McCullough Research

ROBERT F. MCCULLOUGH, JR. PRINCIPAL

Date: October 10, 2017

To: British Columbia Utilities Commission

From: Robert McCullough

Subject: Problems with British Columbia Hydro's F1.7 Response

British Columbia Hydro has repeatedly argued that sunk costs should impact on the BCUC's analysis of Site C:

"The Commission has made preliminary findings that by December 2017, there would be \$2.1 billion in sunk costs, and that termination and remediation would cost \$1.1 billion.1 The total of \$3.2 billion represents roughly 36 per cent of the updated cost to build Site C."

Yesterday, Dr. Richard Thaler, a leader in the field of behavioral economics was awarded the Nobel Prize. In his famous book, *Misbehaving*, he characterizes the Sunk Cost fallacy as"

When an amount of money has been spent and the money cannot be retrieved, the money is said to be sunk, meaning gone. Expressions such as "don't cry over spilt milk" and "let bygones be bygones" are another way of putting economists' advice to ignore sunk costs. But this is hard advice to follow, as the example . . . Vince and his tennis elbow, illustrate.

To make things clear, let's stipulate that if a friend invited Vince to play tennis (for free) at another club, Vince would say no because of his painful elbow. In economics lingo that means the utility of playing tennis is negative. But having paid \$1,000 he continues to play, seemingly making himself worse off every time he does so. Why would he do such a thing?²

¹ British Columbia Utilities Commission Inquiry Respecting Site C Executive Summary, F1.7, page 3.

² Misbehaving, Richard Thaler, 2015, page 64.

McCullough Research

Problems with British Columbia Hydro's F1.7 Response October 10, 2017 Page 2

The answer is that sunk costs should never be part of an economic analysis. The 22% of project costs have been spent and cannot be recovered. If they could have been recovered, the argument for termination of Site C would be stronger, not weaker.

Dr. Richard Thaler has commented that Knee Deep in the Big Muddy was the theme song of the Sunk Costs Fallacy.³ For those unfamiliar with this famous anti-war ballad, I have placed it in the footnote below.⁴ The term "Big Muddy" refers to the Mississippi River, not the Peace River, but the connection seems quite fitting.

We were on maneuvers in-a Louisiana, One night by the light of the moon.

The captain told us to ford a river, That's how it all begun.

We were -- knee deep in the Big Muddy, But the big fool said to push on.

The Sergeant said, "Sir, are you sure, This is the best way back to the base?"

"Sergeant, go on! I forded this river 'Bout a mile above this place.

It'll be a little soggy but just keep slogging. We'll soon be on dry ground."

We were, waist deep in the Big Muddy And the big fool said to push on.

The Sergeant said, "Sir, with all this equipment No man will be able to swim."

We were, neck deep in the Big Muddy And the big fool said to push on.

All at once, the moon clouded over, We heard a gurgling cry.

A few seconds later, the captain's helmet Was all that floated by.

The Sergeant said, "Turn around men! I'm in charge from now on."

And we just made it out of the Big Muddy With the captain dead and gone.

We stripped and dived and found his body Stuck in the old quicksand.

I guess he didn't know that the water was deeper Than the place he'd once before been.

Another stream had joined the Big Muddy 'Bout a half mile from where we'd gone.

We were lucky to escape from the Big Muddy When the big fool said to push on.

Well, I'm not going to point any moral, I'll leave that for yourself

Maybe you're still walking, you're still talking You'd like to keep your health.

But every time I read the papers That old feeling comes on;

We're, waist deep in the Big Muddy And the big fool says to push on.

Waist deep in the Big Muddy And the big fool says to push on.

Waist deep in the Big Muddy And the big fool says to push on.

Waist deep! Neck deep! Soon even a Tall man'll be over his head, we're

Waist deep in the Big Muddy! And the big fool says to push on!

Songwriter: Pete Seeger

³ https://twitter.com/r_thaler/status/845343303251849216

⁴ It was back in nineteen forty-two, I was a member of a good platoon.

[&]quot;Sergeant, don't be a Nervous Nellie, " The Captain said to him.

[&]quot;All we need is a little determination; Men, follow me, I'll lead on."