

CI 38142

RTU Replacement Program

RECEIVED
OCT 18 2010
Nova Scotia
Utility and Review Board

REDACTED

October 15, 2010

NOVA SCOTIA
POWER
An Emera Company

UARB APPROVAL SHEET

Project Title: **RTU Replacement Program**

CI Number: 38142

☒ Capital Project Authorization

Head Office Use:

☐ ATO

Project Number:

☐ Final Cost

Date: October 5, 2010

Location:

Division:

Expenditure Profile

Schedule

YEAR	Budget Estimate	Project Estimate		
2010	780,137	512,974	Start Date	2010-07
			Estimated In-Service Date	2010-12
			Estimated Close Date	2011-01
Total	\$780,137	\$512,974		

COMMENTS

Submitted on behalf of NOVA SCOTIA POWER INCORPORATED

Approved on behalf of NOVA SCOTIA UTILITY AND REVIEW BOARD

M. Savory

Oct 13/2010

Authorized Signatory

DATE

DATE

Mark Savory

VP Technical and Construction

CI Number : 38142 - RTU Replacement Program Project Number

Parent CI Number : - Budget Version - 2010 09/03 Forecast

Cost Centre : 800 - 800-Services - Admin.

	Forecast
Start :	07/01/2010
Operational :	12/31/2010
Final Cost :	01/31/2011
2010	\$512,973.75
2011	\$0.00
Total :	\$512,973.75
Original Cost :	\$345,499.00

The Remote Terminal Unit (RTU) Capital replacement program will replace selected RTUs, enabling NSPI to free up spare parts for other RTUs. This will add newer RTUs to the system and remove RTUs that are close to the end of their useful life.

Summary of Related CI's +/- 2 years
2011 - CI 40245 - 2011 RTU Replacement Program

CI Number : 38142

- RTU Replacement Program

Project Number

Parent CI Number :

-

Approved Date

Cost Centre : 800

- 800-Services - Admin.

Budget Version 2010 09/03 Forecast

Capital Item Accounts

Acct	Actv	Account	Activity	Forecast Amount	Amount	Variance
092		092-Vehicle T&D OT Labour AO		2,422	0	2,422
092		092-Vehicle T&D Reg. Labour AO		29,363	0	29,363
095		095-COPS Regular Labour AO		101,419	0	101,419
095		095-COPS Overtime Labour AO		8,362	0	8,362
001	064	001 - T&D Regular Labour	064 - GP - Sup. Control and DA	128,167	0	128,167
002	064	002 - T&D Overtime Labour	064 - GP - Sup. Control and DA	21,135	0	21,135
011	064	011 - Travel Expense	064 - GP - Sup. Control and DA	19,159	0	19,159
012	064	012 - Materials	064 - GP - Sup. Control and DA	181,210	0	181,210
028	064	028 - Consulting	064 - GP - Sup. Control and DA	0	0	0
034	064	034 - Appl. Software	064 - GP - Sup. Control and DA	11,000	0	11,000
035	064	035 - Comp.Hrdwr & Op.Sftwr	064 - GP - Sup. Control and DA	0	0	0
041	064	041 - Meals & Entertainment	064 - GP - Sup. Control and DA	4,737	0	4,737
056	064	056 - Training & Development	064 - GP - Sup. Control and DA	0	0	0
066	064	066 - Other Goods & Services	064 - GP - Sup. Control and DA	6,000	0	6,000
Total Cost:				512,974	0	512,974
Original Cost:				345,499		

Ci Number : 38142
 - RTU Replacement Program
 Project Number
 Parent Ci Number :
 Approved Date
 Cost Centre : 800
 - 800-Services - Admin.

Capital Item Justification

Justification Criteria : WORK SUPPORT FACILITIES

Sub-Criteria : Equipment Replacement

Name of Report :

Document Location :

Person Responsible :

Why do this project?

Due to changing standards, technology, and product lifespan, approximately 90 of the RTUs that are in service have been determined to be obsolete by their manufacturers. The commercial availability of spare parts is becoming difficult to manage effectively.

Why do this project now?

The inventory for spare parts has become sparse. RTU installations require extensive time and effort to complete. It is important to have a plan in place for the replacement of the RTUs to minimize the impact on other operations.

Why do this project this way?

Half of NSPI's RTUs have reached the end of their useful life. It would be costly and time-consuming to replace all of those at once. By identifying enough RTUs to supplement the spares in inventory NSPI can find a balance between installing and retiring RTUs.

CI Number : 38142	- RTU Replacement Program	Project Number
Parent CI Number :	-	Approved Date
Cost Centre : 800	- 800-Services - Admin.	

Reason for Variance / Over Expenditure / Final Costing

14721245

The current submission is \$267,163 less than the ACE 2010 submission. This is mainly due to material prices being lower than the budgeted amount.

CI 38142 – RTU Replacement Program

The following is a breakdown of costs associated with the RTU Replacement Program

• Administrative Overheads and Interest	\$141,566
• Labour	\$149,302
• Materials	\$181,210
• Software	\$11,000
• Other	\$29,896
• Total	\$512,974

The major costs for this project include Materials at an estimate of \$181,210. This includes the cost of 10 RTUs. The Labour estimate of \$141,566 is based on a rate of [REDACTED]/manday.

It was determined that NSPI needed to complete RTU replacements at the following 10 sites as opposed to the 9 referenced in ACE IR-GP10;

- Big Falls
- Gulch
- Lequille
- Souriquois
- White Rock
- Cobequid Road
- Townsend St.
- Reserve St.
- Victoria Junction
- NewPage

38142 - RTU Replacement Program

Account	ACE 2010	Current Submission	Variance
001 - T&D Regular Labour	170,000	128,167	(41,833)
002 - T&D Overtime Labour	-	21,135	21,135
011 - Travel Expense	12,000	19,159	7,159
012 - Materials	377,500	181,210	(196,290)
034 - Appl. Software	-	11,000	11,000
041 - Meals & Entertainment	9,000	4,737	(4,263)
066 - Other Goods & Services	12,000	6,000	(6,000)
092-Vehicle T&D OT Labour AO	-	2,422	2,422
092-Vehicle T&D Reg. Labour AO	38,947	29,363	(9,584)
094 - Interest Capitalized	26,169	-	(26,169)
095-COPS Overtime Labour AO	-	8,362	8,362
095-CQPS Regular Labour AO	134,521	101,419	(33,102)
	780,137	512,974	(267,163)

NON-CONFIDENTIAL

General Plant Responses

Request IR-GP10:

With respect to page 248, CI# 38142, RTU Replacement Program,

- a) Please provide the report, study, and related correspondence that justify this project and why it is necessary to complete in 2010 and at this level of replacement.**
- b) Please confirm how many RTU's NSPI currently has in service and how many units have failed in each of the past 5 years.**
- c) What are the potential implications of spreading this project over 2 or more years?**
- d) Why are these units not charged to an operating budget as they are needed on an individual basis?**
- e) Please provide a breakdown of the \$780,137 project cost estimate.**

Response IR-GP10:

- a) At Nova Scotia Power Inc. there are currently 129 Remote Terminal Units (RTU) in service. These are located at sites throughout the province and provide critical real-time data and control for NSPI's day-to-day operations. RTUs are supplied from many different manufacturers and come in all sizes to accommodate the diverse configurations at each site.**

Replacing all obsolete RTUs is not practical, or economical. NSPI's strategy is to phase out old or broken RTUs over a span of five years. The RTUs with the most salvageable spare parts and those that have the most failures will be replaced.

NSPI - 2010 Annual Capital Expenditure Plan (2010-2014) - P-128.09
NSPI Responses to UARB Information Requests

NON-CONFIDENTIAL

Response IR-GP10: (cont'd)

In order to determine which RTUs to retire, field data on each RTU is used to build a selection matrix. This matrix factors the reliability of the RTUs (age, replacements available, salvageable parts, etc.) and assigns rankings to determine the candidates for replacement.

After working through the first iterations of the matrix, 9 RTUs were identified as requiring replacement in 2010. The retired RTUs will be salvaged for NSPI's spare parts pool which serves to keep the remaining RTUs functioning.

b) At Nova Scotia Power Inc. there are currently 129 Remote Terminal Units (RTU) in service. NSPI started to capture this information in 2009. A five year history is not yet available.

c) This project represents year 1 of a 5 year plan to reduce the risk of RTU operational failures. Spreading this project over a longer period increases the risk of not being able to fix, or replace RTUs in a cost and time effective manner. Please note, one of the 9 RTUs identified for replacement in 2010 failed in December 2009.

d) As per NSPI's Accounting Policy, Section 6000, this expenditure will create a physical asset with a service life of more than one year.

e) Table 1- Breakdown of the RTU Replacement Program Cost Estimate.

Account	Estimate (\$)
Labour	170,000
Materials	377,500
Meals & Travel	21,000
Other	12,000
Interest	26,169
Overhead	173,468
Total	780,137