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Sunday, November 18, 2012

Mr. Jim Dilay, Panel Chair
Joint Review Panel for the Jackpine Mine Expansion Project
Energy Resources Conservation Board
9915 Franklin Avenue
Provincial Building, 2nd Floor
Fort McMurray, AB T9H 2K4

Re: Secretariat questions for ACFN Witnesses and Written Responses from Dr. Craig Candler – Nov. 18. 2012

Dear Chairman,

Please find my response to your written questions of November 15, 2012 below. Should you have any additional questions, I will be happy to respond. The panel's questions are provided in bold, with my response in plain text below:

1. In your opinion, what are the likely effects, if any, of the construction of Shell's compensation lake on the Wood Bison?

To answer this question, I would like to make a distinction, which I consider critical, between likely effects on 1) wood bison, and 2) the hunting of wood bison by ACFN members. Based on my understanding of ACFN knowledge and use, I would anticipate the construction of the proposed compensation lake to have likely effects on both.

Figure 11 (Exhibit 006-0131, p. 79) provides a summary of anticipated residual JPME effects based on ACFN knowledge and use. For Wood Bison, these are primarily related to the compensation lake. I characterized the residual effects of JPME, and the compensation lake in particular, on hunting of wood bison by ACFN members, and consider the effects to be adverse, high magnitude, likely to extend into the RSA, long term (>20 yrs), irreversible, and continuous. I also found that, because of the compensation lake, the JPME project's adverse residual effects on ACFN knowledge and use related to wood bison are likely to exceed the threshold for significance. Reasons for this are summarized below.

My understanding of bison issues comes from ACFN knowledge recorded through an ongoing ACFN traditional knowledge project that I am involved with, and that focuses on the Ronald and Diana Lakes bison herd. The ACFN has provided similar information on ACFN knowledge regarding the Ronald and Dianna Lakes bison herd to the federal Aboriginal Fund for Species at Risk (AFSAR).

The herd ranges across from the ACFN's Poplar Point reserve and extends south, including the area of the proposed JPME compensation lake. This herd's known and observed range (based on ACFN traditional knowledge), and its overlap with the JPME compensation lake, is show in dark

and light green on Figure 10 (Exhibit 006-0131, p. 61).

1. *Regarding effects on wood bison*

   Additional work is needed to understand likely effects on wood bison, but based on ACFN knowledge and experience, at lease some of the effects can be anticipated. It is important for the Panel to consider that this is the only remaining harvestable population of Wood Bison available to ACFN within its traditional territory (no hunting of bison is allowed within Wood Buffalo National Park).

   ACFN knowledge holders have identified two key threats to the survival of the Ronald and Dianna Lakes bison herd: unlicensed non-aboriginal hunting of the herd, and habitat loss as a result of oil sands development. The proposed construction of the proposed JPME compensation lake would contribute both of these threats:

   - The compensation lake would destroy critical winter bison habitat that exists in the 'palaeo-channels' which would be flooded by the proposed lake:

     - In Exhibit 006-0131, Page 72, I state that the, "…JPME compensation lake is anticipated to inundate and destroy observed and known core wood bison habitat for the Ronald Lake bison herd, specifically a habitat type known locally as 'buffalo prairie' or *'kloke injere*." My understanding from ACFN knowledge holders is that this kind of habitat is rare, generally open and sedge and grass dominated, and that the bison rely on it especially in winter.

   - The compensation lake would improve non-aboriginal access to the compensation lake area and the bison, likely resulting in unregulated hunting of the bison herd. My understanding is that although wood bison are a SARA listed species and of critical cultural importance to First Nations such as ACFN, if they are outside designated areas, they have no legal protection as wildlife in Alberta, and can be hunted at will and without license. The panel may wish to verify this with other sources. ACFN members report that, even with existing difficult access, unlicensed hunting by non-aboriginal oil sands workers, sometimes by helicopter, is a major threat to the herd.

     - In Exhibit 006-0131, Page 72, I state that, "…due to lack of provincial recognition, the Ronald Lake herd is vulnerable to, and currently being reduced by unregulated hunting due to a lack of legal protections… Based on ACFN knowledge, in the absence of legal protections, the elimination of the Ronald Lake herd, and so the species, from ACFN use is likely should the Project proceed." Based on this situation, ACFN knowledge holders consider the extirpation of the Ronald and Diana Lake herd to be an almost certainty if oil sand facilities, such as the compensation lake, extend reliable access into the Bison's core winter territory.

2. Regarding effects on hunting of wood bison by ACFN members

Additional work is needed to adequately understand the importance of the ACFN bison hunt, but even based on existing knowledge, at least some potential effects from the compensation lake can be anticipated.

ACFN hunting of wood bison takes place primarily in the winter when the herd (if undisturbed) is close to the Athabasca River and can be accessed by sled or ski-do. Winter snows allow tracking of the herd, and allow the large amount of meat harvested from bison kills to be transported without spoiling.

ACFN members report that in recent winters, industrial drilling and exploration activities in the core bison habitat have impacted the bison and impaired the ACFN winter bison hunt. Construction and operation of the JPME compensation lake would increase, and make permanent, the disturbance of core bison habitat, and flood a large portion of the rare ecosystem type that draws them close to the Athabasca River in the first place (see first bullet above).

ACFN members report that disturbance of the bison by oil sands exploration and related activities (including those of JPME) has increased dramatically in recent years. The bison are reported to be responding to this disturbance in at least two ways:

- The herd, which used to be seen (and easily hunted) in groups of more than forty animals, is scattering into small groups and hiding in hard to access areas as a result of chronic noise and industrial disturbance by oil sands activities. When the herd splits into small groups, this makes it difficult for ACFN members to successfully track and hunt them.

- In addition to breaking into small groups, when disturbed, the bison are moving back from the river into inaccessible areas (escape terrain) in or near the Birch Mountains as a result of industrial disturbance. Again, this makes it difficult or impossible for ACFN members to hunt them.

It is important to note that bison meat is critical to ACFN subsistence and way of life, but bison also provide critical elements of cultural and ceremonial practice (e.g., bison skulls are an essential component of some ceremonies). Failure of the winter bison hunt has cascading effects on ACFN use and knowledge far beyond the loss of subsistence resources, resulting in reduced opportunities for cultural sharing of knowledge, and reduced ability to practice spiritual and cultural traditions, and related livelihood rights. If the compensation lake goes forward and more workers are in contact with the bison, ACFN members fear that an uncontrolled, unregulated, unmonitored slaughter of the bison will take place. As the Diana and Ronald Lake herd of wood bison are a SARA listed species relied upon by ACFN members, are the only harvestable herd of wood bison in ACFN territory, and lack regulatory protection, the compensation lake may not only disturb, but may permanently threaten the future of the ACFN winter bison hunt.

a) What size is the herd now?

ACFN knowledge holders estimate that the Ronald and Dianna Lakes bison herd population is somewhere between 70 and 200 animals. This was the estimate provided to the federal Aboriginal Fund for Species at Risk (AFSAR) in April 2011. The herd frequently splits up, especially when disturbed, with some animals taking shelter in heavy bush, making an accurate count difficult. ACFN knowledge holders reported having seen more than 70 animals at a time (in winter), so it would be reasonable to take this as a minimum number. My understanding is that the Alberta government has recently conducted aerial counts of the herd and have also arrived at estimates within this range.

b) Do you have an estimate of how many animals are harvested annually by the ACFN?

A harvest survey has not been carried out, but the ACFN has mapped more than a dozen bison kills by ACFN members within the 'observed core bison habitat' shown in dark green on Figure 10 (Exhibit 006-013I, p. 61). It should be noted that even with an accurate harvest survey, the number of bison harvested in comparison to other species is likely not be the most important factor to consider. The amount of meat provided from even a single bison kill is very large, and the bison hide, skull, and other parts, play a uniquely important role in a number of cultural and spiritual practices that are not purely subsistence related, and for which other species could not be substituted.

2. During your testimony, you indicated that there is evidence that ACFN members are increasingly spending less time in the RSA practising their traditional lifestyles.

I would restate the preamble to clarify that, based on the reports of ACFN land users, my evidence indicates that, many ACFN members have effectively lost use of large areas surrounding existing oil sands developments as a result of observed or perceived contamination and other industrial effects (see Figure 8, Exhibit 006-013I, p. 55). While for some ACFN members this certainly translates into less time on the land, or in the RSA, practicing traditional lifestyles, for other members it may mean more time and effort is spent in order to go farther afield in the RSA to find fish or animals considered 'safe', or to procure resources that were once plentiful, but are now scarce or hard to find because of disturbance. In either case, I would agree that existing oil sands effects have an enormous effect on ACFN use of lands and resources.

I would also clarify for the panel that loss of use is rarely complete. Different individuals respond to impacts and perceived or observed environmental risks in different ways. Those who are most deeply attached to their way of life, or to particular cultural places, may continue to attempt to practice use to the extent possible, even where impacts are extensive, or where they see grave risks to their health as a consequence of ongoing practice. Complete loss of use is likely to occur only where a resource, or the use of a

resource, is completely removed or destroyed, as often occurs within Project footprints and in close proximity to roads.

a) To what extent has this decline been caused as a result of the Shell application relating to the JPME application?

I am unclear regarding the question posed and would invite the Panel to rephrase or clarify if they wish.

b) Where in the RSA the decline is the most significant and to what extent it can be linked to Shell's projects or other existing oil sands projects?

Based on ACFN interview material, loss of use (or decline in use) is based on multiple factors, but the most commonly reported reasons are explicitly connected to existing oil sands projects, including Shell's existing JPM project. The reach of the Athabasca River closest to Fort MacKay (near the confluence of the Muskeg and Athabasca) and just downstream from many of the existing mines has the largest concentration of reported specific instances of lost use. These are mapped instances where fish or other animals have been harvested by ACFN members and thrown back or left on the land because of observed abnormalities or concerns regarding quality. Avoidance or loss of use is generally most significant or intense near operating projects, and especially downstream of them, as well as in places where contaminants or the effects of contaminants are visible, such as in sight of industrial plumes, or in areas where abnormal fish have been caught in the past. ACFN members report aquatic loss of use (avoidance of water, fish, or aquatic medicinal plants) to be both more extensive, and more intensive than terrestrial loss of use (avoidance of moose, berries, or other land based resources). Fish of all kinds from the main flow of the Athabasca River are almost universally avoided by ACFN members, but many ACFN members will still take moose along much of the river, especially near the delta, and will considered it safe to eat after inspecting the liver and other tissues for abnormalities.

c) What will be the likely contribution to this trend if the JPME goes ahead?
Reference: Exhibit 001-001D EIA Volume 4B [PDF page139] Figure 9.

Based on current ACFN responses to existing oil sands mines similar to JPME, I would expect that if JPME goes ahead, more ACFN members will stop using areas to the north, east and west of the JPME footprint, and loss of use will intensify downstream towards the Athabascas delta. ACFN loss of use in the Muskeg watershed, including Kearl Lake will be complete or near complete. ACFN users living in Fort MacKay and Fort McMurray who currently rely on Kearl Lake and Muskeg River areas will either stop harvesting, or if they are able, move their harvesting and practice of rights to less preferred areas. A series of cascading social, cultural and economic losses would result from such an outcome, with the high levels of impact born by ACFN members.

3. Are ACFN members using Big Creek and Redclay Creek for transportation?

The map in Figure 9, Exhibit 006-013I, p. 59 shows both the Big Creek and the Redclay Creek watersheds in red. Based on data collected with ACFN river users and discussed in *As Long As The Rivers Flow* (Exhibit 006-013I, p. 185), this indicates that both Big Creek, and Redclay Creek have been reported by ACFN members to be used for navigation at 'normal summer high water for at least a portion of their length' (i.e. when the aboriginal base flow, or ABF, is met), but both creeks are also reported to become too shallow to navigate at extreme low water (i.e., the aboriginal extreme flow or AXF). When water levels are sufficient, both of these waterways are navigated (at least in their lowest reaches) to access preferred hunting areas away from the main channel of the Athabasca River. Numerous ACFN moose kills have been recorded near or along them.

The panel should note that the standard for 'navigation' used for this data was a fully loaded boat with outboard motor. ACFN river users estimated the safe operation depth of such a boat at about four feet, though short distances may be carefully navigated at slightly shallower depths. We do not have information on navigable extent at different water levels. At very low flow, access to these streams is not possible.

a) If not, do you know if they ever used these waterways for transportation?

See answer for 3 above. We can confirm that ACFN members have reported using at least portions of Big Creek and Redclay Creek for transportation at favorable flow levels.

b) If they used these waters before and do not use them now, can you explain why they don't use them anymore?

See answer 3 above. ACFN oral histories of the river indicate that water levels are generally falling. There have been several years in the past decade when the ABF period has been relatively brief, and the AXF period relatively long. In these years, opportunities for ACFN members to use of even the lowest reaches of Big Creek and Redclay Creek would be limited.

The Panel should also note that challenges to ACFN water based transportation extend beyond tributaries (like Redclay and Big Creed) and into the main stream of the Athabasca River. The stretch of the Athabasca immediately adjacent to the outlets of Big Creek and Redclay Creek is reported to be one of the most shallow and prone to sand bars and hazards, including the only recorded incident where an ACFN member travelling from Fort Chip to Fort McMurray found the main channel of the Athabasca River itself to be too shallow to travel and had to return home to Fort Chipewyan (see Figure 9, Exhibit 006-013I, p. 59).

4. During your presentation, you mentioned that recent data from an interview indicated that caribou from the Kearl Lake Herd were observed by ACFN members in the LSA/JPME footprint.

a) Is this information based on one interview or more than one? If more than one,

how many?

I am aware of, or have documented, at least six ACFN accounts of woodland caribou within or immediately adjacent to the LSA and the JPME footprint from three separate ACFN participants, with the most recent account being from fall 2011 (see 'c' below). The interview mentioned in my presentation was mentioned because it was not considered in the drawing of Figure 10 (Exhibit 006-013I, p. 61) and identified specific caribou habitat features and sightings within the JPME footprint itself. Multiple ACFN members have reported seeing groups of woodland caribou moving between Muskeg Mountain, and areas between Kearl and McClelland Lake which are within the proposed JPME footprint. Based on ACFN traditional knowledge, the Muskeg Mountain area (SW of Kearl Lake and at the edge of the LSA) is a well-known woodland caribou area. The area is shown as overlapping environmental features (associated with caribou) to the SW of the LSA in Figure 5, (Exhibit 006-013I, p. 49) and as observed core caribou habitat and labeled 'Kearl Lake Caribou' in figure 10 (Exhibit 006-013I, p. 61).

The Panel should also note that beyond ACFN observations, Shell's own JPME application material are useful in this regard, though one needs to dig beneath the surface a bit. Shell's limited work with RFMA holders clearly indicates that caribou are present (or were until at least 2005) within what Shell used as an LSA. This fact is obscures somewhat as the author of the main wildlife section appears to have either misread, or discounted the accounts in the ESR reports. Vol. 5 of Shell's application, at p. 7-40 indicates,

> "Woodland caribou are very uncommon in the LSAs which are located outside designated caribou areas. **Interviews with current RFMA holders indicate that caribou are present only sporadically, if at all**. One Fort McKay elder described that there were lots of woodland caribou on his trapline "a long time ago", but that there were far fewer now. He indicated that this population decline began about 20 years ago." **[emphasis added]**

Shell's 2007 Cultural Environmental Setting Report (ESR) includes a summary of the interviews conducted with RFMA holders, and shows much more current evidence of caribou in the JPME area. Of six interviews with RFMA holders, the summaries for three indicate that caribou are present, harvested or were present before industrial impacts. These include RFMA #1714, held by Marvin L'Hommecourt; RFMA #1716, held by Henry Shott; and RFMA #2137, held by Emma Faichney. In the notes for Shell's interview with Marvin L'Hommecourt, the ESR states:

> "Mr. L'Hommecourt spotted a couple of caribou two years ago; while there are signs they still frequent the line, they have a tendency to move in and out of the area." (p. 3-38)

Further on, the ESR notes that on Mr. Shott's line:

> "The hunted species include moose, caribou, white-tailed deer and bear. … There are no caribou in the area; they have moved away due to industrial activity."

On the Faichney line, the ESR notes that:

> "Mrs. Faichney and her son hunt steadily throughout the year. The main animals include moose, bear, white-tailed deer, mule deer and a few caribou (when they pass through)"

b) Has there been more than one sighting?

As noted in 4a) above, there have been multiple sightings of caribou within the JPME LSA and footprint. Further work with ACFN members would provide additional details.

c) When did the caribou sighting or sightings occur?

Based on information in '4a' above, caribou sightings in the LSA and JPME footprint are reasonably regular. Even without regular or independent monitoring, ACFN is aware of several sightings over the past ten years. One of the more recent sightings by an ACFN member that I am aware of was along the Kearl Lake road, likely within or very near to the JPME footprint. My understanding is that the sighting was reported by an ACFN member last year (November 2011) to the ACFN IRC and included the photo below (Figure 1). While the ACFN IRC was able to receive the report, it did not have capacity to investigate further. The road cut can be seen in the bottom of the photo.

Figure 1: Woodland Caribou – November 2011 Reported in or near JPME Footprint

Sincerely,

ORIGINAL SIGNED

Craig Candler, PhD
Past President and Founding Director
The Firelight Group