DEC 16 1993

Claim 109

IN THE MATTER OF : An Agreement dated December 16, 1977

BETWEEN :

HER MAJESTY THE QUEEN IN RIGHT
OF THE PROVINCE OF MANITOBA,
OF THE FIRST PART,

- and -

THE MANITOBA HYDRO-ELECTRIC BOARD,
OF THE SECOND PART,

- and -

THE NORTHERN FLOOD COMMITTEE, INC.,
OF THE THIRD PART,

- and -

HER MAJESTY THE QUEEN IN RIGHT OF CANADA
As Represented by THE MINISTER OF INDIAN
AFFAIRS AND NORTHERN DEVELOPMENT,
OF THE FOURTH PART:

AND BETWEEN :

THE CROSS LAKE INDIAN BAND, As Represented
by THE NORTHERN FLOOD COMMITTEE, INC.,
AND THE NORTHERN FLOOD COMMITTEE, INC.,
CLAIMANTS,

- and -

HER MAJESTY THE QUEEN IN RIGHT OF CANADA
As Represented by THE MINISTER OF INDIAN
AFFAIRS AND NORTHERN DEVELOPMENT, HER
MAJESTY THE QUEEN IN THE RIGHT OF THE
PROVINCE OF MANITOBA,
RESPONDENTS.

AND IN THE MATTER OF THE MEANING OF "ALL-WEATHER ROAD"

APPEARING: V. Savino and D. Valdron for the Claimants
C. Henderson and S. Restall for the Respondent Canada
G. Hannon for the Respondent Manitoba

AWARD

Hearings pertaining to this matter were held on May 31, June 1, 2, 3, and 14, 1993. Written arguments were prepared. The last written submission was received August 24, 1993. The Parties made final oral submissions on September 7, 1993.

Recommendation 25 of the Lake Winnipeg, Churchill and Nelson Rivers Study Board Report reads:

> THAT an all-weather road be built connecting the Cross Lake community road network with the Jenpeg access road.

This recommendation is incorporated into the Northern Flood Agreement ("NFA") through Article 17.1:

> ARTICLE 17 - Environmental Impact Policy
>
> 17.1 Hydro and Canada and Manitoba, severally and jointly, undertake to implement such recommendations of the Lake Winnipeg, Churchill and Nelson Rivers Study Board Report which affect the communities and which fall within their respective or joint jurisdictions.

Between 1980 and 1982 a road was built, which in the Respondents' view, satisfies Recommendation 25. The road is gravel. Causeways were constructed to span short stretches of water but at the east channel of the Nelson River, also referred to as the Pipestone River, a summer ferry and winter ice bridge combination was and continues to be the method employed to provide a crossing.

The ferry runs from 8:00 AM to 10:00 PM daily, from late April or early May to November.

An ice bridge provides a winter crossing but there are periods of time in the spring and fall when the Pipestone River cannot be crossed. The duration of the closure varies from year to year.

	Ferry Closed	Light Traffic On	Officially Open	Officially Closed	Light Traffic Off	Ferry Open
1985/86	Nov. 17	Nov. 22	Dec. 27	Apr. 2	Apr. 18	Apr. 27
1986/87	Nov. 14	Nov. 16	Jan. 8	Apr. 7	Apr. 16	Apr. 15
1987/88	Dec. 16	Dec. 16	Jan. 6	Apr. 8	Apr. 25	May 1
1988/89	Nov. 28	Nov. 30	*Dec. 29	Apr. 14	May 1	May 3
1989/90	Nov. 19	Nov. 19	*Dec. 13	Apr. 12	Apr. 21	May 8
1990/91	Nov. 24	Nov. 29	*Dec. 28	Apr. 3	Apr. 14	Apr. 21
1991/92	Nov. 21	Nov. 18	*Dec. 16	Apr. 16	Apr. 18	Apr. 29
1992/93	Dec. 6	Dec. 11	*Dec. 31	Apr. 6	Apr. 7	Apr. 7

*Partial loading (less than 36.5 tonnes)

It was noted that individuals take the risk of crossing the ice at times when the road is closed.

The question before me at this time is: Does the road that has been constructed, in conjunction with the ferry and ice crossing, constitute an all-weather road connecting the Cross Lake community road network with the Jenpeg access road?

Of primary concern is the meaning of the term "all-weather road".

"All-weather road" is apparently without a technical engineering definition. It became clear from the evidence however that the defining characteristic of an all-weather road was its surface, along with certain design characteristics. This conclusion is drawn from the evidence presented by various witnesses including the expert evidence of Dr. D. R. MacLeod.

In his report to the Respondent Canada, Dr. MacLeod attempted to ascribe a meaning to "all-weather road":

> The term "all weather road" or "all season road" is not clearly defined in current highway literature. It is a term that has developed over the years *to indicate a road with a surfacing material that does not change with the weather. In other words, if you were planning a trip this morning, to point B on an all weather road, there would be a reasonable expectation that you could return this evening even if it rained during the day.*
>
> The main engineering textbooks on Highway Engineering, although not defining an "all weather road", do give some insight into the historical context of the term. Paquette, Ashford and Wright's "Transportation Engineering and Design" (Appendix A) states that "Stage coaches had come into such general use, by 1785, that an urgent need arose for surfaced roads travelable at all seasons of the year."
>
> A very common textbook reference on Highway Engineering, Oglesby's "Highway Engineering" (Appendix B) includes a quote from the Public Roads Administration's "Highway Practice in the United States",
>
> > At the end of the century (19th), approximately 300 years after first settlement, the United States could claim little distinction because of the character of its roads. As in most parts of the world, the roads were largely plain earth surfaces that were almost impassable in wet weather.
>
> Oglesby continues "The first two decades of the twentieth century saw the improvement of the motor vehicle from a "rich man's toy" to a fairly dependable method for transporting persons and goods. There were strong demands for rural road improvement, largely for roads a few miles in length connecting outlying farms with towns and railroad stations. This development has been aptly described as "getting the farmer out of the mud".
>
> The most common method of developing an all weather road was some form of surfacing or stabilization. Heikze (Appendix C) describes in detail the problems of clay roads that become mud when wet, sand roads that were passable when wet, but impassable when dry. These problems led to stabilized road surfaces, which in most cases consists of some type of gravel surfacing to provide an all weather road.

Given this historical context, all weather roads feature:

(Implicit in this definition is that the vehicle considered is a truck or normal car. ATVs (All Terrain Vehicles), skidoos, bulldozers, tanks, 4 wheel drive vehicles, etc. are not required.)

1. *The surfacing does not change properties with the weather. This is normally some form of gravel. It may be pit run gravel, crushed gravel, clay stabilized gravel or even pavement.*

2. *There are normally some form of lateral ditches and cross culverts to provide surface drainage.*

3. *The geometrics can vary according to the class of road, ranging from a logging access road to a freeway.*

4. *All weather roads provide a reasonable expectation that the surface will provide the traveller with a surface that will not change drastically with changes in the weather given normal maintenance.*

In Canada, the term "all weather road" is sometimes also used to distinguish them from a winter road. i.e. a road built out of ice and snow used only in the winter. The "Outlet Lakes Transportation and Navigation Study" uses the term of "all weather road" to distinguish this class from winter roads.

Major river crossings are a feature of all roads. Whether the crossing is an ice bridge, a fording, a Bailey Bridge, a bridge, a barge, or a ferry is a function of costs. Life cycle costs are used to compare alternatives. The capital cost of bridge and its maintenance costs over its life span are compared to the cost of operating and maintaining the ferry, constructing and maintaining an ice bridge, and user costs associated with delays and stockpiling of materials for periods when the ferry or ice bridge is not in use. The main factors, in such an analysis, are the width of the crossing and the traffic volumes. A current example is the "Fixed Link" between PEI and New Brunswick where a bridge would replace the ferry system. The Trans-Canada Highway is an all weather road but the links to PEI and Newfoundland are ferries. Part of the argument for the fixed link is that ferry interruptions due to fog or rough seas would be eliminated.

(emphasis added)

Dr. MacLeod lists four characteristics of an all-weather road. Of primary importance is the material from which the road is constructed, that is, the material of which the surface is composed. He also considers certain other design features, such as drainage, to be important. He indicates that clay soil can become impassable in wet weather and that there can be a

problem in sandy soil when it's dry. The goal to be achieved in the creation of an all-weather road is to construct a road that an average "family" car or truck can travel under either wet or dry conditions.

Dr. MacLeod also notes a use of "all-weather road" as a term used in contrast to "winter road". This is not to say that an all-weather road is merely a "summer road" as opposed to "winter road", but rather that it is a type of road that is not limited to winter use. Such a road would have to be constructed in such a way so as to provide a solid foundation for traffic at times other than when the ground, or rivers and lakes, are frozen.

I do not see that the term "all-weather" in any way relates to or suggests any particular time of day or time of the year. Weather conditions exist twenty-four hours per day each and every day of the year. A road, to be considered all-weather, must be capable of providing a roadway that, under the normal range of weather conditions, will allow the passage of vehicular traffic. There is nothing to suggest that functionality of the roadway should be limited at any time of day or night on any day of the year.

Dr. MacLeod notes, as his fourth characteristic of an all-weather road:

> 4. All weather roads provide a reasonable expectation that the surface will provide the traveller with a surface that will not change drastically with changes in the weather given normal maintenance.

Involved in this characteristic is the significance of the term "all-weather road" to the general public. I think it may help to clarify matters to examine the term "all-weather road" in the context of what it means in general parlance, what it would suggest to the reasonable traveller, or more particularly, to the reasonable motorist.

The Respondent Canada introduced into evidence a 1968 Province of Manitoba road map. That map's legend includes the road designations "Multilane", "2 Lane, Paved", "All weather" and "Proposed". Apparently roads that did not meet the all-weather standard are not included on the map.

The categorization of a road as an all-weather road has importance for a motorist. Under rainy conditions, for example, one would assume that an all-weather road would be open. A road that did not meet this standard may turn into a mire and be rendered impassable under wet conditions. A motorist would take this into account when deciding upon an appropriate route.

An all-weather road may of course become impassable. Excessive rain in an area prone to flooding, a heavy snowfall, drifting snow, or even a tree felled by the wind can cause a road to become blocked. In such cases it would be necessary to wait for the water to subside or the road to be cleared. Obviously designating a road as "all-weather" does not guarantee that it will be passable under all possible weather conditions. A seasoned motorist knows this and must take into account natural events such as blizzards when making travel plans. "All-weather" is not to be taken literally but rather as "passable under a normal range of driving conditions." Nonetheless one reason for the use of the term "all-weather" is to signify to the driving public that the road is built in such a way so as to allow the surface to support vehicular traffic under normal weather conditions. It is understood that normal wet, dry, hot, or cold weather will not by itself render the road impassable.

Again, that which is essential to the term "all-weather road" is the physical construction of the road. For a road to be an all-weather road the road surface must be to a standard that will allow the passage of vehicular traffic under the normal range of weather conditions.

Applying these considerations to the present case, and reviewing Recommendation 25, I must conclude that there is not an all-weather road connecting the Cross Lake community road network with the Jenpeg access road.

The road surface leading from the Cross Lake community road network to the Pipestone Crossing is constructed to an all-weather standard. Similarly, the road surface leading from the Jenpeg access road to the

Pipestone Crossing is constructed to that standard. The road surface at the Pipestone Crossing is however not all-weather. Cross Lake and Jenpeg are simply not connected by an all-weather road.

The term all-weather road also implies that a motorist can, under normal driving conditions, at any time of day or night, on any day of the year, embark on a journey and expect that the roadway of the all-weather road will be passable. This is not the case at present in respect of a Cross Lake motorist.

The weather conditions at 11:00 PM on a summer night may be ideal for driving but a motorist intending to travel from Cross Lake to Jenpeg and beyond cannot do so because the roadway at the Pipestone Crossing is not constructed so as to allow passage at that hour: the ferry that provides the means of crossing is closed for the night.

Neither could that motorist travel, under good weather conditions, during those often extended periods in the spring and fall when the ferry is out of service and the ice bridge is unsafe.

On the basis of the evidence of Dr. MacLeod and others, as well as a general analysis of the term "all-weather road", I must conclude that Recommendation 25 has not been complied with.

The Respondents submitted that an all-weather road that contained a ferry and ice road connection could properly be designated as an all-weather road. If it were the case here that the ferry ran all day everyday of the year I would find that argument more persuasive. It might be said that the ferry provided a roadway that was functionally an all-weather surface and that any delay in crossing occasioned by the working of the ferry was an inconvenience that could, as a practical matter, be tolerated. Of course in this case the ferry does not run all day every day.

I believe the difficulty with the Respondents' position is that, in light of the opinions presented regarding the meaning of "all-weather road", an all-weather road can not properly be said to contain a ferry and ice road connection.

I am drawn to conclude that an all-weather road is a *continuous* all-weather road surface. An all-weather road continues as long as the all-weather surface continues, and ends where the all-weather surface ends.

This focus on the road surface type as a defining characteristic of an all-weather road was illustrated in Dr. MacLeod's written report and oral evidence. In addition Dr. MacLeod presented a number of slides showing a variety of road surfaces, some of which were all-weather and some of which were not. The emphasis was on the physical make-up of the roadway at a particular place in the road. It became apparent that each metre of the roadway is significant.

In my view the most accurate characterization of "an all-weather road that contains a ferry and ice road connection" was brought out in the course of Dr. MacLeod's attempt to provide a definition of "all-weather road". Dr. MacLeod contacted a number of individuals involved with highways. I quote again from his written report:

> The Dempster Highway, The Top of the World Highway, The MacKenzie Highway, The Yellowknife Highway, Saskatchewan Highway #42 are all considered to be "all-weather highways" and all have ferry links and ice bridges. I spoke to the Assistant Deputy Ministers of Highways for Saskatchewan, the Northwest Territories, the Yukon and the former Assistant Director of Infrastructure of DIAND and they all identified their respective highways as being "all weather roads".
>
> ***When questioned about interruptions in service due to ferry / ice bridge change over, all responded that the highways were all weather roads (in the sense of the definition of surface type given above) with ferry /ice bridge service.***
>
> (emphasis added)

While the above noted highways are considered in a general sense to be "all-weather highways" it is important to consider that when specific reference is made to the interruptions in service related to the ferry and ice bridge, a more detailed characterization of the highways is given. The highways are characterized as all-weather roads (that is, roads with an all-weather surface type) with ferry/ice bridge service. Those highways thus have at least two distinct aspects or components, one being the all-weather

road portions of the highway, and the other being the ferry and ice bridge service. There are effectively two or more all-weather roads connected by ferry and ice bridge service.

The MacKenzie Highway, for example, in its entirety, is characterized as an all-weather highway. It is however, with greater specificity, and in relation to the term "all-weather road", understood to be composed of all-weather roads with ferry/ice bridge service. I believe this more precise understanding is in line with the evidence presented regarding the meaning of "all-weather road" and must be taken to be the meaning of that term as it is used in Recommendation 25.

In my opinion the road from Cross Lake to Jenpeg is properly characterized as sections of all-weather road (that is, road with an all-weather surface type) connected by a ferry/ice bridge service.

Recommendation 25 calls for an all-weather road, not for an all-weather road (or roads) with a ferry /ice bridge service.

In summary, I am drawn to the conclusion that the defining characteristic of the term "all-weather road" is the surface type and that there is at present no all-weather road *connecting* Cross Lake and Jenpeg. In addition, the road as it presently exists does not share, at certain hours and during certain periods of the year, the characteristic of an all-weather road which is to afford a traveller, under a normal range of weather conditions, a reasonable expectation of passage.

Dated, this 16th day of December, A.D. 1993.

G. Campbell MacLean, Q.C.
Arbitrator