

Sent: March 2, 2021 2:45 PM
To: Commission, Secretary
Subject: Letter of Comment - Nelson Hydro COSA and RDA - Max Yanke
Attachments: RDA letter of comment submission.pdf

Date Submitted: March 02, 2021

Proceeding name: Nelson Hydro COSA and RDA

Are you currently registered as an intervener or interested party: Yes, Interested Party

Name: Max Yanke

City: Nelson

Province: British Columbia

Email: [REDACTED]

Phone number: [REDACTED]

Comment:

As a retired Electrical Electronics Engineering Technologist well acquainted with retired Nelson hydro linemen I have a greater knowledge than the general public for Nelson hydro. I have submitted all information to past and present mayors, councilors, and management. I would like some oversight, accountability, to Nelson Hydro, such as a board of directors or commissioners or whatever you want to call it.

Has Attachment:

True

Thank you for the opportunity to comment:

(I supply URL's because hyperlinks don't seem to be opening at the BCUC site)

PUBLIC ENGAGEMENT

The [Regional District](https://rdck.ca/EN/meta/events/events-list/meetings/special-board-budget-meeting-1.html?fbclid=IwAR0ri97R2pHfycybAA_bxVy6nMY3iXaQcUm7W9xg94nWhX0NYuF6tUPglk8) has complete instructions to join their public meeting. Clear info to join and how to get the WebX app they use, the code etc. (https://rdck.ca/EN/meta/events/events-list/meetings/special-board-budget-meeting-1.html?fbclid=IwAR0ri97R2pHfycybAA_bxVy6nMY3iXaQcUm7W9xg94nWhX0NYuF6tUPglk8)

The Nelson hydro meeting mentioned virtual meeting, time data and place and the need to register, no mention of Zoom. I received an email at 5:38pm with a code to join the meeting.

I called a friend to ask if he was joining, he knew nothing about the meeting and asked if he could use my code. I called him he works in IT and recognized it as a zoom code. I had no idea, I had to download the app. I wonder how the other 10 public participants knew how to join?

The meeting began, they gave their presentations, a chat box opened where one could type in a question, these scrolled up out of sight. One public member kept repeating his question, they seemed to pick the questions they wanted to answer. The meeting ended.

Public participation is always dismal, people don't understand power. The city annually provides their comparisons that make Nelson look good, they keep our rates under our neighbor Fortis and nobody complains. This year with the huge rural increase the public is asking for some oversight.

New Westminster has a commission, Penticton draws from the community. The COSA study referred to Kenora Ont as an example in their study, they have a board of directors. Nelson has a board of directors for the library and the city police but no oversight for Nelson hydro. The huge rural increase has the public's attention and they are asking for a board of directors, some oversight.

COLLATERAL DAMAGE

Power outages are always happening, particularly the rural north shore area. There is a cost in lost productivity, food spoilage, damaged electronics and electrical equipment. Frozen water pipes in winter, no water for those using pumps. One letter of comment shows more than 100 hours on the north shore. They installed an emergency generator, I have heard that others have these.

The commission always accepted Nelson hydro rate increases by proxy until 2017.

Is the city priority supplying reliable dependable electricity from a well maintained utility or maximizing dividends and capital reserves? The CAO and those setting rates aren't huddled around candles in winter jackets hoping their pipes don't freeze.

I subscribe to city bid I estimate well over 1000 poles were replaced this past year or so. Most paid for by Telus. Why is Telus paying for Nelson hydro pole replacements? Does Shaw cable also pay for replacing poles? I thought Nelson hydro rented pole space. Nelson hydro has around 4000 poles from my information, life expectancy about 40 years, that suggests 100 pole changes annually.

As I walk around town I still see all kinds of rotten looking stubbed poles.

Has Nelson hydro been budgetting for pole replacements and not doing it? If so where did the money go? Similarly for vegetation management.

In 2019 both north shore vegetation management RFT's were cancelled. At a public meeting I asked the hydro manager why, he said the bids were too high. I asked him if he thought they would be less

next year, he didn't answer.

The CAO says they have spent \$2.5M on vegetation management in the past 3 years. What were they spending in the last 5 or 10 years? Were there budgets not spent? If so, where did the money go?

A Jan 10th wind event caused severe damage on the north shore. What vegetation management occurred there since 2019 when the north shore vegetation management RFT's were canceled?

THE COSA STUDY IS FLAWED

There are two distinct rural areas, north and south shore. The financials show a huge difference in costs between these. The COSA study has one rural rate increase. To be fair and equitable there should be different rates.

NELSON HYDRO SUBMARINE FIBER OPTIC CABLE TO THE NORTH SHORE

What business case was there for Nelson hydro installing a 288 strand fiber optic cable to the north shore?

There are two storys, the Nelson hydro manager submission to the commission says this is for Nelson hydro purposes, the CAO has a different story according to [this letter of comment](#).

https://www.bcuc.com/Documents/Proceedings/2019/DOC_54108_E-12-Lojpur-LetterofComment_Redacted.pdf

Two years later it remains unused.

Nelson hydro says its for VoltVar Optimization. My research shows BC Hydro has smart meters and utility side equipment for volt var optimization. They don't need fiber.

WHY IS NELSON HYDRO PAYING FULL COMMERCIAL RURAL RETAIL 12.4c/kWh

A small hydro producer is receiving full commercial rural retail from Nelson hydro for their power.

This could be purchased from Fortis for 4c/kWh.

Nelson hydro's bylaw says:

Rates paid for electricity will be subject to the approval of the Nelson Hydro General Manager and will be determined based on economic benefit to Nelson Hydro.

From what I can determine this goes back to 2001 and possibly further and nobody knew about it?

My FOI request for rate paid per kWh came back with the answer "**nobody in the city or Nelson hydro knows**" I repeated the FOI asking the question in a different way and received a list of payments, but still no answer to the rate paid per kWh. The payments clearly show this is run of river, maximum earnings from spring runoff when Nelson hydro is able to make full 16MW and sells power to BC Hydro for less than a penny. Are they paying 12.34c/kWh for the small hydro and selling to BCH for less than a penny?

BC Hydro, Fortis and Penticton only pay their wholesale cost of power for anyone's excess solar power.

When will Nelson hydro join them and stop paying full retail?

The Nelson hydro bylaw allows **25kW maximum solar** installed. The public grant money installed golf clubhouse below has 40.3kW.



The [on line public monitoring](https://www.sunnyportal.com/Templates/PublicPageOverview.aspx?plant=bc19e5eb-7bac-46e0-8c47-c1960b71ad4c&splang)

(<https://www.sunnyportal.com/Templates/PublicPageOverview.aspx?plant=bc19e5eb-7bac-46e0-8c47-c1960b71ad4c&splang>)

data is **deceptive** showing 24.8kW installed. The losing bid was for a 24kW system and they make the statement, "in order to meet the Nelson hydro **25kW bylaw maximum**". I asked the hydro GM at a public meeting about this. He is no longer with Nelson hydro.

The nearby community hall system from public grant money is also **deceptive** suggesting 12.4kW is installed when its actually 18kW. Anyone using this data for their calculations is being fooled.

I have brought this to everyone's attention, nothing gets corrected.

Nelson hydro's community solar garden is the most disturbing example of disrespecting professional ethics, city council, ratepayers, taxpayers and the churches, co-ops and others who bought into their 25

year contracts for the power a solar panel makes. Nelson hydro submitted in two consecutive BCUC rate applications the solar garden was voluntary and fully funded by those opting in. Nothing could be further from the truth. It was represented to the BCUC as full cost recovery **ORDER NUMBER G-24-16**

(<https://www.ordersdecisions.bcuc.com/bcuc/orders/en/item/142643/index.do>)

The same engineer used the same computer program for the Nelson solar garden as he used for the Kimberley Sun Mine. By using completely different inputs and ignoring others he arrived at a 25 year payback, a business case for solar.

Kimberley Sunmine Financial Report below

APPENDIX B											
CASHFLOW AND OPERATING BUDGET - 1.05 MW											
		a	b	c	d	e	f	g	h	i	j
		Annual Energy	Annual Energy	BCH tariff	Revenue MW (\$)	Loan Payment on \$2 Mil	Revenue - Loan \$	O & M Cost	Other Cost	Net Operating Cash Flow	Cumulative Cash Flow
#	Year	1 MWh	1.05 MWh	\$/MWh	a x c \$	\$	c-d \$	\$	\$	e-f-g \$	\$
1	2015	1,850	1,943	110.01	213,694	139,233	74,461	57,246	19,168	(1,953)	(1,953)
2	2016	1,841	1,933	111.99	216,483	137,633	78,850	58,028	19,551	1,270	(683)
3	2017	1,828	1,919	114.01	218,815	136,033	82,782	48,810	19,942	14,029	13,347
4	2018	1,815	1,906	116.06	221,172	134,433	86,739	44,338	20,341	22,060	35,406
5	2019	1,802	1,892	118.15	223,554	132,833	90,721	45,446	20,748	24,527	59,933
6	2020	1,789	1,879	120.27	225,962	131,233	94,729	48,583	21,163	24,984	84,917
7	2021	1,777	1,865	122.44	228,397	129,633	98,764	47,719	21,586	29,459	114,375
8	2022	1,764	1,852	124.64	230,857	128,033	102,824	51,912	22,018	28,894	143,269
9	2023	1,751	1,839	126.89	233,344	126,433	106,911	53,209	22,458	31,243	174,512
10	2024	1,739	1,826	129.17	235,857	124,833	111,024	54,540	22,908	33,577	208,089
11	2025	1,727	1,813	131.50	238,398	125,433	112,965	57,903	23,366	31,696	239,785
12	2026	1,714	1,800	133.86	240,966	123,833	117,133	57,267	23,833	36,033	275,819
13	2027	1,702	1,787	136.27	243,562	122,233	121,329	58,698	24,310	38,321	314,140
14	2028	1,690	1,775	138.72	246,186	120,633	125,553	60,166	24,796	40,591	354,730
15	2029	1,678	1,762	141.22	248,837	119,033	129,804	61,670	25,292	29,843	384,573
16	2030	1,666	1,750	143.76	251,518	117,433	134,085	65,174	25,798	43,113	427,686
17	2031	1,654	1,737	146.35	254,227	115,833	138,394	64,678	26,314	47,403	475,089
18	2032	1,643	1,725	148.99	256,966	114,233	142,733	66,295	26,840	49,598	524,687
19	2033	1,631	1,713	151.67	259,734	112,633	147,101	67,953	27,377	51,772	576,459
20	2034	1,619	1,700	154.40	262,532	111,033	151,499	69,651	27,924	53,923	630,382
21	2035	1,608	1,688	157.18	265,360	-	265,360	73,393	28,483	163,485	793,867
22	2036	1,596	1,676	160.01	268,219	-	268,219	89,106	29,052	150,060	943,927
23	2037	1,585	1,664	162.89	271,108	-	271,108	74,875	29,633	166,599	1,110,526
24	2038	1,574	1,653	165.82	274,028	-	274,028	76,747	30,226	167,055	1,277,582
25	2039	1,563	1,641	168.80	276,980	-	276,980	78,666	30,831	167,484	1,445,065
	Total	42,607	44,738		6,106,756	2,502,660	3,604,096	1,545,073	613,957	1,445,065	1,445,065
	Average	1,704	1,790	137	244,270	100,106	144,164	61,803	24,558	57,803	
Assumptions											
1	Based on Conergy energy production estimates, 100% energy output										
2	Degredation in year 2 of 0.49% and each year after 0.71%										
3	Revenue/KWh escalates at CPI, estimated to be 1.8% per year										
4	Maintenance costs based on information from Conergy, Jetson Consulting and City of Kimberley staff										
5	Administration costs include 2.5% inflationary increase (blended 3% wages and materials at CPI 1.8%)										

Long term economic balance

Year	Loan 3.0 %	Running costs	Sold energy	Yearly Balance	Cumul. Balance
2015	11420	0	6098	-5322	-5322
2016	11420	0	6098	-5322	-10645
2017	11420	0	6098	-5322	-15967
2018	11420	0	6098	-5322	-21290
2019	11420	0	6098	-5322	-26612
2020	11420	0	6098	-5322	-31935
2021	11420	0	6098	-5322	-37257
2022	11420	0	6098	-5322	-42580
2023	11420	0	6098	-5322	-47902
2024	11420	0	6098	-5322	-53225
2025	11420	0	6098	-5322	-58547
2026	11420	0	6098	-5322	-63870
2027	11420	0	6098	-5322	-69192
2028	11420	0	6098	-5322	-74515
2029	11420	0	6098	-5322	-79837
2030	11420	0	6098	-5322	-85160
2031	11420	0	6098	-5322	-90482
2032	11420	0	6098	-5322	-95805
2033	11420	0	6098	-5322	-101127
2034	11420	0	6098	-5322	-106450
2035	11420	0	6098	-5322	-111772
2036	11420	0	6098	-5322	-117095
2037	11420	0	6098	-5322	-122417
2038	11420	0	6098	-5322	-127740
2039	11420	0	6098	-5322	-133062
2040	0	0	6098	6098	-126965
2041	0	0	6098	6098	-120867
2042	0	0	6098	6098	-114770
2043	0	0	6098	6098	-108672
2044	0	0	6098	6098	-102575

The Nelson financial report has 5 columns nothing like the Kimberley report, same engineer, same computer program.

For Nelson No degradation is shown, solar panels make less power every year. Degradation is assumption 2 in the Kimberley report. It appears 22 times in a word search of the Kimberley report. Never appears in the Nelson report.

Inflation is 1.8% for Kimberley, 3.5% for Nelson it makes payback happen sooner. Running costs for Nelson \$0, no contingency, you get the idea.

The Nelson hydro GM presented this to council.

His own bio says he installed his first solar system in 2000 and had experience with others, why did he need a consultant's report?

I complained to the APEGBC, they did nothing. I appealed, they ignored that.



The engineers installation drawings and instructions were changed such that the front row of solar panels shaded the back rows.

The drawings stated if the engineer was not retained for inspection or changes the owner(city) must keep notes.

It also required a 1200lb vibratory roller for compaction and a geotech inspection before placing concrete ballast blocks. This was not done, frost is heaving and these panels might soon contact and explode.

I submitted and FOI asking for the notes, the reply "there are none".

I visited the engineer who did the drawings pointing this out, no comment. They anticipate future city work I must assume.

SCADA

Supervisory Control and Data Acquisition--equipment that monitors all city items from water, sewer, alarms, pumps, electric grid, you name it.

I have only seen SCADA costs attributed to Nelson hydro. Is Nelson hydro funding all city departments SCADA systems?

THE CITY EXTENDED THE WATER LINE BUT DID NOT INCLUDE THE HYDRO

There were real opportunities to make clean green firm power to transition to a 100% renewable future.

There was a hydro potential on a city water line, below is copied from their website.

The Selous Creek Option 1 diversion involves “flow in the existing 400 mm supply main from Selous Creek would be diverted to Cottonwood Creek via approximately 300 m of new pipe> The diversion would be located upstream of a throttling valve at the top of Stanley St.”. The design flow is 260 L/s; the net head is 190 m, and the generation capacity is 388 kW. The projected annual production is 765,080 kW. The projected annual revenue (expressed as avoided cost) is \$32,439/yr. The estimated capital cost is \$1,299,000. Financing \$1,299,000 over 20 years at 3%/annum incurs an annual cost of \$87,300.

If they used the same calculations as used for the solar garden this had a business case. Not only that it would work for a century, at night, in snow, in winter, when it cloudy, we have the solar garden.

Another opportunity for clean green firm power, the city gravity water system. With 11 PRV(pressure reducing valves) one is already hydro ready it just needs the generation equipment installed.

Of you used the same data for value calculations this easily has a business case and would last a century, we have the solar garden that might last 25 years cradle to toxic grave.

Investment (2011 \$) is estimated at \$253,440. Power production is estimated at 186,670 kw-hrs /yr. The BC Hydro Standing Offer Program is currently in abeyance, however, a savings estimate can be made on the basis of \$0.08/kw-hr, yielding approximately \$15,000 per year. Debt repayment on \$253,440 over 20 years at 3% per annum is approximately \$17,000/yr. The business case for Hall St. PRV conversion is not strong. If a more accurate estimate of power generation based on actual flow reveals that a greater amount of kw-hrs can be generated the revenue could exceed the financing cost.

[My letter to the editor](https://thenelsondaily.com/news/letter-not-fan-city-solar-power-project) (<https://thenelsondaily.com/news/letter-not-fan-city-solar-power-project>) I keep trying to help the public understand the value of public money for solar when we have real opportunities like the hydro generation mentioned above.

Every local community is all signing on to becoming 100% renewable, they all use solar as one way to achieve this.

Should rural ratepayers fund these misengineered projects?

In my letter of comment regarding 2012 when rates went up 5.8% part of that to raise \$3M for a District Energy system, I found an old screenshot I had taken. I offer it below.

The statement was made if the DES doesn't go ahead the \$3M would be returned at \$750,000 annually.

It did not go ahead. My FOI requesting where they returned the money came back with their reply "there are no records" I offer my record below. Showing entries in pink for \$750,000.

