Q. Has the Risk Management Plan referred to on page 39 of the Report and attached as Appendix F been updated? If yes, provide a copy. If no, when is it anticipated that it will be?

A. The Risk Management Plan referred to on page 39 of the Report and attached as Appendix F was updated during a Risk Management workshop on June 26, 2014. Please see GT-PUB-NLH-040 Attachment 1.

WorleyParsons
resources & energy

Suite 604, Atlantic Place
Box 67, 215 Water Street
St. John's, NL A1C 6C9

nalcor energy

DOCUMENT COVER SHEET

PROJECT No:

PROJECT TITLE: **New 100 MW Gas Turbine at Holyrood**

WORLEYPARSONS DOCUMENT No:

DOCUMENT TITLE: **Risk Management Plan**

ELECTRONIC FILE LOCATION:

Originator: Issue Date:

DOCUMENT STATUS

REV	DATE	DESCRIPTION	BY	CHKD	APPD
A					

Risk Register Overview Information

Overview

Risk register owner	Stephen Parsons
Risk register custodian	Stephen Parsons

Roles and responsibilities

Risk register owner	- Allocates resources and assigns responsibilities for implementation, operation and ongoing management of identified risks within this register - Escalates material risks to the project manager
Risk register custodian	- Organizes the risk register workshop using a WorleyParsons approved facilitator - Manages and leads the ongoing review and monitoring of the risk register - Provides the risk register owner with register status information (e.g.: number of incomplete actions past agreed completion date)
Risk action owner *('Responsible person' listed on the register)*	- Individual assigned with the responsibility of ensuring the risk mitigating actions are undertaken (they may delegate and/or share action implementation)

Standards and procedures

The WorleyParsons risk management standards and procedures form the basis of the risk workshop and risk register. The relevant documents are summarized below.

- Risk Management Standard (CRP-0007)
- Project Risk Management Procedure (CRP-0011)
- Risk Management Plan Task Sheet (PAP-9002)

Risk Management Requirements

Risk workshop	- A risk workshop is undertaken at the start of a project and at the start of the next phase of a project - The workshop must be facilitated by a WorleyParsons approved risk facilitator

Risk register review	- The risk register is reviewed monthly by an appropriate group of project team members commensurate with the size and complexity of the project
	- The register is reviewed for
	  - action status and progress
	  - changes (increase or decrease in risk level)
	  - new risks (addition of any emerging risks)
	  - invalid risks (closing of risks which are no longer valid)

Risk management approach

Action management	The risk process is used to identify the different types of risks which may impact on the success of the project. Risks are defined by four levels (extreme, high, moderate and low). Risk mitigating actions are then prioritized for implementation based on the level of risk evaluated (e.g.: extreme risks are scheduled for completion before low risks)
Project change	The risk classification form is updated if the project: - experiences major change - commences a new phase This may lead to the need for a new risk workshop to be undertaken

Index

Client:	Nalcor Energy
Project No:	
Project Title:	New 100 MW Gas Turbine
Date:	26-June-2014

Initial Risk Workshop Details — Initial

Facilitator/s:	Title	Attended
Enter facilitator name	Stephen Fitzpatrick	Yes

Attendees- Name:	Title:	Attended
Stephen Parsons	PM	Yes
Trevor Andrews	T&D	Yes
Terry Abbott	Electrical	Yes
Caryn Phillips	P&C	Yes
Gerard Piercey	Civil	Yes
Todd Collins	Engineering and Construction Coordinator	Yes
Terry Ledrew	Plant Mgr	Yes
Glen Hicks	Communications	Yes
Kerry Martin	Pro Energy Services - Quality	Yes
Sarah Giles	Safety	Yes

Context for Risk Workshop:

The purpose of this risk workshop is to install a new 100MW gas turbine at Holyrood next to existing terminal station and generating facility. This project must be ready for operation by mid December 2014 to meet high peak demand period. The existing black start turbine is no longer operational and the leased black start diesels must be replaced. There is also a need to increase island capacity to the grid until Muskrat Falls comes on line.

Key Success Factors:

1. Zero Harm - meeting HSE objectives for Nalcor
2. Communication - many parties involved and they need to know what each other are doing.
3. Meet the deadline
4. Meet budget target
5. Asset will work as required and be reliable.
6. Maintainable
7. Seamless integration to operations

Stakeholders:

1. PUB
2. Intervenors
3. Rate Payers
4. General public
5. Municipalities of Holyrood and CBS
6. Holyrood Generating Station Operations and employees
7. Government Regulators - Environment, Safety, Transportation
8. NL Hydro
9. TRO
10. Contractors
11. ProEnergy/Pennecon
12. FM Global
13. NLH Procurement
14. Community liaison committee
15. ECC
16. System Planning
17. Unit Operators
18. Newfoundland Power
19. Industrial Customers

Below are some **suggested** likelihood and consequence scales.
Project teams are advised to review the categories and determine a scale that is relevant to their project; in particular the 'Financial' and 'Production/Schedule' categories should be modified to be specific to each Project. All fields should be reviewed and amended/deleted as required prior to commencing the brainstorming session.

Likelihood Category				
E	**D**	**C**	**B**	**A**
Rare	**Unlikely**	**Moderate**	**Likely**	**Almost Certain**
Highly unlikely to occur on this project	Given current practices and procedures, this incident is unlikely to occur on this project	Incident has occurred on a similar project	Incident is likely to occur on this project	Incident is very likely to occur on this project, possibly several times

	Consequences				
	1 - Insignificant	**2 - Minor**	**3 - Moderate**	**4 - Major**	**5 - Catastrophic**
Safety and Health	**First Aid Case**	**Minor Injury,** Medical Treatment Case with/or Restricted Work Case.	**Serious Injury** or Lost Work Case	**Major or Multiple Injuries** - permanent injury or disability	**Single or Multiple Fatalities**
Environment	**No impact** on baseline environment. Localized to point source. No recovery required	**Localized** within site boundaries. Recovery measurable within 1 month of impact	**Moderate** harm with possible wider effect. Recovery in 1 year	**Significant** harm with local effect. Recovery longer than 1 year.	**Significant** harm with widespread effect. Recovery longer than 1 year. Limited prospect of full recovery
Financial	< $500k	$500k - $1M	$1M - $10M	$10M - $20M	>$20M
Production/Schedule	< 3 days	3 days – 1 week	1 wk – 2 weeks	2 weeks – 1 month	> 1 month
Reputation	Localised temporary impact	Localised, short term impact	Localised, long term impact but manageable	Localised, long term impact with unmanageable outcomes	Long term regional impact
Business Impact	Impact can be absorbed through normal activity	An adverse event which can be absorbed with some management effort	A serious event which requires additional management effort	A critical event which requires extraordinary management effort	Disaster with potential to lead to collapse of the project

Risk Register and Action Plan

Project Number:

Project Name: New 100 MW GT

Column Key:	
	Do not enter data - automatically generated field
	Drop down list, select one item from list
	Enter text in this column

Number	Rank	Risk Description (Event and Consequence OR Cause)	Category	Existing Controls	Risk Severity Before Treatment					Risk Treatment Plan	Ability to Influence	Responsible Person (Risk Owner)	Due Date	Action Progress Status	Risk Status
						Consequence		Likelihood	Risk Level Before Treatment						
14	1	Construction activites leads to contact with energized lines leading to safety incident		Some OH lines relocated. Operator power line hazards training Permit system established Lift plans/demarkation/ spotters JSA	5	Catastrophic	D	Unlikely	*Extreme*	1. Analyze lift plans to ensure appropriate cautions in place. 2. Investigate - Request entire lift crew to participate in power line hazards training. 3. Investigate opportunity to deenergize adjacent lines where possible.		1. Sarah 2. Sarah 3. Todd	1. mid July 2. mid-July 3. early July		
32	2	Unfamiliarity with new equipment leads to delay in commissioning		4 weeks of training is included in Proenergy contract	4	Major	A	Almost Certain	*Extreme*	1. Engage the ops and commissioning personnel in the initial loop checks etc with Proenergy 2. Training on relays and "TRO" equipment		1. Alberta 2. Alberta	1. late Oct 2. late Oct		
51	3	Digging to install underground interconnection lines leads to discovery of uncharted equipment leading to safety issue		Underground scan Review existing drawings Discuss the plans with experienced personnel. Digging permits	4	Major	B	Likely	*Extreme*	Look at alternate excavation techniques to minimize impact		Gerard Piercy	end June		
10	4	Labour issues at the plant/TRO leads to delay in project		Contract currently under negotiation. Labour relations personnel	4	Major	C	Moderate	*Extreme*	May change with outcome of contract negotiations with TRO Labour.		N/R			
17	5	Lack of coordination of work with all of the work crews on site leads to safety incident		Integrated work plan HSE plan - integrated Site orientation Contractor coordination meetings Toolbox meetings and other	4	Major	C	Moderate	*Extreme*	1. Clear identification of roles and responsibilities 2. Daily communication with workforce - whiteboard activities at the entrance.		1. Sarah 2. Sarah/Kerry	1. mid-July 2. end June		
29	6	Aggressive project schedule does not alllow for any delay in design - lead to schedule delay		Set review period for drawings	4	Major	C	Moderate	*Extreme*	1. Ensure that all POs are issued as per schedule and the schedule incorporates appropriate lead time for vendor drawing completion. 2. Close coordination between the fast track design and construction teams		1. Todd 2. Kerry	1. early July 2. now		
36	7	Delay in delivery of 230kV breakers, disconnects and insulators leads to schedule delay		none.	4	Major	C	Moderate	*Extreme*	Expedite delivery of long lead items		Terry Abbott	now and ongoing		
42	8	Project team distractions due to other projects leads to delay in schedule.		Creating a segregated project team. Not all the team is fully dedicated to this project. Org chart developed identifying dedicated and shared resources	4	Major	C	Moderate	*Extreme*	Identify opportunities to release key personnel from other commitments.		Steve Parsons	end June		
43	9	Delay in vendor information leads to delay in schedule.		None.	4	Major	C	Moderate	*Extreme*	Expediting		Todd	now and ongoing		
44	27	Lack of coordination of work leads to schedule delay (interface management)		Integrated schedule Contracting plan Coordinator assigned	3	Moderate	C	Moderate	*High*	1. Shift scheduling 2. Daily communication with workforce - whiteboard activities at the entrance. 3. Develop contingency plans for key interfaces.		1. Kerry 2. Sarah/Kerry 3. Todd	1. early July 2. now 3. end July		
47	10	Delay in ferry shipment leads to delay in schedule for ancillary equipment.		None.	4	Major	C	Moderate	*Extreme*	Provide enough lead time for delivery		Steve Parsons	now and ongoing		
12	11	Crane failure during offloading leads to damage to GT and schedule delay		Lift plans have been requested. Health and Safety audits regularly scheduled. Equipment inspections and personnel certifications	5	Catastrophic	E	Rare	*High*						
48	12	Delay in environmental approvals leads to schedule delay		Active communication with environment regulator	5	Catastrophic	E	Rare	*High*	Investigate running the turbine without environmental approval - need CEO approval		Steve Parsons	end Nov		
2	13	Damage during transport leads to significant repair on the unit leading to delay in schedule		Proenergy has had a high success rate of delivering major equipment with minimial damage…They have proven crating and shipping practices.	4	Major	D	Unlikely	*High*	Identify the shipments that could have a major impact and analyze approach and packaging.		Kerry	now and ongoing		
6	41	Unforeseen subsurface soil conditions leads to schedule delay		Geotechnical investigation completed. Fuel tank area not on critical path	3	Moderate	D	Unlikely	*Moderate*						
9	14	Labour issues with contractor leads to delay in project		Experienced contractor which has good relationship with unions	4	Major	D	Unlikely	*High*	Investigate status of union contract with Proenergy/Pennecon		Kerry	now		

Risk Register and Action Plan

Project Number:

Project Name: New 100 MW GT

Column Key:	
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	Drop down list, select one item from list
	Enter text in this column

Number	Rank	Risk Description (Event and Consequence OR Cause)	Category	Existing Controls	Risk Severity Before Treatment					Risk Treatment Plan	Ability to Influence	Responsible Person (Risk Owner)	Due Date	Action Progress Status	Risk Status
						Consequence		Likelihood	Risk Level Before Treatment						
18	15	Congestion at the work site leads to safety incident		Standard Housekeeping practices HSE plan Segregation of plant vs work site activities site plan traffic control measures daily coordination meetings	**4**	Major	**D**	Unlikely	*High*						
20	16	Lack of availability of qualified and experienced trades leads to safety incident.		Standard process to check worker qualifications Pennecon has preferential rights with the union	**4**	Major	**D**	Unlikely	*High*	Give sufficient notice to the union		Kerry	now		
33	17	Unfamiliarity with new equipment leads to safety issue		4 weeks of training is included in Proenergy contract	**4**	Major	**D**	Unlikely	*High*	1. Establish an internal trainer for the facility 2. Investigate opportunity for Proenergy to provide an operator for a period of time. 3. Assign dedicated personnel for facility		1. Alberta 2. Alberta 3. Alberta	1. end Aug 2. end Aug 3. end Aug		
45	18	Lack of available space (laydown area) in Holyrood leads to delay in schedule		Site plan prepared	**4**	Major	**D**	Unlikely	*High*	Identify location for 100 ft poles in the site plan.		Trevor	end July		
11	19	Crane failure during offloading leads to safety incident		Lift plans have been requested. Health and Safety audits regularly scheduled. Equipment inspections and personnel certifications	**4**	Major	**E**	Rare	*High*						
13	20	Crane failure during offloading leads to damage to GT and cost impact		Lift plans have been requested. Health and Safety audits regularly scheduled. Equipment inspections and personnel certifications	**4**	Major	**E**	Rare	*High*						
28	21	Asbestos discovered/disturbed leading to a safety incident		Holyrood Asbestos Management Plan asbestos survey standard asbestos removal procedures	**4**	Major	**E**	Rare	*High*	1. Contractor Asbestos management plan 2. Investigate appropriate PPE for higher risk areas.		Sarah	1. early July 2. early July		
3	22	Delay in shipping due to weather delays leads to delay in schedule		We are shipping at a optimal time of the year for Newfoundland, but hurricane season for the Gulf.	**3**	Moderate	**B**	Likely	*High*	Place orders as early as possible to build in float		Todd	now and ongoing		
25	23	Procurement team unable to meet deadlines due to resource restrictions leading to delay in schedule		None.	**3**	Moderate	**B**	Likely	*High*	1. Provide sufficient lead time where possible to allow for sufficient procurement planning. 2. Investigate adding additional resources in procurement department.		1. Todd 2. Steve	1. now and ongoing 2. June30		
26	24	Hydro commissioning resources are not available when required leading to delay in schedule		Integrated resource plan being completed.	**3**	Moderate	**B**	Likely	*High*	1. Incremental work plan - meet every week to talk about incremental work that has not been identified in the current plan		Steve Parsons	ongoing		
39	25	Poor media relations leads to reputation impact.		Communications plan and regular communications meeting Regular issue of news releases	**3**	Moderate	**B**	Likely	*High*						
46	26	Lack of material management leads to delay in schedule		Proenergy and Pennecon has a materials manager assigned. Is there a gap in T&D and communications?	**3**	Moderate	**B**	Likely	*High*	1. Investigate space for storage (Holyrood GS or Whitbourne?) 2. Create material register.		1. Todd 2. Todd	1. mid July 2. early July		
1	28	Delay at the border due to customs issues leads to project delay		Proenergy has experience with crossborder work and delivery All paperwork is planned to be prepared and at the border prior to arrival at the border.	**3**	Moderate	**C**	Moderate	*High*	For people, we have personnel who can cover if foreign workers need to return home. Use an experienced customs broker for equipment		Kerry	now		
8	29	Delay of contract award for T&D, terminal station or other by management leads to schedule delay		None.	**3**	Moderate	**C**	Moderate	*High*	Expedite contract approvals with management.		Steve Parsons	as required		
16	30	Delay due to material delivery (esp. 230kV line) leads to schedule delay.		None.	**3**	Moderate	**C**	Moderate	*High*	1. Expedite delivery of long lead items 2. Create materials register 3. Investigate special transportation permits for nonstandard poles		1,2. Terry/Trevor 3. Trevor	now and ongoing		

Risk Register and Action Plan

Project Number:

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Number	Rank	Risk Description (Event and Consequence OR Cause)	Category	Existing Controls	Risk Severity Before Treatment					Risk Treatment Plan	Ability to Influence	Responsible Person (Risk Owner)	Due Date	Action Progress Status	Risk Status
						Consequence		Likelihood	Risk Level Before Treatment						
19	31	Lack of availability of trades labour leads to project delay		Pennecon is attuned to the local labour market. Regular topic in progress meetings	3	Moderate	C	Moderate	*High*						
22	32	Lack of work protection permit/coordination leads to safety incident		Coordinator assigned to the project. Regular status meetings Work group member training - work protection system OSR	3	Moderate	C	Moderate	*High*	1. Provide training in advance so that personnel can absorb and clarify as required. 2. Reinforce the requirement for issuing a late PC1 or new permit if there is a change in scope. 3. Ensure permitholders attend all meetings related to their permit.		Todd	1. now 2. now 3. now and ongoing		
23	33	Poor weather leads to delay in construction		Sensitive areas of the plant will be covered first as per the schedule.	3	Moderate	C	Moderate	*High*	Plan to get weather-sensitive scope completed early in the schedule.		Kerry	end June		
35	34	Security breach leads to safety incident		HSE Plan Gate security Dedicated security person assigned.	3	Moderate	C	Moderate	*High*						
37	35	Construction schedule for 230kV tieline is aggressive with limited resources leads to schedule delay		Schedule is being developed. Not critical path	3	Moderate	C	Moderate	*High*	Ensure plan is communicated to all relevant parties to ensure that appropriate planning is in place.		Trevor	end June		
38	36	Scope additions to existing EPC contract lead to delay in schedule. These are currently not in the schedule.		Change management process Has been discussed extensively with the contractor	3	Moderate	C	Moderate	*High*	Incorporate changes in schedule as soon as possible.		Steve Parsons	as required		
52	37	Digging to install underground interconnection lines leads to discovery of uncharted equipment leading to reputation impact		Underground scan Review existing drawings Discuss the plans with experienced personnel. Digging permits	3	Moderate	C	Moderate	*High*	Look at alternate excavation techniques to minimize impact		Gerard Piercy	end June		
5	38	Road from Route 60 to plant - unforeseen road construction leads to delay in delivery		Route survey completed.	2	Minor	B	Likely	*High*	Contact appropriate authorities to ensure that there are no conflicts with construction plan.		Steve Parsons	end June		
50	39	Digging to install underground interconnection lines leads to discovery of uncharted equipment leading to delay in schedule		Underground scan Review existing drawings Discuss the plans with experienced personnel. Digging permits	2	Minor	B	Likely	*High*	Consider alternatives for excavation		Gerard Piercy	end June		
24	40	Asbestos discovered leading to a need for remediation and delay in schedule		Transmission and substation have been surveyed.	1	Insignificant	A	Almost Certain	*High*	Contractor Asbestos management plan Investigate appropriate PPE for higher risk areas.		Sarah	early July		
4	42	Route survey does not pick up a physical obstacle leading to delay in schedule		None.	3	Moderate	D	Unlikely	*Moderate*	Validate the route just prior to shipping to ensure that there are no changes or something missed.					
40	43	Disgruntled public leads to aggressive behaviour and safety incident.		Regular issue of news releases Violence prevention policy CLC structure in place	3	Moderate	D	Unlikely	*Moderate*	Violence/protest procedure					
21	44	Work protection permit/coordination leads to schedule delay		Coordinator assigned to the project. Regular status meetings	2	Minor	C	Moderate	*Moderate*						
30	45	Substandard design quality due to aggressive schedule leads to schedule delay		Internal designs have three levels of review.	2	Minor	C	Moderate	*Moderate*						
31	46	Substandard design quality due to aggressive schedule leads to quality issues and cost impact		Internal designs have three levels of review.	2	Minor	C	Moderate	*Moderate*						
49	47	Fuel spill leads to environmental incident		Tanks are bermed. Fuel loading area is contained	2	Minor	C	Moderate	*Moderate*						
27	48	Congestion at the work site leads to schedule delay		Integrated plan. Directing traffic around work site project orientation requirements status meetings	1	Insignificant	B	Likely	*Moderate*	Limiting access to worksite					
7	49	Unforeseen subsurface soil conditions leads to cost impact		Geotechnical investigation completed.	2	Minor	D	Unlikely	*Low*						

Risk Register and Action Plan

Project Number:

Project Name: New 100 MW GT

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Number	Rank	Risk Description (Event and Consequence OR Cause)	Category	Existing Controls	Risk Severity Before Treatment					Risk Treatment Plan	Ability to Influence	Responsible Person (Risk Owner)	Due Date	Action Progress Status	Risk Status
						Consequence		Likelihood	Risk Level Before Treatment						
41	50	Redundant black start line to connect to T9. This may not be suitable as it has not been used in some time. Not critical path. Cost impact		Existing diesels will remain in place for black start until the new unit has been proven. Reviewing maintenance records for T9.	**2**	Minor	**D**	Unlikely	*Low*						
15	51	Lack of coordination of work with utility leads to schedule delay		Integrated plan in progress Previous experience working with Newfoundland Power	**1**	Insignificant	**C**	Moderate	*Low*						
34	52	Security breach leads to property loss and schedule delay		HSE Plan Gate security Dedicated security person assigned. Fenced area	**1**	Insignificant	**C**	Moderate	*Low*						

Risk Map
Before Treatment

Likelihood			Consequence				
			Insignificant 1	Minor 2	Moderate 3	Major 4	Catastrophic 5
	A	Almost Certain	24			32	
	B	Likely	27	5 50	3 25 26 39 46	51	
	C	Moderate	15 34	21 30 31 49	44 1 8 16 19 22 23 35 37 38 52	10 17 29 36 42 43 47	
	D	Unlikely		7 41	6 4 40	2 9 18 20 33 45	14
	E	Rare				11 13 28	12 48

Low	Moderate	High	Extreme
4	8	30	10

Risk Map
After Treatment

Likelihood			Consequence				
			Insignificant 1	Minor 2	Moderate 3	Major 4	Catastrophic 5
	A	Almost Certain	24				
	B	Likely	27		51 39		
	C	Moderate	15 34	47 3 25 46 23 21 30 31 49	32 26 19 35 37	10	
	D	Unlikely		44 45 16 38 52 5 50 7 41	29 36 42 43 2 6 1 8 22 4 40	17 9 18	
	E	Rare		48	33	14 20 11 13 28	12

Low	Moderate	High	Extreme
12	22	17	1

Risk Summary

Threats

			Sort	Sort
1	14	Construction activites leads to contact with energized lines leading to safety incident	Extreme	High
2	32	Unfamiliarity with new equipment leads to delay in commissioning	Extreme	High
3	51	Digging to install underground interconnection lines leads to discovery of uncharted equipment leading to safety issue	Extreme	High
4	10	Labour issues at the plant/TRO leads to delay in project	Extreme	Extreme
5	17	Lack of coordination of work with all of the work crews on site leads to safety incident	Extreme	High
6	29	Aggressive project schedule does not alllow for any delay in design - lead to schedule delay	Extreme	Moderate
7	36	Delay in delivery of 230kV breakers, disconnects and insulators leads to schedule delay	Extreme	Moderate
8	42	Project team distractions due to other projects leads to delay in schedule.	Extreme	Moderate
9	43	Delay in vendor information leads to delay in schedule.	Extreme	Moderate
10	47	Delay in ferry shipment leads to delay in schedule for ancillary equipment.	Extreme	Moderate
27	44	Lack of coordination of work leads to schedule delay (interface management)	High	Low
11	12	Crane failure during offloading leads to damage to GT and schedule delay	High	High
12	48	Delay in environmental approvals leads to schedule delay	High	Low
13	2	Damage during transport leads to significant repair on the unit leading to delay in schedule	High	Moderate
14	9	Labour issues with contractor leads to delay in project	High	High
15	18	Congestion at the work site leads to safety incident	High	High
16	20	Lack of availability of qualified and experienced trades leads to safety incident.	High	High
17	33	Unfamiliarity with new equipment leads to safety issue	High	Moderate
18	45	Lack of available space (laydown area) in Holyrood leads to delay in schedule	High	Low
19	11	Crane failure during offloading leads to safety incident	High	High
20	13	Crane failure during offloading leads to damage to GT and cost impact	High	High
21	28	Asbestos discovered/disturbed leading to a safety incident	High	High
22	3	Delay in shipping due to weather delays leads to delay in schedule	High	Moderate
23	25	Procurement team unable to meet deadlines due to resource restrictions leading to delay in schedule	High	Moderate
24	26	Hydro commissioning resources are not available when required leading to delay in schedule	High	High
25	39	Poor media relations leads to reputation impact.	High	High
26	46	Lack of material management leads to delay in schedule	High	Moderate
28	1	Delay at the border due to customs issues leads to project delay	High	Moderate
29	8	Delay of contract award for T&D, terminal station or other by management leads to schedule delay	High	Moderate
30	16	Delay due to material delivery (esp. 230kV line) leads to schedule delay.	High	Low
31	19	Lack of availability of trades labour leads to project delay	High	High
32	22	Lack of work protection permit/coordination leads to safety incident	High	Moderate
33	23	Poor weather leads to delay in construction	High	Moderate
34	35	Security breach leads to safety incident	High	High

Risk Summary

Threats

			Sort	Sort
35	37	Construction schedule for 230kV tieline is aggressive with limited resources leads to schedule delay	High	High
36	38	Scope additions to existing EPC contract lead to delay in schedule. These are currently not in the schedule.	High	Low
37	52	Digging to install underground interconnection lines leads to discovery of uncharted equipment leading to reputation impact	High	Low
38	5	Road from Route 60 to plant - unforeseen road construction leads to delay in delivery	High	Low
39	50	Digging to install underground interconnection lines leads to discovery of uncharted equipment leading to delay in schedule	High	Low
40	24	Asbestos discovered leading to a need for remediation and delay in schedule	High	High
41	6	Unforeseen subsurface soil conditions leads to schedule delay	Moderate	Moderate
42	4	Route survey does not pick up a physical obstacle leading to delay in schedule	Moderate	Moderate
43	40	Disgruntled public leads to aggressive behaviour and safety incident.	Moderate	Moderate
44	21	Work protection permit/coordination leads to schedule delay	Moderate	Moderate
45	30	Substandard design quality due to aggressive schedule leads to schedule delay	Moderate	Moderate
46	31	Substandard design quality due to aggressive schedule leads to quality issues and cost impact	Moderate	Moderate
47	49	Fuel spill leads to environmental incident	Moderate	Moderate
48	27	Congestion at the work site leads to schedule delay	Moderate	Moderate
49	7	Unforeseen subsurface soil conditions leads to cost impact	Low	Low
50	41	Redundant black start line to connect to T9. This may not be suitable as it has not been used in some time. Not critical path. Cost impact	Low	Low
51	15	Lack of coordination of work with utility leads to schedule delay	Low	Low
52	34	Security breach leads to property loss and schedule delay	Low	Low