



Delivered by email to iaac.springbank.aeic@canada.ca
Impact Assessment Agency of Canada (IAAC/CEAA)
Attention: Jennifer Howe (IAAC / CEAA)

April 26, 2021

Re: SR1 Benefits, Costs and the Impact of the Bow River Reservoir

Summary of Findings:

SR1 flood-only design is dependent on new drought management capabilities on the Bow River.

SR1 benefits are lower than MC1 benefits.

SR1 capital costs continue to increase while operating costs are not disclosed.

SR1 operating costs estimates are insufficient. SR1 benefit/cost ratio does not appear to include the worst case for operating costs in a design flood, but assumes worst case scenario is avoided in the “benefits” calculations.

Drought on the Bow and Flood Mitigation on the Elbow

Beginning on page 102 of Ex 349, Mr Rae asks a series of questions about drought and the scope of the SR1 analysis. This is a crucial line of questioning that we hope regulators are taking seriously. In Ex 325, the Proponent states that drought management for the City of Calgary will be taken care of by a new (as yet conceptual) project on the Bow River. Therefore, the Proponent is asking regulators to approve SR1 – a flood mitigation only project – and disregard its inability to address drought based on a theory that drought mitigation will take place on the Bow River.

15 Q. My reasons for the question are that Alberta
16 Transportation has proposed a project for flood
17 control, and it's relatively clear the beneficiaries of
18 that flood control, purportedly, is the City of Calgary
19 and certain communities in it, and yet at the same
20 time, we find that City of Calgary has additional
21 motives for the flood control project which relate to
22 drought management.

23 My question is, is that, did Alberta
24 Transportation consider drought management in proposing
25 the SR1 project in the context of the overall Bow River

1 Basin water control proposals?

2 A. MR. HEBERT: Sorry, Mr. Chairman. The project
 3 that's been advanced in the application is intended to
 4 be a flood mitigation project. At a very early
 5 preliminary point, when a range of options were being
 6 considered on all projects, it was referred to as
 7 having the option, but, ultimately, as the project
 8 progressed in its fairly early stages, the notion that
 9 it would be exclusive to flood control structure was
 10 what ultimately was decided upon and ultimately how the
 11 project advanced through the regulatory process.

12 Q. So when Alberta Transportation proposes, formally
 13 proposes, a flood control structure on the Bow River,
 14 will drought management be part of the public purpose
 15 for that dam in addition to flood control?

16 A. MR. HEBERT: Mr. Chairman, as it relates to the
 17 Bow option, that is, the Bow options that are being
 18 reviewed by AEP, drought management and water supply
 19 are considerations for those projects.

20 Q. Is it Alberta Transportation's position, though, that
 21 drought management should not be an issue that this
 22 Board should take into consideration in rendering its
 23 decision?

24 A. MR. HEBERT: Mr. Chairman, we've advanced an
 25 application for a flood mitigation project, taking into

104

ALBERTA TRANSPORTATION TOPIC #1 PANEL

Cross-examined by Mr. Rae

1 consideration the needs for flood mitigation on the
 2 Elbow River, and as well as the constraints in
 3 providing other features on this particular river.

It is clear that the timelines for a Bow River project are lengthy, with a project possibly more than a decade away (if at all). This is illustrated by the following exchange in Ex 357, pdf page 73 in an exchange between Mr Rae from Stoney Nakoda and the City of Calgary:

12 **A. My expectation and understanding, from participation in**
13 **the Bow River reservoir options work led by the**
14 **province, is that it would be a fairly protracted**
15 **horizon, that we would be looking at in excess of --**
16 **certainly in excess of five years and likely in excess**
17 **of a decade.**

18 **As the Bow River reservoir options studies are**
19 **still in a very preliminary state, that horizon is yet**
20 **unclear, so certainly could be clear greater than a**
21 **decade.**

Should regulators approve SR1, a single-purpose project focused on flood mitigation, and ignore its shortcomings, because of other theoretical future opportunities that will address these shortcomings? The Elbow River easily fills the Glenmore Reservoir and has more than enough flow rate to fill another reservoir to provide water security and drought mitigation.

SR1 Benefits

As reported by the City of Calgary, SR1 has avoided annual damages (benefits) of \$27.7M per year, which is the benefits created by SR1 downstream of the Glenmore Reservoir. The City of Calgary appears to have commissioned these reports, which would explain the lack of consideration for upstream communities until regulators asked about the impacts. There was no calculation of benefits for Springbank in MC1 or SR1 at all. In 2019, at the request of the NRCB, the Proponent estimated that the incremental benefit from Bragg Creek with MC1 would be 180,000 per year (Exhibit 100).

The Calgary-centric review of SR1 has always been problematic. Now, realizing that benefits are distributed so unequally with SR1 across the various communities, the lack of consideration for communities west of Calgary is all the more glaring.

MC1 would have higher benefits – permanently - and more equitable distribution of benefits. MC1 benefits are higher due to superior avoided damages to Rocky View County infrastructure, Bragg Creek, Redwood Meadows and Springbank-area homes and recreation infrastructure over SR1. Benefits are more equitable because of the uniformity of river flow rates created by MC1, as compared to the river flow rate disparity created by SR1 above and below Glenmore Reservoir.

The Proponent was unable to provide evidence that SR1 would, in fact, solve much of the flooding of downtown Calgary, as the Bow River will continue to flood. Mr Rae, representing the Stoney Nakoda pursued a line of questioning regarding benefits calculations performed by the City of Calgary and the relationship between the Bow and the Elbow. He justified this line of questioning, which touched upon the Bow River, with the following explanation in Exhibit 357 pg 123:

3 The *NRCB Act* is pretty clear in terms of what it
4 directs the Panel to consider, and that is the social,
5 economic, and environmental effects associated with the
6 renewable project. And in this case, the renewable
7 project is SR1.

8 MR. RAE: Mr. Chairman, if I might respond.

9 THE CHAIR: Yes, please.

10 MR. RAE: The evidence from both Alberta
11 Transportation and the City of Calgary, we would submit
12 in large part, is attributing the benefits of the SR1
13 project not to the benefits from that project but to
14 the benefits from combined projects on both the Bow and
15 the Elbow River.

16 We would submit that the evidence taken by itself
17 in regard to SR1 shows minimal benefit from the SR1
18 project by itself. Those benefits from SR1 only arise
19 if the other portions of the flood control on the Bow
20 watershed are taken into account. And much of the
21 evidence submitted by Alberta Transportation and the
22 City of Calgary is exactly to that effect. They have
23 put this evidence in front of this Panel in an attempt
24 to argue that the SR1 project is in the public interest
25 when, in fact, we submit they're arguing is that the

1 SR1 project as part of a combined set of flood control
2 structures is in the public interest. That's the basis
3 for these questions.

The City of Calgary will not be protected until flood mitigation on the Bow River is complete, as discussed in Ex 357, below. The following exchange takes place between Mr Rae and City of Calgary (pdf page 69)

8 Q. So I'd ask you to turn to, I believe it would be the
9 page 5, PDF page 5, of this exhibit, which was page 3
10 of the attachment. One more page, perhaps. Oh, no,
11 that's the right page, sorry. Back to that page.
12 Now, sir, on the first paragraph under Figure 3,
13 the statement is made: (as read)
14 "With SR1 in operation, the City will be
15 able to focus more of its resources for
16 emergency response on the Bow River,
17 where around 85 percent of the City's
18 flood risk will remain after SR1 is
19 built."
20 Is it the City of Calgary's evidence that that statement
21 continues to be accurate?
22 A. Yes.

In Exhibit 350, the following exchange takes place between Mr Secord and the Proponent:

ALBERTA TRANSPORTATION TOPIC #1 PANEL
Cross-examined by Mr. Secord

1 Q. So then, basically, what you're saying, Mr. Wood, is,
2 in the event of a 1 in 200-year flood event on the
3 Bow River, Alberta Transportation doesn't know what
4 impact that would have on the communities downstream of
5 the Glenmore Reservoir between -- between
6 Glenmore Reservoir and the confluence of the Elbow and
7 the Bow?
8 A. MR. WOOD: We don't have that information,
9 Mr. Chair, but remind that the SR1 project mitigates
10 damage from the Elbow River. The province is looking
11 at other mitigations on the Bow River.

The City of Calgary also stated that there was no modelling regarding the meeting of the Bow and Elbow Rivers at the confluence downstream of downtown Calgary. It was acknowledged by the Proponent that

water may back up along the (much smaller) Elbow River in a flood scenario when the Bow River is in a flood event. If this is the case, how much of the \$27.7 million avoided annual damages attributable to SR1 is eroded?

Regarding equity of flood mitigation, Mr Rae enters into the following exchange:

110

ALBERTA TRANSPORTATION TOPIC #1 PANEL

Cross-examined by Mr. Rae

1 is not possible for every downstream
2 property owner to be protected to an
3 equal extent."

4 What efforts did Alberta Transportation make in that
5 regard to ascertain who could be protected and who could
6 not? Was, for example, was a matrix created to
7 ascertain who would be benefited and who would not?
8 What was the process that was used that led to Alberta
9 Transportation making that statement?

10 **A. MR. HEBERT:** So, Mr. Chairman, I would take the
11 Panel back to the 2013 event, which the communities
12 along the Elbow River that were significantly, severely
13 impacted. That included Bragg Creek, it included
14 Redwood Meadows, it included the City of Calgary.

15 And from that moment onwards, the province and
16 other parties have worked aggressively and diligently
17 to ensure that those communities receive the mitigation
18 required to protect from a 2013 level event.

19 The nature of that statement is referring
20 specifically to other areas that were referred to in
21 the Springbank landowners' submission. The second part
22 of that statement reflects the fact that SR1 does
23 reduce flood levels along portions of the river
24 downstream of the project, which we would view as -- as
25 a -- as a benefit of SR1 being on the landscape.

From our perspective, it is glaring that this response by the Proponent excludes Springbank, which receives a lower level of flood protection than every other community, far below the standard 1:100 required federally or provincially.

SR1 Capital Costs

Based on our review of public financials and the information from the hearing, we have prepared the following summary, which illustrates that the SR1 capital costs are nearly \$580 million. Refer to Exhibit 414, page 25-29. The Proponent's cost of \$432 is misleading. It does not include sunk costs and appears to be a discounted number. Is this typical of large projects? One would think that project costs are what they are, regardless if they are sunk or not. Discounting is relevant perhaps for benefit/cost analysis, but not for reporting costs to regulators.

	AMEC Report (2014)	2015 IBI Benefit/Cost Report	AEP DECISION REPORT (2015)	2018 EIA	Current View (2021) - AT Numbers
Construction	\$ 159,767,800	\$ 214,767,800	\$ 248,100,000	\$ 291,711,750	\$ 340,628,065
Land	\$ 40,000,000	\$ 40,000,000	\$ 40,000,000	\$ 80,000,000	\$ 140,000,000
Upstream Mitigation	\$ 8,900,000	\$ 8,900,000	\$ 8,900,000	\$ 32,800,000	\$ 42,200,000
Total Costs (SR1 + Bragg Creek)	\$ 208,667,800	\$ 263,667,800	\$ 297,000,000	\$ 404,511,750	\$ 522,828,065
RVC - Facilitation Payments	\$ -	\$ -	\$ -	\$ -	\$ 20,500,000
TTN - Facilitation Payments	\$ -	\$ -	\$ -	\$ -	\$ 32,000,000
Other Facilitation Payments					
Blood/Kainai					?
Ermineskin					?
Siksika					?
Kamp Kiwanis					?
Missing					
Fish Offsets					?
Other Offsets					?
Road Upgrades - Township rd 250 and RR40					\$ 3,800,000
Repairs to Upstream Berms during future flood					?
Conditions - Federal					?
Conditions - Provincial					
Total	\$ 208,667,800	\$ 263,667,800	\$ 297,000,000	\$ 404,511,750	\$ 579,128,065

The Proponent would not release information about the agreements reached with any First Nation and would not discuss Kamp Kiwanis. We are only aware of compensation agreement details for Tsuut'ina Nation and Rocky View County as a result of public pressure which compelled both the County and Tsuut'ina to release statements. Is secrecy acceptable for a publicly-funded project and is this in the public interest? Is SR1 setting a new precedent for public projects to have a "secret agreement" budget that is hidden from taxpayers? Do we need to start adding a 25% cost allowance to government-reported project costs for various facilitation payments and commitments? Has a precedent been set that various First Nations – even located far from the project footprint - can oppose any new project in and receive compensation to withdraw opposition? Has the precedent been set with SR1 that the government should lean towards using private land for projects and convert it to Crown land to facilitate reconciliation with First Nations?

We contend that the full value of ALL compensation paid or committed to move SR1 forward should be reported. Regulators have a responsibility – a duty – to understand and account for the full costs of a project. Where is the responsibility for this, if not in a regulatory hearing or review of the project?

There are a variety of missing costs which include all environmental offsets and all conditions applied by federal and provincial regulators. There are also a variety of hidden costs that result from SR1: repairs to damaged homes, RVC and provincial infrastructure, amenities and repairs to upstream flood mitigation projects in future floods that would have been avoided by MC1. These are direct costs of SR1, whether or not the Proponent provides estimates. It is up to the regulator to decide whether these costs should be a cost of the Project when the Proponent is arguing they are not and interveners contend they are.

Operating Costs:

The operating costs of SR1 are missing important cost categories and levels of detail that would allow independent assessment of their accuracy. With the exception of a small number of costs in Exhibit 159, day to day and post-flood operating costs are missing in their entirety.

The Proponent referred operating logistics and costs to AEP, as the future operator. How can IAAC review this project without a sense of the true operating costs? The post-flood costs may be unpalatable. Costs for removing sediment from the diversion channel and inlet, moving sediment in the reservoir for drainage, reclamation of lands and erosion control are all missing, as are all wildlife and fish rescue operations.

We refer IAAC to Exhibit 414 pages pdf pages 30-32 for a description of missing costs.

Benefit/Cost Analysis:

MC1 has a higher benefit cost ratio than SR1. Its capital costs are lower materially and its benefits are higher due to the better protection for more communities. Ex 414, page 33.

Conclusion:

Mr Rae identifies that, implicit in the pursuit of upstream alternatives, is the judgement that the City of Calgary is more important than the surrounding, less populated areas. We agree with Stoney Nakoda that the communities outside the Calgary appear to be sources of land for flood mitigation projects that benefit the City of Calgary, without due concern and consideration for impacts loss of land and livelihoods it sustains. Mr Rae states in Ex 357, pg 78 and 76, respectively:

6 Q. Sir, what I hear you saying is you're equating flood
7 mitigation of a natural flood, you're equating that
8 with deliberate inundation of land for the purpose of
9 creating a permanent reservoir. Surely, those are
10 different things, are they not?

11 A. They are certainly different in many aspects; however,
12 they are similar in that both would be -- or both sets
13 would be aimed at flood mitigation and water resources
14 management in general.

15 Q. Yes, but for the people currently occupying, using and
16 living, and the land to be flooded, there's no
17 mitigation possible. The land would be taken out of
18 use and they would have to move. Is that not correct?

19 A. I haven't analyzed that. I wouldn't be able to comment
20 on whether that's possible or not.

and

12 Q. And when I ask this question, please don't take it
 13 pejoratively, but is it the evidence of the City of
 14 Calgary that the city of Calgary, in particular, the
 15 downtown core, is more important than outlying areas,
 16 and, quite frankly, more important than the Stoney
 17 Indian Reserve?

18 A. No, sir. We would identify literally that the
 19 population, life safety, environmental, and economic
 20 risk associated with flooding the city of Calgary are
 21 of significant impact. We then quantify that impact
 22 through various technical studies.

23 Q. Would you agree, sir, though, that if an upstream
 24 Bow River storage reservoir flooded the
 25 Stoney Indian Reserve for the sake of flood protection



348

FRANK FRIGO

Cross-examined by Mr. Rae

1 of downtown Calgary, would you agree, sir, that that
 2 would be based on the value judgment that downtown
 3 Calgary is subjectively more valuable than the
 4 Stoney Indian Reserve?

Unfortunately, the City of Calgary's engagement in calculating SR1 benefits, performing SR1 triple bottom line analysis and its role as the both the primary champion of SR1 and primary beneficiary of SR1 has skewed the decision process in a manner that disadvantages surrounding communities. From the outset, it has been acceptable to review SR1 within the context of the City of Calgary. We ask IAAC to consider the power of the City of Calgary to shape the parameters, scope and purpose of the SR1 project to its benefit. Yet, had the lens been widened, one would see the destruction caused by the new berms at Bragg Creek, the unequal flood-mitigation outcomes to communities west of Calgary and the inability of SR1 to adapt to a changing climate.

Regards,

Karin Hunter

President, Springbank Community Association

CC. Dan Henn, RVC Reeve, Kent Robinson, Acting CAO, Rocky View County, Kim McKylor, RVC Councillor, Div 2, Mark Kamachi, RVC Councillor, Div 1, Kevin Hanson, RVC Councillor Div 3, Laura Friend, NRCB