NORTHWEST TERRITORIES POWER CORPORATION

Empowering Communities

TALTSON WINTER ROAD

PUBLIC SAFETY AND AWARENESS PLAN

TALTSON HYDROELECTRIC FACILITY

TALTSON RIVER, NORTHWEST TERRITORIES

April 2019

DOCUMENT MAINTENANCE AND CONTROL

The Director, Health, Safety & Environment is responsible for the distribution, maintenance and updating of the Public Safety and Awareness Plan. This document will be reviewed annually and 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**
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1. INTRODUCTION

This Public Safety and Awareness Plan has been developed to present the ways in which the Northwest Territories Power Corporation (NTPC) will inform the public of potential hazards and restricted access guidelines for the Taltson Winter Road (WR) in order to minimize the possibility of personal injury to members of the public. The WR will run between Fort Smith and the Taltson Hydroelectric Facility.

This report summarizes the results of NTPC's signage, mitigation measures and communication for public safety management for the WR.

1.1. TALTSON FACILITY

The Taltson Facility is an 18 MW hydroelectric facility located within the Taltson River watershed 56 km northeast of Fort Smith in the Northwest Territories. The facility is the sole source of power, with the exception of back up diesel generators, to the South Slave communities of Hay River, K'atlodeeche First Nation, Fort Smith, Fort Resolution and Enterprise. The facility is a fly in access only using the airstrip or landing on the Twin Gorges Reservoir. The facility operates under the MVLWB water licence MV2011L4-0002.

1.2. TALTSON WINTER ROAD

The proposed WR route from Fort Smith to Taltson follows the historical route used when the facility was first built. The road was operational from 1964 to 1979 and was cleared and partially constructed again in 2009/2010.

Maintenance overhauls for the Taltson Facility are scheduled to be completed throughout 2020-2023 for some of the key infrastructure such as the turbine in the generating station, the roads, airstrip and staff camp facilities. To complete the required overhauls, the WR must be reopened to transport material and equipment to and from the site

The WR is approximately 56 km long. The starting 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 WR consists of 11 over land sections (portages) and 10 over ice sections (lakes/rivers). The total length of portage sections is approximately 45.3 km (81%) and the total length of lakes/river sections is 10.7 km (19%). The WR is tentatively scheduled for construction and operation for three to five seasons, beginning in December 2019.

The regional project location is provided in Figure 1 and a map of the proposed route is provided in Figure 2.

Figure 1: Regional Location of the Taltson Winter Road

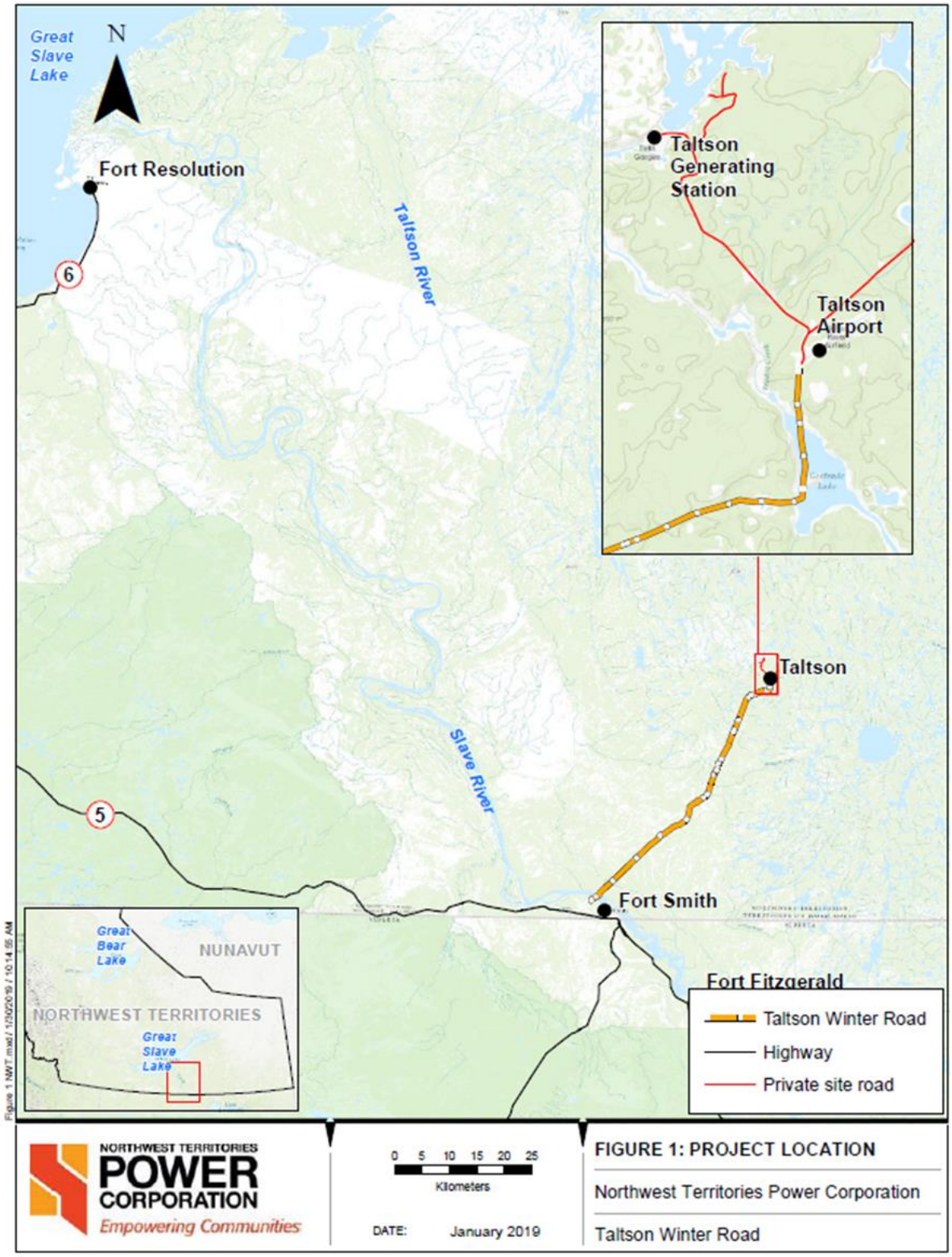
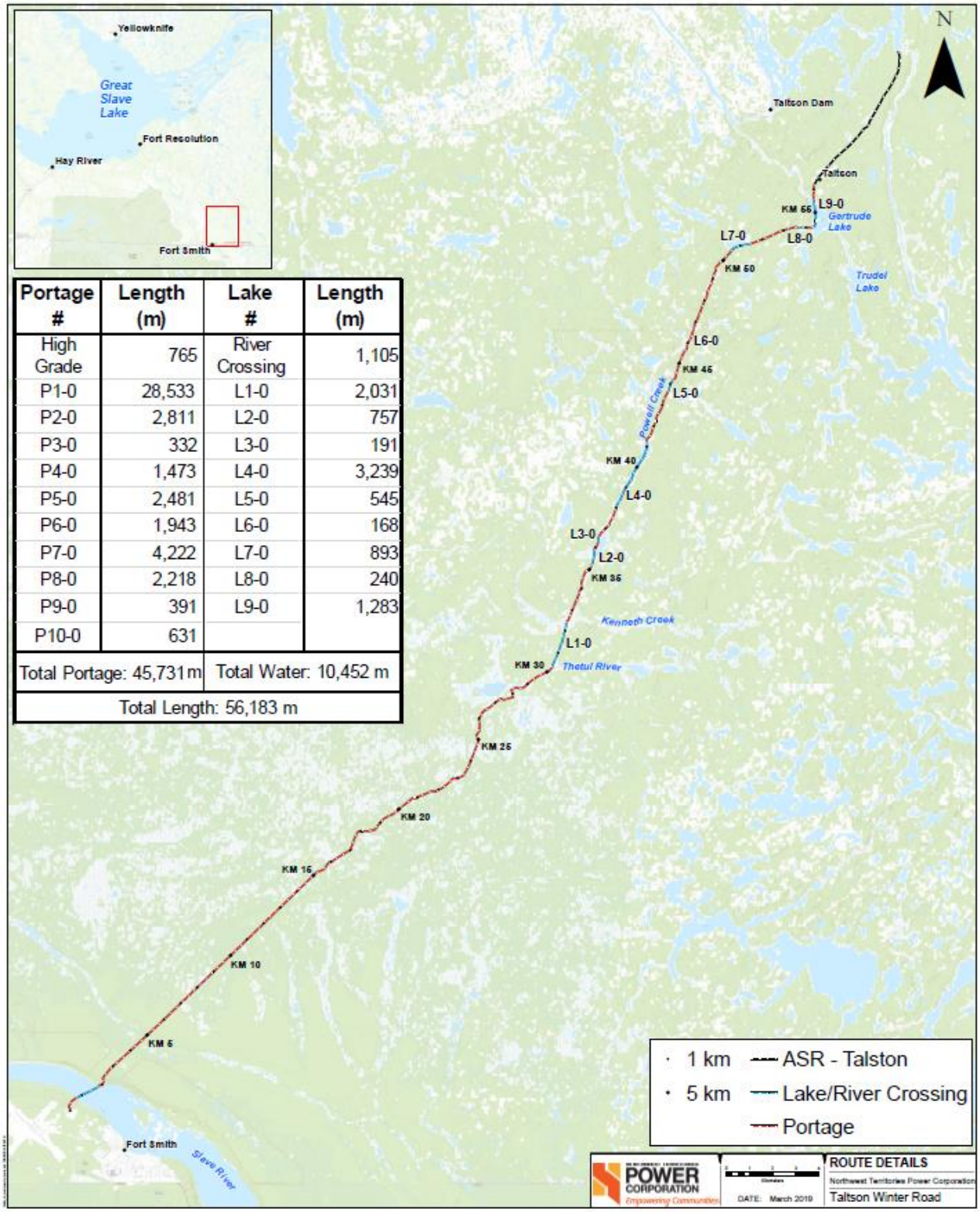


Figure 2: Taltson Winter Road



Portage #	Length (m)	Lake #	Length (m)
High Grade	765	River Crossing	1,105
P1-0	28,533	L1-0	2,031
P2-0	2,811	L2-0	757
P3-0	332	L3-0	191
P4-0	1,473	L4-0	3,239
P5-0	2,481	L5-0	545
P6-0	1,943	L6-0	168
P7-0	4,222	L7-0	893
P8-0	2,218	L8-0	240
P9-0	391	L9-0	1,283
P10-0	631		
Total Portage: 45,731 m		Total Water: 10,452 m	
Total Length: 56,183 m			

2. PUBLIC SAFETY AND AWARENESS CONSIDERATIONS

2.1. ENGAGEMENT

As part of the land-use permit and water licence application process through the Mackenzie Valley Land and Water Board (MVLWB), NTPC embarked on engagement to gather input from stakeholders on the application package. The comprehensive engagement process is outlined in the *Taltson Winter Road Engagement Plan* (NTPC, 2019) and *Taltson Winter Road Engagement Log* (NTPC, 2019).

In January 2019 engagement for the winter road began with notification emails, phone calls and meetings with stakeholders. Meetings were conducted with key stakeholders including Mr. Ken Shaefer, who holds an active registered trapline in the project area. Mr. Schaefer provided knowledge of the area, including the history of the WR, fish and wildlife presence in the area, and safety considerations for specific portions of the WR. A meeting was also held with Mr. Tim Heron who represented the Northwest Territory Metis Nation. A Fort Smith resident, Mr. Heron also provided knowledge of the area, including beaver dam locations, fishing and trapping practices, and local traffic patterns and some suggestions for signage along the road.

A public engagement and open house was held in Fort Smith on March 28, 2019. Personnel from NTPC and the ice road engineering consulting firm (NOR-EX) provided a presentation on the project, followed by a question and answer session. NTPC and NOR-EX addressed questions from the public and gathered feedback on specific issues.

A public engagement and open house session was also held in Fort Resolution on March 29, 2019. NTPC and NOR-EX addressed questions from the public and gathered feedback on specific issues.

2.2. TALTSON WINTER ROAD INTERACTIONS

Since the 1980's, the historical alignment of the WR has been used during the winter as a snowmobile route for members of the public to access the surrounding area for traditional land use activities such as trapping, hunting and ice fishing. The area from the Slave River crossing to approximately KM 45 of the WR is actively used by local land users each winter while the upper section of the road is used more intermittently.

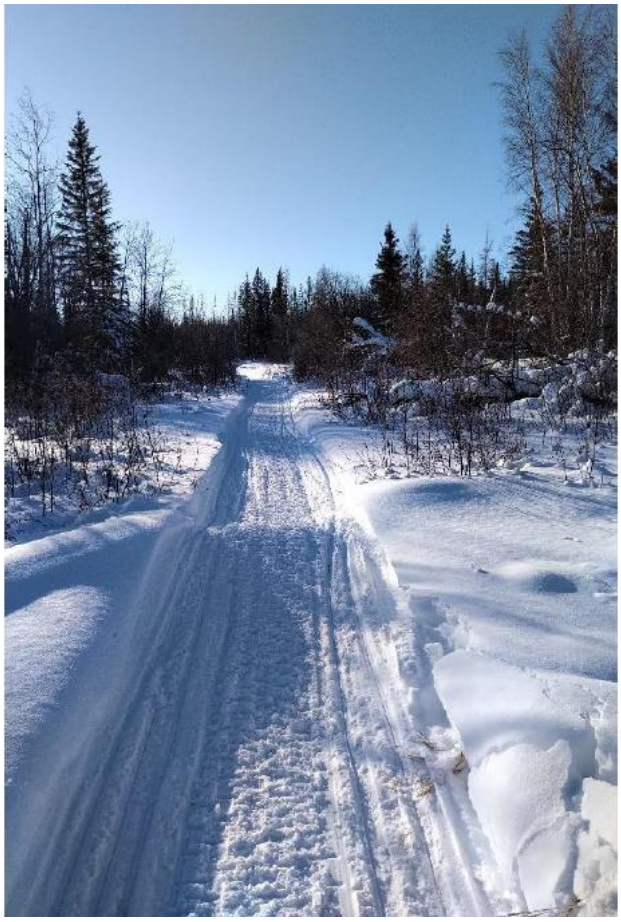
Trappers in the area use the WR alignment to access their cabins and traplines. Several popular ice fishing lakes are accessed using the WR alignment throughout the winter season, and in particular for an annual March ice fishing derby. Hunters also use the alignment in winter.

Mr. Ken Shaefer, who holds a registered trapline in the project area, has a cabin approximately 100m east of the WR alignment at KM 24.5.

Almost all of the current access to the WR alignment is restricted to snowmobiles during the winter months once the Slave River has frozen. Members of the public who currently access the WR alignment travel on snowmobile and many of them have extensive knowledge of the area.

When the road is operational, NTPC cannot restrict access to the public. Reopening the WR will change the alignment from a snowmobile trail used mainly by land users with local knowledge and on the land skills to a public access roadway available to any vehicle traffic.

Figure 3: A well-used snowmobile trail following the alignment (taken at KM 15.7 in February 2019)



2.3. POTENTIAL HAZARDS

Hazards to the public include:

- Vehicle collisions between NTPC workers (i.e., staff, contractors) and members of the public
- Vehicle collisions between members of the public
- Vehicle collisions with animals
- Dangerous ice conditions at some locations adjacent to the winter road

3. HAZARD AWARENESS AND MITIGATION MEASURES

The following hazard awareness and mitigation measures have been developed to mitigate the potential hazards outlined in Section 2.3.

3.1. VEHICLE COLLISIONS BETWEEN NTPC WORKERS AND MEMBERS OF THE PUBLIC

The *Taltson Winter Road Operations & Maintenance Plan* (OMP) (NTPC, 2019) presents the procedures that the construction, operation, and maintenance of the Taltson WR will follow to ensure the safety of all WR users and to protect the environment. The OMP establishes 'rules of the road' that will be followed by all NTPC staff, contractors, sub-contractors, and individuals working on behalf of NTPC.

A complete list of road rules can be found in the OMP. Some of the key components of the OMP that will mitigate the risk of incidents between NTPC workers and the public include:

- Speed restrictions
  - Driving on lakes: loaded (i.e., driving towards Taltson Hydro) 25 kph and empty (i.e., driving away from Taltson Hydro) 30 kph.
  - Driving on portages: loaded and empty 30 kph.
  - All trucks must slow to 10 kph when travelling through flood zones.
  - All trucks must slow to 10 kph when travelling on/off lakes.
  - When two loaded trucks meet on a lake, travelling in opposite directions, both most slow to 15 kph when passing.
  - Trucks must slow to 10 kph while passing other loaded trucks stopped on lakes.
  - Maximum speed for construction equipment will be 40 kph while clearing snow.
  - The maximum speed limit for pick-up trucks (one-ton rating or less) is 80 kph.
  - All posted speed restrictions will designate maximum loaded speeds.
- Truck and convoy requirements and spacing
  - Convoys will be limited to 4-6 heavy vehicles and will be led by a light duty pilot vehicle when possible.
- Safe driving practices and procedures
  - NTPC has existing safe driving and winter procedures which are outlined in the Road Rules
- Designated Dispatch and Check Points
  - Drivers must check in and receive authority prior to departure and must report their arrival at Designated Dispatch Points
- Call in procedures
  - All vehicles, including road maintenance equipment, must be equipped with a LADD 1 radio
  - Drivers will call in their locations at each portage and at KMs at the south end of the road will which will be marked with signage

Signage will be posted along the WR to clearly show speed limits, restricted travel lanes, road maintenance areas, road hazards and other information required to ensure the safe flow of traffic. Signage will be standard highway sizing with high visibility reflective properties. Signage will provide information for:

- Speed limits
- Portage Entrances and Kilometer markers
- Communications Requirements and Call-in Procedures
  - Signs will be posted stating that the road is radio controlled and that all users should call in using LADD1 channel
- Wildlife information

3.2. VEHICLE COLLISIONS BETWEEN MEMBERS OF THE PUBLIC

The OMP presents details on the road design and construction process that will be taken to ensure that the road is safe for travel for NTPC workers, truck drivers and the public. The methods employed in the construction of the WR will be based on the *GNWT Guidelines for Safe Ice Construction* (2015) which presents current industry best practices for the construction of ice roads and pads.

Call-in procedures using LADD1 channel and signage outlined in the OMP and section 3.1 will also mitigate the risk of collisions between members of the public.

3.3. VEHICLE COLLISIONS WITH ANIMALS

The *Taltson Winter Road Wildlife Management and Monitoring Plan* (WMMP) (NTPC, 2019) outlines the procedures NTPC will follow to minimize effects on wildlife and wildlife habitat, remain in compliance with regulatory requirements, and address public concern for the WR. The WMMP includes potential project effects on wildlife and wildlife habitat, associated mitigation, and a mitigation monitoring plan that will be implemented for the WR.

Some of the mitigation measures in the WMMP that will mitigate the risk of vehicle collisions with animals are:

- Erect wildlife crossing signage and post speed limits along the route;
- Enforce a no-chase policy;
    - If wildlife is observed on the road all vehicles will stop and wait until wildlife have left the road;
- Incorporate regular ‘jump-outs’ along the length of the WR to allow wildlife to safely vacate;
- All staff and contractors will receive a WR Orientation which include Standard Operating Procedures for wildlife encounters;
- All staff and contractors will be prohibited from littering and feeding or interacting with animals; and
- Any wildlife incidents will be reported to ENR who may take action if required.

3.4. DANGEROUS ICE CONDITIONS ADJACENT TO THE WINTER ROAD

During the engagement process, several locations where dangerous ice conditions exist adjacent to the WR alignment were identified by stakeholders. Two locations identified as having dangerous ice conditions by Tim Heron of the Northwest Territory Metis Nation that were confirmed at the public session in Fort Smith were the Slave River crossing and the Hanging Ice River crossing. Stakeholders pointed out that the majority of current users of the WR alignment have some knowledge of the area or travel with someone that does but people who have never travelled the road may not know that these are potentially dangerous.

At the request of stakeholders NTPC will post signage at the Slave River crossing and the Hanging Ice River crossing to warn users that danger ice may be present outside of the WR alignment.

4. ACCESS CONSIDERATIONS

An access issue that was raised during the engagement process was that liquid cooled snowmobiles will overheat while travelling on the ice and will be unable to travel the alignment once the road is operational.. A mitigation measure was developed at the Fort Smith public engagement session to accommodate members of the public and local trappers that will be unable to travel the WR on their snowmobiles. Two parking areas will be plowed so members of the public can transport snowmobiles by trailer out on the WR. These parking areas will be at approximately KM 15 and KM 30 at existing non-vegetated areas near the junction of existing trails.

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