NLH 2013 Amended General Rate Application
Undertaking - 113
Filed: Dec 8, 2015 Board Secretary:

Undertaking 113

Page 148, line 13 to Page 149, line 5

Undertaking ...to provide any reports or any budget documents that would identify the installation cost of putting (adding) 50 or 60 megawatt combustion turbine

Mr. MacIsaac offered to include the contractor's cost and our own costs Mr. Dumaresque clarified to have it broken out between what you had estimated to be the contractor's cost as opposed to the owner's cost.

In October 2012, Hydro prepared two draft project budgets to install a new 60 MW CT plant (see Undertaking 113 Attachments 1, 2, 3, and 4). One project provided for a CT plant without a weather protective building and the second provided a CT plant with a weather protective building. In September 2013, Hydro prepared an updated budget for the CT with a weather protective building (see Undertaking 113 Attachments 5 and 6).

The budget prepared in 2013 is considerably more than that prepared in 2012. The reasons for the increase are as follows:

- 1. Higher local labour rates than what was planned for in 2012 to more closely align with the 2013 market.
- 2. More planning was provided which improved the class of estimate and its accuracy.

				SUMMARY					
Project Title:		New Gas Turbi	ne Plant for		on 1 - Non-Encl	osed Plant)			ī
Engineering Estimated by		All					Project Type:		
Project Start		2013					Capital	•	
Date:	Estimato	September 27,		ith total estimate	by discipline sta	ted in cash flo	ow format.		Total
Estima		\$3,056,960	\$621,100	\$1,271,890	\$1,708,990	\$122,460	\$188,202	\$56,878,275	\$63,847,877
Total Ca	sh Flow:	\$3,056,960	\$621,100	\$1,271,890	\$1,708,990	\$122,460	\$188,202	\$56,878,275	\$63,847,877
	Cost Type		1120	1130	1135	1140	1145	1150	
Period 2013	Jan	Labour	Overtime	Material	Consultant	Equip. Rental	Travel	Contract Work	
(Year 1)	Feb								
, ,,	Mar								
	Apr								
	May								
	Jun								
	Jul Aug								
	Sep								
	Oct								
	Nov								
	Dec	600.0	100.0		400.0		5.0	6,000.0	
2014	Total	600.0	100.0	0.0	400.0	0.0	5.0	6,000.0	
(Year 2)	Jan Feb								
(Mar								
	Apr								
	May								
	Jun								
	Jul								
	Aug Sep								
	Oct								
	Nov								
	Dec	1,000.0	100.0	1,271.9	400.0		50.0	20,000.0	
	Total	1,000.0 2 1110	100.0 1120	1,271.9 1130	400.0 1135	0.0 1140	50.0 1145	20,000.0 1150	
Period	Cost Type	Labour	Overtime	Material	Consultant	Equip. Rental	Travel	Contract Work	
2015	Jan								
(Year 3)	Feb								
	Mar Apr								
	May								
	Jun								
	Jul								
	Aug Sep								
	Oct								
	Nov	1.457.0	421.1		000.0	122.5	122.2	20.070.2	
	Dec Total	1,457.0 1,457.0	421.1 421.1	0.0	909.0	122.5 122.5	133.2 133.2	30,878.3 30,878.3	
2016	Jan	2,10.110						0.0,0.0.0	
(Year 4)	Feb								
	Mar Apr								
	May								
	Jun								
	Jul Aug								
	Sep								
	Oct								
	Nov								
	Dec Total	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
2017	Jan	3.0	-10			0	-10	2.0	1
(Year 5)	Feb								
	Mar Apr								
	Apr May								
	Jun								
	Jul								
	Aug Sep								
	Oct								
	Nov								
	Dec Total	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
	1000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	

			Engineering Regular Labour					
Eng Esti	ject Title: ineering Discipline: A mated by: ject Start Year:	11	Engineering Negatir Euberi		Total Reg	ular Labour (Costs(1110):	\$1,471,560
Not	e: All rate information con	nes from the Std Estin	nating Rates.		R	ates Last Upo	dated: 2011-	11-15
	Item Description		Category			# of People		Total \$
1	PROGRAM MANAGER			•				
2	- one month per year (12	2 weeks total)	Engineer/Technologist	v	12	1	\$3,200.00	\$38,400
3				•				
4	PROJECT MANAGER			•				
5	- full time for 3 years (15	6 weeks)	Engineer/Technologist	•	156	1	\$3,200.00	\$499,200
	ENGINEERING			•				
7	Mechanical engineering		Engineer/Technologist	_	78	1	\$3,200.00	\$249,600
8	Electrical eng (See	Estimate)		•	-			\$51,840
	Civil engineering (See	Estimate)		Ť				\$20,800
10	Telecontrol eng. (See P&C engineering (See	Estimate)		_				\$55,040 \$84,800
	P&C engineering (See	Estimate)						\$217,600
	P&C eng DCS (See	Estimate)						\$73,600
11	DRAFTING			•				
12	Drafting		Drafters	•	15	1	\$2,400.00	\$36,000
13	SURVEYING		Surveyors	•				\$2,880
14				•				
15				•				
16	Phase 1 engineering		Engineer/Technologist	•	4	4	\$3,200.00	\$51,200
17				•			(\$/wk)	
	ENVIRONMENTAL ()		•	<u> </u>		(\$/wk)	
	Environmental Specialist		Ecologist/Safety Lead/Safety Specialist	_	12	1	\$2,800.00	\$33,600
20	Environmental Managem	· ·	Environmental Coordinator/Monitor	_	7.5	1	\$ 2,400.00	\$36,000
21	Environmental Managem	nent during const.	Ecologist/Safety Lead/Safety Specialist	·	7.5	'	\$ 2,800.00	\$21,000
22				Ť			(\$/wk) (\$/wk)	
24				Ţ			(\$/wk)	
25				v			(\$/wk)	
26				v			(\$/wk)	
27				v			(\$/wk)	
29				T			(\$/wk)	
30				•			(\$/wk)	
31				•			(\$/wk)	
33				•			(\$/wk)	
34				•			(\$/wk)	
35				•			(\$/wk)	
36				Ť	\vdash		(\$/wk)	
37				•			(\$/wk) (\$/wk)	
39				•			(\$/wk)	
40				•			(\$/wk)	
41				v			(\$/wk)	
42				v			(\$/wk)	
43				v			(\$/wk)	
44				•			(\$/wk)	
45				•			(\$/wk)	

		Eng	jineering Overtime Labour				
Pro	ject Title:	New Gas Turbine Plant for Holyro	-	:)			
Eng	ineering Discipline:		· ·	•			
1	imated by:						
	ject Start Year:	2013		Total Over	time Labour	Costs(1120):	\$41,600
Dat	e:	September 27, 2012					
Not	e: All rate information of	comes from the Std Estimating Rates	sheet.	Rat	es Last Upda	ated: 2011-11-	-15
<u>#</u>	Item Description		Category	# of Wks	# of People	Rate / Wk	Total \$
		timate Template for Cost	•				
	Breakdown)					(\$/wk)	\$3,200
2			▼			(\$/wk)	
3	P&C: (See Breakdown)	Estimate Template for Cost	0	I		(\$/wk)	\$32,000
4	Dicardowii)		Ŭ			(\$/wk)	ψ02,000
_	P&C (DCS): (See	Estimate Template for Cost	▼	_		(Ψ/ WIC)	
5	Breakdown)		0			(\$/wk)	\$6,400
6			•			(\$/wk)	
7			•			(\$/wk)	
8			•			(\$/wk)	
9			•			(\$/wk)	
10			•			(\$/wk)	
11			•			(\$/wk)	
12			•			(\$/wk)	
13			•			(\$/wk)	
14			•			(\$/wk)	
15			•			(\$/wk)	
16			•			(\$/wk)	
17			•			(\$/wk)	
18			•			(\$/wk)	
19			▼			(\$/wk)	
20			•			(\$/wk)	
21			▼	_		(\$/wk)	
22			▼	_		(\$/wk)	
23			•			(\$/wk)	
24			•			(\$/wk)	
25			▼			(\$/wk)	
26			▼			(\$/wk)	
27			▼			(\$/wk)	
29			▼	_		(\$/wk)	
30			▼	_		(\$/wk)	
31			▼	_		(\$/wk)	
33			▼			(\$/wk)	
34			•			(\$/wk)	
35			▼			(\$/wk)	

			Construction Regular Lab	our				
Pro	ject Title:	New Gas Turbine Pla	nt for Holyrood (Option 1 - No		sed Plant	:)		
Eng	ineering Discipline:	All						
Esti	mated by:							
Pro	ject Start Year:	2013			Total Reg	jular Labour (Costs(1110):	\$1,585,400
Date	e:	September 27, 2012						
Note	e: All rate information of	comes from the Std Estin	nating Rates.		R	ates Last Up	dated: 2011-	11-15
<u>#</u>	Item Description		Category		# of Wks	# of People	Rate / Wk	Total \$
1	PLANT PERSONNEL	-		•			\$ -	
2	Electricians		Internal Labour – Trades	•	52	2	\$ 2,100.00	\$218,400
3	Mechanical maintena	nce	Internal Labour – Trades	•	52	2	\$ 2,100.00	\$218,400
4	P&C technicians		Internal Labour – Technologist	•	52	2	\$ 2,400.00	\$249,600
5	Labourers		Internal Labour – Trades	~	52	2	\$ 2,100.00	\$218,400
6	Supervisors		Internal Labour – Trades	~	52	3	\$ 2,100.00	\$327,600
	Telecontrol: (See			•	Į.		_	
7	Template for Cost B	reakdowns)	1	_	_		\$ -	\$71,000
10				_	_		\$ -	
	, ,	timate Template for		•				
	Cost Breakdown)		1	•			\$ -	\$106,200
12	P&C: (See Es	timate Template for		-			\$ -	
13	Cost Breakdown)	umate remplate for	1	•			\$ -	\$105,600
14	,			•			\$ -	
	P&C (DCS): (See	Estimate		~				
15	Template for Cost B	reakdown)	1				\$ -	\$24,000
16				•			\$ -	
17	Electrical: (See	Estimate)		•			\$ -	\$46,200
18				_			\$ -	
19				•			\$ -	
20				_			\$ -	
21				_	-		\$ -	
22				_	-		\$ -	
23				_	-		\$ -	
24				_	_		\$ -	
25				_	_		\$ -	
26				_	_		\$ -	
27				_			\$ -	
28				_			\$ -	
29				_	 		\$ -	
30				_	<u> </u>		\$ -	
31				_			\$ -	
32				_	<u> </u>		\$ -	
33				_			\$ -	
34				_	 		\$ -	
35				*	 		\$ -	
36							\$ -	
37				_	 		\$ -	
38				_	-		\$ -	
39				_	 		\$ -	
40				_	-		\$ -	
41				_	 		\$ -	
42				_	<u> </u>		\$ -	
43	l			•			\$ -	

		Cor	struction Overtime Labour						
Pro	ect Title:	New Gas Turbine Plant for Holyroo	od (Option 1 - Non-Enclosed Pla	nt)					
		All	` .	•					
	mated by:								
Pro	ject Start Year:	2013			Total Over	time Labour	Costs(1	120):	\$579,500
Date	e:	September 27, 2012							
Not	e: All rate information of	comes from the Std Estimating Rates s	sheet.		Rat	es Last Upda	ted: 20	11-11	-15
<u>#</u>	Item Description		Category		# of Wks	# of People	Rate /	<u>Wk</u>	Total \$
1	PLANT PERSONNEL		•	•			\$	-	
2	Electricians		Internal Labour – Trades	•	20	2	\$ 2,10	0.00	\$84,000
3	Mechanical maintenar	nce	Internal Labour – Trades	•	20	2	\$ 2,10	0.00	\$84,000
4	P&C technicians		Internal Labour – Technologist	•	20	2	\$ 2,40	0.00	\$96,000
5	Labourers		Internal Labour – Trades	•	20	2	\$ 2,10	0.00	\$84,000
6	Supervisors			•	20	3	\$ 2,10	0.00	\$126,000
7				▼			\$	-	
8				•			\$	-	
9				•			\$	-	
	Telecontrol: (See	Estimate Template for Cost		•					
	Breakdowns)		1	_			\$	-	\$15,200
11				_			\$	-	
12	P&C: (See Es	timate Template for Cost		~			\$	-	
13	Breakdown)	timate rempiate for Gost	1	•			\$	-	\$11,700
14				•			\$	-	
	P&C: (See	Estimate Template for Cost		•					
15	Breakdown)		1				\$	-	\$48,000
16				•			\$	-	
	P&C (DCS): (See	Estimate Template for Cost		•					
	Breakdown)		1				\$	-	\$9,600
18				_			\$	-	
	Electrical: (See	Estimate)		_			\$	-	\$21,000
20				_			\$	-	
21				_			\$	-	
22				_			\$	-	
23				~			\$	-	
24				•			\$	-	
25				•			\$	-	
26				~			\$	-	
27				*			\$	-	
29 30				·			\$	-	
				·			\$	-	
31				·				-	
33				·			\$	-	
34 35				·			\$	-	
JJ			1				Ψ		

		Materials				
Pro	ject Title:	New Gas Turbine Plant for Holyrood (Option 1 - Non-Enclosed Plant)				
Eng	ineering Discipline:	All				
	imated by:					
	ject Start Year:	2013	Total Ma	terials (Cost (1130):	\$1,271,890
Date		September 27, 2012			` ,	, , ,
#	Item Description		Unit Price	Units	Quantity	Total \$
1	Misc. materials for cor	nstruction	\$200,000	ea	1	\$200,000
2						· · · · · · · · · · · · · · · · · · ·
3	Office furniture, fax ma	achine, printers, etc. for construction trailers	\$10,000	ea	1	\$10,000
4		,				*******
5	Phones blackberries	pagers, (including cell phone monthly fees)	\$10,000	ea	1	\$10,000
6	r riende, blackberried,	pagoto; (motauming compiliante motaum) 1000)				ψ.ο,σσσ
7	PPE		\$8,000	ea	1	\$8,000
8						40,000
9	Office supplies (paper	etc)	\$750	ea	1	\$750
10	Стос саррисс (рарсі	, 5(6)				ψισσ
11	Drinking water		\$2,000	ea	1	\$2,000
12	Drinking water					Ψ2,000
13	Telecontrol: (See	Estimate Template for Cost Breakdowns)				\$216,500
14	releccontrol. (occ	Estimate remplate for cost Breakdowns)				Ψ210,000
15	P&C: (See Es	timate Template for Cost Breakdown)				\$72,175
16	23	innate remplate for dost breakdowny				Ψ12,113
17	P&C: (See	Estimate Template for Cost Breakdown)				\$10,000
18	rac. (See	Estimate Template for Cost Breakdown)				\$10,000
	P&C (DCS): (See	Estimate Template for Cost Breakdown)				\$30,000
20	Pac (DCS). (See	Estimate rempiate for Cost Breakdown)				φ30,000
21	Civil: (See	Estimate Template for Cost Breakdown)				\$62,465
22	Civii. (See	Estimate remplate for Cost Breakdown)				φ02,400
23	Electrical: (Sec	Estimate Tamplete for Coot Prockdown)				¢650,000
24	Electrical: (See	Estimate Template for Cost Breakdown)				\$650,000
25						
26						
27						
28						
29						
30						
31						
32						
33			+			
34					<u> </u>	

			Third Party Consultants L	abour				
Pro	ject Title:	New Gas Turbine Pla	ant for Holyrood (Option 1 - N		sed Plant	:)		
	ineering Discipline:	All	, , ,			•		
	mated by:							
Proj	ect Start Year:	2013			Total Reg	ular Labour	Costs(1110):	\$1,708,990
Date	e:	September 27, 2012						
Note	e: All rate information of	comes from the Std Est	imating Rates.		R	ates Last Up	dated: 2011-	11-15
#	Item Description		Category		# of Wks	# of People	Rate / Wk	Total \$
1	Civil (See	Estimate)		•			\$ -	\$27,750
2				_			\$ -	
3	Electrical (See	Estimate)		_			\$ -	\$11,840
4				_			\$ -	
5	Mechanical			_			\$ -	\$250,000
6				*			\$ -	
7				·			\$ -	
8	On alta Danie		Concultants (min \$175/h- \	Ť	52	3	\$ -	#4 000 000
9	On-site Reps		Consultants (min \$175/hr.)		J2	3	\$ 7,000.00	\$1,092,000
10	On-site Rep expenses	5		_			\$ - \$ -	\$25,000
''	T. I	F . 1		-			\$ -	
12	Telecontrol: (See Template for Cost Bi	Estimate reakdowns)	1				\$ -	\$2,400
13	,	•		•			\$ -	V =, 100
14				~			\$ -	
15	Environmental Studi	es		~			\$ -	\$300,000
16				•			\$ -	. ,
17				~			\$ -	
18				•			\$ -	
19				•			\$ -	
20				•			\$ -	
21				•			\$ -	
22				•			\$ -	
23				-			\$ -	
24				▼			\$ -	
25				~			\$ -	
26				•			\$ -	
27				_			\$ -	
28				~			\$ -	
29				~			\$ -	
30				_			\$ -	
31				_			\$ -	
32				_			\$ -	
33				_			\$ -	
34				*			\$ -	
35				-			\$ -	
36				-			\$ -	
37				-			\$ -	
38				*			\$ -	
39				-			\$ -	
40				~			\$ -	
41				*			\$ - ¢	
43				*			\$ - \$ -	
43	<u> </u>					<u> </u>	Ψ -	

		Third Party Equ	ipment Rentals			
Proi	ject Title:	New Gas Turbine Plant for Holyrood (Option 1	•			
	ineering Discipline:		,			
	mated by:					
	ject Start Year:	2013	Total E	quip Rental (Costs(1140):	\$101,400
Date		September 27, 2012				
Note	e: All rate information of	comes from the Std Estimating Rates sheet.		Rates Last	Updated: 20	11-11-15
<u>#</u>	Item Description		Category	# of Wks	Rate / Wk	Total \$
1	Rental of office trailers	3	•		\$ -	\$100,000
2			•		\$ -	
3	Electrical OSR Vehicle		•		\$ -	\$1,400
4			•		\$ -	
5			•		\$ -	
6			•		\$ -	
7			•		\$ -	
8			•		\$ -	
9			•		\$ -	
10			•		\$ -	
11			•		\$ -	
12			•		\$ -	
13			•		\$ -	
14			•		\$ -	
15			•		\$ -	
16			•		\$ -	
17			•		\$ -	
18			•		\$ -	
19			•		\$ -	
20			•		\$ -	
21			•		\$ -	
22			•		\$ -	
23			•		\$ -	
24			•		\$ -	
25			•		\$ -	
26			•		\$ -	
27			•		\$ -	
29			•		\$ -	
30			•		\$ -	
31			•		\$ -	
33			•		\$ -	
34			•		\$ -	
35			•		\$ -	

			Engineering Travel							
Proj	ect Title:	New Gas Turbine Plant for Holyroo		lant)						
Eng	ineering Discipline:			·						
	mated by:									
Proj	ject Start Year:	2013				Total Travel	Cost	ts(1145):	\$171,942	
Date	e:	September 27, 2012								
Note	e: Air Fares may be ty	ped directly into the Std Estimating Ra	tes Sheet.	Rates Last Updated: 2011-11-15						
<u>#</u>	Item Description		Category		# of Wks	# of People	Ra	ate / Wk	Total \$	
1	Car for engineering pr	roject team	Commercial Car/Van/Pick Up Rental	•	156	1	\$	500.00	\$78,000	
2				•			\$	-		
3	Misc. (meals)			•			\$	-	\$10,000	
4				•			\$	-		
5				•			\$	-		
	Telecontrol: (See	Estimate Template for Cost		▼						
	Breakdowns)		1				\$	-	\$6,600	
7				_			\$	-		
	•	timate Template for Cost	4	•			•		040.770	
8	Breakdown)		1	•			\$	-	\$10,770	
9	D8 C1 (S00	Estimata Tamplata for Cost		Ť			\$	-		
	P&C: (See Breakdown)	Estimate Template for Cost	1	_			\$	_	\$34,120	
11			·	•			\$	-	4 0 1,120	
	P&C (DCS): (See	Estimate Template for Cost		•			·			
	Breakdown)		1				\$	-	\$1,040	
13				•			\$	-		
14	Civil: (See	Estimate)		•			\$	-	\$1,040	
15	-			•			\$	-		
16	Electrical (See	Estimate)		•			\$	-	\$30,372	
17				•			\$	-		
18				•			\$	-		
19				•			\$	-		
20				•			\$	-		
21				•			\$	-		
22				•			\$	-		
23				•			\$	-		
24				•			\$	-		
25				•			\$	-		
26				•			\$	-		
27				•			\$	-		
29				•			\$	-		
30				•			\$	-		
31				•			\$	-		
33				•			\$	-		
34				•			\$	-		
35				•			\$	-		

		Construction T	ravel				
Pro	ject Title: New Gas Turbine Plant for Ho			\			
	ineering Discipline: All	nyiood (opiion i no	- Enologia Flam	'			
	mated by:						
	ject Start Year: 2013				Total Travel	Costs(1145):	\$16,260
Date							V 10,200
_	e: Air Fares may be typed directly into the Std Estimatir	ng Rates Sheet.		Rat	es Last Upda	ted: 2011-11	-15
	Item Description	Category			# of People		Total \$
	Misc. meals		-			\$ -	\$5,000
2			▼			\$ -	, ,
	Telecontrol: (See Estimate Template for C	ost	-				
	Breakdowns)		1			\$ -	\$2,900
4			~			\$ -	
	P&C: (See Estimate Template for Cost		~				
	Breakdowns)		1			\$ -	\$8,360
6			•			\$ -	
7			▼			\$ -	
8			~			\$ -	
9			▼			\$ -	
10			~			\$ -	
11			▼			\$ -	
12			▼			\$ -	
13			•			\$ -	
14			▼			\$ -	
15			•			\$ -	
16			•			\$ -	
17			▼			\$ -	
18			•			\$ -	
19			•			\$ -	
20			•			\$ -	
21			•			\$ -	
22			•			\$ -	
23			•			\$ -	
24			_			\$ -	
25			_			\$ -	
26			•			\$ -	
27						\$ -	
29			•			\$ -	
30			•			\$ -	
31			•			\$ -	
33			•			\$ -	
34			•			\$ -	
35			•			\$ -	

		Third Party Contracts				
Pro	ject Title:	New Gas Turbine Plant for Holyrood (Option 1 - Non-Enclosed Plant)				
Eng	ineering Discipline:	All				
	imated by:					
	ject Start Year:	2013	Tota	I Contrac	ct Cost (1150):	\$56,878,275
Dat		September 27, 2012	1			
#	Item Description		Unit Price	<u>Units</u>	Quantity	Total \$
1	Misc. mechanical ()	\$500,000	ea	1	\$500,000
2						
3		241				
4	FROM PROPOS Supply and install 60 M	MW gas turbine plant (based on proposal), not including black start				
5	diesel, or transformer		\$41,840,000	ea	1	\$41,840,000
	Water treatment plant		\$977,000	ea	1	\$977,000
	DI Water tank	NOT INCLUDED IN THE OPTION	\$1,726,000	ea	1	\$1,726,000
6	Cold-weather building	- NOT INCLUDED IN THIS OPTION		ea	1	
	Upgrade from 300,000	0 to 700,000 gallon fuel tank	\$460,000	ea	1	\$460,000
	Misc. (From - un	nion fringes, etc.)	\$2,821,000	ea	1	\$2,821,000
7	Black start diesel		\$860,000	ea	1	\$860,000
8	Continuous emissions	monitoring system	\$365,000	ea	1	\$365,000
9	Option: Capability to e	expand to 120 MW, with larger step-up transformer, updated control sytem	\$4,341,000	ea	1	\$4,341,000
10	and a full foundation (does not include the 2nd gas generator or power turbine)				
	Step-up transformer, i	ncluding delivery, assembly, commissioning	\$1,900,000	ea	1	\$1,900,000
11						
	Interconnections for b	lack start diesel - not included proposal)	\$300,000	ea	1	\$300,000
13						
14	Telecontrol: (See	Estimate Template for Cost Breakdowns)				\$158,200
15	D0.0 (D00) (0	F. Cont. Too. Let Co. O. a. D. a. L. L.				# 400.000
16 17	P&C (DCS): (See	Estimate Template for Cost Breakdown)				\$100,000
18	Civil: (See	Estimate Template for Cost Breakdown)				\$255,075
19	CIVII. (Gee	Estimate rempiate for cost breakdowny				Ψ233,073
	Electrical (See	Estimate Template for Cost Breakdown)				\$165,000
21						\$.00,000
22						
	Set up of construction	trailers, including power, data, water & sewer	\$100,000	ea	1	\$100,000
	Janitorial services for		\$10,000	ea	1	\$10,000
25						
26						
27						
28						
29						
30						
31						
32			1			
33						
34						

Engine	t Title:					
Engine		New Gas Turbine Plant for Holyrood (Option 1 -	Non-Enclosed Plant)			
	eering Discipline:	All	,			
Estima	ated by:					
		2013	Total i	Equip Rental	Costs(1140):	\$21,060
Date:		September 27, 2012			, ,	
Note: /	All rate information c	omes from the Std Estimating Rates sheet.		Rates Las	t Updated: 20)11-11-15
# Ite	em Description		Category	# of Wks	Rate / Wk	Total \$
			~			
1 Te	elecontrol: (See	Estimate Template for Cost Breakdowns)	1		\$ -	\$7,700
2	-		~		\$ -	
3 P8	&C: (See Est	imate Template for Cost Breakdown)	▼		\$ -	\$9,800
4		<u> </u>	▼		\$ -	
5 E le	lectrical: (See	Estimate)	▼		\$ -	\$3,560
6			▼		\$ -	
7			~		\$ -	
8			▼		\$ -	
9			-		\$ -	
10			-		\$ -	
11			~		\$ -	
12			~		\$ -	
13			-		\$ -	
14			~		\$ -	
15			~		\$ -	
16			-		\$ -	
17			~		\$ -	
18			~		\$ -	
19			-		\$ -	
20			~		\$ -	
21			▼		\$ -	
22			▼		\$ -	
23			▼		\$ -	
24			▼		\$ -	
25			▼		\$ -	
26			▼		\$ -	
27			▼		\$ -	
29			▼		\$ -	
30			▼		\$ -	
31			▼		\$ -	
33			▼		\$ -	
34			▼		\$ -	
35			▼		\$ -	

St	andard Estimating Rate	es	
Rates Last Updated: 2011-11-15	Operating	Capital	
Labour	(\$/wk)	(\$/wk)	
Engineer/Technologist	\$3,200	\$3,200	
Surveyors	\$2,400	\$2,400	
Environmental Coordinator/Monitor	\$2,400	\$2,400	
Ecologist/Safety Lead/Safety Specialist	\$2,800	\$2,800	
Legal Counsel	\$3,900	\$3,900	
Drafters	\$2,400	\$2,400	
Owner Site Representative (OSR)	\$2,200	\$2,200	
Internal Labour – Technologist	\$2,400	\$2,400	
Internal Labour – Trades	\$2,100	\$2,100	
External Labour – Trades (Union)	\$3,320	\$3,320	
External Labour – Trades (Non Únion)	\$2,280	\$2,280	
Consultants (min \$175/hr.)	\$7,000	\$7,000	
Miscellaneous	·		
Internal Equipment Rentals	(\$/wk)	(\$/wk)	
	,	ì	
Cars/Vans/Pick Ups	\$350	\$350	
Snowmobiles/ATVs	\$250	\$250	
Line Body Trucks	\$1,000	\$1,000	
Aerial Devices	\$1,300	\$1,300	
Stake Body Boom Trucks	\$1,300	\$1,300	
Mobile Cranes	\$1,300	\$1,300	
Muskegs/Go Tracks	\$11,200	\$11,200	
Mobile Substation	\$850	\$850	
Portable Transformer (pallet)	\$850	\$850	
Helicopter (Casual or Contract) (\$1,285/hr)	\$51,400	\$51,400	
Miscellaneous	· · ·		
Commercial Rental			
Other Equipment			
Travel	(\$)	(\$)	
	V · 1	\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \	
Living Expenses	\$260	\$260	
Airport Taxi (Return)	\$80	\$80	
Commercial Car/Van/Pick Up Rental	\$500	\$500	
Hotel Accommodations (In province)	\$750	\$750	
Air Fare – In Province	By location	By location	
Air Fare – Out of Province	By location	By location	
Air Fare - Other	, <u>.</u>	,	
Notes:			
 Labour rates for all categories the same for strain 	aight time and overtime f	ield or office. (no loading on	overtime)

Project Description
Asset Business Unit

9999

Project Start Date
Project Completion Date

Business Unit Cost Code Cost Type



Project Total: 63,847,877.00

Page 1 of 1 Page 1 of 1

nalcor

PROJECT PROPOSAL SUMMARY

				Capital Project	t		Bus. Unit		_
Project Title:	New Gas Tur	bine Plant	- Option 1	(Non-Enclosed	Plant)		Date Prepared	Oct 25, 2012	
Company:	HYDRO						Project Type:	Default	_
Start Year:	2013 or Late	r		Category:	Generation - G	as Turbines			
Start Date:	2013 Jan	1		Definition:	Other		Classification:	Normal	_
Completion Date:				Location:	Holyrood	•	Asset Retirement		No
Type of Work:	More Mater	ial Less Lah	our		Prepared By:				_
Base Date:	2012 Jan	1	oui		rrepared by.				
			Sheet Sho	ould be Used					
Project Cost:	(\$ x1,000)		<u> 2013</u>	<u>2014</u>	<u>2015</u>	<u>2016</u>	<u>2017</u>	BEYOND	TOTAL
Material Supply			0.0	1,271.9	0.0	0.0	0.0	0.0	1,271.9
Labour			700.0			0.0	0.0	0.0	
Consultant			400.0				0.0		
Contract Work			6,000.0			0.0	0.0		
Other Direct Cos			5.0				0.0		
O/H, AFUDC & Es	scin.		318.3	2,107.3		0.0	0.0		
Contingency			0.0	0.0	12,769.6	0.0	0.0	0.0	12,769.6
TOTAL			7,423.3	24,929.2	53,422.7	0.0	0.0	0.0	85,775.2
Description:									
Operating Experie	nce:								
Justification:									
Future Plans:									
				T					
'Initiating Bus.Unit" Mg	r: Project	Estimator:		"Managing Dept."	" Mgr:	"Initiating Dept"	Manager:	Vice-President:	

				SUMMARY					
Project Title:			ine Plant for		on 2 - Enclosed				
Engineering Estimated by	r:	All					Project Type: Capital	-	
Project Start Date:	Year:	2013 September 27,	2012				•		
Date.	Estimato			th total estimate	by discipline sta	ted in cash flo	w format.		Total
Estima		\$3,056,960	\$621,100	\$1,271,890	\$1,708,990	\$122,460	\$188,202	\$61,644,275	\$68,613,87
Total Cas		\$3,056,960	\$621,100	\$1,271,890	\$1,708,990	\$122,460	\$188,202	\$61,644,275	\$68,613,87
Period	Cost Type	1110 Labour	1120 Overtime	1130 Material	1135 Consultant	1140 Equip. Rental	1145 Travel	1150 Contract Work	
2013	Jan	Labour	Overano	Wateria	Conduction	Equip. Homai	Havoi	Contract Work	
(Year 1)	Feb								
	Mar								
	Apr								
	May								
	Jun Jul								
	Aug								
	Sep								
	Oct								
	Nov	500.0	100.0		400.0				
	Dec Total	600.0	100.0	0.0	400.0	0.0	5.0	6,000.0	
2014	Jan	000.0	100.0	0.0	400.0	0.0	5.0	0,000.0	}
(Year 2)	Feb								
ĺ	Mar								
	Apr								
	May								
	Jun Jul								
	Aug								
	Sep								
	Oct								
	Nov	1 000 0	100.0	1.271.0	400.0		50.0	20,000,0	
	Dec Total	1,000.0 1,000.0	100.0	1,271.9	400.0	0.0	50.0	20,000.0	
$\overline{}$	Cost Type		1120	1130	1135	1140	1145	1150	
Period		Labour	Overtime	Material	Consultant	Equip. Rental	Travel	Contract Work	
2015	Jan								
(Year 3)									
	Feb Mar								
	Mar Apr								
	Mar Apr May								
	Mar Apr May Jun								
	Mar Apr May								
	Mar Apr May Jun Jul Aug Sep								
	Mar Apr May Jun Jul Aug Sep Oct								
	Mar Apr May Jun Jul Aug Sep	1,457.0	421.1		909.0	122.5	133.2	35,644.3	
	Mar Apr May Jun Jul Aug Sep Oct Nov Dec	1,457.0 1,457.0	421.1 421.1	0.0	909.0 909.0	122.5 122.5	133.2 133.2	35,644.3 35,644.3	
2016	Mar Apr May Jun Jul Aug Sep Oct Nov Dec Total Jan			0.0					
	Mar Apr May Jun Jul Aug Sep Oct Nov Dec Total Jan Feb			0.0					
2016	Mar Apr May Jun Jul Aug Sep Oct Nov Dec Total Jan Feb Mar Apr			0.0					
2016	Mar Apr May Jun Jul Aug Sep Oct Nov Dec Total Jan Feb Mar Apr May			0.0					
2016	Mar Apr May Jun Aug Sep Oct Nov Dec Total Jan Feb Mar Apr May Jun			0.0					
2016	Mar Apr May Jun Jul Aug Sep Oct Nov Dec Total Jan Feb Mar Apr May			0.0					
2016	Mar Apr May Jun Jul Aug Sep Oct Total Jan Feb Mar Apr May Jun Jul Aug Sep Oct Total			0.0					
2016	Mar Apr May Jun Jul Aug Sep Oct Nov Dec Total Jan Feb Mar Apr May Jun Jul Aug Sep Oct			0.0					
2016	Mar Apr May Jun Jul Aug Sep Oct Nov Dec Total Jan Feb Mar Apr May Jun Jul Aug Sep Oct Oct Nov Dec		421.1		909.0	122.5	133.2	35,644.3	
2016 (Year 4)	Mar Apr May Jun Jul Aug Sep Oct Total Jan Feb Mar Apr May Jun Jul Aug Sep Oct Total Total Jan Feb Mar Apr May Jun Aug Sep Oct Nov Dec			0.0					
2016 (Year 4)	Mar Apr May Jun Jul Aug Sep Oct Total Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec	1,457.0	421.1		909.0	122.5	133.2	35,644.3	
2016 (Year 4)	Mar Apr May Jun Jul Aug Sep Oct Total Jan Feb Mar Apr May Jun Jul Aug Sep Oct Total Total Jan Feb Mar Apr May Jun Aug Sep Oct Nov Dec	1,457.0	421.1		909.0	122.5	133.2	35,644.3	
2016 (Year 4)	Mar Apr May Jun Jul Aug Sep Oct Total Jan Feb Mar Apr May Jun Jul Aug Sep Oct Total Jan Feb Mar Apr May Jun Aug Sep Oct Total Jan Apr Nov Dec	1,457.0	421.1		909.0	122.5	133.2	35,644.3	
2016 (Year 4)	Mar Apr May Jun Jul Aug Sep Oct Total Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec Total Jan Feb Mar Apr May Jun Aug Sep Oct Nov Dec Total Jan Feb Mar Apr May Ang May Jun Aug Sep Oct Nov Apr May Apr May Apr May Apr May	1,457.0	421.1		909.0	122.5	133.2	35,644.3	
2016 (Year 4)	Mar Apr May Jun Jul Aug Sep Oct Nov Dec Total Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec Total Jan Feb Mar Apr May Jun Jul Aug Sep Total Jan Feb Mar Apr May Jun Jul Aug Sep Jun Jul Aug Sep Total Jan Feb Mar Apr	1,457.0	421.1		909.0	122.5	133.2	35,644.3	
2016 (Year 4)	Mar Apr May Jun Jul Aug Sep Oct Nov Dec Total Jan Feb Mar Apr May Jun Jul Aug Sep Oct Total Jan Feb Mar Apr May Jun Jul Aug Sep Oct Total Jan Feb Mar Apr May Jun Jul Aug Aug Apr May Jun Aug Apr	1,457.0	421.1		909.0	122.5	133.2	35,644.3	
2016 (Year 4)	Mar Apr May Jun Jul Aug Sep Oct Total Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec Total Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec Total Jan Feb Mar Apr May Jun	1,457.0	421.1		909.0	122.5	133.2	35,644.3	
2016 (Year 4)	Mar Apr May Jun Jul Aug Sep Oct Total Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec Total Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec Total Jan Feb Mar Apr Apr May Jun Jul Aug Sep Oct Nov Dec Total	1,457.0	421.1		909.0	122.5	133.2	35,644.3	
2016 (Year 4)	Mar Apr May Jun Jul Aug Sep Oct Total Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec Total Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec Total Jan Feb Mar Apr May Jun	1,457.0	421.1		909.0	122.5	133.2	35,644.3	

			Engineering Regular Labour					
Proi	ject Title:		Engineering Regular Labour					
		AII						
	mated by:							
Proj	ject Start Year:				Total Reg	ular Labour (Costs(1110):	\$1,471,560
Date	e:							
Note	e: All rate information c	omes from the Std Estin	nating Rates.	R	ates Last Up	dated: 2011-	11-15	
#	Item Description		Category	_	# of Wks	# of People	Rate / Wk	Total \$
1	PROGRAM MANAGE	R		•				
2	- one month per year (12 weeks total)	Engineer/Technologist	_	12	1	\$3,200.00	\$38,400
3				_	-			
4	PROJECT MANAGER		Engineer/Technologist	•	156	1	# 0 000 00	# 400.000
5	- full time for 3 years (156 Weeks)	Engineer/ rechnologist		130	'	\$3,200.00	\$499,200
6	ENGINEERING			•				
7	Mechanical engineerin	g	Engineer/Technologist	v	78	1	\$3,200.00	\$249,600
8	Electrical eng (See	Estimate)		v				\$51,840
9	Civil engineering (See	Estimate)		v				\$20,800
10	Telecontrol eng. (See	Estimate)		•				\$55,040
	P&C engineering (See	Estimate)						\$84,800
	P&C engineering (See	Estimate)						\$217,600
	P&C eng DCS (See	Estimate)						\$73,600
44	DDAFTING			•				
11	DRAFTING Drofting		Drafters	Ť	15	1	\$2,400.00	\$36,000
12	Drafting		Dianters	•	10		\$ 2,400.00	\$36,000
13	SURVEYING		Surveyors	•				\$2,880
14				v				4 =,000
15				v				
16	Phase 1 engineering		Engineer/Technologist	•	4	4	\$3,200.00	\$51,200
17				•			(\$/wk)	
18	ENVIRONMENTAL ()		•			(\$/wk)	
19	Environmental Special		Ecologist/Safety Lead/Safety Specialist	_	12	1	\$2,800.00	\$33,600
20	Environmental Manage		Environmental Coordinator/Monitor	•	15	1	\$2,400.00	\$36,000
21	Environmental Manage	ement during const.	Ecologist/Safety Lead/Safety Specialist	•	7.5	1	\$2,800.00	\$21,000
22				Ť			(\$/wk) (\$/wk)	
24				Ţ			(\$/wk)	
25				v			(\$/wk)	
26				v			(\$/wk)	
27				v			(\$/wk)	
29				v			(\$/wk)	
30				•			(\$/wk)	
31				•			(\$/wk)	
33				•			(\$/wk)	
34				•			(\$/wk)	
35				_	-		(\$/wk)	
36				•			(\$/wk)	
37				•	_		(\$/wk) (\$/wk)	
38				Ť			(\$/wk) (\$/wk)	
40				Ţ			(\$/wk)	
41				•			(\$/wk)	
42				v			(\$/wk)	
43				v			(\$/wk)	
44				•			(\$/wk)	
45				v			(\$/wk)	

	Eng	gineering Overtime Labour				
Pro	ject Title: New Gas Turbine Plant for Holyrod	od (Option 2 - Enclosed Plant)				
Eng	gineering Discipline: All					
Est	imated by:					
Pro	ject Start Year: 2013		Total Over	rtime Labour	Costs(1120):	\$41,600
Dat	e: September 27, 2012					
Not	e: All rate information comes from the Std Estimating Rates s	sheet.	Rat	tes Last Upda	ated: 2011-11-	15
<u>#</u>	Item Description	Category	# of Wks	# of People	Rate / Wk	Total \$
1	P&C: (See Estimate Template for Cost Breakdown)	•	l I		(\$/wk)	\$3,200
2		-			(\$/wk)	
3	P&C: (See Estimate Template for Cost Breakdown)	0			(\$/wk)	\$32,000
4		•			(\$/wk)	40=,000
Ė	P&C (DCS): (See Estimate Template for Cost	▼			(47,)	
5	Breakdown)	0	<u> </u>		(\$/wk)	\$6,400
6		▼			(\$/wk)	
7		▼			(\$/wk)	
8		•			(\$/wk)	
9		•			(\$/wk)	
10		•			(\$/wk)	
11		•			(\$/wk)	
12		•			(\$/wk)	
13		•			(\$/wk)	
14		•			(\$/wk)	
15		•			(\$/wk)	
16		•			(\$/wk)	
17		•			(\$/wk)	
18		•			(\$/wk)	
19		•			(\$/wk)	
20		•			(\$/wk)	
21		•			(\$/wk)	
22		•			(\$/wk)	
23		•			(\$/wk)	
24		•			(\$/wk)	
25		▼			(\$/wk)	
26		▼			(\$/wk)	
27		▼			(\$/wk)	
29		▼			(\$/wk)	
30		▼			(\$/wk)	
31		▼			(\$/wk)	
33		▼			(\$/wk)	
34		•			(\$/wk)	
35		•			(\$/wk)	

			Construction Regular Lab	our				
Proi	ect Title:	New Gas Turbine Pla	int for Holyrood (Option 2 - En		Plant)			
1	ineering Discipline:	All			·			
_	mated by:							
	ect Start Year:	2013			Total Reg	Jular Labour (Costs(1110):	\$1,585,400
Date		September 27, 2012					, ,	
Note	e: All rate information of	comes from the Std Estir	nating Rates.		R	ates Last Up	dated: 2011-	11-15
	Item Description		Category		# of Wks	# of People	Rate / Wk	Total \$
1	PLANT PERSONNEL	<u>L</u>		•			\$ -	
2	Electricians		Internal Labour – Trades	•	52	2	\$ 2,100.00	\$218,400
3	Mechanical maintena	nce	Internal Labour – Trades	-	52	2	\$ 2,100.00	\$218,400
4	P&C technicians		Internal Labour – Technologist	-	52	2	\$ 2,400.00	\$249,600
5	Labourers		Internal Labour – Trades	-	52	2	\$ 2,100.00	\$218,400
6	Supervisors		Internal Labour – Trades	-	52	3	\$ 2,100.00	\$327,600
	Telecontrol: (See	Estimate		•				
7	Template for Cost B		1				\$ -	\$71,000
10				•	<u> </u>		\$ -	
	P&C: (See Es	timate Template for		•				
	Cost Breakdown)		1				\$ -	\$106,200
12				•			\$ -	
40		timate Template for	4	•			•	\$405.000
	Cost Breakdown)		1	•			\$ - \$ -	\$105,600
14	P&C (DCS): (See	Estimate		· •	_		\$ -	
15	Template for Cost B		1				\$ -	\$24,000
16		,		•			\$ -	, , , , , , , , , , , , , , , , , , , ,
	Electrical: (See	Estimate)		•			\$ -	\$46,200
18				_			\$ -	V 10,200
19				•			\$ -	
20				•			\$ -	
21				•			\$ -	
22				_			\$ -	
23				_			\$ -	
24				_			\$ -	
25				_			\$ -	
26				•			\$ -	
27				~			\$ -	
28				~			\$ -	
29				~			\$ -	
30				•			\$ -	
31				~			\$ -	
32				~			\$ -	
33				~			\$ -	
34				~			\$ -	
35				_			\$ -	
36				_			\$ -	
37				_			\$ -	
38				_			\$ -	
39				*			\$ -	
40				▼			\$ -	
41				*			_	
				-			_	
42				*	 		\$ -	
43				•		l	φ -	

		Cor	struction Overtime Labour							
Pro	ect Title:	New Gas Turbine Plant for Holyro	od (Option 2 - Enclosed Plant)							
		All	,							
	mated by:									
Pro	ject Start Year:	2013			Total Over	time Labour	Costs	s(1120):	\$579,500	
Date		September 27, 2012								
Not	e: All rate information of	comes from the Std Estimating Rates	Rates sheet. Rates Last Updated: 2011-11-15							
<u>#</u>	Item Description		Category		# of Wks	# of People	Rat	e / Wk	Total \$	
1	PLANT PERSONNEL	•		•			\$	-		
2	Electricians		Internal Labour – Trades	•	20	2	\$ 2	100.00	\$84,000	
3	Mechanical maintenar	nce	Internal Labour – Trades	•	20	2	\$ 2	100.00	\$84,000	
4	P&C technicians		Internal Labour – Technologist	•	20	2	\$ 2	400.00	\$96,000	
5	Labourers		Internal Labour – Trades	•	20	2	\$ 2	100.00	\$84,000	
6	Supervisors		Internal Labour – Trades	•	20	3	\$ 2	100.00	\$126,000	
7				•			\$	-		
8				•			\$	-		
9				•			\$	-		
	Telecontrol: (See	Estimate Template for Cost		•						
	Breakdowns)		1				\$	-	\$15,200	
11				_			\$	-		
12	De C. (See	timate Template for Cost		•			\$	-		
13	P&C: (See Es Breakdown)	timate Tempiate for Cost	1	•			\$	-	\$11,700	
14	,			•			\$	-	, , , , ,	
	P&C: (See	Estimate Template for Cost		•						
15	Breakdown)	Latimate remplate for cost	1				\$	-	\$48,000	
16				•			\$	-		
	P&C (DCS): (See	Estimate Template for Cost		•						
17	Breakdown)		1				\$	-	\$9,600	
18				•			\$	-		
19	Electrical: (See	Estimate)		•			\$	-	\$21,000	
20				•			\$	-		
21				•			\$	-		
22				•			\$	-		
23				•			\$	-		
24				_			\$	-		
25				_			\$	-		
26				_			\$	-		
27				_			\$	-		
29				_			\$	-		
30				_			\$	-		
31				_			\$	-		
33				_			\$	-		
34				_			\$	-		
35				•		I	\$	-		

		Materials				
Pro	ject Title:	New Gas Turbine Plant for Holyrood (Option 2 - Enclosed Plant)				
Eng	ineering Discipline:	All				
Esti	imated by:					
Pro	ject Start Year:	2013	Total Ma	terials (Cost (1130):	\$1,271,890
Date	e:	September 27, 2012				
#	Item Description		Unit Price	Units	Quantity	Total \$
1	Misc. materials for cor	nstruction	\$200,000	ea	1	\$200,000
2						
3	Office furniture, fax ma	achine, printers, etc. for construction trailers	\$10,000	ea	1	\$10,000
4						
5	Phones, blackberries,	pagers, (including cell phone monthly fees)	\$10,000	ea	1	\$10,000
6	,	, , ,				
7	PPE		\$8,000	ea	1	\$8,000
8						. ,
9	Office supplies (paper	. etc)	\$750	ea	1	\$750
10		,,				,
11	Drinking water		\$2,000	ea	1	\$2,000
12	January Water					\$ 2,000
13	Telecontrol: (See	Estimate Template for Cost Breakdowns)				\$216,500
14						Ψ2.0,000
15	P&C: (See Es	timate Template for Cost Breakdown)				\$72,175
16	2001 (000					Ψ12,110
17	P&C: (See	Estimate Template for Cost Breakdown)				\$10,000
18	(000					ψ.ο,σσσ
	P&C (DCS): (See	Estimate Template for Cost Breakdown)				\$30,000
20	1 40 (200): (000	25th ato Tompiato for Goot Broakdown,				ψου,σου
21	Civil: (See	Estimate Template for Cost Breakdown)				\$62,465
22	Olviii (OCC	25th ato Tompiato for Goot Broakdown,				ψ02,100
23	Electrical: (See	Estimate Template for Cost Breakdown)				\$650,000
24	Liounian (coc	Estimate remplate for Goot Broakdown,				φοσο,σσσ
25						
26						
27						
28						
29						
30						
31						
32					<u> </u>	
33					<u> </u>	
34						
34	l					

		Third Party Consultants L	abour				
Project Title:	New Gas Turbine F	Plant for Holyrood (Option 2 - E		Plant)			
Engineering D				·			
Estimated by:							
Project Start \	/ear: 2013			Total Reg	jular Labour (Costs(1110):	\$1,708,990
Date:	September 27, 201	2					
Note: All rate in	nformation comes from the Std Es	stimating Rates.	nating Rates.				11-15
# Item Desc	<u>cription</u>	Category		# of Wks	# of People	Rate / Wk	Total \$
1 Civil (See	Estimate)		•			\$ -	\$27,750
2			•			\$ -	
3 Electrical	(See Estimate)		•			\$ -	\$11,840
4			•			\$ -	
5 Mechanic	al		•			\$ -	\$250,000
6			•			\$ -	
7			•			\$ -	
8			~		_	\$ -	
9 On-site Re		Consultants (min \$175/hr.)	_	52	3	\$ 7,000.00	\$1,092,000
	ep expenses		_			\$ -	\$25,000
11			_			\$ -	
Telecontr	ol: (See Estimate		•			•	00.400
	for Cost Breakdowns)	1	•			\$ -	\$2,400
13			*			\$ -	
14	antal Ctudias		*			\$ -	#200.000
	ental Studies		-			\$ -	\$300,000
16			-			\$ -	
17			-			\$ - \$ -	
19			▼				
20			_				
21			_			\$ - \$ -	
22			~			\$ -	
23			~			\$ -	
24			_			\$ -	
25			-			\$ -	
26			_			\$ -	
27			_			\$ -	
28			_			\$ -	
29			-			\$ -	
30			-			\$ -	
31			-			\$ -	
32			-			\$ -	
33			~			\$ -	
34			~			\$ -	
35			-			\$ -	
36			-			\$ -	
37			•			\$ -	
38			•			\$ -	
39			~			\$ -	
40			•			\$ -	
41			~			\$ -	
42			~			\$ -	
43			•			\$ -	
				•	•		

		Third Party Equipment Rentals			
Projec	ct Title:	New Gas Turbine Plant for Holyrood (Option 2 - Enclosed Plant)			
Engin	neering Discipline:	All			
Estim	ated by:				
Projec	ct Start Year:	2013 Total E	quip Rental	Costs(1140):	\$101,400
Date:		September 27, 2012			
Note:	All rate information of	comes from the Std Estimating Rates sheet.	Rates Las	t Updated: 20)11-11-15
<u>#</u> te	em Description	<u>Category</u>	# of Wks	Rate / Wk	Total \$
1 R	Rental of office trailers	₹		\$ -	\$100,000
2		▼		\$ -	
3 E	lectrical OSR Vehicle	₹		\$ -	\$1,400
4		▼		\$ -	
5		▼		\$ -	
6		▼		\$ -	
7		•		\$ -	
8		•		\$ -	
9		•		\$ -	
10		•		\$ -	
11		•		\$ -	
12		•		\$ -	
13		▼		\$ -	
14		▼		\$ -	
15		•		\$ -	
16		▼		\$ -	
17		▼		\$ -	
18		•		\$ -	
19		•		\$ -	
20		•		\$ -	
21		•		\$ -	
22		▼		\$ -	
23		▼		\$ -	
24		▼		\$ -	
25		▼		\$ -	
26		▼		\$ -	
27		▼		\$ -	
29		▼		\$ -	
30		▼		\$ -	
31		▼		\$ -	
33		▼		\$ -	
34		▼		\$ -	
35		▼		\$ -	

			Engineering Travel						
Proj	ect Title:	New Gas Turbine Plant for Holyroo							
Eng	ineering Discipline:	All							
	mated by:								
	ject Start Year:	2013				Total Travel	Cost	s(1145):	\$171,942
Date		September 27, 2012						, ,	
Note	e: Air Fares may be ty	ped directly into the Std Estimating Ra	ites Sheet.		Ra	tes Last Upda	ited:	2011-11-	·15
#	Item Description		Category		# of Wks	# of People	Ra	te / Wk	Total \$
	Car for engineering p	roject team	Commercial Car/Van/Pick Up Rental	•	156	1	\$	500.00	\$78,000
2	0 01	•		•			\$	-	, ,
3	Misc. (meals)			•			\$	-	\$10,000
4				•			\$	-	
5				•			\$	-	
	Telecontrol: (See	Estimate Template for Cost		•					
6	Breakdowns)		1				\$	-	\$6,600
7				•			\$	-	
	P&C: (See Es	timate Template for Cost		•					
8	Breakdown)		1				\$	-	\$10,770
9				•			\$	-	
	P&C: (See	Estimate Template for Cost		•					
	Breakdown)		1				\$	-	\$34,120
11				•			\$	-	
	P&C (DCS): (See	Estimate Template for Cost		•			•		04.040
	Breakdown)		1				\$	-	\$1,040
13	Ole II (Oce	= Factorial N		*			\$	-	04.040
	Civil: (See	Estimate)		_			\$	-	\$1,040
15				_			\$	-	*
	Electrical (See	Estimate)		~			\$	-	\$30,372
17							\$	-	
18				_			\$	-	
19				_			\$	-	
20				_			\$	-	
21				_			\$	-	
22				_			\$	-	
23				_			\$	-	
24				_			\$	-	
25				_			\$	-	
26				_			\$	-	
27				_			\$	-	
29				_			\$	-	
30				_			\$	-	
31				•			\$	-	
33				•			\$	-	
34				•			\$	-	
35				•			\$	-	

			Construction Travel						
Proi	ect Title:	New Gas Turbine Plant for Holyroo							
	ineering Discipline:		(op)						
	mated by:								
		2013				Total Travel	Costs	(1145):	\$16,260
Date		September 27, 2012						(, .	4 10,200
		ped directly into the Std Estimating Ra	tes Sheet.		Rat	es Last Upda	ted: 2	011-11	-15
	Item Description		Category			# of People			Total \$
	Misc. meals			•			\$	_	\$5,000
2				•			\$	-	
	Telecontrol: (See	Estimate Template for Cost		•					
	Breakdowns)	Estimate remplate for cost	1				\$	-	\$2,900
4	•			•			\$	-	
	P&C: (See	Estimate Template for Cost		•					
	Breakdowns)		1				\$	-	\$8,360
6				•			\$	-	
7				•			\$	-	
8				•			\$	-	
9				•			\$	-	
10				•			\$	-	
11				•			\$	-	
12				•			\$	-	
13				•			\$	-	
14				•			\$	-	
15				•			\$	-	
16				•			\$	-	
17				•			\$	-	
18				•			\$	-	
19				•			\$	-	
20				•			\$	-	
21				•			\$	-	
22				•			\$	-	
23				•			\$	-	
24				•			\$	-	
25				•			\$	-	
26				•			\$	-	
27				•			\$	-	
29				•			\$	-	
30				•			\$	-	
31				•			\$	-	
33				•			\$	-	
34				•			\$	-	
35				•			\$	-	

		Third Party Contracts				
Pro	ject Title:	New Gas Turbine Plant for Holyrood (Option 2 - Enclosed Plant)				
Eng	ineering Discipline:	All				
	imated by:					
Pro	ject Start Year:	2013	Tota	l Contrac	t Cost (1150):	\$61,644,275
Dat		September 27, 2012		1		
#	Item Description		Unit Price	<u>Units</u>	Quantity	Total \$
1	Misc. mechanical		\$500,000	ea	1	\$500,000
2						
3	FROM BRODO					
4	FROM PROPOS Supply and install 60 M	MW gas turbine plant (based on proposal), not including black start				
5	diesel, or transformer	pp	\$41,840,000	ea	1	\$41,840,000
Ť	Water treatment plant		\$977,000	ea	1	\$977,000
	DI Water tank		\$1,726,000	ea	1	\$1,726,000
6	Cold-weather building		\$4,766,000	ea	1	\$4,766,000
	Ungrade from 300 000	to 700,000 gallon fuel tank	\$460,000	ea	1	\$460,000
			\$2,821,000	ea	1	
7		ion fringes, etc.)	\$860,000	ea	1	\$2,821,000
	Black start diesel Continuous emissions	monitoring quatern	\$365,000	ea	1	\$860,000 \$365,000
		xpand to 120 MW, with larger step-up transformer, updated control sytem	\$4,341,000	ea	1	\$4,341,000
		does not include the 2nd gas generator or power turbine)	+ 1,5 11,5 55			ψ4,041,000
		ncluding delivery, assembly, commissioning	\$1,900,000	ea	1	\$1,900,000
11	otop up transformer,	tolading donrol); documely, commissioning				ψ.,σσσ,σσσ
12	Interconnections for b	ack start diesel - not included proposal (\$300,000	ea	1	\$300,000
13		<u> </u>				
14	Telecontrol: (See	Estimate Template for Cost Breakdowns)				\$158,200
15						
16	P&C (DCS): (See	Estimate Template for Cost Breakdown)				\$100,000
17						
	Civil: (See	Estimate Template for Cost Breakdown)				\$255,075
19						
	Electrical (See	Estimate Template for Cost Breakdown)				\$165,000
21						
22	0-1	trailers, including power, data, water & sewer	\$100,000	ea	1	\$400.000
			\$10,000	ea	1	\$100,000
25	Janitorial services for	Construction trailers	ψ10,000	Ca	'	\$10,000
26						
27						
28						
29						
30						
31						
32						
33						
34						

		Internal Equip	ment Rentals						
Pro	ject Title:	New Gas Turbine Plant for Holyrood (Option 2 -							
		All	,						
	imated by:								
	ject Start Year:	2013	Total I	Equip Rental	Costs(1140):	\$21,060			
Dat		September 27, 2012			,	, ,			
Not	e: All rate information of	comes from the Std Estimating Rates sheet.		Rates Las	Rates Last Updated: 2011-11-15				
	Item Description		Category	# of Wks	# of Wks Rate / Wk T				
			▼						
1	Telecontrol: (See	Estimate Template for Cost Breakdowns)	1		\$ -	\$7,700			
2	\		▼		\$ -	* /			
	P&C: (See Es	timate Template for Cost Breakdown)	▼		\$ -	\$9,800			
4	,		▼		\$ -	. ,			
5	Electrical: (See	Estimate)	▼		\$ -	\$3,560			
6	,		▼		\$ -	, , , , , , , , , , , , , , , , , , , ,			
7			-		\$ -				
8			▼		\$ -				
9			▼		\$ -				
10			▼		\$ -				
11			-		\$ -				
12			▼		\$ -				
13			▼		\$ -				
14			▼		\$ -				
15			▼		\$ -				
16			▼		\$ -				
17			▼		\$ -				
18			▼		\$ -				
19			▼		\$ -				
20			▼		\$ -				
21			▼		\$ -				
22			▼		\$ -				
23			▼		\$ -				
24			▼		\$ -				
25			▼		\$ -				
26			▼		\$ -				
27			▼		\$ -				
29			▼		\$ -				
30			▼		\$ -				
31			▼		\$ -				
33			▼		\$ -				
34			▼		\$ -				
35			-		\$ -				
00	I.			4	4				

St	andard Estimating Rate	s	
Rates Last Updated: 2011-11-15	Operating	Capital	
Labour	(\$/wk)	(\$/wk)	
Engineer/Technologist	\$3,200	\$3,200	
Surveyors	\$2,400	\$2,400	
Environmental Coordinator/Monitor	\$2,400	\$2,400	
Ecologist/Safety Lead/Safety Specialist	\$2,800	\$2,800	
Legal Counsel	\$3,900	\$3,900	
Drafters	\$2,400	\$2,400	
Owner Site Representative (OSR)	\$2,200	\$2,200	
Internal Labour – Technologist	\$2,400	\$2,400	
Internal Labour – Trades	\$2,100	\$2,100	
	·		
External Labour – Trades (Union)	\$3,320	\$3,320	
External Labour – Trades (Non Union)	\$2,280	\$2,280	
Consultants (min \$175/hr.)	\$7,000	\$7,000	
Miscellaneous	¥-1,	71,000	
Internal Equipment Rentals	(\$/wk)	(\$/wk)	
miterial Equipment Nontale	(4, 11.1)	(ψ,)	
Cars/Vans/Pick Ups	\$350	\$350	
Snowmobiles/ATVs	\$250	\$250	
Line Body Trucks	\$1,000	\$1,000	
Aerial Devices	\$1,300	\$1,300	
Stake Body Boom Trucks	\$1,300	\$1,300	
Mobile Cranes	\$1,300	\$1,300	
Muskegs/Go Tracks	\$11,200	\$11,200	
Mobile Substation	\$850	\$850	
Portable Transformer (pallet)	\$850	\$850	
Helicopter (Casual or Contract) (\$1,285/hr)	\$51,400	\$51,400	
Miscellaneous	φ51,400	φ51,400	
IVIISCEIIANEOUS			
Commercial Rental			
Other Equipment			
Troval	/ (\)	(t)	
Travel	(\$)	(\$)	
Living Evpansos	<u></u>	0.00	
Living Expenses	\$260	\$260	
Airport Taxi (Return)	\$80	\$80	
Commercial Car/Van/Pick Up Rental	\$500 \$750	\$500 \$750	
Hotel Accommodations (In province)	\$750	\$750	
Air Fare – In Province	By location	By location	
Air Fare – Out of Province	By location	By location	
Air Fare - Other			
Notes: Labour rates for all categories the same for str			

Project Description
Asset Business Unit

9999

Project Start Date
Project Completion Date

Business Unit Cost Code Cost Type



Project Total: 68,613,877.00

Page 1 of 1 Page 1 of 1

nalcor

PROJECT PROPOSAL SUMMARY

		nergg		Capital Project			Bus. Unit			
									_	
Project Title:		urbine Plant - Op	otion 2	(Enclosed Plant	t)		Date Prepared		_	
Company:	HYDRO						Project Type:	Default		
Start Year:	2013 or La	<u>ter</u>		Category:	Generation - G	as Turbines				
Start Date:	2013 Jan	1		Definition:	Other		Classification:	Normal	_	
Completion Date:	2015 Dec	<u> </u>		Location:	Holyrood		Asset Retirement o	or Transfer?	No	
T	N.A N.A				D				_	
Type of Work:		erial Less Labour			Prepared By:					
Base Date:	2012 Jan	1 5 Year Cash She	eet Sho	ould be Used						
Project Cost:	(\$ x1,000)	<u>201</u>	2	<u>2014</u>	<u>2015</u>	<u>2016</u>	2017	BEYOND		TOTAL
	(\$ \$1,000)	201	0.0						0	
Material Supply Labour			700.0	1,271.9 1,100.0		0.0 0.0	0.0 0.0	0. 0.		1,271.9 3,678.1
Consultant			400.0	400.0		0.0	0.0	0.		1,709.0
Contract Work		6	,000.0	20,000.0		0.0	0.0	0.		61,644.3
Other Direct Cos	ts		5.0	50.0		0.0	0.0	0.		310.7
O/H, AFUDC & Es	scln.		318.3	2,107.3	7,252.2	0.0	0.0	0.	0	9,677.8
Contingency			0.0	0.0	13,722.8	0.0	0.0	0.	0 _	13,722.8
TOTAL		7	,423.3	24,929.2	59,662.0	0.0	0.0	0.	0	92,014.5
Description:			,	,						32,023
Operating Experie	ence:									
Justification: Future Plans:										
'Initiating Bus.Unit" Mg	gr: Proje	ct Estimator:		"Managing Dept.'	' Mgr:	"Initiating Dept" N	Manager:	Vice-President:		_

				SUMMARY					
Project Title:		HRD 60 MW	(Nominal) C						I
Engineering Estimated by		All & Consol	idated by				Project Typ Capital	oe:	
Project Start		2013	'				Capital	_	
Date:	etimator proc	September 2 ents Project M		total actimate	by discipline	stated in cas	h flow forms	.+	Total
Estima		\$3,990,618	\$660,600	\$1,935,090	\$1,739,820	\$136,550	\$233,954	\$82,266,625	\$90,963,2
Total Cas	sh Flow:	\$3,990,618	\$660,600	\$1,935,090	\$1,739,820	\$136,550	\$233,954	\$82,266,625	\$90,963,2
	Cost Type	1110	1120	1130	1135	1140	1145	1150	
Period	_	Labour	Overtime	Material	Consultant	Equip. Rental	Travel	Contract Work	
2013	Jan								
(Year 1)	Feb								
	Mar								
	Apr May								
	Jun								
	Jul								
	Aug								
	Sep								
	Oct								
	Nov								
	Dec								
2011	Total	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
2014 (Year 2)	Jan Eab	133.3 133.3					7.8 7.8		
(Year 2)	Feb Mar	133.3			150.0		7.8	3,952.5	
	Apr	133.3			150.0	5.9	7.8	3,932.3	
	May	133.3			25.2	5.9	7.8	3,952.5	
	Jun	133.3				5.9	7.8		
	Jul	133.3				5.9	7.8	15,810.0	
	Aug	133.3				5.9	7.8		
	Sep	133.3				5.9	7.8	7,905.0	
	Oct	133.3		322.5		5.9	7.8		
	Nov	133.3		322.5		5.9	7.8	221.7	
	Dec Total	133.3 1,600.0	0.0	322.5 967.5	325.2	53.4	93.9	321.7 31,941.7	
$\overline{}$	Cost Type		1120	1130	1135	1140	1145	1150	
Period		Labour	Overtime	Material	Consultant		Travel	Contract Work	
2015	Jan	133.3		322.5	91.7	5.9	7.8	321.7	1
(Year 3)	Feb	133.3		322.5	91.7	5.9	7.8	321.7	
	Mar	133.3	(0.1	322.6	91.7	5.9	7.8	321.7	
	Apr May	181.8 181.8	60.1 60.1		126.6 126.6	5.9 5.9	10.6 10.6	321.7 23,715.0	
	Jun	181.8	60.1		126.6	5.9	10.6	25,715.0	
	Jul	181.8	60.1		126.6	5.9	10.6		
	Aug	181.8	60.1		126.6	5.9	10.6	11,857.5	
	Sep	181.8 299.9	60.1		126.6	5.9	10.6	402.0	
	Oct Nov	299.9	100.1 100.1		126.6 126.6	9.9 9.9	17.7 17.7	402.0 402.0	
	Dec	299.9	100.1		126.6	9.9	17.7	12,259.5	
	Total	2,390.6	660.6	967.6	1,414.6	83.1	140.1	50,324.9	1
2016	Jan								
(Year 4)	Feb Mar								
	Apr								
	May								
	Jun								
	Jul								
	Aug Sep								
	Oct								
	Nov								
	Dec	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
2017	Total Jan	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
(Year 5)	Feb								
	Mar								
	Apr								
	May								
	Jun Jul								
	Aug								
	Sep								
	Oct								
	Nov Dec								
	Total	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1
	Total	0.0							

1	Α	В	C Undertaking 113, Attachment 5
2			Basis of Estimate Page 2 of 15
3		Project Title:	HRD 60 MW (Nominal) CT Addition
4		Engineering Discipline:	All
5		Estimated by:	All & Consolidated by
6		Project Start Year:	2013
7		Date:	41546
9		Asset Manager:	
10		High Level Description:	Supply, Install and Commission 50 MW (Minimal) Combustion Turbine
11		riigii Level Description.	Plant with 120 MVAR of Synchronous Condensing & Balance Of Plant in
12			Holyrood Plant Yard
13			
14		High Level Justification:	MW System Generation to offset projected LOLH violations. MVAR
15			support required to mitigate projected voltage issues. Replace HRP black-
16 17			start unit functionality.
18		Scope of Work:	
19		Scope of work:	
20			
21			
22		Work Exclusions:	
23			
24			
25		A	
26 27		Assumptions:	
28			
29			
30		Constraints:	
31			
32			
33		10.4.1	
34 35		High Level Requirements:	
36			
37			
38		High Level Risks:	
39			
40			
41			
42 43		High Level Schedule:	
43		(i.e. material lead times, outages,)	
45			
46		High Level Resource Assignment:	
47		3	
48			
49			
50		Environmental Services:	Desktop study, Draft EA Document, EA Document, EA Process Interface,
51 52			Input to Construction Contract, Construction Monitoring, Post- Construction Monitoring
53			Construction Monitoring
54		Financial Services	Review of Generation Alternatives
55		(i.e. Cost Benefit Analysis)	
56		(
57			

Engineering Regular Labour Project Title: HRD 60 MW (Nominal) CT Addition Engineering Discipline: Estimated by: All & Consolidated by Project Start Year: 2013 Total Regular Labour Costs(1110): \$2,006,898 Date: September 29, 2013 Note: All rate information comes from the Standard Estimating Rates Rates Last Updated: 2012-12-14 # of Wks # of People # Item Description Category Rate / Wk Total \$ PROGRAM MANAGER • 2.5 2 Risk / Change Management / Coaching Engineer/Technologist • \$3,400.00 \$8,500 3 (\$/wk) • 4 (\$/wk) PROJECT MANAGER 1 Engineer/Technologist • \$ 3,400.00 \$3,400 Scope / Schedule / Budget Review Engineer/Technologist 6 ▼ \$3,400 Design Transmittal \$ 3,400.00 Engineer/Technologist • 0.4 1 \$1,360 7 Schedule \$ 3,400.00 • 0.2 1 Engineer/Technologist 8 Risk Workshop \$3,400.00 \$680 0.2 1 Engineer/Technologist 9 ▼ Project Kick-off Meeting \$ 3,400.00 \$680 13 1 10 Team Mtgs (1d/2w Project Duration/#Project Engineer/Technologist • \$3,400.00 \$44,200 • 6 1 11 Engineer/Technologist Biweekly Customer / Stakeholder Meetings \$3,400.00 \$20,400 12 Engineer/Technologist • 2.4 1 \$ 3,400.00 \$8,160 Weekly Construction Meetings 2.5 13 Risk Management / Change Management Engineer/Technologist • 1 \$3,400.00 \$8,500 • 2 14 Engineer/Technologist \$3,400.00 \$6,800 Site Safety Tour 1 1 15 Engineer/Technologist \$3,400.00 \$3,400 Financial Close Out 16 Post Implementation Review Engineer/Technologist • 1 \$3,400.00 \$3,400 Engineer/Technologist • 125.3 17 \$3,400.00 \$426,020 PM - Full Time For 3 years less above 18 ENGINEERING • (\$/wk) 78 • 19 Mechanical engineering Engineer/Technologist \$3,400.00 \$265,200 • Engineer/Technologist 20 Electrical eng (See Estimate) \$3,400.00 \$188,760 Engineer/Technologist • \$ 3,400.00 \$76,000 21 Civil engineering (See Estimate Engineer/Technologist • 22 Telecontrol eng. (See Estimate) \$ 3,400.00 \$64,500 23 Engineer/Technologist • \$3,400.00 \$139,400 P&C engineering (See Estimate) Engineer/Technologist • \$3,400.00 \$336,638 24 P&C engineering (See Estimate) 25 P&C eng. - DCS (See Estimate) Engineer/Technologist • \$3,400.00 T&D Engineering (See Engineer/Technologist • \$ 3,400.00 \$129,600 26 Estimate³ DRAFTING ▼ (\$/wk) 27 15 Drafters 29 Drafting (Design/As-Builts) \$ 2,400.00 \$36,000 30 (\$/wk) • 31 **SURVEYING** (\$/wk) 33 SURVEYING (\$/wk) • 34 (\$/wk) 4 6 Engineer/Technologist • \$81,600 35 PHASE 1 ENGINEERING \$3,400.00 36 (\$/wk) 37 ENVIRONMENTAL (\$/wk) 12 38 Ecologist/Safety Lead/Safety Specialist Environmental Specialist \$ 2,900.00 \$34,800 30 1 Environmental Coordinator/Monitor 39 \$ 2,400.00 \$72,000 Environmental Management during const. 15 Ecologist/Safety Lead/Safety Specialist 💌 40 Environmental Management during const. \$ 2,900.00 \$43,500 41 (\$/wk) 42 (\$/wk) 43 (\$/wk) 44 (\$/wk) 45 (\$/wk)

			Engineering Overtime Labo	ur				
Proi	ect Title:	HRD 60 MW (Nominal) CT Ad						
	ineering Discipline:	AII						
	mated by:	All & Consolidated by						
	ect Start Year:	2013			Total Over	time Labour	Costs(1120):	\$27,200
Date		September 29, 2013					.,	, ,
_		comes from the Std Estimating R	Rates sheet.		Rat	es Last Upda	ated: 2012-12-	14
	Item Description	•	Category		# of Wks	# of People		Total \$
1				~			(\$/wk)	
2	P&C engineering ((See Estimate)	Engineer/Technologist	_	2	1	\$ 3,400.00	\$6,800
3	P&C engineering (Engineer/Technologist	_	6	1	\$ 3,400.00	\$20,400
4		<u></u>		-			(\$/wk)	
5				•			(\$/wk)	
6				•			(\$/wk)	
7				•			(\$/wk)	
8				•			(\$/wk)	
9				•			(\$/wk)	
10				•			(\$/wk)	
11				•			(\$/wk)	
12				•			(\$/wk)	
13				•			(\$/wk)	
14				•			(\$/wk)	
15				•			(\$/wk)	
16				•			(\$/wk)	
17				•			(\$/wk)	
18				•			(\$/wk)	
19				•			(\$/wk)	
20				•			(\$/wk)	
21				_			(\$/wk)	
22				•			(\$/wk)	
23				•			(\$/wk)	
24				•			(\$/wk)	
25				•			(\$/wk)	
26				•			(\$/wk)	
27				_			(\$/wk)	
29				_			(\$/wk)	
30				_			(\$/wk)	
31				_			(\$/wk)	
33				_			(\$/wk)	
34				_			(\$/wk)	
35				•			(\$/wk)	

			Construction Regular La	bour					
Proj	ect Title:	HRD 60 MW (Nominal)	CT Addition						
Eng	ineering Discipline:	All							
Esti	mated by:	All & Consolidated by							
Proj	ect Start Year:	2013			Total Reg	ular Labour (Costs(1110):	\$1,983,720	
Date	e:	September 29, 2013							
Note	: All rate information c	omes from the Std Estima	ting Rates.		F	Rates Last Up	dated: 2012-12-14		
<u>#</u>	Item Description		<u>Category</u>		# of Wks	# of People	Rate / Wk	Total \$	
1				•			\$ -		
2	Mechanical engine	eering		•			\$ -		
3	Electrical eng (See	Estimate)		•			\$ -	\$360,000	
4	Civil engineering (See Estimate)		•			\$ -		
5	Telecontrol eng. (S	See Estimate)		•			\$ -	\$73,200	
6	P&C engineering (See Estimate)		•			\$ -	\$129,720	
7	P&C engineering (_			\$ -	\$105,600	
8	P&C eng DCS (S			•			\$ -		
9	T&D Engineering (See Estimate		•			\$ -	\$36,000	
10				•			\$ -		
11				•			\$ -		
	PLANT PERSONNEL			•			\$ -		
13	Electricians		Internal Labour - Trades	_	52	2	\$ 2,100.00	\$218,400	
14	Mechanical maintenar	nce	Internal Labour - Trades	_	52	2	\$ 2,100.00	\$218,400	
15	P&C technicians		Internal Labour – Technologist	_	52	2	\$ 2,400.00	\$249,600	
16	Labourers		Internal Labour - Trades	_	52	2	\$ 2,100.00	\$218,400	
17	Supervisors		Internal Labour – Technologist	_	52	3	\$ 2,400.00	\$374,400	
18							\$ -		
19				_			\$ -		
20				_			\$ -		
21				_			\$ -		
22				_			\$ -		
23				_			\$ -		
24				_			\$ -		
25				_			\$ -		
26				—			\$ -		
27				-			\$ -		
28							\$ -		
29							\$ -		
30				-			\$ -		
31							\$ -		
32							\$ -		
33							\$ -		
34				-			\$ -		
35							\$ -		
36							\$ -		
37							\$ -		
38							\$ -		
39				-			\$ -		
40				▼			\$ -		
41				*			\$ -		
42				-			\$ -		
43							\$ -		

			Construction Overtime Labour					
Proi	ect Title:	HRD 60 MW (Nominal) CT Add						
1 1	ineering Discipline:							
ľ	•	All & Consolidated by						
	ect Start Year:	2013			Total Over	time I abour	Costs(1120):	\$633.400
Date		September 29, 2013			Total Over	unic Labour	00313(1120).	φοσο, 4σσ
_		comes from the Std Estimating Ra	tes sheet.	s sheet			ited: 2012-12-	14
	Item Description	9 · · ·	Category		# of Wks	# of People		Total \$
1				~	<u></u>	<u></u>	\$ -	
2	Mechanical engine	eering		•			\$ -	
3	Electrical eng (See	9		•			\$ -	\$35,700
4	Civil engineering (•		~			\$ -	
5	Telecontrol eng. (S			•			\$ -	\$15,200
6	,	(See Estimate)		•			\$ -	\$11,700
7		(See Estimate)		•			\$ -	\$48,000
8	P&C eng DCS (•			\$ -	
9	T&D Engineering	(See Estimate)		•			\$ -	\$30,800
10				•			\$ -	
11	PLANT PERSONNEL			•			\$ -	
12	Electricians		Internal Labour – Trades	_	20	2	\$ 2,100.00	\$84,000
13	Mechanical maintenar	nce	Internal Labour – Trades	-	20	2	\$ 2,100.00	\$84,000
14	P&C technicians		Internal Labour – Technologist		20	2	\$ 2,400.00	\$96,000
15	Labourers		Internal Labour – Trades	-	20	2	\$ 2,100.00	\$84,000
16	Supervisors		Internal Labour – Technologist	•	20	3	\$ 2,400.00	\$144,000
17				•			\$ -	
18				•			\$ -	
19				•			\$ -	
20				•			\$ -	
21				•			\$ -	
22				•			\$ -	
23				•			\$ -	
24				•			\$ -	
25				•			\$ -	
26				•			\$ -	
27				•			\$ -	
29				•			\$ -	
30				-			\$ -	
31				•			\$ -	
33				•			\$ -	
34				-			\$ -	
35				~			\$ -	

	Materials				
Project Title:	HRD 60 MW (Nominal) CT Addition				
Engineering Discipline:	All				
Estimated by:	All & Consolidated by				
Project Start Year:	2013	Total Ma	terials C	ost (1130):	\$1,935,090
Date:	September 29, 2013				
# Item Description		Unit Price	<u>Units</u>	Quantity	Total \$
1			m		
2 Mechanical engine	ering				
3 Electrical eng (See	Estimate)		lot		\$580,000
4 Civil engineering (Estimate)				\$51,900
5 Telecontrol eng. (S	See Estimate)		ea		\$222,800
6 P&C engineering (See Estimate)				\$106,925
7 P&C engineering (See Estimate)		Lot		\$10,000
8 P&C eng DCS (See Estimate)				
9 T&D Engineering	(See Estimate)				\$732,715
10					
11 Misc. materials for cor	struction	\$200,000	ea	1	\$200,000
12					
13 Office furniture, fax ma	achine, printers, etc. for construction trailers	\$10,000	ea	1	\$10,000
14					
15 Phones, blackberries,	pagers, (including cell phone monthly fees)	\$10,000	ea	1	\$10,000
16					
17 PPE		\$8,000	ea	1	\$8,000
18					
19 Office supplies (paper	, etc)	\$750	ea	1	\$750
20					
21 Drinking water		\$2,000	ea	1	\$2,000
22					
23					
24					
25					
26					
27					
28					
29					
30					
31					
32					
33					
34					

			Third Party Consultants	Labour						
Proj	ect Title:	HRD 60 MW (Nominal)	CT Addition							
Eng	ineering Discipline:	All								
Esti	mated by:	All & Consolidated by								
Proj	ect Start Year:	2013			Total Reg	ular Labour (Costs(1110):	\$1,739,820		
Date	e:	September 29, 2013								
Note	: All rate information c	omes from the Std Estima	ting Rates.		F	Rates Last Up	dated: 2012-	12-14		
#	Item Description		<u>Category</u>		# of Wks	# of People	Rate / Wk	Total \$		
1				•			\$ -			
2	Mechanical engine	eering		_			\$ -	\$250,000		
3	Electrical eng (See	Estimate)		•			\$ -	\$30,120		
4	Civil engineering (•			\$ -	\$25,200		
5	Telecontrol eng. (S	See Estimate)		•			\$ -			
6		See Estimate)		•			\$ -			
7	P&C engineering (_			\$ -			
8	P&C eng DCS (S			_			\$ -			
9	T&D Engineering (See Estimate		—			\$ -	\$17,500		
10				_			\$ -	_		
	Environmental Studies	3		_			\$ -	\$300,000		
12			- II	_	50	0	\$ -			
	On-site Reps		Consultants (min \$175/hr.)		52	3	\$ 7,000.00	\$1,092,000		
14	On-site Rep expenses	8		_			\$ -	\$25,000		
15				_			\$ -			
16				▼			\$ -			
17				~			\$ -			
18				▼			\$ -			
19							\$ -			
20				Ť			\$ -			
21				_			\$ - \$ -			
23				_						
24				_			_			
25				_			\$ -			
26				_			\$ -			
27				_			\$ -			
28				_			\$ -			
29				_			\$ -			
30				~			\$ -			
31				~			\$ -			
32				_			\$ -			
33			1	_			\$ -			
34				▼			\$ -			
35			1	_			\$ -			
36				_			\$ -			
37				_			\$ -			
38				_			\$ -			
39				•			\$ -			
40				•			\$ -			
41				•			\$ -			
42				•			\$ -			
43				_			\$ -			

		Third P	arty Equipment Rentals					
Proi	ect Title:	HRD 60 MW (Nominal) CT Addition						
1 -		All						
	mated by:	All & Consolidated by						
Proj	ect Start Year:	2013		Total E	quip Rental	Costs(1140):	\$105,600	
Date) :	September 29, 2013						
Note	e: All rate information of	comes from the Std Estimating Rates shee	et.		Rates Last Updated: 2012-12-14			
<u>#</u>	Item Description		Category		# of Wks	Rate / Wk	Total \$	
1				•		\$ -		
2	Mechanical engine	eering		•		\$ -		
3	Electrical eng (Se	Estimate)		•		\$ -	\$4,200	
4	Civil engineering (See Estimate)		~		\$ -		
5	Telecontrol eng. (See Estimate)		•		\$ -		
6	P&C engineering	(See Estimate)		•		\$ -		
7	P&C engineering	(See Estimate)		•		\$ -		
8	P&C eng DCS (See Estimate)		•		\$ -		
9	T&D Engineering	(See Estimate)		•		\$ -		
10				~		\$ -		
11	Rental of office trailers	3		•		\$ -	\$100,000	
12	Electrical OSR Vehicle	e		•		\$ -	\$1,400	
13				~		\$ -		
14				•		\$ -		
15				•		\$ -		
16				•		\$ -		
17				~		\$ -		
18				•		\$ -		
19				~		\$ -		
20				~		\$ -		
21				•		\$ -		
22				•		\$ -		
23				•		\$ -		
24				•		\$ -		
25				•		\$ -		
26				•		\$ -		
27				•		\$ -		
29				•		\$ -		
30				•		\$ -		
31				•		\$ -		
33				•		\$ -		
34				•		\$ -		
35				•		\$ -		

			Engineering Travel									
Proj	ect Title:	HRD 60 MW (Nominal) CT Addi										
Eng	ineering Discipline:	All										
Esti	mated by:	All & Consolidated by										
Proj	ect Start Year:	2013	_			Total Travel	Cos	ts(1145):	\$203,454			
Date	Date: September 29, 2013											
Note	e: Air Fares may be typ	ped directly into the Std Estimating	g Rates Sheet.	Rates Last Updated: 2012-12-14								
<u>#</u>	Item Description		<u>Category</u>		# of Wks	# of People	Ra	ite / Wk	Total \$			
1	Project Manager Safe	ty Tour (4 tours per year)	Living Expenses	_	2	1	\$	260.00	\$520			
2			Commercial Car/Van/Pick Up Rental		2	1	\$	500.00	\$1,000			
3				•			\$	-				
4				•			\$	-				
5	Project Manager Site	Meetings (12 mtgs per year)	Living Expenses		6	1	\$	260.00	\$1,560			
6			Commercial Car/Van/Pick Up Rental		6	1	\$	500.00	\$3,000			
7				•			\$	-				
8	Mechanical engine	eering		•			\$	-				
9	Electrical eng (Se	e Estimate)		•			\$	-	\$30,372			
10	Civil engineering (See Estimate)		•			\$	-	\$4,712			
11	Telecontrol eng. (See Estimate)		•			\$	-	\$6,700			
12	P&C engineering	(See Estimate)		•			\$	-	\$17,950			
13	P&C engineering	(See Estimate)		•			\$	-	\$42,320			
14	P&C eng DCS (See Estimate)		•			\$	-				
15	T&D Engineering	(See Estimate)		•			\$	-	\$5,320			
16				•			\$	-				
17	Environment (vehicle	for construction monitoring)	Commercial Car/Van/Pick Up Rental		30	1	\$	500.00	\$15,000			
18				•			\$	-				
19	Car for engineering pr	oject team	Commercial Car/Van/Pick Up Rental		130	1	\$	500.00	\$65,000			
20				•			\$	-				
21	Misc. (meals)			•			\$	-	\$10,000			
22				•			\$	-				
23				•			\$	-				
24				•			\$	-				
25				•			\$	-				
26				•			\$	-				
27				•			\$	-				
29				•			\$	-				
30				•			\$	-				
31				•			\$	-				
33				•			\$	-				
34				•			\$	-				
35				•			\$	-				

			Construction Trave	el				
Proj	ect Title:	HRD 60 MW (Nominal) CT Add	dition					
Eng	ineering Discipline:	All						
Esti	mated by:	All & Consolidated by						
Proj		2013				Total Travel	Costs(1145):	\$30,500
Date) :	September 29, 2013						
Note	e: Air Fares may be type:	ped directly into the Std Estimatir		Rat	es Last Upda	ted: 2012-12	-14	
<u>#</u>	Item Description		Category		# of Wks	# of People	Rate / Wk	Total \$
1				-			\$ -	
2	Mechanical engine	eering		•			\$ -	
3	Electrical eng (See	Estimate)		•			\$ -	
4	Civil engineering (See Estimate)		•			\$ -	
5	Telecontrol eng. (S	See Estimate)		•			\$ -	\$3,000
6	P&C engineering ((See Estimate)		•			\$ -	
7	P&C engineering ((See Estimate)		•			\$ -	\$8,360
8	P&C eng DCS (See Estimate)		•			\$ -	
9	T&D Engineering	(See Estimate)		•			\$ -	\$14,140
10				•			\$ -	
11	Misc. Meals			•			\$ -	\$5,000
12				•			\$ -	
13				•			\$ -	
14				•			\$ -	
15				▼			\$ -	
16				•			\$ -	
17				•			\$ -	
18				~			\$ -	
19				•			\$ -	
20				•			\$ -	
21				~			\$ -	
22				▼			\$ -	
23				▼			\$ -	
24				•			\$ -	
25				▼			\$ -	
26				▼			\$ -	
27				▼			\$ -	
29				•			\$ -	
30				•			\$ -	
31				•			\$ -	
33				•			\$ -	
34				•			\$ -	
35				•			\$ -	

	Third Party Contracts										
Pro	ject Title:	HRD 60 MW (Nominal) CT Addition									
Engineering Discipline: All											
Esti	mated by:	All & Consolidated by									
Pro	ject Start Year:	2013	Total	Contrac	t Cost (1150):	\$82,266,625					
Date	e:	September 29, 2013									
<u>#</u>	Item Description		Unit Price	<u>Units</u>	Quantity	Total \$					
1				m							
2	Mechanical engine	pering									
3	Electrical eng (See	Estimate)		m3		\$215,000					
4	Civil engineering (See Estimate)				\$681,625					
5	Telecontrol eng. (S	See Estimate)		ea		\$175,000					
6	P&C engineering (See Estimate)									
7	P&C engineering (See Estimate)		Lot							
8	P&C eng DCS (See Estimate)									
9	T&D Engineering ((See Estimate)				\$1,345,000					
10											
11	Misc. mechanical ()	\$500,000	ea	1	\$500,000					
12											
13											
14		SAL (Quote is in USD, Rate of 1.02 used for \$Can)									
15	Supply and install 60 Mincluding:	MW gas turbine plant (based on	\$79,050,000	ea	1	\$79,050,000					
16		, Full Unit Erection, Liquid Fuel Water Injected with standard 50 foot									
17		ng the Larger Electric Generator - , a cold weather package									
18	for temperatures below	v 20 deg F, Water wash cart and basic SCADA System (local and remote)									
19	Interface.										
20	Options included are:										
21	Wet Compression Sys	stem; Inlet Fogging System; Larger 3 Winding Xfmr. (13.8/230/4.16 kV);									
22	Black Start Diesel; Ex	pansion for capability to 120 MW (Full foundation/Updated control system);									
23	Continuous Emissions	Monitoring System; Demineralized Water Production Plant including									
24	1,000,000 gallon tank;	Two (2) 700,000 gallon Oil Tanks; and Fully Enclosed Cold Weather									
25	Building including over	rhead crane)									
26											
27											
28											
29	Interconnections for bl	ack start diesel - not included	\$300,000	ea	1	\$300,000					
30											
31											
32											
33											
34				-							

		Interna	I Equipment Rentals								
Proj	ect Title:	HRD 60 MW (Nominal) CT Addition	• •								
	ineering Discipline:	All									
	Estimated by: All & Consolidated by										
Proj	Project Start Year: 2013 Total Equip Rental Costs(1140): \$30,950										
Date: September 29, 2013											
Note	e: All rate information of		Rates Las	t Updated: 20	12-12-14						
<u>#</u>	Item Description		# of Wks	Rate / Wk	Total \$						
1	Vehicle for Safety Tou	ır		•		\$ -					
2	Vehicle for Travel for	Meetings		•		\$ -					
3						\$ -					
4	Mechanical engine	eering		•		\$ -					
5	Electrical eng (Se	Estimate)		•		\$ -	\$7,850				
6	Civil engineering (See Estimate)		•		\$ -					
7	Telecontrol eng. (See Estimate)		▼		\$ -	\$7,700				
8	P&C engineering	(See		•		\$ -	\$10,500				
9	P&C engineering	(See Estimate)		▼		\$ -					
10	P&C eng DCS (See Estimate)		•		\$ -					
11	T&D Engineering	(See Estimate)		•		\$ -	\$4,900				
12				•		\$ -					
13				•		\$ -					
14				•		\$ -					
15				•		\$ -					
16				•		\$ -					
17				•		\$ -					
18				•		\$ -					
19				•		\$ -					
20				•		\$ -					
21				•		\$ -					
22				•		\$ -					
23				•		\$ -					
24				•		\$ -					
25				▼		\$ -					
26				•		\$ -					
27				•		\$ -					
29				•		\$ -					
30				•		\$ -					
31				▼		\$ -					
33				▼		\$ -					
34				•		\$ -					
35				•		\$ -					

Standard Estimating Rates									
Rates Last Updated: 2012-12-14	Operating	Capital							
	•	•							
Labour	(\$/wk)	(\$/wk)							
Engineer/Technologist	\$3,400	\$3,400							
Surveyors	\$2,400	\$2,400							
Environmental Coordinator/Monitor	\$2,400	\$2,400							
Ecologist/Safety Lead/Safety Specialist	\$2,900	\$2,900							
Legal Counsel	\$4,400	\$4,400							
Drafters	\$2,400	\$2,400							
Owner Site Representative (OSR)	\$2,200	\$2,200							
Internal Labour – Technologist	\$2,400	\$2,400							
Internal Labour – Trades	\$2,100	\$2,100							
External Labour – Trades (Union)	\$3,320	\$3,320							
External Labour – Trades (Non Union)	\$2,280	\$2,280							
Consultants (min \$175/hr.)	\$7,000	\$7,000							
Miscellaneous	. ,	·							
Internal Equipment Rentals	(\$/wk)	(\$/wk)							
	(+-)	, , , , , , , , , , , , , , , , , , ,							
Cars/Vans/Pick Ups	\$350	\$350							
Snowmobiles/ATVs	\$250	\$250							
Line Body Trucks	\$1,000	\$1,000							
Aerial Devices	\$1,300	\$1,300							
Stake Body Boom Trucks	\$1,300	\$1,300							
Mobile Cranes	\$1,300	\$1,300							
Muskegs/Go Tracks	\$11,200	\$11,200							
Mobile Substation	\$850	\$850							
Portable Transformer (pallet)	\$850	\$850							
Helicopter (Casual or Contract) (\$1,285/hr)	\$51,400	\$51,400							
Miscellaneous	ΨΦ.,σσ	φσ:,:σσ							
Commercial Rental									
Other Equipment									
Caron Equipment									
Travel	(\$)	(\$)							
	(Ψ)	(4)							
Living Expenses	\$260	\$260							
Airport Taxi (Return)	\$80	\$80							
Commercial Car/Van/Pick Up Rental	\$500	\$500							
Hotel Accommodations (In province)	\$750	\$750							
Air Fare – In Province	By location	By location							
Air Fare – Out of Province	By location	By location							
Air Fare - Other	by location	Dy location							
All Falc Other									
Notes:									
 Labour rates for all categories the same for strain 	aight time and avertime f	iold or office. (no loading or	ovortimo)						

Undertaking 113, Attachment 5 Page 15 of 15

															Page 15	ot 15
roject De	oecrir	ntion					_									
							9999									
sset Business Unit																
							_									
roject St	art D	ata					_									
roject Co)ata				_									
i Oject O	ompi	CHOILE	Jaic													
Busines	e IIn	it		Cos	st Code							Cost Typ	P		II.	
Justines	3 011			00.	J							COStryp				
Asset			Work	Major				Level of Detail								
Business		Proj	Plan	Work	Future			vel	Labour		Materials	Consultants	Equip. Rental	Travel		
Unit	Year	Num	Type	Group	use	Activity	Description	ے د	1110	Overtime 1120	1130	1135	1140	1145	Contract 1150	Total
9999	99	90	-				Capital Projects	4								
9999	99	99	5 5	999			MWG Description	5								
9999	99	99	5	999	00		Proj. Num. Default 00	6								
9999	99	99	5	999	00	01	Project Activity Description	7								
9999	99	99	5	999	00	01	ENGINEERING	8	2,006,897.50	27,200.00				203,454.00		2,237,55
9999	99	99	5				Capital Projects	4								
9999	99	99	5	999	00		MWG Description	5								
9999 9999	99 99	99 99	5 5	999 999	00	02	Proj. Num. Default 00 Project Activity Description	7								
9999	99	99	5	999	00	02	MATERIALS	8			1.935.090.00					1.935.09
				1]					,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,					,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,
9999	99	99	5				Capital Projects	4								
9999	99	99	5	999			MWG Description	5								
9999	99	99	5	999	00		Proj. Num. Default 00	6								
9999	99	99	5	999	00	03	Project Activity Description THIRD PARTY	7				1 700 000 00	105 000 00		00.000.005.00	04.440.04
9999	99	99	5	999	00	03	THIRD PARTY	8				1,739,820.00	105,600.00		82,266,625.00	84,112,04
9999	99	99	5				Capital Projects	4								
9999	99	99	5	999			MWG Description	5								
9999	99	99	5	999	00		Proj. Num. Default 00	6								
9999	99	99	5	999	00	04	Project Activity Description	7								
9999	99	99	5	999	00	04	INTERNAL EQUIPMENT	8					30,950.00			30,95
9999	99	99	5	000			Capital Projects	4								
9999 9999	99 99	99 99	5 5	999 999	00		MWG Description Proj. Num. Default 00	5								
9999	99	99	5	999	00	05	Project Activity Description	7								
9999	99	99	5	999	00	05	CONSTRUCTION	8	1,983,720.00	633,400.00				30,500.00		2,647,62
														,		, , , , , ,
															Project Total:	90,963,256
			1												,	
																·

Page 1 of 1 Page 1 of 1





PROJECT PROPOSAL SUMMARY

			Capital Project	:		Bus. Unit	1325	<u>;</u>
Project Title:	HRD 60	0 MW (Nominal) CT Add	lition Project		-	Date Prepared	2013, September 29)
Company:	HYDRO		•			Project Type:		_
Start Year:		or Later	Category:	Generation - Ga	as Turhines	, , ,		
Start Date:	2014 3		Definition:	Other	3 Turbines	Classification:	Mandaton	_
				-				-
Completion Date:	2015	<u>Dec</u>	Location:	HRD		Asset Retirement of	or Transfer?	Yes
								=
Type of Work:		ustion Turbine Plant Cor	<u>istri</u>	Prepared By:				
Base Date:	2013 .							
		2 Year Cash Sheet	Should be Used					
Project Cost:	(\$ x1,0	000)	<u>2014</u>	<u>2015</u>	BEYOND	TOTAL		
Material Supply	(, ,	,	 967.5		0.0	1,935.1		
Labour			1,600.0		0.0	4,651.2		
Consultant			325.2		0.0	1,739.8		
Contract Work			31,941.7		0.0	82,266.6		
Other Direct Cos	ts		147.3		0.0	370.5		
Interest and Esca	alation		2,308.9		0.0	11,672.1		
Contingency			0.0		0.0	18,192.7		
TOTAL			37,290.6	83,537.4	0.0	120,828.1		
Description:								
See attached repo	rt.							
· · · · · · · · · · · · · · · · · · ·								
Operating Experie								
See attached repo	ort.							
localificant and								
Justification:								
See attached repo	ort.							
Future Plans:								
See attached repo	ort.							
"Initiating Bus.Unit" Mg	r. I	Project Estimator:	"Managing Dept."	Mør:	"Initiating Dept" N	Manager:	Vice-President:	
mindaning bus.Offic ivigi		Toject Estimator.	ויומוומקוווק טבטנ.	14161 -	minating Dept. IV	ianagei.	vice i resident.	