RESPONSE TO WORKING GROUP AND PUBLIC COMMENTS ON THE SITE C CLEAN ENERGY PROJECT ENVIRONMENTAL IMPACT STATEMENT

Technical Memo

FLOOD RESERVE
(ORDER – IN – COUNCIL 2452)

MAY 8, 2013

Subject: Flood Reserve

Purpose

The purpose of this technical memo is to a provide background and summary of Order-in-Council 2452 (OIC 2452) Reserve, commonly referred to as the "Flood Reserve", held by the government of British Columbia, and to address questions raised during the comment period on the EIS about how the Flood Reserve was considered with respect to the future agricultural land use in the agriculture assessment.

Please also refer to the Cumulative Effects Assessment Technical Memo for information on the scope of the assessment with respect to past projects, and the Agriculture Technical Memo for a summary of the agriculture assessment approach and results presented in the EIS.

Background[1]

The first steps to develop the hydroelectric potential of the Peace River in British Columbia were undertaken in the 1950s. The government of British Columbia reserved Crown land under the *Land Act* within the Peace River watershed for the purposes of hydroelectric development through Orders-in-Council issued by the Executive Council as described below.

Order-in-Council 2452 (OIC 2452) dated October 11, 1957 reserved an area of Crown land from alienation, pursuant to Section 94 of the Land Act, R.S.B.C., 1948, c. 175. OIC 2452 included the following portions of the watershed and tributaries of the Peace River:

- All the portion downstream from the 121°55' meridian of West longitude to the British Columbia-Alberta border and situated below the 1,700 ft. (518.2 m) contour of elevation
- All the portion upstream from the 121°55' meridian of West longitude and situated below the 2,450 ft. (746.8 m) contour of elevation

Since OIC 2452 was first issued a number of amendments have been issued. Some of the key amendments that substantively changed the reserve area are summarised below.

Order-in-Council 369 dated February 15, 1963 amended OIC 2452 by changing the contour elevations to 1,525 ft. (464.8 m) in the downstream portion and to 2,250 ft. (685.8 m) in the upstream portion.

Order-in-Council 1995 dated August 5, 1963 amended Order-in-Council 369 by changing the contour elevation to 2,225 ft. (678.2 m) in the upstream portion.

Order-in-Council 1079 dated May 30, 1985 amended Order-in-Council 369 by cancelling the portion from the easterly border of Township 83, Range 19, West of the 6th Meridian, Peace River District, downstream to the British Columbia-Alberta boundary, and situated below the 1,525 ft. (464.8 m) contour of elevation (G.S.C. datum).

The current scope of OIC 2452 is shown as the flood reserve on Figure 4.7 in Volume 1 Section 4 Project Description of the EIS. The portion of the reserve between Peace Canyon Dam and the easterly

[1] EIS, Section 6.2, pages 6.1 – 6.2 , lines 25 – 37 and 1 – 13.

border of Township 83, Range 19, West of the 6th Meridian, Peace River District is referred to herein as the Flood Reserve.

Land and Resource Management Plans[2]

Provincial Crown land management in the vicinity of the Project activity zone is guided by the objectives and recommendations of land and resource management plans (LRMPs). The Project activity zone overlaps portions of both the Dawson Creek and Fort St. John Land and Resource Management Plan areas. Together the two plans cover 7.5 million hectares. The Fort St. John LRMP was approved in 1997 and the Dawson Creek LRMP was approved in 1999. The southern bank of the Peace River is roughly the boundary between the two plans, with the Dawson Creek LRMP area extending to the south and the Fort St. John LRMP area to the north. With respect to the proposal for protected areas near the Peace River boundary the Fort St. John LRMP deferred the recommendation to the Dawson Creek LRMP.

The plans set out land and resource strategy for Crown lands, andprovide guidance for the management and use of resources, within the planning areas. The issuance of tenures for the use of Crown land or resources is informed by the resource management objectives of the Resource Management Zone within which the activity is proposed.

The various Resource Management Zones recommended in the two LRMPs are summarized in Volume 3, Appendix C, Table 1. Both LRMPs recommend establishment of the Peace River- Boudreau Lake protected area. To date the area has not been designated.

In section 5.2.1 of the Dawson Creek LRMP, the application of the Flood Reserve to a portion of the Dawson Creek planning area is discussed in the context of the protected area recommendation. The LRMP committee contemplated the Flood Reserve and the future development of a hydroelectric reservoir, as well as oil and gas activity within the planning area, and recommends establishment of the Peace River/Boudreau Lake protected area under the *Environment and Land Use Act* because designation under that Act would not preclude those activities. In section 5.2.1. the Dawson Creek LRMP acknowledges the priority of the development of a hydroelectric dam at Site C:

> "Designate Crown lands within the Peace River-Boudreau Lake protected area under the Environment and Land Use Act to accommodate the Site C flood reserve and opportunities for directional drilling."

Current and Future Land Use

The Flood Reserve has guided Crown land and resource use within the Project activity zone, and has been maintained by the government of British Columbia continuously since 1957.

As discussed above, the Dawson Creek LRMP recommends designation of the Peace River- Boudreau Lakes protected area, in the absence of the Project. This recommendation was also supported by recommendations in the earlier Fort St. John LRMP. The Dawson Creek LRMP assessed the socio-economic and environmental implications of the designation of this area on other land uses

[2] EIS, Volume 3, Appendix C, Part 2, Section 2, page 2 - 3, lines 15 – 24 and lines 14 – 19.

(Appendix B of the LRMP), and identified the compatibility of other selected land uses with the proposed protected area (Appendix F).

The Dawson Creek LRMP addressed the overlap of the areas within the Flood Reserve and the area proposed as a protected area, in recommending:

> "If government endorses the Site C Project, the Dawson Creek LRMP recommends that the timber be harvested within the flood reserve, prior to flooding. If the Site C flood reserve is cancelled, the areas designated under the Environment and Land Use Act (ELUA) should be reviewed."

Therefore, for the assessment of Project effects on likely future land and resource use, the LRMP recommendation for protection of the area overlapping with the flood reserve can reasonably be used to define likely future land use in absence of the Project.

Agriculture Assessment

The assessment of potential Project effects on agriculture takes into account all land potentially affected by the Project. This includes land both currently developed and undeveloped for agricultural uses, and land regardless of ownership including Crown land, privately owned land, and land owned directly by BC Hdyro. The assessment was required to take into account changes to agricultural land, changes to individual farm operations, changes to agricultural economies (including future land use), and changes to local food production and consumption. These are described further in the EIS Section 20 and the Agriculture Technical Memo. This document discusses the relevance of the Flood Reserve, and associated provincial land use planning, to the estimates of both lost agricultural land, and lost future agricultural production on those lands.

Agricultural land loss was estimated using the estimate of agricultural land, by agricultural capability. These ratings consider the physical characteristics of the land, especially topographical, soil and climate conditions relevant to agricultural use[3]. As such, neither the Site C Flood Reserve or BC Hydro's land ownership has affected the evaluation of land capability for agriculture.

Agricultural crop suitability considers the agricultural capability ratings, and uses these to determine the suitability of each class of land for growing various ranges of crops. Neither the Flood Reserve or BC Hydro's land ownership has affected the evaluation of crop suitability.

Future Agricultural Land Use

Lost future agricultural production was used as a measure of the change to the agricultural economy. Agricultural utility ratings were developed to estimate likely future land use for agriculture (including cultivation and grazing), in absence of the Project, within the Project activity zone. This takes into account the capability of the land, and its suitability for a range of crops, as well as potential constraints to future use of the land.

To make reasonable assumptions about potential constraints to future use of the land for agriculture, the LRMPs were referred to for guidance on the likelihood, and nature of, future constraints to agricultural land use on Crown land, and in particular within the area proposed as a protected area in

[3] EIS, Section 20.1.2, page 22.2, Table 20.1, line 1.

absence of the Project. This is an appropriate consideration as the LRMP recommends that, in absence of the Project, the islands and much of the south bank land that would have been within the reservoir area be included within the larger proposed protected area.

The development of future agricultural land use scenarios further reference the LRMP in that, if the protected area is established, agricultural land use would be limited to existing grazing tenures or some expanded grazing use. Therefore it is appropriate to assume that cultivated agriculture use would be unlikely in the future within the proposed protected area, regardless of agricultural capability ratings. For these reasons, land within the proposed protected area were assigned a low to nil agricultural utility rating. Apart from this, likely future agricultural use, and therefore agricultural utility ratings, were not constrained by current or expected future ownership, tenure, including by Agricultural Land Reserve status. Please refer to Section 20.2.4.1 of the EIS and the Agriculture Technical Memo for more information on the approach to developing agricultural utility ratings.

The future agricultural development scenarios considered expanded land use from current conditions to full agricultural development as defined in each of three scenarios. As described above full agricultural development was informed by the agricultural land capability and agricultural utility. Current agricultural land use is described in section 20.2.5 of the EIS. Wherever possible agricultural land acquired by BC Hydro is available for productive use, either by leasing back the property to the original owner or to another tenant. The majority of agricultural land under lease is being used by adjacent landowners or other farm operators in the area. BC Hydro supports leaseholders in their land use and management by providing long-term, low-cost leases, an invasive plant management program, and a property maintenance program.

Summary

Order-In-Council 2452 was established by the province of British Columbia in 1957 to reserve land under the *Land Act*, and has been maintained continuously since that time within the area currently known as the Flood Reserve.

The province's most recent approved land use plans within the Project activity zone are the Dawson Creek LRMP (1999) and the Fort St. John LRMP (1997). These plans included consideration of the Flood Reserve in their development, and made recommendations about future allowable land uses with the Project activity zone.

The Flood Reserve did not affect the evaluation of land capability for agriculture, or crop suitability.The estimation of future agricultural land use, without the Project, was appropriately guided by the province's Land and Resource Management Plans in development of the future agricultural land use scenarios.

Related Comments / Information Requests:

This technical memo provides information related to the following Information Requests:

form_0004-010	gov_0004-016	gov_0010-703	pub_0234-001	pub_0236-004
pub_0236-009	pub_0254-003	pub_0291-001	pub_0448-ag-111	pub_0448-ag-118
pub_0457-003	pub_0472-004	pub_0473-001	pub_0477-001	pub_0478-011
pub_0510-001	pub_0540-003	pub_1017-001	ab_0001-191	ab_0001-516
ab_0001-567	Response to Peace Valley Environmental Association Standard Letters			