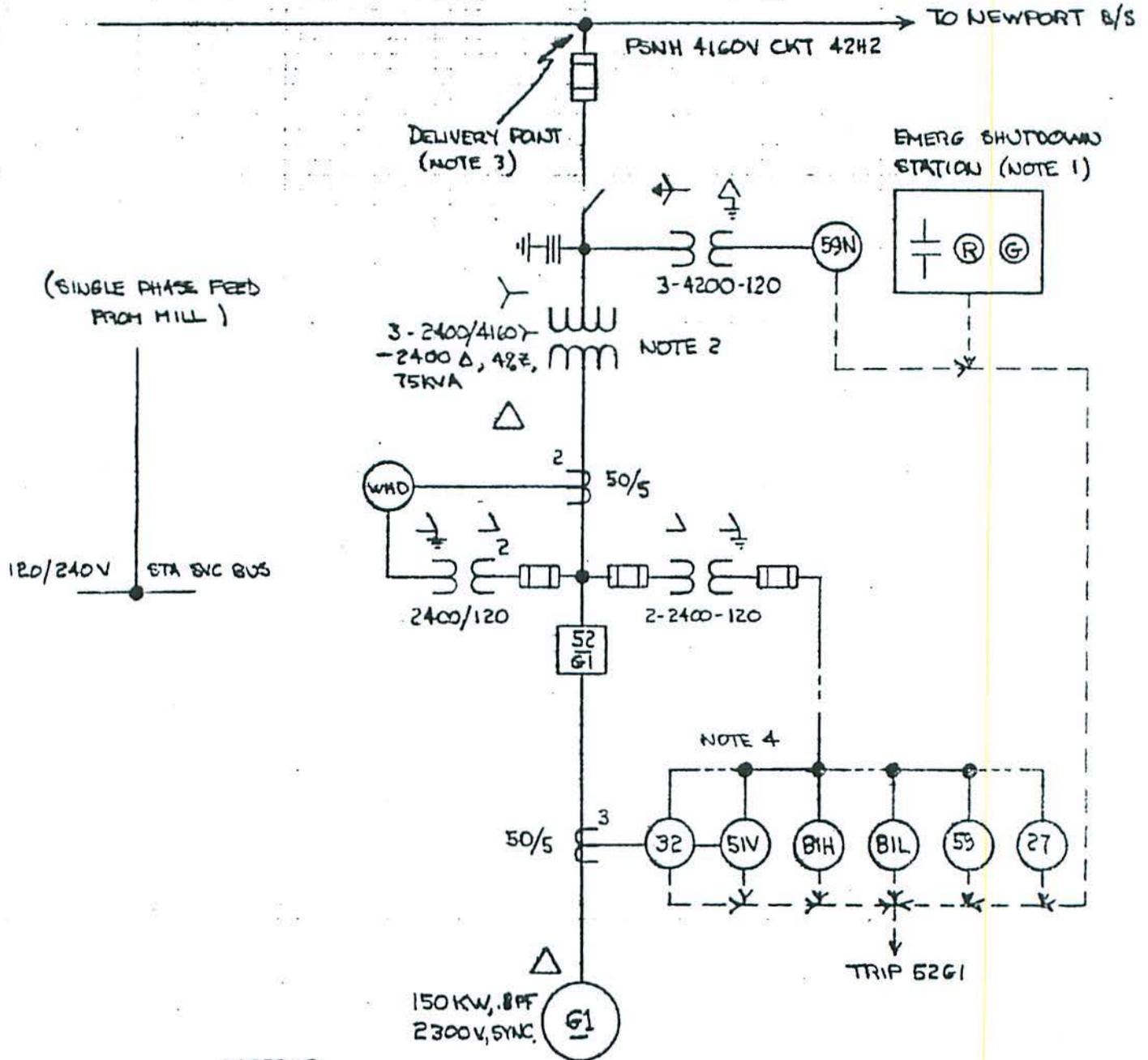
A. Delivery Point

For the purpose of establishing ownership, operation, and maintenance responsibilities, the location of facility energy delivery to PSNH (the "Delivery Point") must be defined. At this facility, the delivery point is located at the primary line taps on the PSNH main line pole on Highway 11.

B. Description of Responsibilities

The Developer will own, operate and maintain all facilities and equipment from the Delivery Point into and throughout the generating plant with the exception of materials from the main line tap to the airbreak switch pole. The equipment from the main line tap to the airbreak switch pole will be paid for by the Developer, but maintained by PSNH line personnel at the Developer's expense.

PARTIAL ONE-LINE DIAGRAM
SUGAR RIVER 1 HYDRO
SK-PAM-029-0



NOTES

1. EMERG. SHUTDOWN SWITCH SHALL TRIP 52G1 AND PREVENT ITS CLOSURE UNTIL SW. IS RESET. RED AND GREEN LIGHTS SHALL BE DRIVEN FROM 52G1 AUX. CONTACTS AND SHALL INDICATE THAT 52G1 IS CLOSED OR OPEN RESPECTIVELY.
2. GENERATOR STEPUP TRANSFORMER (GSU) HV NEUTRAL SHALL BE INSULATED FROM GROUND.
3. SEE INTERCONNECTION REPORT FOR DETAILS.
4. AUX UT'S REQ'D WITH 51V IF RELAY IS VOLTAGE "RESTRAINED" (INSTEAD OF "CONTROLLED")