

1 Q. Further to the response to PUB-Nalcor-247, Attachment 1, page 9, please describe
2 the components associated with the reduction in contractor FTEs from 50.3 to 34.3
3 and the associated cost.

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6 A. PUB-Nalcor-247, Attachment 1 summarizes the Muskrat Falls staffing plan from
7 2018-2025. Navigant, in consultation with Nalcor Power Supply Management
8 issued a final benchmark staff report dated July 29, 2018 on a proposed long term
9 steady-state staffing plan for the Muskrat Falls generation plant, see Attachment 10
10 of Nalcor's response to PUB-Nalcor-174. The report included 50.3 budgeted
11 subcontractor FTEs across a variety of functional areas. A detail of the 50.3 FTEs is
12 included in PUB-Nalcor-271, Attachment 1 – TTO-Navigant Contract Labour.

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14 Once plant operations stabilize, management anticipates it will be positioned to
15 optimize subcontractor staff resulting in the initial 50.3 FTEs reducing to 34.5 FTEs,
16 as outlined in Table 1: Muskrat Falls Subcontractor and FTE Staffing.

1 **Table 1: Muskrat Falls Subcontractor and FTE Staffing**

Navigant Functional Areas	2018 ¹			2023			2025	
	FTE	Cost	Reduction ²	FTE	Cost	Reduction ²	FTE	Cost
Operations	4.4	384,050		4.4	384,050		4.4	384,050
Plant Maintenance	5.3	503,113		5.3	503,113		5.3	503,113
Waterways and Dams ^{2.1}	13.9	1,330,800	-7.3	6.6	630,000		6.6	630,000
Buildings and Grounds	10.0	963,924		10.0	963,924		10.0	963,924
Support ^{2.2}	6.8	648,328	-1.7	5.1	485,128		5.1	485,128
PA&R ^{2.3}	10.0	2,970,000		10.0	2,970,000	-6.8	3.2	957,200
Total FTEs	50.3	6,800,215	-9.0	41.3	5,936,215	-6.8	34.5	3,923,415

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3 Notes:

4 1. Total 2018 details obtained from TTO analysis and included in Navigant final staffing plan report dated July 29, 2018, see Attachment 10,
5 page 38 of Nalcor's response to PUB-Nalcor-174.

6 2. Power Supply management anticipates reduction in contractor FTEs based on plant stabilization and optimization of activities in years
7 subsequent to plant commissioning. See Attachment 10, page 16 of Nalcor's response to PUB-Nalcor-174, "Potential areas for long-term
8 staff optimization"

9 .1 Waterways and Dams - Less debris management (7.3 FTEs)

10 .2 Support - Less Site Staff security (1.7 FTEs)

11 .3 PA&R (Public Affairs and Regulatory) - Less Environmental monitoring (6.8 FTEs).

Muskrat Falls Corporation
Subcontractor Estimates - Operating Costs and FTEs

			Management Estimates							FTEs by Functional Area					
Operations Contract Description	Additional information	Annual	Estimated contract	Annual Costs Projection	Labour Content %	Labor x Annual Costs	Labor Cdn. Hrly Rate + Burden	Annual Labor Hrs	Labor Hrs / Billable Hrs 1600	Operations FTE	Plant Maint FTE	Waterways and dams FTE	Buildings & Grounds FTE	Support FTE	PA&R FTE
Trash Removal	Manned sites only, domestic garbage, light industrial	Annual	11,000	11,000	30%	3,300	60.00	55	0.03			0.03			
Diesel Generators	Maintenance on 3 generators at MF site	Annual	10,000	10,000	37%	3,728	74.00	50	0.03		0.03				
Fire panels, alarms, suppression	Pressure thru all sites, pressurized cylinders, certified co.	Annual	30,000	30,000	75%	22,500	74.00	304	0.19		0.19				
Snow clearing	Plant site and roads	Annual	624,128	624,128	50%	312,064	58.50	5,334	3.33				3.33		
Janitorial	Plant	Annual	350,608	350,608	90%	315,547	60.00	5,259	3.29				3.29		
Comms and Security (cards, cameras, etc.)	maintain over 200 cameras, 100 card locks, multiple sites	Annual	34,819	34,819	95%	33,078	58.50	565	0.35					0.35	
Site security	Security guards	Annual	275,000	275,000	95%	261,250	60.00	4,354	2.72					2.72	
Road mtn (Access roads to sites)	Parking lots, lay down area, road grading, etc	Annual	125,000	125,000	82%	102,500	60.00	1,708	1.07				1.07		
Pest control	Manned sites	Annual	11,250	11,250	95%	10,688	60.00	178	0.11				0.11		
Trucking/transportation	Floating equip to work sites	Annual	50,000	50,000	50%	25,000	60.00	417	0.26					0.26	
Electrical Contracts	Newfoundland Power/ Hydro	Annual	60,000	60,000	75%	45,000	54.60	824	0.52	0.52					
Crane and Hoist	Lift devices- Tests Inspections	Annual	525,445	525,445	90%	472,901	58.50	8,084	5.05		5.05				
HVAC (Heating, Ventilation, Air conditioners)	Industrial Equipment	Annual	133,500	133,500	75%	100,125	54.60	1,834	1.15				1.15		
Pressure vessels	Air pressure tanks, H2 vessels, etc.	Annual	4,981	4,981	80%	3,985	84.00	47	0.03		0.03				
Mtn mobile equipment	Completed by 3rd parties (no inhouse service centers), fuel, etc.	Annual	250,000	250,000	70%	175,000	58.50	2,991	1.87					1.87	
Vehicle Maintenance and Fuel	Costs captured under OTHER COSTS	NA	-	-	0%	-									
Overhead doors	Annual inspections, safety cert., misc repairs	Annual	75,000	75,000	60%	45,000	54.60	824	0.52				0.52		
Vegetation management (Spray, cutting, etc.)	Mostly stations and some access Roads	Annual	10,000	10,000	60%	6,000	54.60	110	0.07				0.07		
Dams and Dykes	3rd party annual oversight work	Annual	100,000	100,000	90%	90,000	60.00	1,500	0.94			0.94			
Easements	Easement for long term crown title	Annual	73,358	73,358	0%	-									
Debris management on log boom	Excavator + trucking to storage site	Annual	2,000,000	2,000,000	50%	1,000,000	60.00	16,667	10.42			10.42			
North Spur	Dewatering	Annual	200,000	200,000	50%	100,000	60.00	1,667	1.04			1.04			
Environment Contracts	List of Studies and services to be refined and finalized	Annual	9,000,000	9,000,000	33%	2,970,000	185.00	16,054	10.00						10.00
Elevator	Annual inspection, preventive mtn. bi-annual, emergency	Annual	80,000	80,000	90%	72,000	105.00	686	0.43				0.43		
Inventory	Storage and control	Annual	160,000	160,000	90%	144,000	60.00	2,400	1.50					1.50	
River Water Monitoring costs	Water Monitoring stations and data gathering	Annual	342,000	342,000	90%	307,800	54.60	5,637	3.52	3.52					
Lubricants & Oil Testing	Transformers, etc.	Annual	25,000	25,000	25%	6,250	54.60	114	0.07	0.07					
Log boom system	Remote Operated Vehicle	Annual	150,000	150,000	50%	75,000	60.00	1,250	0.78			0.78			
North Spur Instrumentation	Maintenance of instrumentation controls for North Spur pumps, etc.	Annual	50,000	50,000	50%	25,000	58.50	427	0.27			0.27			
Spillway - claw machine maintenance	Routine PMs for operational efficiency	Annual	50,000	50,000	75%	37,500	58.50	641	0.40			0.40			
Supply of Personal Protective Equipment	Supply of PPE for all employees - hard hats, fall arrest, etc.	Annual	250,000	250,000	10%	25,000	60.00	417	0.26	0.26					
Tools	Supply of tools for employees	Annual	100,000	100,000	10%	10,000	60.00	167	0.10					0.10	
			15,161,089	15,161,089		\$ 6,800,215			50.32	4.37	5.30	13.88	9.96	6.81	10.00

Notes:

- 1) Summary provides magnitude/reasonableness but subject to continued refinement for completeness/accuracy.
- 2) Annual Costs Projections will escalate & change as time progresses until contracts tendered, awarded and initiated.
- 3) Annual Costs Projections and Labor Content % based on management estimates and information available at time of preparation.