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Q. Provide Hydro’s individual justifications and specific calculations for the “Interest and Escalation” and “Contingency” budget components for each of the following Projects:

- **C-3, Replace Stator Windings Unit 1 – Bay d’Espoir**
- **C-6, Installation of Variable Frequency Drives on Forced Draft Fans – Holyrood (for 2013 and 2014, and including an explanation as to why there is no “Contingency” component for 2013)**
- **C-8, Upgrade Governor Controls on Units 1 and 2 – Holyrood**
- **C-12, Complete Condition Assessment Phase 2 (Year 2) – Holyrood**
- **C-45, Perform Wood Pole Line Management Program**
- **D-136, Replace Light-Duty Mobile Equipment**

A. Please see IC-NLH-11 Attachment 1 for the specific calculations for each of the projects listed above. Also refer to IC-NLH-9 and IC-NLH-10 for the justification on the use of these budget components. The type of work is listed with each example since the type of work determines the escalation rates used. There is no contingency component for 2013 for Installation of Variable Frequency Drives on Forced Draft Fans – Holyrood because the project estimator applied it at the end of the project rather than at the end of each year. The total amount of contingency would be the same whether it is applied annually or at the end of the project.

Replace Stator Windings Unit 1

Monthly Interest Rate 0.64%

Type of Work: Hydraulic Plant construction

Year	Month	Total Monthly Expenditures (\$000)	Escalation Rate	Escalation Amount (\$000)	Contingency	Cash Flows Incurring Interest (\$000)	Cummulative Cash Flows Incurring Interest (\$000)	Interest (\$000)
2013	Jan	160.0	0.0293	4.7		10.0	10.0	0.0
	Feb	170.0	0.0314	5.3		169.7	180.3	0.6
	Mar	249.0	0.0334	8.3		175.3	357.3	1.7
	Apr	140.0	0.0354	5.0		264.3	624.7	3.1
	May	440.0	0.0375	16.5		193.0	822.3	4.6
	Jun	512.0	0.0395	20.2		501.5	1,330.6	6.8
	Jul	617.0	0.0416	25.6		562.2	1,903.1	10.3
	Aug	682.9	0.0436	29.8		592.6	2,509.7	14.0
	Sep	776.9	0.0457	35.5		639.6	3,167.3	18.0
	Oct	619.2	0.0477	29.6		800.5	3,990.5	22.7
	Nov	40.0	0.0498	2.0		648.8	4,666.8	27.5
	Dec	6.2	0.0519	46.1	882.6	38.2	4,734.8	29.8
	Total	4,413.2		228.6	4,595.7	4,595.7		139.1

Installation of Variable Frequency Drives on Forced Draft Fans - Holyrood

Monthly Interest Rate 0.64%

Type of Work: More Material Less Labor

Year	Month	Total	Escalation	Escalation	Contingency	Cash Flows	Cummulative	Interest
		Monthly				Incurring	Cash Flows	
		Expenditures	Rate	Amount		Interest	Incurring	
		(\$000)		(\$000)		(\$000)	Interest	(\$000)
2013	Jan	6.0	0.0239	0.1		5.0	5.0	0.0
	Feb	8.5	0.0257	0.2		6.1	11.2	0.1
	Mar	13.0	0.0276	0.4		3.7	15.0	0.1
	Apr	19.0	0.0294	0.6		18.4	33.6	0.2
	May	158.9	0.0313	5.0		19.6	53.5	0.3
	Jun	55.0	0.0332	1.8		168.9	223.3	0.9
	Jul	69.8	0.0351	2.4		59.8	284.7	1.6
	Aug	5.0	0.0369	0.2		64.2	350.9	2.0
	Sep	5.0	0.0388	0.2		5.2	358.3	2.2
	Oct	315.4	0.0407	12.8		0.2	360.8	2.3
	Nov	0.9	0.0426	0.0		329.1	693.2	3.3
	Dec	0.0	0.0445	0.0		0.0	697.6	4.4
	Total	656.5		23.8		680.2		17.4

Installation of Variable Frequency Drives on Forced Draft Fans - Holyrood

Monthly Interest Rate 0.64%

Type of Work: More Material Less Labor

Year	Month	Total Monthly Expenditures (\$000)	Escalation Rate	Escalation Amount (\$000)	Contingency	Cash Flows Incurring Interest (\$000)	Cummulative Cash Flows Incurring Interest (\$000)	Interest (\$000)
2014	Jan	0.0	0.0464	0.0		0.0	702.0	4.4
	Feb	90.5	0.0483	4.4		0.0	706.5	4.5
	Mar	455.0	0.0502	22.8		99.9	811.2	4.8
	Apr	90.0	0.0521	4.7		472.8	1,290.7	6.7
	May	655.0	0.0540	35.4		99.7	1,398.9	8.5
	Jun	288.0	0.0559	16.1		695.4	2,105.4	11.1
	Jul	288.0	0.0578	16.7		307.1	2,426.9	14.4
	Aug	0.4	0.0597	0.0		292.1	2,735.4	16.4
	Sep	0.0	0.0617	0.0		0.0	2,752.8	17.4
	Oct	5.0	0.0636	0.3		5.0	2,775.3	17.5
	Nov	0.0	0.0655	0.0		0.3	2,793.3	17.7
	Dec	5.0	0.0675	34.5	506.7	5.0	2,816.1	17.8
	Total	1,876.9		134.9	506.7	1,977.3		141.2
	Total Project			158.7	506.7			158.6

Upgrade Governor Controls on Unit1 and 2 - Holyrood

Monthly Interest Rate 0.64%

Type of Work: More Material Less Labor

Year	Month	Total Monthly Expenditures	Escalation	Escalation	Contingency	Cash Flows Incurring Interest	Cummulative Cash Flows Incurring Interest	Interest
		(\$000)	Rate	Amount (\$000)		(\$000)	(\$000)	(\$000)
2013	Jan	15.0	0.0239	0.4		15.0	15.0	0.0
	Feb	170.0	0.0257	4.4		15.4	30.5	0.1
	Mar	15.0	0.0276	0.4		174.4	205.6	0.7
	Apr	15.0	0.0294	0.4		15.4	222.4	1.4
	May	139.3	0.0313	4.4		20.4	244.3	1.5
	Jun	32.4	0.0332	1.1		143.7	390.0	2.0
	Jul	368.0	0.0351	12.9		33.5	426.1	2.6
	Aug	74.0	0.0369	2.7		395.9	826.0	4.0
	Sep	94.8	0.0388	3.7		96.5	928.1	5.6
	Oct	106.5	0.0407	4.3		110.2	1,044.6	6.3
	Nov	99.4	0.0426	4.2		104.0	1,155.6	7.0
	Dec	10.0	0.0445	10.6	227.9	53.9	1,217.0	7.5
	Total	1,139.4		49.5	227.9	1,178.3		38.7

Complete Condition Assessment Phase 2 (Year 2) - Holyrood

Monthly Interest Rate 0.64%

Type of Work: More Labor Less Material

Year	Month	Total Monthly Expenditures (\$000)	Escalation Rate	Escalation Amount (\$000)	Contingency	Cash Flows Incurring Interest (\$000)	Cummulative Cash Flows Incurring Interest (\$000)	Interest (\$000)
2013	Jan	0.0	0.0304	0.0		0.0	0.0	0.0
	Feb	6.0	0.0327	0.2		6.0	6.0	0.0
	Mar	37.0	0.0351	1.3		6.7	12.8	0.1
	Apr	69.5	0.0375	2.6		40.8	53.8	0.2
	May	100.5	0.0399	4.0		78.1	132.5	0.6
	Jun	138.5	0.0423	5.9		107.5	241.2	1.2
	Jul	138.5	0.0447	6.2		144.4	387.6	2.0
	Aug	147.1	0.0471	6.9		143.3	533.8	2.9
	Sep	140.5	0.0495	7.0		152.4	690.1	3.9
	Oct	100.7	0.0519	5.2		147.5	842.5	4.9
	Nov	31.1	0.0544	1.7		97.0	945.2	5.7
	Dec	0.0	0.0568	10.3	181.9	26.7	978.0	6.1
	Total	909.4		51.3	181.9	950.4		27.5

## Perform Wood Pole Line Management Program

Type of Work: Transmission Line Construction

Year	Month	Total Monthly Expenditures (\$000)	Escalation Rate	Escalation Amount (\$000)	Contingency
2013	Jan	111.3	0.0272	3.0	
	Feb	111.3	0.0292	3.2	
	Mar	146.3	0.0312	4.6	
	Apr	146.3	0.0332	4.8	
	May	135.3	0.0351	4.8	
	Jun	135.3	0.0371	5.0	
	Jul	335.3	0.0391	13.1	
	Aug	233.2	0.0411	9.6	
	Sep	155.3	0.0431	6.7	
	Oct	155.3	0.0451	7.0	
	Nov	155.3	0.0471	7.3	
	Dec	155.5	0.0491	27.0	395.1
	Total	1,975.5		96.2	395.1

## Replace Light-Duty Mobile Equipment

Type of Work: More Material Less Labor

Year	Month	Total Monthly Expenditures (\$000)	Escalation Rate	Escalation Amount (\$000)	Contingency
2013	Jan	1.0	0.0239	0.0	
	Feb	0.0	0.0257	0.0	
	Mar	0.0	0.0276	0.0	
	Apr	0.0	0.0294	0.0	
	May	145.5	0.0313	4.6	
	Jun	0.0	0.0332	0.0	
	Jul	0.0	0.0351	0.0	
	Aug	38.5	0.0369	1.4	
	Sep	0.0	0.0388	0.0	
	Oct	49.5	0.0407	2.0	
	Nov	202.5	0.0426	8.6	
	Dec	0.0	0.0445	1.0	21.9
	Total	437.0		17.6	21.9