

THE STATE OF NEW HAMPSHIRE

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June 15, 2011

Debra A. Howland
Executive Director and Secretary
N.H. Public Utilities Commission
21 South Fruit Street, Suite 10
Concord, NH 03301



Re: DW 11-108 Pennichuck East Utility, Inc.
Petition for Authority to Issue up to \$400,000 of Long Term Debt

Dear Ms. Howland:

On May 18, 2011, Pennichuck East Utility, Inc. (PEU) filed a petition with the Commission seeking authority to borrow up to \$400,000 in long term debt, pursuant to RSA 369. PEU proposes to borrow from the State Revolving Loan Fund (SRF) administered by the New Hampshire Department of Environmental Services (DES). Included with PEU's petition is the direct testimony of Donald L. Ware, President of PEU, and Thomas C. Leonard, Chief Financial Officer of PEU. After review of the filing and the attached discovery, Staff recommends the Commission approve PEU's request by order *Nisi*. There are no intervenors to this docket, however, Staff will be providing a copy of this recommendation to the Office of the Consumer Advocate.

PEU seeks to borrow up to \$400,000 in order to finance replacement of the pump station and storage facilities serving the company's Liberty Tree water system in the Town of Raymond. The facilities date from 1973 and are original to the system. The project would also include upgraded treatment and an emergency generator. The system serves approximately 72 homes.

The overall project is expected to cost approximately \$603,000, with the balance coming from the company's internal funds. An alternative solution to addressing the system's deficiencies, involving interconnection to the Town of Raymond water system, was considered but found to be substantially more expensive. No other viable alternatives exist. The company hopes to begin construction on the replacement/upgrade project in late summer following receipt of necessary approvals.

PEU's proposed financing for the project is through the SRF program, with which the Commission is familiar. The loan will be on a 20 year term at an interest rate currently not expected to exceed 2.864%. In addition, it is anticipated that there will be principal forgiveness of 35 percent of the loan value, or \$7,000 annually, based on water rates and incomes in the community served. DES will make disbursements on the loan based on invoices submitted by contractors engaged by PEU. Interest will accrue at an annual rate of 1% on disbursed amounts through the date that the project is substantially completed. Payments of principal and interest will begin six months thereafter. SRF funding is competitive, and the proposed project ranked 14th among 57 proposals evaluated by DES. A resolution by PEU's Board of Directors approving the proposed borrowing is expected by the end of June (see response to Staff 1-10). The company has indicated that it is not seeking approval to grant a security interest in any of its assets in relation to the proposed borrowing, based on representations by DES that none will be necessary (petition p. 3, footnote 1).

Staff has thoroughly reviewed, and supports, the proposal as presented by PEU. The procurement of an SRF loan for this project ensures that PEU will finance these improvements at the lowest possible cost to customers. While PEU estimates that the future rate impact of this project would be about 1.2 percent, or \$8.56 per year for a typical residential customer (see response to Staff 1-8 b), Staff believes the impact is less than that as PEU's calculations do not account for the principal forgiveness in the SRF loan. Staff's estimate of future rate impact is about \$4.79 annually to the average customer, or about 0.67%. Staff supports the project because it will replace deteriorating facilities, upgrade drinking water quality (see responses to Staff 1-4 and 1-5) and improve reliability of service in power outages. Staff, therefore, recommends approval of PEU's request for authority to borrow up to \$400,000 from the SRF to finance needed capital improvements at its Liberty Tree water system.

If there are any questions regarding this matter, please let me know.

Sincerely,



Douglas W. Brogan
Utility Engineer

Attachment – Discovery Responses

cc: Service List

PENNICHUCK EAST UTILITY, INC.
DW 11-108

Pennichuck East Utility, Inc.'s Responses to
Staff's Data Requests – Set 1

Date Request Received: June 1, 2011
Request No. Staff 1-1

Date of Response: June 8, 2011
Witness: Donald Ware

REQUEST: The October 27, 2010 SRF project ranking in Exhibit DLW-1 indicates the Liberty Tree project, ranked 14, failed to make the initial funding cut. Please confirm the project is now anticipated to fall in the funded position.

RESPONSE: The Company was informed by the NHDES on May 9th via email that SRF funds would be available for the Liberty Tree project based on the fact that several more highly rated projects had withdrawn their funding requests. A copy of the email is attached.

From: Skarinka, Rick [mailto:Richard.Skarinka@des.nh.gov]
Sent: Monday, May 09, 2011 1:29 PM
To: Ware, Don
Cc: Clairmont, Mary; Kelly, David B.; Klevens, Cynthia M
Subject: RE: SRF - Liberty Tree

Don: We just had a project drop off of the funded portion so we have DWSRF 2010 funds available for the Liberty Tree project (\$400,000). I just saw a picture of the pump house and it looks cramped. Also, please include as part of the project regrading over the tanks. Please move forward with approval form the PUC. What is your time frame for construction? Rick

-----Original Message-----

From: Ware, Don [mailto:donald.ware@PENNICHUCK.com]
Sent: Monday, May 09, 2011 9:07 AM
To: Skarinka, Rick
Subject: SRF - Liberty Tree

Rick:

Any news of the status of SRF funding for Liberty Tree? Please advise. We are trying to decide on how to proceed ahead with this rebuild.

Thanks

Donald L. Ware, P.E.
President
Pennichuck Water Works, Inc.
P.O. Box 1947
25 Manchester Street
Merrimack, NH 03054-1947
E-Mail Address: donald.ware@pennichuck.com
Phone Number: 603-913-2330

Please consider the environment before printing this e-mail.

PENNICHUCK EAST UTILITY, INC.
DW 11-108

Pennichuck East Utility, Inc.'s Responses to
Staff's Data Requests – Set 1

Date Request Received: June 1, 2011
Request No. Staff 1-2

Date of Response: June 8, 2011
Witness: Donald Ware

REQUEST: Will the pumps in the new station be VFD-controlled? If not, please explain.

RESPONSE: Yes.

PENNICHUCK EAST UTILITY, INC.
DW 11-108

Pennichuck East Utility, Inc.'s Responses to
Staff's Data Requests – Set 1

Date Request Received: June 1, 2011
Request No. Staff 1-3

Date of Response: June 8, 2011
Witness: Donald Ware

REQUEST: Regarding Mr. Ware's testimony at page 4, lines 10-11:
a) Was any consideration given to re-using the existing atmospheric tanks?
b) Will the new tanks penetrate the pump station walls?

RESPONSE:
a) No, based on the condition and age of those tanks.
b) No.

PENNICHUCK EAST UTILITY, INC.
DW 11-108

Pennichuck East Utility, Inc.'s Responses to
Staff's Data Requests – Set 1

Date Request Received: June 1, 2011
Request No. Staff 1-4

Date of Response: June 8, 2011
Witness: Donald Ware

REQUEST: Mr. Ware's testimony at page 4, lines 11-12 indicates the well water is high in iron and manganese levels, yet water quality results for Pennichuck's website show iron and manganese levels below secondary standards. Please explain.

RESPONSE: The levels of iron and manganese shown on the website are finished water levels for iron and manganese. The raw water has elevated levels of hardness and manganese. When the Liberty Tree system was acquired there was a softening system in use to reduce the levels of hardness and manganese below the secondary standards. Over time the raw water manganese and hardness levels have increased resulting in the softening system being pushed to its treatment limits and at present the levels of manganese in the finished water are at the secondary limits and the finished water hardness levels are over 150 ppm. In an effort to treat the raw water to acceptable limits the system must be backwashed more frequently. The increased levels of backwash required to properly treat the water using a single pass softening system have resulted in increased discharges of chlorides to the ground water which have begun to manifest themselves in the raw well water. The proposed treatment system consisting of MTM media for the removal of manganese followed by softening for the removal of hardness will result in better treatment with much lower levels of backwash containing chlorides while insuring that the finished water will contain levels of hardness and manganese below the secondary standards.

PENNICHUCK EAST UTILITY, INC.
DW 11-108

Pennichuck East Utility, Inc.'s Responses to
Staff's Data Requests – Set 1

Date Request Received: June 1, 2011
Request No. Staff 1-5

Date of Response: June 8, 2011
Witness: Donald Ware

REQUEST: Please comment on the history or level of water quality complaints in the Liberty Tree system.

RESPONSE: Historically, there have been very few complaints regarding water quality at this system as the existing treatment system has worked adequately to reduce the levels of hardness and manganese to acceptable levels. However, over the past several years, the number of complaints began to rise. The Company began receiving complaints regarding hardness as the treatment system has proved inadequate in reducing the raw water levels of hardness, which average about 293 ppm, below the customer desired levels of 100 ppm. Current levels of hardness after treatment are 152 ppm.

PENNICHUCK EAST UTILITY, INC.
DW 11-108

Pennichuck East Utility, Inc.'s Responses to
Staff's Data Requests – Set 1

Date Request Received: June 1, 2011
Request No. Staff 1-6

Date of Response: June 8, 2011
Witness: Donald Ware

REQUEST: Is the current well water quantity adequate for the system?

RESPONSE: Yes. The existing wells have capacities of 12 and 37 gpm.

PENNICHUCK EAST UTILITY, INC.
DW 11-108

Pennichuck East Utility, Inc.'s Responses to
Staff's Data Requests – Set 1

Date Request Received: June 1, 2011
Request No. Staff 1-7

Date of Response: June 8, 2011
Witness: Donald Ware

REQUEST: Do any viable prospects for interconnection exist other than the town of Raymond?

RESPONSE: No.

PENNICHUCK EAST UTILITY, INC.
DW 11-108

Pennichuck East Utility, Inc.'s Responses to
Staff's Data Requests – Set 1

Date Request Received: June 1, 2011
Request No. Staff 1-8

Date of Response: June 8, 2011
Witness: Donald Ware

REQUEST: Regarding page 1 of Exhibit DLW-2:

- a) Please provide the derivation of the amounts shown for Property Taxes for each option.
- b) How do the "Estimated Annual Increase in PEU Bill" amounts compare to a typical PEU bill?
- c) Please indicate the basis for the 361 gpd/house figure in the Model Data section.

RESPONSE:

- a) The Property Taxes are calculated by taking the projected project cost less the value of the existing booster station and multiplying this by the sum of the local and statewide property tax rates.
- b) The Estimated Annual Increase in PEU bills is calculated by taking the project's expected annual cost and dividing it by the number of PEU customers. An alternative calculation which may be more reflective of the rate impact would be to take the project annual cost of the project and divide it by the current PEU annual revenues to calculate the estimated increase in PEU's revenue requirement. Using this method of calculation, in the case of the onsite option, this would translate to about a 1.2% increase in the revenue requirement (\$73,000/6,100,000). The typical residential bill in PEU is about \$713 per year; therefore, this project would result in an annual increase for the typical residential bill of about \$8.56 per year.
- c) The basis for the 361 gpd/house figure was the recorded system pumpage for 2010. The retail sales for this system in 2010 were 146 gpd. The difference between the pumpage and sales is made up of backwash water, flushing water and leakage. In 2010, the system used just over 2,600 gallons per day in backwash water (about 36 gpd per customer). In 2010, about 63,000 gallons of water was used for flushing (about 2 gpd per customer) and the rest was unaccounted for water with an average leakage rate of 9 gpm. In 2010, a total of 4 leaks were repaired with an average leakage of about 7 gpm. DLW-2-Revised is attached and compares the interconnection option against the onsite option where the interconnection option uses 3600 gpd less because there is no backwash occurring. While the spread in annual costs between the interconnection and the onsite option is slightly reduced due to less water being required for the interconnection

because no backwash is occurring, the estimated annual cost of the interconnection is still almost 50% more than the onsite option.

PENNICHUCK EAST UTILITY, INC.
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Pennichuck East Utility, Inc.'s Responses to
Staff's Data Requests – Set 1

Date Request Received: June 1, 2011
Request No. Staff 1-9

Date of Response: June 8, 2011
Witness: Donald Ware

REQUEST: Regarding page 2 of Exhibit DLW-2:

- a) Regarding the Raymond Entrance Fee noted at the bottom of page 1 of the exhibit, please indicate the amount of this fee and where on page 2 the fee is incorporated.
- b) Please confirm the \$10,000 Survey cost at bottom of the page is included in the totals.

RESPONSE: a) At the time DLW-2 was developed, the Company did not know the amount of the Raymond Entrance Fee. The Company has since been informed by the Town of Raymond that the entrance fee is \$1825 per home or a total of \$131,400 in entrance fees to connect the Liberty Tree system to the Raymond Water System. This fee is reflected in DLW-2-Revised.

b) The \$10,000 survey cost is not in the total, it was inadvertently excluded. It is now reflected in DLW-2-Revised.

Pennichuck Water Works, Inc	
Liberty Tree Upgrade	
Life Cycle Cost Analysis	
5/10/2011, Revised 6/2/2011	
On Site Storage and Treatment -	
Well Electricity (5 HP)* -	\$ 1,494
Annual Well maintenance -	\$ 702
Annual Well Water Quality Sampling -	\$ 6,318
Treatment System Labor (3 hours per week)-	\$ 7,897
Booster Electricity (7.5 HP @ 10 Hrs/day) -	\$ 3,354
Misc. Electricity -	\$ 2,000
Treatment Chemicals -	\$ 4,503
Deprecation on Storage (40,000 gallons) @ 2% -	\$ 2,095
Depreciation on Zone Booster and treatment @ 2.5% -	\$ 11,718
Depreciation on Water Mains @ 1.33% -	\$ 388
Property Taxes -	\$ 6,867
Pretax ROI on Total Project -	<u>25,625</u>
Estimated Annual Operating Cost -	\$ 72,962
Estimated Annual Increase in PEU Bill -	10.67
Purchased Water from the Raymond Water Department -	
Purchased Water Cost -	\$ 32,456
Depreciation on Water Mains @ 1.33% -	\$ 15,865
Property Taxes -	\$ 20,259
Pretax ROI on Total Project -	<u>\$ 50,722</u>
Estimated Annual Operating Cost -	\$ 119,302
Estimated Annual Increase in PEU Bill -	17.45
Model Data:	
Average cost per KwHr -	\$ 0.146
PEU SRF Debt -	2.86%
PEU InterCompany Debt -	7.00%
PEU % Intercompany -	34%
PEU pretax ROI -	4.25%
Number of in PEU customers -	6836
*Based on (gpd/house) for Onsite -	361
*Based on (gpd/house) for Interconnection -	325
Existing Liberty Tree Well production (gpm)-	49
Number of Homes @ Liberty Tree -	72
Town Mil Rate -	\$16.09
State Mil Rate -	\$6.6
Labor and Truck Rate per hour -	\$50.6
Purchased Water Cost from Raymond (per 748 gallons)-	\$ 2.84
On site Capex per Estimate-	\$ 602,648
Interconnection Capex per Estimate (Includes Raymond Entrance Fee) -	\$ 1,192,860
Raymond Entance Fee for Liberty Tree -	\$ 1,825.00

Liberty Tree CWS				
Interconnection Estimate with Milford Water Department				
5/2/2011, Revised 6/2/2011				
Inventory				
4,600	Ft	12" DI Pipe	\$ 23.49	\$ 108,054.00
5	Ea.	12" Mj DI Gate Valves	\$ 1,129.00	\$ 5,645.00
1	Ea.	12" Mj 45 Degree Elbow	\$ 375.00	\$ 375.00
4	Ea.	12" x 8" Mj DI Tee	\$ 400.00	\$ 1,600.00
20	Ea.	12" Mega Lugs	\$ 61.70	\$ 1,234.00
3	Ea.	8" Mj Plug	\$ 90.75	\$ 272.25
260	Ft	8" CL52 DICL Pipe	\$ 15.35	\$ 3,991.00
3	Ea	8" Tyton Plug	\$ 50.85	\$ 23.99
12	Ea	8" MEGA LUGS	\$ 31.52	\$ 378.24
4	Ea	8" Gate Valve	\$ 572.00	\$ 2,288.00
9	Ea	Thrust Block	\$ 25.00	\$ 225.00
400	Ft	24" Steel Carrier Pipe	\$ 82.20	\$ 32,880.00
40	ea	12" S.S spacers	\$ 600.00	\$ 24,000.00
2	Ea	US Met 94 Hydrants	\$ 1,509.00	\$ 3,018.00
2	Ea	12"x 6" DI MJ Tees	\$ 444.00	\$ 888.00
16	Ft	6" CL52 DICL Pipe	\$ 11.14	\$ 178.24
6	Ea	6" Mega Lugs	\$ 22.40	\$ 134.40
2	Ea	6" Gate Valve	\$ 359.13	\$ 718.26
6	Ea	Gate Boxes	\$ 40.00	\$ 240.00
4	Ea	1" Air Release Valves	\$ 178.83	\$ 715.32
			Sub Total	\$ 186,858.70
LABOR, EQUIPMENT & MATERIAL				
27	Day	Large Crew - Pipework	\$ 3,900.00	\$ 105,300.00
8	Day	Jacking Crew	\$ 12,000.00	\$ 96,000.00
496	Ton	Road Restoration - Paving	\$ 80.00	\$ 39,644.44
1865	CY	Road Restoration - Gravel, includes Crew	\$ 47.50	\$ 88,587.50
35	Day	Traffic Control - 2 Flaggers	\$ 52.00	\$ 1,820.00
2646	CY	Bedding Sand	\$ 22.00	\$ 58,207.89
22	CY	Driveways Pavement - 12	\$ 100.00	\$ 2,222.22
204	CY	Loam & Seed, includes Crew	\$ 36.00	\$ 7,359.00
2800	CY	Ledge	\$ 95.00	\$ 266,000.00
4510	Ft	Engineering Design & Inspection	\$ 5.00	\$ 22,550.00
4510	Ft	Survey		\$ 10,000.00
			Sub Total	\$ 697,691.06
			Total	\$ 884,549.76
			Contingencies	\$ 176,909.95
			Grand Total	\$ 1,061,459.71
				@ 20%

Pennichuck East Utility						
Liberty Tree On Site Capex Estimates						
2-May-11						
		On Site with Treatment				
Site Work:						
Site Survey and Approvals -	\$	12,000				
Retaining Wall -	\$	7,304	332	SF	\$ 22.00	per SF
Chain Link Fence w/gate	\$	14,450	450	LF	\$ 30.00	per LF
Clearing & Grubbing -	\$	13,440	8400	SY	1.6	per SY
Driveway & Parking (Paving) -	\$	2,037	20	Ton	\$ 100.00	per CY
Driveway & Parking (Gravels) -	\$	2,419	51	CY	\$ 47.50	per CY
Set and Backfill Tanks -	\$	6,500	Includes Crane Rental			
Backfill Tanks (Materials only) -	\$	3,889	93	CY	\$ 42.00	per CY
Stone Base for Tanks -	\$	1,407	30	CY	\$ 47.50	per CY
Utility Piping:						
Water (Tanks to Building, Overflow, well) -	\$	6,500	Piping Old to New			
Propane Gas (2-1000 gallon Tank) -	\$	12,500	Purchase, set and pipe			
Landscaping -	\$	9,120	253	SY	\$ 36.00	SY
Underground Electric (Street to Building) -	\$	12,540	190	FT	\$ 66.00	
6" Discharge piping to existing system -	\$	5,280	110	FT	\$ 48.00	
Building Structure:						
Frost Wall, Walls, Roof, Doors, Slab -	\$	112,320	24'x36' Building @\$130/SF			
Process:						
Softening -	\$	22,500	Pressure Filters			
MTM - Iron and Manganese Removal -	\$	22,500	Pressure Filters			
Chem Feed - Chlorine, Corrosion Control -	\$	6,500	Chlorine & Phosphate			
Storage (40,000 Gallons) -	\$	68,000	Above Ground			
Backwash/Residuals/Snow Infiltration Basin -	\$	7,500	Stone Basin			
Mechanical:						
Piping -	\$	48,000				
Heating -	\$	1,500				
Booster Pumps (3@7.5 HP) -	\$	6,600				
Electrical:						
Electrical Installations, Inc. -	\$	52,000				
Generator -	\$	22,000				
COR:						
Demolition of Existing Station -	\$	23,400				
Total Estimated Project Cost -	\$	502,206				
Project Contingency -	\$	100,441	@	20%		
Total Estimated Project Cost -	\$	602,648				
Summary:						
Booster Station costs -	\$	468,708				
Water Main Costs -	\$	29,184				
Storage Costs -	\$	104,756				

PENNICHUCK EAST UTILITY, INC.
DW 11-108

Pennichuck East Utility, Inc.'s Responses to
Staff's Data Requests – Set 1

Date Request Received: June 1, 2011
Request No. Staff 1-10

Date of Response: June 8, 2011
Witness: Donald Ware

REQUEST: Please provide the resolution of the Board of Directors authorizing the proposed financing, as referenced in Mr. Leonard's testimony at page 5, lines 18-20, or indicate when it is expected to be available.

RESPONSE: The Board of Directors' resolution authorizing the proposed financing is being sought via Action by Consent. The Company expects to have this resolution authorized by the end of June.

PENNICHUCK EAST UTILITY, INC.
DW 11-108

Pennichuck East Utility, Inc.'s Responses to
Staff's Data Requests – Set 1

Date Request Received: June 1, 2011
Request No. Staff 1-11

Date of Response: June 8, 2011
Witness: Donald Ware

REQUEST: Would acquisition of Pennichuck's stock by Nashua have any impact on the proposed borrowing or project? If so, please explain.

RESPONSE: No.