



**NORTHWEST TERRITORIES**  
**POWER**  
**CORPORATION**

*Empowering Communities*

**TALTSON WINTER ROAD  
CONCEPTUAL ABANDONMENT AND RESTORATION  
PLAN**

**TALTSON HYDROELECTRIC FACILITY  
TALTSON RIVER, NORTHWEST TERRITORIES**

**June 2019**

## DOCUMENT MAINTENANCE AND CONTROL

The Director, Health, Safety & Environment is responsible for the distribution, maintenance and updating of the Winter Road Conceptual Abandonment and Restoration Plan. This Plan will be reviewed annually and updated as required, taking into account changes in the law, environmental factors, NTPC policies, and Taltson Winter Road characteristics. Changes in phone numbers, names of individuals, etc. that do not affect the intent of the Plan are to be made as required. Additional copies can be provided by the Director, Health, Safety & Environment.

DOCUMENT HISTORY				
Revision #	Revised Section(s)	Description of Revision	Prepared by	Issue Date
1	All	Prepared for 2019 Water Licence application	NTPC	April 2019
2	All	Revisions based on MVLWB comments	NTPC	June 2019

---

## TABLE OF CONTENTS

<b><u>SECTION</u></b>	<b><u>PAGE</u></b>
1 INTRODUCTION.....	1
1.1 BACKGROUND .....	1
1.2 SCOPE .....	1
1.3 TALTSON WINTER ROAD LOCATION .....	3
1.4 ANNUAL CONSTRUCTION PROGRAM.....	3
1.5 GOVERNING LEGISLATION .....	4
2 CLOSURE PLAN.....	4
2.1 OVERVIEW.....	4
2.2 PORTAGES, STAGING AREAS, AND REST STOPS.....	5
2.3 LAKES AND RIVERS.....	5
2.4 ENVIRONMENTAL MONITORING .....	6
3 REFERENCES.....	6

# 1 INTRODUCTION

## 1.1 BACKGROUND

This Conceptual Abandonment and Restoration Plan (CARP) provides a general abandonment and restoration plan for the Taltson Winter Road (WR) between Fort Smith and the Taltson Hydroelectric Facility (Taltson Facility). The Taltson Facility is a remote hydroelectric power generating facility located 56 km northeast of Fort Smith. The nearest community is Fort Smith, NWT. The Taltson WR is required to support upgrade and maintenance activities at the Taltson Facility and is tentatively scheduled for construction and operation for three to five seasons, beginning in December 2019.

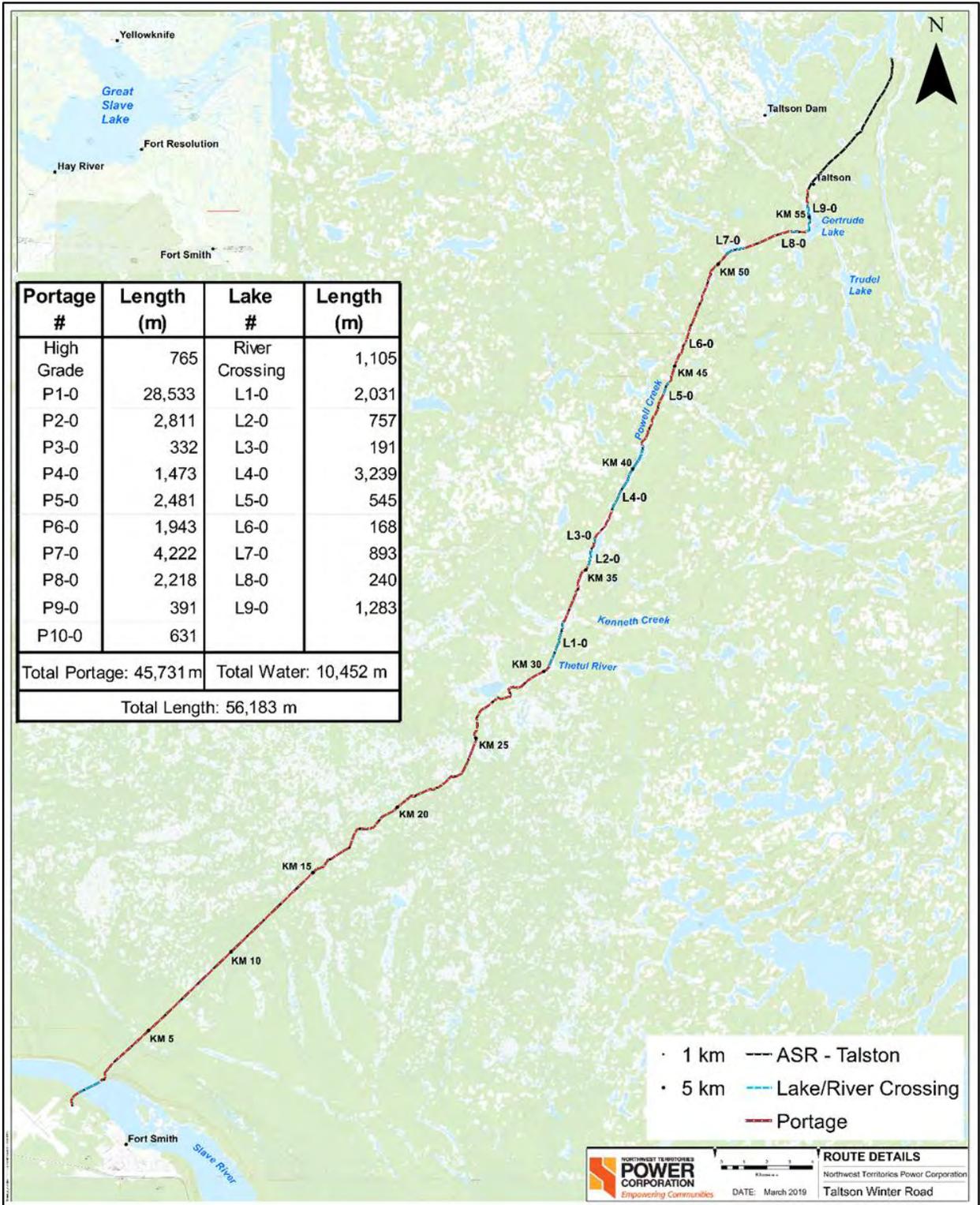
## 1.2 SCOPE

The CARP provides information on the steps and procedures that will be taken to abandon and restore the Taltson WR should NTPC no longer require the seasonal access road to access the Taltson Facility or any other NTPC facilities in the area. However, as long as the Taltson Facility is operational, NTPC must retain the ability to access the facility via a seasonal access road from Fort Smith. As a result, the Taltson WR corridor between Fort Smith and the Taltson Facility will not be fully restored until the facility is permanently closed and abandoned. If another organization were to assume operating and maintenance responsibilities for the Taltson Facility, the responsibility to close and abandon the WR corridor would be transferred to that organization.

The Taltson Facility has been providing hydroelectric power since 1966. It was initially constructed to provide power to Fort Smith and the Pine Point Mine. When the Pine Point Mine closed in the mid-80's, the transmission line from Taltson Facility was extended to provide power to other communities in the area. The facility currently provides power to Fort Smith, Hay River, K'atl'odeeche First Nation, Fort Resolution, and Enterprise.

When the facility was constructed (1964-66), access to the site was via a seasonal winter road from Fort Smith. The proposed route for the Taltson WR follows the same corridor used when the facility was built. NTPC and the GNWT are considering options to increase the output from the Taltson and provide the additional hydroelectric power that will be generated to other part of the NWT. This expansion is outside the scope of the upgrade and maintenance activities at the Taltson Facility that associated with the Taltson WR. However, it is unlikely that the Taltson Facility will be closed, and the plans contained in this report are conceptual only.

Figure 1.1: Taltson Winter Road Map



## TALTSON WINTER ROAD LOCATION

The Taltson WR runs between Fort Smith and the Taltson Facility. It is approximately 56 km long; the start point is a temporary laydown area at the northeast corner of the Fort Smith airport. The end point is a temporary laydown area at the southern end of the airfield at the Taltson Facility (refer to Figure 1.1). The Taltson WR consists of 11 over land portions (portages) and 10 over ice portions (lakes/ivers). The total length of portages is approximately 45.3 km (81%) and the total length of lakes/ivers is 10.7 km (19%). The breakdown of the Taltson WR is shown in Table 1.1.

NTPC Taltson Winter Road Route Alignment				
Portage	Length (m)	Lake	Length (m)	Lake Name
Ft. Smith	765	Slave River	1,050	
P1-0	28,301	L1-0	2,249	Tethul River
P2-0	2,403	L2-0	978	
P3-0	386	L3-0	85	
P4-0	809	L4-0	3,955	Powell Creek
P5-0	2,514	L5-0	408	
P6-0	2,047	L6-0	105	
P7-0	4,521	L7-0	657	
P8-0	438	L8-0	62	
P9-0	2,390	L9-0	1,158	Gertrude Lake
P10-0	715			
<b>Portage length sub-total: 45,289 m</b>		<b>Lake length sub-total: 10,707 m</b>		
<b>NTPC Winter Road length total: 55,996 m</b>				

**Table 1.1: Taltson Winter Road Portage and Lake Summary**

### 1.3 ANNUAL CONSTRUCTION PROGRAM

The annual construction, operation, and maintenance for the Taltson WR will occur in five phases. Although each phase of the project is sequential in the annual program, there are elements of overlap between the phases.

- Phase 1 – Detailed Planning (June – October)
- Phase 2 – Mobilization (November – December)

- Phase 3 – Construction (December – January)
- Phase 4 – Operation and Maintenance (February – March)
- Phase 5 – Demobilization and Road Closure (March – April)

At the end of each season, all WR equipment and material will be demobilized to either Fort Smith or the Taltson Facility. Other than a few temporary culverts, there will be no temporary or permanent structures established within the WR corridor. The temporary culverts will be removed and returned to Fort Smith or the Taltson Facility at the end of each WR season. All waste, including hazardous waste and any contaminated snow or soil, will be disposed of in accordance with the Taltson Facility Waste Management Plan. Apart from the existing cutline, there should be no evidence of the Taltson WR within the WR corridor at the end of Phase 5 for each season that the WR is in operation.

## **1.4 GOVERNING LEGISLATION**

The Taltson WR Water Licence and Land Use Permit are issued under the authority of the Mackenzie Valley Land and Water Board (MVLWB). As part of these licenses, a conceptual abandonment and restoration plan is required.

## **2 CLOSURE PLAN**

### **2.1 OVERVIEW**

For permanent closure, the general procedures that will be followed will be to remove all equipment and material related to the Taltson WR and to return the WR corridor to its natural state.

This CARP addresses the scope and purpose of the Taltson WR between Fort Smith and the Taltson Facility as described in the 2019 water licence application to the MVLWB. It assumes that the MVLWB and local communities' reclamation goal is the permanent decommissioning of the Taltson WR. Should the scope and/or purpose of the Taltson WR or the reclamation goals change, the CARP will be updated to reflect those changes. The approach will be to remove equipment and materials with minimal environmental disturbance and, if required, remediate the WR corridor..

Considering the Taltson WR corridor is used by the Fort Smith community to access area west of the Slave River for hunting, fishing, and other recreational/cultural activities, the natural state of the WR corridor following closure will be one that is safe for the public and preserves the natural environment of the portages, rivers, and lakes along the corridor in accordance with the reclamation goal.

---

## 2.2 PORTAGES AND REST STOPS

The construction and operation of the Taltson WR will follow best practices in accordance with the *Northern Land Use Guidelines – Access: Roads and Trails* (GNWT, 2015) to protect the ground surface and prevent erosion on the portages and rest stops. This will include the clean-up and progressive remediation of any hazardous material spills on the WR. Sand/gravel used for traction control on the portage on/off ramps, will be scraped off and deposited on a flat area on the portage at the end of each WR season so that it is not washed into the lakes and streams during the spring freshet and create sedimentation issues. The sand/gravel deposited on the portages will be left there when the WR is finally closed and abandoned.

In some locations, it may be necessary to use a large amount of snow fill on a portage to construct the WR over a depression or ravine so that large trucks can pass over the depression or ravine. If that snow fill is likely to cause greater erosion than normal during the Spring freshet, the snow fill will be removed and moved away from the depression or ravine to prevent excessive erosion.

When the Taltson WR is to be permanently decommissioned, all garbage, petroleum products, and equipment will be removed from the WR corridor. The cleared right-of-way on all portages – including rest stops – will be revegetated if the natural regrowth is inadequate.

Any portages or rest stops that have been contaminated due to petroleum hydrocarbon spills or other hazardous materials must be remediated. Contaminated soil must be removed and treated in accordance with the Waste Management Plan or treated in situ until the contaminants are within the CCME guidelines (2006). Any contaminated sites that have not been fully remediated prior to closure will continue to be monitored for hydrocarbons for 2 years after closure, with quality assessments consistent with CCME (2006).

As the Taltson WR will not involve the removal of the organic soil layer from the portages, staging areas, or rest stops, most of them will be left to revegetate naturally. If any of these areas have been improved with heavy equipment and/or granular fill, adequate cross drainage will be installed prior to revegetation to control erosion. Since the Taltson WR corridor is used by the local communities to access this area every winter, there are no plans to restrict public access during or after reclamation.

## 2.3 LAKES AND RIVERS

At the end of every WR season, any sand or gravel that has been placed on portages entry/exit ramps and transition points for traction control will be scraped off and moved away so that it does not cause sedimentation during the spring freshet. Further, any hazardous material spills on the over water portions of the WR will be scraped off and disposed of in accordance with the Spill Response Contingency Plan and the Waste Management Plan. As a result, when NTPC permanently closes the Taltson WR, there remains little to no work to reclaim the lakes and rivers over which the WR was built.

If any culverts have been installed for the WR to cross over a stream or river, they will be removed in a manner to prevent sedimentation and avoid changes to the local drainage. The culverts will be backhauled to Fort Smith for final disposal.

## 2.4 ENVIRONMENTAL MONITORING

An environmental monitor, empowered to stop work if required, will oversee the closure of the Taltson WR and the reclamation/remediation of all portages. If during closure any contaminants of concern are noted, the site(s) will be remediated following the guidelines detailed in GNWT (2003).

In accordance with the *Northern Land Use Guidelines*, reclamation monitoring will be performed for at least two years after the reclamation activities are completed to ensure that the closure objectives have been met. Reclamation monitoring will be performed via a Spring Survey with a Lands Inspector by helicopter to identify any reclamation issues that require additional remediation. The Spring Survey will be conducted during freshet for at least two years after the WR has been closed. Reports from the Spring Survey will be submitted to the Lands Inspector for review.

If required, additional reclamation work may be executed if some reclamation techniques have been unsuccessful.

Once the land use regulator is satisfied that WR corridor has been permanently decommissioned, the regulator will issue a letter of final clearance stating that NTPC is no longer responsible for the Taltson WR corridor.

## 3 REFERENCES

- CCME (Canadian Council of Ministers of the Environment). 2014. Canadian Environmental Quality Guidelines.
- GNWT (Government of the Northwest Territories). 2017. Guidelines for Hazardous Waste Management.
- GNWT. 2015. Northern Land Use Guidelines – Access: Roads and Trails.
- GNWT. 2003. Environmental Guidelines for Contaminated Site Remediation.