Grid-Scale Battery Project

What We Heard Report

Prepared for: Yukon Energy Corporation
2 Miles Canyon Road, Whitehorse YT Y1A 6L4

Prepared by: Stantec Consulting Ltd.
202-107 Main Street Whitehorse YT Y1A 2A7

Date: October 15, 2020

Stantec

Design with
community in mind

Table of Contents

LIST OF TABLES

LIST OF FIGURES

LIST OF APPENDICES

EXECUTIVE SUMMARY

Yukon Energy Corporation (YEC) is building a grid-scale battery storage system in the Whitehorse area. The project was identified in the 10-Year Renewable Electricity Plan and has received $16.5 million in federal funding from the Government of Canada's Green Infrastructure Stream. For YEC, this battery will help maximize the amount of renewable energy it uses to meet peak demands for power, displace diesel and improve grid reliability. Yukon Energy is currently considering three possible sites for this project. More information can be found in Appendix A.

ENGAGEMENT OBJECTIVES

In late August and September 2020, Stantec undertook a public and stakeholder engagement process about Yukon Energy's proposed grid-scale battery project. The objectives of this of the engagement process were to:

1. Inform the public that YEC is installing a battery in or near Whitehorse and explain why the project is happening, how the battery works, the projects benefits and how this ties in to YEC's 10 Year Renewable Electricity Plan.
2. Gather public input on each of the three proposed sites.
3. Identify any potential questions or concerns about the battery to ensure they are able to be addressed and/ or incorporated into the site design.

ENGAGEMENT METHODS

There were four engagement initiatives as part of this project: community meetings, stakeholder meetings, written comments, and property owner outreach.

Community Meetings

The community meetings consisted of five public meetings. In total, 43 people attended the meetings, with some people attending multiple meetings. Notes from the community meetings are in Appendix B.

Date	Location	No. of Attendees
September 8, 2020	Virtual Meeting #1	7
September 10, 2020	Virtual Meeting #2	3
September 15, 2020	Hootalinqua Firehall	13
September 16, 2020	Yukon Transportation Museum	3
September 17, 2020	Best Western Gold Rush Inn – Town Hall	17
	Total	**43**

Stakeholder Meetings

Stantec reached out to several stakeholder groups to offer them the opportunity to participate in a one-on-one meeting and to provide feedback. Some groups provided written comments and they can be found in Appendix C.

Stakeholders who provided feedback or requested a meeting	Stakeholders that did not wish to meet
Yukon Chamber of Commerce Yukon Conservation Society Yukon Government – Highway and Public Works and Department of Environment Utilities Consumers Group Yukoners Concerned About Oil and Gas First Nations Chamber of Commerce	Whitehorse Chamber of Commerce Yukon Government – Energy, Mines and Resources Energy Branch, Climate Change Secretariat, and Major Projects Yukon City of Whitehorse Mayor and Council

Property Owner Outreach

YEC sent out a letter and information sheet to property owners and businesses within 800 metres of each proposed site to introduce the project, provide information about the battery, the sites, and opportunities to get involved. Representatives from Stantec and YEC also went to each residence and business within 800 metres of the three sites. The purpose of this visit was to provide information, make sure that property owners were aware of the engagement process, answer questions and gather feedback. Notes from these conversations are provided in Appendix D.

Written Comments

Written comments were also accepted through an online form and by direct email to YEC or Stantec staff. The full set of redacted online and email comments can be found in Appendix E and F.

WHAT WE HEARD – COMMENT SUMMARY

Overview

Of the 134 comments received, 59 were through email, 32 were submitted using the online form on YEC's website, 22 were on facebook and 21 were gathered during door-knocking. Most of the comments (72%) received providing comments specifically about Site A, on the North Klondike Highway. Respondents who do not own property within 800 metres of any of the sites provided most of the comments (66%). People who own property near the Klondike Highway site submitted 27% of the comments and people who own property or businesses near Site C provided 7% of the comments. No property- or business-owners within 800 metres of Site B provided comments.

A detailed review of all comments revealed a series of common themes and the most mentioned themes were:

- Noise
- Fear of an emergency situation
- Property values
- Light pollution
- Ability of local fire fighters to respond to an emergency

In this report, when we say that we received “a few comments” on a matter, we mean less than five. When we say that we received “several comments” we mean five to ten comments.

Site Selection

Site A – North Klondike Highway

Site A is located on the North Klondike Highway, south of YEC’s Takhini Substation and is on Kwanlin Dün Frist Nation Settlement Land. Most of the comments received through all sources, were about this site. Many of those who attended the in-person and virtual meetings own properties or live within 800 metres of this proposed site. We received 93 specific comments about this site, with 86% of the comments voicing opposition to placing the battery in this location. Of the 91 written comments we received, 59 of them were a letter template that listed 16 reasons why the sender opposes this site.

During door-knocking in the area, we spoke to several residents who are opposed to the project and several who do not have any issues with the proposal. In general, people who live directly adjacent to the site voiced the strongest opposition to this proposed location. The top concerns were:

- How noise and light produced by the battery may impact their well-being and way of life. Residents do not want to see this type of unsightly industrial development along the North Klondike Highway.
- The engagement was rushed, and some people were offended that YEC selected this site as an option, even though there are many residences close by.
- Safety; the battery may catch fire or explode, and the local volunteer fire department does not have the capacity to contain a fire at the battery site.
- Health impacts of this relatively new technology. People are worried about the impacts of radiation, electromagnetism, gasses, subharmonic frequency and fumes on people and livestock.
- How the proposed project may reduce property values and increase insurance premiums.
- Residents of this area chose to live outside of town and do not want to see utility development in their neighbourhood. Many feel that the battery is not compatible with the quiet rural lifestyle.

Site B – Near LNG Facility on Robert Service Way

Site B is located just off Robert Service Way, behind the City of Whitehorse snow dump and is on Ta’an Kwäch’än Council Settlement Land. During the engagement process, there were very few specific comments related to this site. There are no residences within 800 metres, and none of the governments or businesses who own property nearby provided feedback. The main concerns were:

- The aesthetics at this site; people do not want to see industrial development at this location as it is an important gateway to the community.
- Noise at this site may impact downtown residents as sound can travel, especially in the winter.

- It is risky to put two main power sources in a river valley, next to a dam, in an earthquake zone. If either the LNG facility or the battery have a catastrophic failure, one could damage the other. The site is also below the end of the airport runway.

Site C – Northeast Corner of the Alaska Highway and Robert Service Way

Site C is located at the northeast corner of the Alaska Highway and Robert Service Way, north of the entrance to Skookum Asphalt. It is on Kwanlin Dün Frist Nation Settlement Land. During door-knocking, we heard from a few residents that they have no issues with this site. We also heard from two local business owners who voiced opposition to this site and who shared some specific concerns. The main concerns were:

- The aesthetics at this site; residents and business owners do not want to see industrial development at this location as it is an important gateway to the community.
- The battery may impact the RV park in this area; tourists want to see large utility infrastructure.
- Noise may impact the RV Park and residents who live in the area.
- Health impacts to surrounding residents and large greenhouse in the area. There is also concern that the battery may catch fire and release toxic fumes.
- This proposed site is too close to the runway, river valley, dam and LNG facility.

Site Selection and Development

Stantec did not set out to gather specific information about support and opposition for the grid-scale battery project as part of the engagement process. However, we can report that while we heard significant opposition to Site A, we received very few comments that voiced opposition to the overall project. Many people see the project's benefits, and support infrastructure that will increase the amount of energy YEC produces using renewable sources. Those who did voice opposition to the project felt that the high costs of the project outweigh the benefits.

Many respondents, especially those who live near Site A, suggested that Sites B and C were preferable, as the nearest residences are farther away, they are both close to YEC's existing infrastructure and there is a staffed fire department nearby. There were a couple of people who voiced the opinion that Site A is the preferred option. Regardless of which site is selected, it is recommended that YEC should perform the following:

- Follow up with residents as this project moves forward.
- Provide a screening or a vegetative buffer, as aesthetics were important to those living near each of the three sites.
- Select appropriate lighting that provides good security but does not create unnecessary light pollution.
- Identify and implement noise-reducing mitigation measures. Options include selecting batteries that are designed to be quiet, installing noise baffles and orienting the HVAC systems away from homes.
- Develop a comprehensive fire response plan and commit to providing the required training to fire fighters. Training will need to be repeated when there is staff turnover.

In addition, a few respondents suggested that YEC should continue to lobby the City of Whitehorse for a reduction in property tax for renewable energy projects.

Battery Procurement

Through the engagement process, respondents made comments about things that should be considered as YEC goes through the process of selecting and purchasing the battery. Suggestions for what should be considered during procurement are:

- Environmental impacts related to the manufacturing process and the mining of source minerals;
- Cradle to grave greenhouse gas emissions;
- Safety track record;
- Quite operation and noise reducing mitigation options;
- Ability to work in cold temperatures without comprising the long-term functioning of the battery; and
- Access to advanced metering for energy research.

Rates and Financial Considerations

Many respondents wanted to know what impact this project would have on electricity rates. Some participants wanted YEC to provide full and detailed project accounting before being asked to provide input on this project. Several respondents suggested that YEC should also include the cost of appropriate mitigation measures as they consider these three sites; Site A may be more expensive because there are so many people living nearby.

Several people provided comments about the overall cost/benefit analysis of this project. Also, a few respondents suggested that the high cost of this project means that other technologies such as electric thermal storage may be more cost effective than a grid-scale battery in terms of cost per kilowatt hour.

Energy Planning

Whenever YEC undertakes an engagement process, comments are received about energy planning in general. Many respondents want to see YEC continuing to plan and develop renewable projects to meet growing demand. Several respondents want to see YEC develop new renewable electricity sources in the next few years so that LNG and diesel are used only for backup. Several people also want to see demand-side management and energy efficiency programs play a larger role in energy planning.

Respondents wanted to know about the carbon footprint of the grid-scale battery as compared to other projects and want to see YEC focus on sensible, cost-effective and long-term projects. A few participants suggested that YEC should be involved in partnerships with northern energy innovators from Yukon University, Northern Energy Innovation Program or other organizations.

Respondents suggested a suite of other projects that YEC should, in addition to or instead of, the grid-scale battery. Alternative projects suggested are: more reliable hydro, geothermal, pumped storage at Fish Lake, small scale nuclear, compressed air, refrigerant system or a pump storage system other than water, or transitioning the stand-by generation from diesel to a reversible fuel that can be made using spare energy. It is important for YEC to continue to engage the community and stakeholders as it continues to plan for new renewable energy projects to meet growing demand.

Abbreviations

CEO	Chief Executive Officer
CoW	City of Whitehorse
ED	Executive Director
ETS	Electric Thermal Storage
GY	Government of Yukon
FNCC	First Nation Chamber of Commerce
WCC	Whitehorse Chamber of Commerce
YCC	Yukon Chamber of Commerce
YCS	Yukon Conservation Society
YEB	Yukon Energy Board
YEC	Yukon Energy Corporation
YESAB	Yukon Environment Socio-Economic Board

1.0 INTRODUCTION

Yukon Energy Corporation (YEC) is building a grid-scale battery storage system in the Whitehorse area. The project was identified in the 10-Year Renewable Electricity Plan and has received $16.5 million in federal funding from the Government of Canada's Green Infrastructure Stream. For YEC, this battery will help maximize the amount of renewable energy it uses to meet peak demands for power, displace diesel and improve grid reliability.

Yukon Energy is currently considering three possible sites for this project and they are described below. More information about the project can be found in Appendix A.

SITE A

On Kwanlin Dün First Nation Settlement land beside our Takhini substation at Km 8.5 North Klondike Highway

SITE B

On Ta'an Kwäch'än Council Settlement land across from our Whitehorse LNG facility on Robert Service Way

YEC BATTERY STORAGE

Introduction

SITE C

On Kwanlin Dün First Nation Settlement land at the north east corner of the Alaska Highway and Robert Service Way

Before selecting a site for the grid-scale battery and moving forward with this project, YEC wanted to undertake a public and stakeholder engagement process. The objectives of this engagement process were to:

1. Inform the public that YEC is installing a battery in or near Whitehorse
   - Describe what the battery does and how it works
   - Describe why this project is happening
   - How that ties into YEC's goal of developing renewable electricity and the 10-year Renewable Electricity Plan?
   - How it displaces diesel and improve grid reliability?

2. Gather public input on each of the three proposed sites.

3. Identify any potential questions or concerns about the battery to ensure they are able to be addressed and/ or incorporated into the site design.

In August 2020, Stantec was hired to assist with the engagement process. This What We Heard Report provides a detailed accounting of the results of this engagement process.

2.0 ENGAGEMENT METHODS

It was important to YEC that this engagement process be inclusive and transparent. To achieve this, a variety of methods were offered for gathering comments. Input was received through community meetings (three in-person and two virtual), stakeholder meetings, online forms and emails, and door-knocking. YEC created a page on their website (https://yukonenergy.ca/energy-in-yukon/projects-facilities/battery-storage/) to present background information, provide information about the community meetings and host the online form. Input from Facebook was gathered informally.

YEC also kicked-off the engagement process by sending an introduction letter and an information brochure to all residents and businesses within 800 metres of each of the three proposed sites. Print and social media ads were also used to provide the public with information about this project.

The following sections describe each of the events, their purpose, and provide an overview of what we heard. Each of the individual comments received from all sources is included and analyzed in Section 3.0.

2.1 COMMUNITY MEETINGS

Community meetings were hosted throughout September 2020 in Whitehorse. The purpose of the community meetings was to meet with the public, provide information about the proposed concept, answer questions and gather input. All members of the public were welcome, including property owners and representatives of local stakeholder groups.

All meeting were held following COVID-19 precautions. This included contact tracing, supply of masks and hand sanitizer, promotion of physical distancing, and restricted attendance numbers.

Key messages presented during the meetings included the following:

- YEC will be using the input from all engagement tools to make a decision on the location of the site
- Input is needed from Whitehorse and surrounding area residents and business owners
- There are several opportunities to get involved in the engagement process.

Information brochures were handed out at the entrance of the meeting venue. Zoë Morrison, Stantec, Stephanie Whitehead, YEC, and Joel Gilbaud, Hatch, delivered the presentation while Jamie Davignon, Stantec, was responsible for note taking. Andrew Hall, President and CEO of YEC, was also in attendance at the community meetings. A summary of the meeting discussion is described below and more detailed meeting notes can be found in Appendix B.

Table Community Meetings Summary

Date	Location	No. of Attendees
September 8, 2020	Virtual Meeting	7
September 10, 2020	Virtual Meeting	3
September 15, 2020	Hootalinqua Firehall	13
September 16, 2020	Yukon Transportation Museum	3
September 17, 2020	Best Western Gold Rush Inn – Town Hall	17
	Total	**43**

Virtual Meeting #1 — September 8, 2020

Attendees: 7 members of the community

On September 8th at 7 pm Stantec hosted a virtual community meeting using the Microsoft Teams platform. This meeting had seven participants, four of whom own property within 800 m of the proposed Site A. Meeting participants had many questions and voiced concerns about this proposed site. Concerns included: noise impacts, decreases in property values, increasing insurance premiums, light pollution, income loss related to not being about to lease rental cabins, risks related to fire suppression and explosion, and potential risks to human health and the environment.

Virtual Meeting #2 — September 10, 2020

Attendees: 3 members of the community

On September 10th at 5:30 pm Stantec hosted a virtual community meeting using the Microsoft Teams platform. Two of the attendees were Calgary-based representatives of a company that supplies grid-scale batteries. Their questions were focused on issues related to procurement. Specially they wanted to know the projects timelines, the potential capacity/size of the battery, and how the procurement process will be done. There was one other meeting participant who asked about if municipal tax would be collected on First Nations land. No comments were collected during this meeting.

Hootalinqua Firehall — September 15, 2020

Attendees: 13 members of the community

On September 15th, Stantec hosted a community meeting at the Hootalinqua Fire Hall from 6:30 pm to 8:30 pm. There was a PowerPoint presentation with a question period after. Andrew Hall and Stephanie Whitehead were in attendance from YEC along with Joel Gilbaud from Hatch.

This meeting was aimed to capture feedback from residents in the area and the public in general. As this has the closest residents, comments were mainly related to opposition to the site location, aesthetics, noise, light pollution and safety concerns. Residents were concerned about a possible reduction in property values, decrease in quality of life, and loss of revenues from rental properties. There was

discussion about the risk of fires within the project site itself, as well as the risk of wildfire in general. Concerns were expressed about potential vandalism of the project site. Questions were asked about the environmental impacts, the potential for ground and air contamination, and impacts on nearby water wells. Some residents feel that YEC doesn't care about them and do not trust YEC. Some people feel that the engagement process for the project was rushed.

Figure 1 Hootlinqua Fire Hall Community Meeting

Yukon Transportation Museum — September 16, 2020

Attendees: 2 members of the community

On September 16th, Stantec hosted a community meeting at the Yukon Transportation Museum from 6:30 pm to 8:30 pm. There was a PowerPoint presentation with a question period after. Andrew Hall and Stephanie Whitehead were in attendance from YEC along with Joel Gilbaud from Hatch.

The attendance was low at this meeting and because of the interests of participants, the discussion was more technicaln. Questions were asked about the lifespan of the batteries, how fast the battery can provide power to the grid, how many times can the battery be charged, how the battery will be chosen, will the battery need to be heated and cooled and whether the battery site would be expanded. A resident also asked about the ability to collect data to use for research. At the end of the meeting it was noted that the locations within City limits (Sites B and C) are preferred over Site A.

Figure 2 Yukon Transportation Museum Community Meeting

Best Western Gold Rush Inn – Town Hall September 17, 2020

Attendees: 17 members of the community

On September 17th, Stantec hosted a community meeting at the Gold Rush Inn from 6:30 pm to 8:30 pm. There was a PowerPoint presentation with a question period after. Andrew Hall and Stephanie Whitehead were in attendance from YEC along with Joel Gilbaud from Hatch.

Meeting attendees asked questions about the battery, specifically about the life span, recycling, capacity, primary use, and the potential for site expansion. Concerns were raised about potential rate increase and how the new rates would be calculated. There was discussion about fire suppression and additional resources required to adequately fight a battery fire. There were questions about the reasons for placing the battery on First Nations Settlement Land and potential First Nations investment opportunities. A few residents expressed their concern about how close the proposed North Klondike Highway site is to existing homes. There were also concerns about light pollution, noise, aesthetics, property values and the local quality of life. A second presentation was held around 8:00 pm for several late comers.

Figure 3 Best Western Gold Rush Inn Community Meeting

2.2 STAKEHOLDER MEETINGS AND INPUT

As part of this project, we reached out to a number of stakeholder groups to offer them the opportunity to provide feedback. The following table summarizes the groups we reached out to, and the responses that were received. Comments provided by stakeholder groups either in writing or during meetings have been incorporated into Section 3.0. Any letters submitted by stakeholders are included in Appendix C.

Table 1 Stakeholder Meeting Summary

Stakeholder Group	Meeting	Notes
City of Whitehorse Mayor and Council	N/A	We reached out to Mayor and Council; but they did not want to meet at this time. No feedback was provided.
City of Whitehorse Staff	N/A	We reached out to the City Department of Infrastructure and Operations. No meeting was requested, and no feedback was provided.

Stakeholder Group	Meeting	Notes
Yukon Government	Meeting held Sept 24 9:30 to 10:15 am with: • Representative of the Department of Environment, Environmental Protection and Assessment • Representatives from the Highways and Public Works, Transportation Planning Branch	In addition we reached out to Yukon Government Energy Branch, Climate Change Secretariat, and Major Projects Yukon, but staff did not wish to attend a meeting at this time.
Yukon Conservation Society	Meeting held Sept 18 1:30 to 2:30 pm with staff.	Written feedback was provided.
Yukoners Concerned About Oil and Gas	N/A	Reached out to by email and phone. No meeting was requested, but written feedback was provided.
Utilities Consumers Group	Meeting held Sept 23 1:30 to 3 pm with representative.	Written feedback was provided.
Whitehorse Chamber of Commerce	N/A	Reached out by phone and email. No meeting was requested, and no feedback wad provided.
First Nations Chamber of Commerce	Meeting scheduled for Oct 13 1:00 to 2:00 pm with staff and board members.	N/A
Yukon Chamber of Commerce	Meeting held Sept 28 1:00 to 2:00 pm with staff and members of the Energy Committee.	N/A

2.3 DOOR-KNOCKING

In addition to sending out letters and a handout to each property owner within 800 metres of the three proposed sites, representatives from Stantec and YEC went to each residence. The purpose of this visit was to provide information, make sure that property owners were aware of the engagement process, answer questions and gather feedback. We also stopped by businesses and rental units.

In total, we spoke with 16 different people, mostly property owners, but some renters and representatives from business. Comments have been recorded and are included in Appendix D.

2.4 WRITTEN COMMENTS

There were two ways that the public could submit written comments. One was through an online form on the YEC website and 32 responses were received this way. Members of the public also submitted input by direct email to either Stantec or YEC staff and a total of 59 email comments were received. Altogether we received 91 written comments and they redacted versions of these comments can be found in Appendix E and Appendix F.

2.5 FACEBOOK INPUT

During the engagement process there were several Facebook discussions about this proposed project. These comments are not part of the formal engagement on this project but are relevant to the project in considered in this report. In total there were 22 Facebook post comments which have been included in Appendix G.

2.6 NOTES ON THE ENGAGEMENT PROCESS

One thing to note about the engagement process was that a resident provided a template listing a series of 16 concerns and encouraged people to submit this list. Of the 91 written comments we received, 52 of them used this template. From the names on the submissions, we think only a small number of these were from property owners near the three sites. That said, this feedback is included in our report and will be considered along with the other feedback received. In the appendices, we have not repeated the template, but to save space have indicated how many times we received it.

3.0 COMMENTS RECEIVED

This section provides a detailed review of the comments received through all different engagement tactics. The feedback has been divided into three sections; Section 3.1 lists the most common questions that we received, Section 3.2 details the comments received by site, and Section 3.3 summarizes the general comments about the project.

In this report, we say that we received “a few comments” on a matter, we mean less than five. When we say that we received “several comments” we mean five to ten comments and whenever we refer to “many comments” we mean more than ten.

3.1 REQUEST FOR MORE INFORMATION

Many of those who participated in this engagement process wanted more information about the project before providing feedback. Here is a list of the most common questions that we received:

Questions about the battery technology:

- How much noise does the battery make? Who completed the noise analysis and how was it conducted? What noise standards are being used and how were they chosen?
- How long will the battery last? How many times can the batteries be recharged? How will it be recycled?
- What will the capacity of the battery be? How much power can it provide during an outage?
- Where will the battery be manufactured? What are the environmental impacts of this process?
- Is this a sustainable project? What is the carbon footprint of the battery?
- How will the battery be chosen? What type of procurement process will be used?
- How much will this project cost?
- Will the battery need to be heated and cooled? How will the battery perform during cold weather?
- How much energy will heating and cooling the battery use?
- Will First Nations be able to invest in this project?

Questions about the site design and development:

- Will this project lead to a decrease in property values? What about an increase to insurance premiums?
- Is YEC planning to add more batteries and expand the site in the future?
- How were the sites chosen? Why are only First Nations owned lots being considered?
- How will the proposed sites be developed? Will it be lit? Will the batteries be visible from the road?
- Are there any plans to expand the battery project in the future?
- What are the cost differences between the three sites?
- If battery is on First Nations lands, will it be open to other specific funding sources?

Questions about safety and security:

- What is the fire response plan? Will the local fire fighters require new training? Will the Hootalinqua Volunteer Fire Department be able to respond to a fire on the Takhini Substation site?
- How durable is the battery in extreme situations? i.e. if hit by a bullet, lighting, wildfire, or vandalism

- What environmental impacts will the battery have? Are there emissions, radiation, subharmonic frequencies, gases that will impact human health? What about impacts on livestock or vegetable growing operations? How will this be considered in the decision making?

Other questions:

- How much will the electricity rates increase as a result of this project?
- How does YEC determine future demand levels used in their planning?
- Will it be First Nations governments or Developments Corporations that will be involved? What other options have been considered as alternatives to this project?

3.2 SITE SPECIFIC COMMENTS

In this section, comments specific to each of the three sites are presented. It is important to note that the majority of the comments received in writing, through door-knocking or during the public meetings were related to Site A.

Site A - Takhini Substation Site North Klondike Highway

The comments for YEC's Takhini Substation Site on the North Klondike Highway have been sorted into common themes, below.

Site Design and Development

- This site will need significant clean-up and remediation before development can occur.
- Would like the site to be designed so that batteries and access road are as far away from the nearest residential property as possible.
- Important to retain access to trails; there are many popular trails in this area used by residents (e.g., on ATVs).
- Concern that once these batteries are installed that YEC may decide to add more capacity and develop the site further.
- Residents would prefer to see a vegetated buffer; do not want to see more industrial development in this area.
- Ground vibrations during construction could impact wells and buildings on nearby properties.

Safety and Security

- Concerns that vandalism could lead to damage to the batteries. People feel that vandalism is a growing issue in this area.
- Concern about what will happen if the battery containers are shot; many residents are gun owners and shooting is a common form of vandalism.
- Concerns that the battery may catch fire, explode, or be hit by lightning.
- Concern that a fire at this site would block the Klondike Highway or other access routes and make it difficult for residents to evacuate.
- Residents wanted to know what would happen during a forest fire; there was concern about potential for explosions or the release of toxic fumes during a forest fire.
- Concerns were raised about the capacity of the local volunteer fire department to contain a fire at the battery site. It would take half an hour for help to arrive from Whitehorse.

YEC BATTERY STORAGE

Comments Received

Impacts on Environment and Health

- Residents are concerned about the environmental and health impacts of the battery; feel that lithium ion batteries are a new technology and the risks may not have been studied or well understood.
- Concerns about health impacts to surrounding residents and livestock; questions about radiation, electromagnetism, gasses, subharmonic frequency and fumes that may be a result of the battery's operation.

Noise and Light Impacts

- Concerns about noise impacts on mental health of residents, enjoyment of quiet rural properties, rental properties and on livestock in the area.
- The most restrictive standards should be applied, not necessarily the ones from Alberta.
- Noise-reducing mitigation measures should be identified and implemented. Battery units should be designed to be a quiet as possible; consider noise baffles and orienting the HVAC systems away from nearby homes.
- A recording studio has been built in this area and there is concern that the noise will impact this use.
- People on the North Klondike Highway are concerned that the lights at the site will impact their ability to see the stars and northern lights. Lights should be as non-intrusive as possible.

Property Owner Impacts

- Property owners are concerned that the proposed project will reduce property values and make it more difficult to lease rental cabins.
- Concern that living close to a grid-scale battery will lead to an increase in home insurance premiums or make it more difficult to get insurance.
- Several residents asked if YEC has considered compensation for home-owners whose properties will be directly impacted.
- This project brings no specific benefits for the people who live in the area; but those who live near the proposed site feel that they will have to deal with all the impacts.

Local Lifestyle

- Residents of this area chose to live outside of town and do not want to see utility development in their neighbourhood. Many feel that the battery is not compatible with the quiet rural lifestyle.
- Some residents stated that they would consider moving if this project goes ahead in this area.
- People have invested both time and money to live out of town and do not want to see rural lifestyle eroded.

Engagement Process

- Some residents feel that the engagement process is being rushed. They want to have time to understand the project, consider information and provide a response.

Decision-making Criteria and Site Selection

- Concern that YEC was not considering residential uses when it proposed this site.
- Residents don't appreciate feeling like human health, safety, and happiness are less important than financial considerations.
- Some residents of this area stated that the sites in Whitehorse are preferable because they area farther from residences, closer to YEC staff and have room for expansion.

- Some residents feel offended that this site was proposed without giving proper consideration to the fact that there are so many residents living nearby. One resident estimated that there are 13 residences within 500 metres of the proposed site.

Site B – Near LNG Facility on Robert Service Way

Site Design and Development

- Concern about aesthetics at this site; residents and business owners do not want to see industrial development at this location as it is an important gateway to the community.
- Should consider potential impacts on dirt bike track.

Noise Impacts

- Noise at this site may impact downtown residents as sound can travel quite far, especially in the winter.

Safety and Security

- Risky to put two main power sources in a river valley, next to a dam, in an earthquake zone. If either the LNG facility or the battery have a catastrophic failure, one could damage the other. Site is also near the end of the runway.

Site C – Northeast Corner of the Alaska Highway and Robert Service Way

Site Design and Development

- Concern about aesthetics at this site; residents and business owners do not want to see industrial development at this location as it is an important gateway to the community.
- This proposed site is not flat; may be difficult to develop.
- Concern that YEC might expand the site; want to know the full development before providing feedback.

Noise Impacts

- Noise may impact RV Park and residents who live in the area.

Local Lifestyle

- There are some residents who access trails in this area for walking, tobogganing and biking and do not want to see access cut off.
- Paragliders/hang-gliders use this area; concern that this use may be impacted by the battery development.
- Large RV park in the area; there is concern that a battery may impacts the tourists use and enjoyment of this site.

Impacts on Environment and Health

- Concerns about health impacts to surrounding residents; questions about radiation, electromagnetism, gasses and fumes that may be released.
- Concern that if the battery catches fire toxic fumes will be released and will impact residents.
- Concern that the long-term impacts and potential risks of the battery on human health are not understood.

Safety and Security

- If the site near the airport is selected, will need to consider potential impacts on aviation including OLS height restrictions and electromagnetism.
- Concern that it is both too close to the runway, river valley, dam and LNG facility.

3.3 GENERAL COMMENTS

In this section general comments that apply to the battery regardless of the site selected are sorted into common themes.

Battery Technology

- The battery technology is new, has not been proven and has too many unknowns. People feel that they need more information before they can provide comments.
- If the plan is for the battery to be able to be used during a black start (a black start is the process of restoring power to a grid without relying on the main electric power transmission network), then we need to make sure that it works this way once it is operational.
- Should consider each battery manufacturer's safety history when sourcing the battery to ensure that we end up with a safe product.
- Should select a battery that is under a warranty and will not be degraded by cold weather.
- Consider adding smaller banks of batteries at key community buildings, such as the hospitals and other institutions. This way batteries could be spread out across the grid.
- Representatives of Yukon University want to have access to advanced metering for energy research; this will be much easier to do if it is specified when scoping the battery.

Impacts on the Environment and Health

- Some residents are concerned about health impacts of the battery on surrounding residents and livestock; this includes the potential impacts from radiation, electromagnetism, gasses and fumes that may be produced during normal operations or during a malfunction.
- Producing lithium ion batteries has significant environmental impacts, even if it happens far away from here. When selecting the battery, consider how and where it is being made, choose the option with the lowest environmental impacts.
- Need to base decisions on cradle-to-grave greenhouse gas emissions and environmental impacts.
- Concern that this project is not actually an environmentally friendly or sustainable project.

YEC BATTERY STORAGE

Comments Received

Safety and Security

- Need to ensure that a comprehensive fire response plan is in place; firefighters need the right tools and information.
  Specialized training for fire fighters will need to be repeated over time to ensure people are trained even when there is staff turn-over.

Rates and Costs

- Some people do not support this project because it will lead to an increase in rates; this is very difficult for people on a fixed income.
- Information on the increase to rates and specific savings associated with this project should be provided so residents have all the information when providing feedback.
- The battery only lasts 20 years and there is concern that the cost is not worth it for this timeframe. Consider cost/benefit analysis.
- People that who are building houses with electric as a primary heat source should have to pay more of the required capital cost. We had enough electricity to meet the needs before the large population increase and now pensioners are paying to subsidize other's choice to go all electric.
- Consideration must be given to the economics of this and future similar projects. The high cost of this project suggests distributed technologies such as electric thermal storage may be more cost effective than a grid-scale battery in terms of $ per kWh installed, $ per kW installed, and $ per lifetime carbon dioxide reductions.
- YEC should also include the cost of appropriate mitigation measures as they consider these three sites; Site A may be more expensive because there are so many people living nearby.
- Would like to know if First Nations will be able to invest in this project.

Energy Planning

- Pleased that YEC is undertaking a 10-year renewable plan and happy with the draft plan.
- Participants want to know that YEC is factoring electric cars into their demand forecasting.
- Participants wanted to know about the carbon footprint of the grid-scale battery as compared to other projects.
- Participants would like to see YEC continuing to plan and develop renewable projects to meet growing demand.
- YEC should be considering truly innovative energy technology such as super-capacitors.
- YEC should be consulting Yukon University, Northern Energy Innovation Program and northern energy innovators rather than hiring southern firms.
- Want to understand YEC largest customers (specifically Yukon government) to continue to reduce energy use and increase efficiency.
- Demand-side management should be a priority over new projects.
- YEC should be working with high demand users to limit consumption during peak times or peak seasons.
- This project does not get us away from renting diesel generators or using LNG; we should be focused on replacing the old diesel units instead.
- YEC should finalize the 10 Year Resource Plan before moving forward on this project.
- YEC should be focusing on getting more reliable hydro, exploring geothermal options or adding pumped storage into Fish Lake.
- Should consider small scale nuclear.
- Consider other options such as compressed air, refrigerant system or a pump storage system other than water. Also consider transitioning the stand-by generation from diesel to a reversible fuel that can be made using spare energy, such as methanol-cycle that can be made from biomass.

YEC BATTERY STORAGE

Comments Received

- YEC could form partnerships with development companies to develop demonstration-sized projects that would be useful for Yukon's grid.
- The grid-scale battery is a short-term solution to our energy problems; YEC needs to focus on sensible and cost-effective projects.
- YEC needs to bring online about 70 GWh of new renewable electricity in the next three to five years to address current and future energy load and ensure that LNG/diesel is used only as emergency backup. Without a major additional energy project, YEC will be relying on LNG and diesel to meet load demand and charge this massive battery. In order to meet Yukon's GHG reduction target of 50% by 2030 there will be a need for a combination of significant renewable energy projects, like wind, biomass, solar, heat pumps, pumped storage, and geothermal.

Engagement Process

- Do not want to feel rushed to submit input on this project; residents need time to learn, understand the issues and respond.
- YEC needs to commit to letting people know which site is selected and future of this project.
- YEC should provide clear and timely answers to resident's questions.
- YEC should provide a complete development plan up front; if they are planning to expand the site in the future, then this should be made clear now.
- This engagement process is not transparent and is designed so that YEC does not hear the full range of input. Some believe that YEC has already made a decision that this project is going ahead.

Site Selection

- Site A has the most homes nearby; sites B and C are preferable as nearest residences are farther away. Sites B and C are preferable because they are closer to non-volunteer fire departments who are better able to respond.
- Could consider putting the battery underground in old mine workings on Grey Mountain.
- Some people would like to know YEC's current preferred site.
- Need to consider aesthetics and safety at whichever site is selected.
- YEC should only be considering sites far away from any residences.
- There was support voiced for the battery project and for renewable energy projects in general.
- Some are pleased that YEC is taking bold initiatives and demonstrating the variety of renewable energies available to meet the challenge of moving away from fossil fuels.
- Support for projects that would lead to fewer power outages and a more stable grid.

4.0 QUANTITATIVE ANALYSIS

All comments received through door-knocking, emails and online comments were recorded and entered into an Excel spreadsheet to quantify and analyze for common themes. In total, 134 comments were received. All written comments received are included in the appendices.

4.1 OVERVIEW

Most comments were received through email (59), followed by online comments submitted through the YEC's website (32). This is shown in Figure .

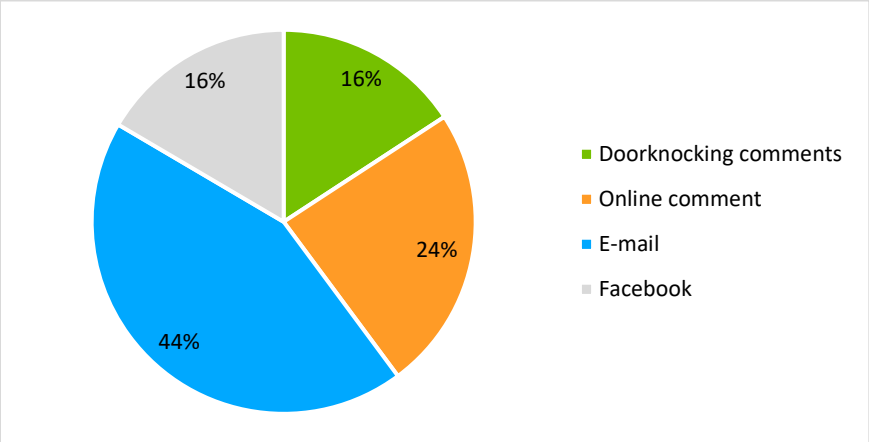

Figure 4 Comments Received by Feedback Method

Most of the comments (96) received were related to the proposed Site A North Klondike Highway. This is shown in Figure 5.

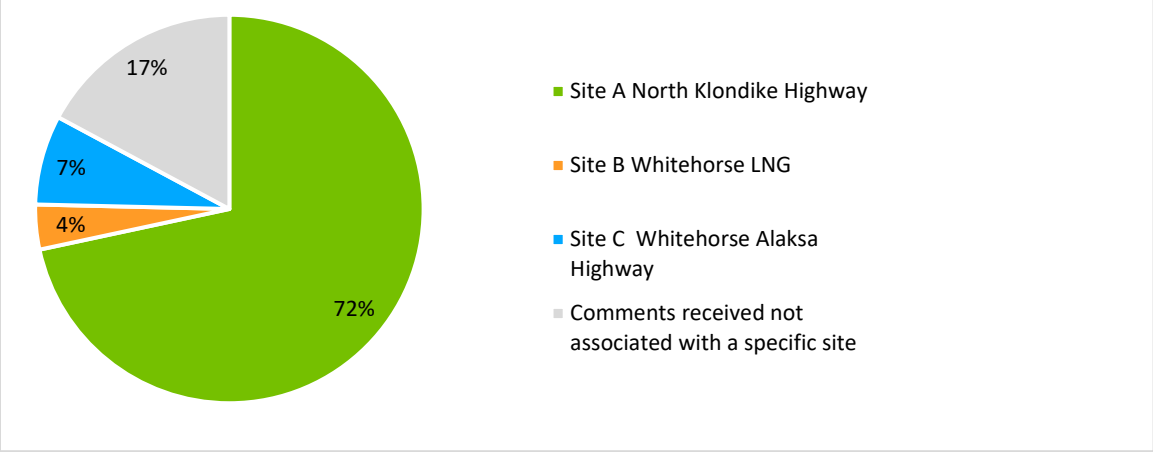

Figure 5 Comments Received by Specific Site

All comments received were analyzed for their possible connection to a pre-identified property associated with each of the proposed sites. Both persons listed on the property title and property representatives (ie. tenants or direct family members) were considered during this process. Figure 6 shows that most respondents did not live within 800 metres of any of the proposed sites.

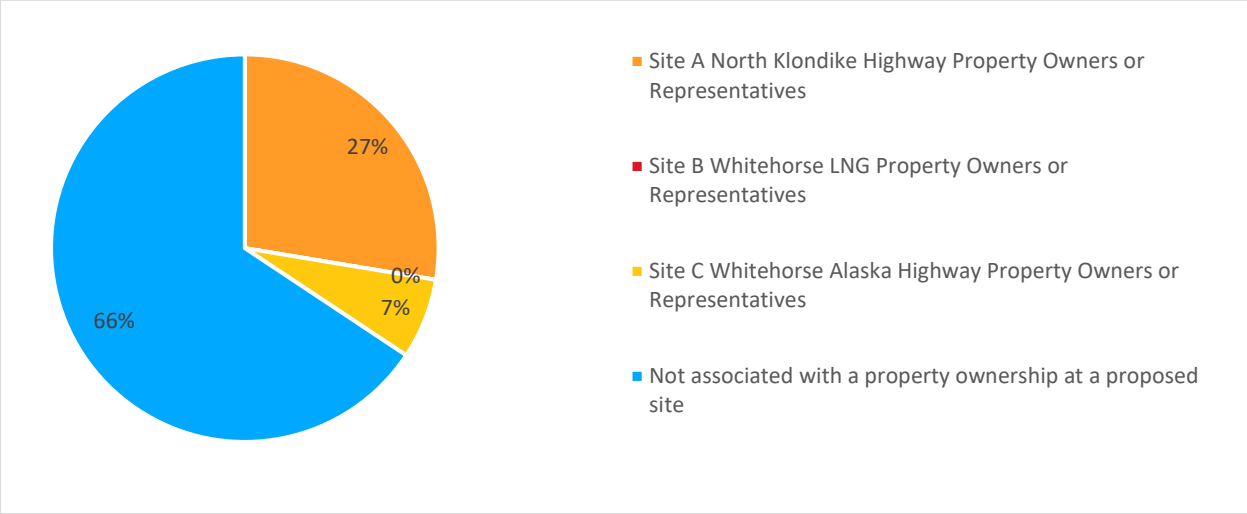

Figure 6 Comments Received from all Feedback Methods by Respondent Category

4.2 THEMES

Detailed review of all 134 comments revealed a series of common themes; these themes are discussed in Section 3.3. Often, a single comment covered more than one theme. The themes that were mentioned the most frequently were:

- Noise
- Fear of an emergency situation
- Property values
- Light
- Ability of fire fighters to respond to an emergency situation

4.3 SITE A – NORTH KLONDIKE HIGHWAY

Overall

Site A, on the Klondike Highway, received the most comments during the engagement process (96). A total of 17 of the 96 comments were from property owners or representatives. The graphs below are based on Stantec's interpretation of participants views on this project and are not the results of a survey. The *No Stance - No comments* response means that we spoke to someone who asked questions, but did not provide their opinion about this project overall.

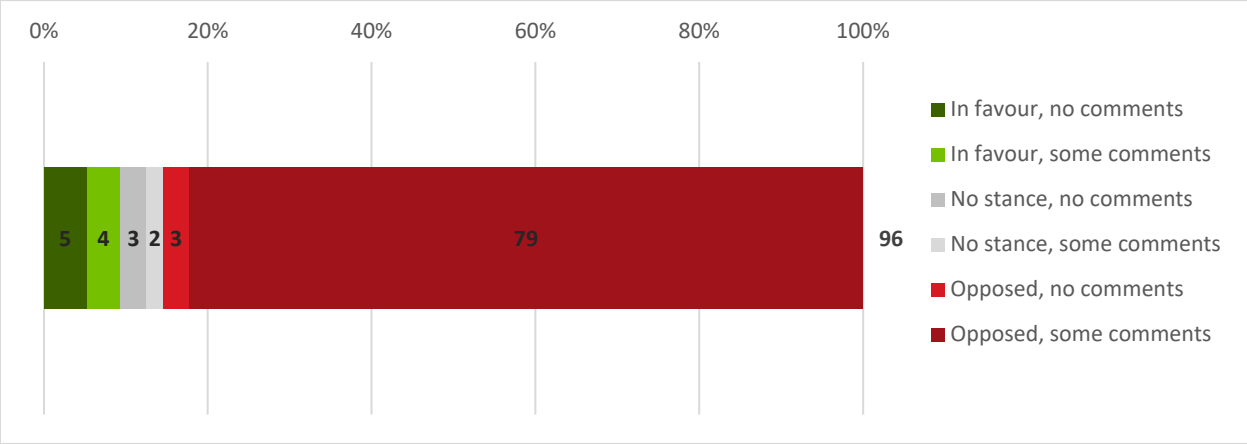

Figure 7 Site A Feedback Summary, From All Feedback Sources

Comments From Property Owners or Representatives

Feedback received from property owners or representatives associated with the North Klondike Highway Site was considered separately. Although some properties submitted feedback through multiple sources; for the purpose of this graph, each property was considered only once.

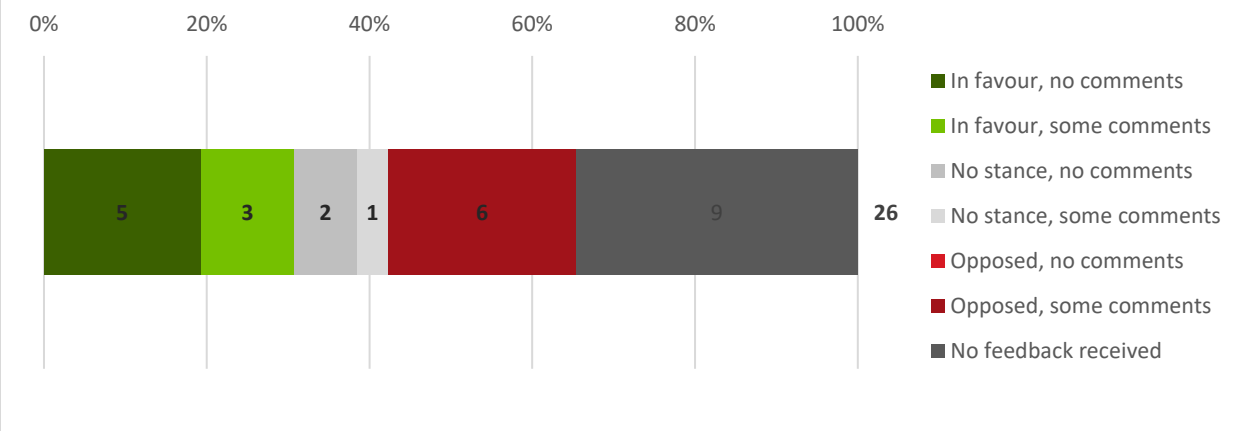

Figure 8 Site A Feedback Summary, From Property Owners or Representatives

4.4 SITE B – NEAR LNG FACILITY ON ROBERT SERVICE WAY

Overall

Site B, near the Whitehorse LNG facility, received the fewest comments during the engagement process (5). The graphs below are based on Stantec's interpretation of participants views on this project and are not the results of a survey. The No Stance, no comments response means that we spoke to someone who asked questions, but did not provide their opinion about this project overall

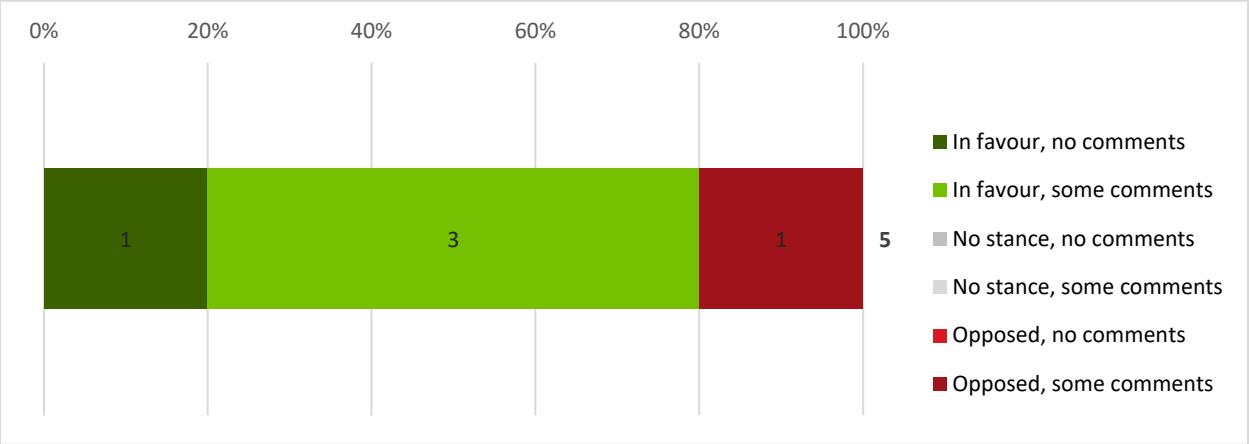

Figure 9 Site B Feedback Summary, From All Sources

Comments From Property Owners or Representatives

Although three property owners were associated with Site B, no feedback was received from these owners or businesses.

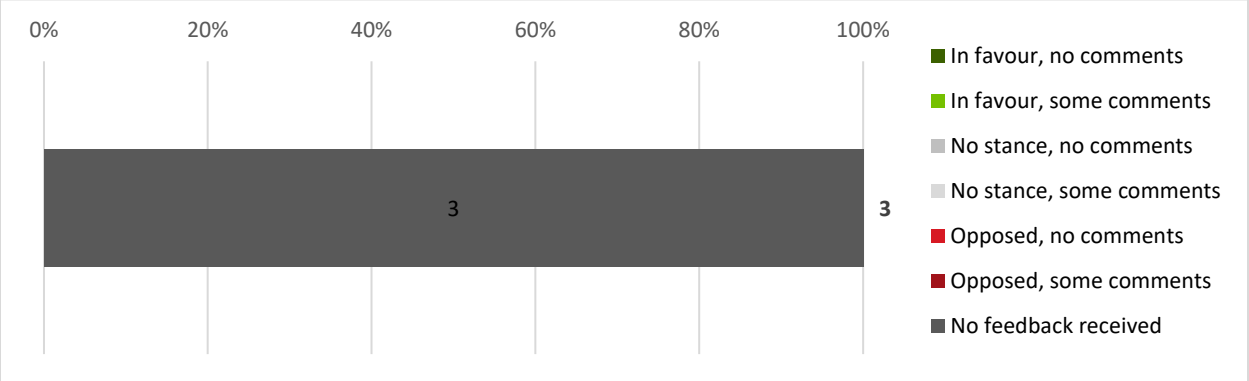

Figure 10 Site B Feedback Summary, From Property Owners or Representatives

4.5 SITE C – NORTHEAST CORNER OF THE ALASKA HIGHWAY AND ROBERT SERVICE WAY

Overall

Site C received the ten comments during the engagement process, eight of which were from properties owners or representatives. The graphs below are based on Stantec's interpretation of participants views on this project and are not the results of a survey. The *No Stance - No Comments* response means that we spoke to someone who asked questions, but did not provide their opinion about this project overall.

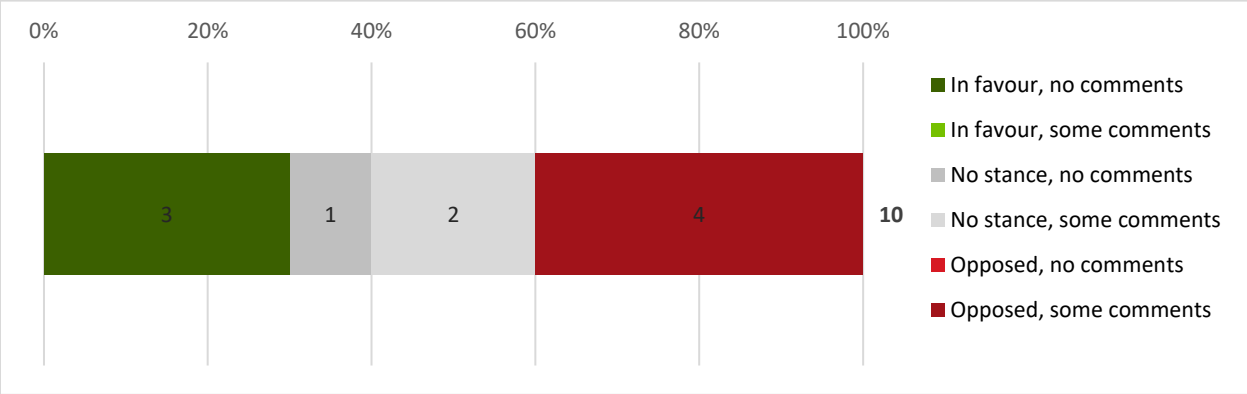

Figure 11 Site C Feedback Summary, From All Sources

Comments From Property Owners or Representatives

To provide further information, feedback received from property owners or representatives associated with the Site C was considered separately. Although some properties submitted feedback through multiple sources; for the purpose of this graph, each property was considered only once.

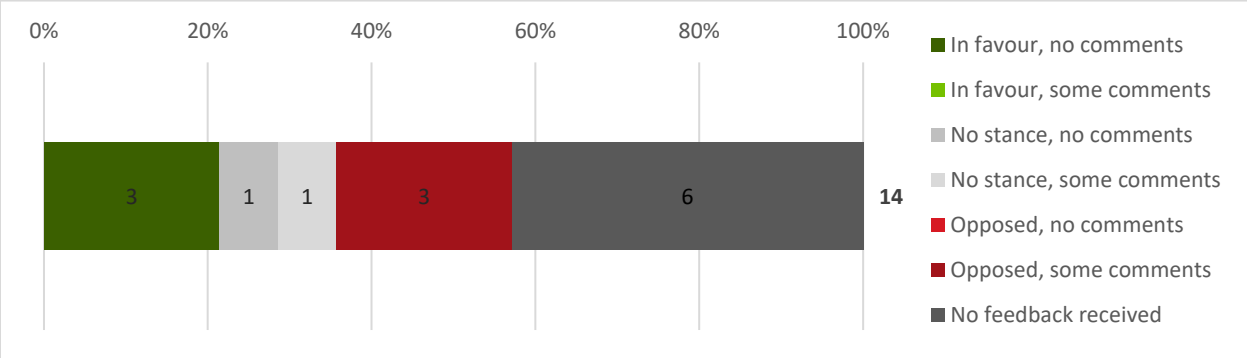

Figure 12 Site C Feedback Summary, From Property Owners or Representatives

5.0 CONCLUSIONS

This section provides a summary of what was heard during the engagement process about YEC grid-scale battery. Multiple engagement methods were used throughout the process, responses from all methods have been consolidated below. This section is intended to present information and conclusions for YEC staff and decision-makers to consider as they select the site for this project.

We provide an overview of the comments heard about each of the three proposed sites and a summary of the comments heard that are related to the battery project in general.

5.1 SITE SELECTION

Site A – North Klondike Highway

Most of the comments received through all methods, were about Site A on the North Klondike Highway. Many of those who attended the in-person and virtual meetings own properties or live within 800 metres of Site A. We received 96 specific comments about this site, with 86% of the comments voicing opposition. Of the 91 written comments we received, 52 of them were a letter template that listed the same 6 reasons that the sender opposes this site.

During door-knocking in the area, we spoke to several residents who are opposed to the project and several who do not have any issues with using this proposed site for a battery. In general, people who live directly adjacent to Site A voiced the strongest opposition to this proposed location.

Concerns about Site A

- People are concerned that noise and light produced by the battery may impact their well-being and way of life. Residents do not want to see this type of unsightly industrial development along the North Klondike Highway.
- People felt that the engagement was rushed, and some were offended that YEC selected this site as an option, even though there are many residences close by.
- People are concerned about safety; the battery may catch fire or explode, and the local volunteer fire department does not have the capacity to contain a fire at the battery site.
- Concerns about health impacts of this relatively new technology. People are worried about the impacts of radiation, electromagnetism, gasses, subharmonic frequency and fumes on people and livestock.
- Property owners are concerned that the proposed project may reduce property values and increase insurance premiums.
- Residents of this area chose to live outside of town and do not want to see utility development in their neighbourhood. Many feel that the battery is not compatible with the quiet rural lifestyle.

Site B – Near LNG Facility on Robert Service Way

During the engagement process, there were very few specific comments related to this site. There are no residences within 800 metres, and none of the governments or businesses who own property nearby provided feedback.

Concerns about Site B

- Concern about aesthetics at this site; people do not want to see industrial development at this location as it is an important gateway to the community.
- Noise at this site may impact downtown residents as sound can travel quite far, especially in the winter.
- It is risky to put two main power sources in a river valley, next to a dam, in an earthquake zone. If either the LNG facility or the battery have a catastrophic failure, one could damage the other. The site is also below the end of the airport runway.

Site C – Northeast Corner of the Alaska Highway and Robert Service Way

There were several comments received about Site C. During door-knocking, we heard from some residents that they have no issues with this site. We also heard from two local business owners who voiced opposition to this site and who shared some specific concerns.

Concerns about Site C

- Concern about aesthetics at this site; residents and business owners do not want to see industrial development at this location as it is an important gateway to the community.
- Concern that a battery may impact the RV park in this area; this is not the type of development that tourists want to see.
- Noise may impact the RV Park and residents who live in the area.
- Concerns about health impacts to surrounding residents and large greenhouse in the area. There is also concern that the battery may catch fire and release toxic fumes.
- Concern that the battery is too close to the runway, river valley, dam and LNG facility.

5.2 SITE SELECTION AND DEVELOPMENT

The objectives of this engagement process were to provide information to the public about this project, answer questions and gather feedback about the three site options. We did not set out to gather quantitative information about support for, and opposition to, the grid-scale battery project. However, we can report that we received very few comments voicing opposition to the overall project. Many people see the project's benefits, and support infrastructure that will increase the amount of energy YEC produces using renewable sources. Those who did voice opposition to the project felt that the high costs of the project outweigh the benefits.

Many respondents, especially those who live near Site A, suggested that Sites B and C were preferable, as the nearest residences are farther away, they are close to existing YEC's infrastructure and there is a staffed fire department in the area. A few people stated that Site A is their preferred option. Whichever site is selected, YEC will need to follow up with residents as this project moves forward.

Regardless of which site is selected, screening or a vegetative buffer should be provided, as aesthetics are important to those living near each of the three sites. Appropriate lighting should be selected that provides good security but does not lead to unnecessary light pollution. Also, noise-reducing mitigation measures should be identified and implemented. Options include selecting batteries that are designed to be quiet, installing noise baffles and orienting the HVAC systems away from nearby homes.

Whichever site is selected, YEC will need to develop a comprehensive fire response plan and will need to commit to providing the required training to fire fighters. Training will need to be repeated when there is staff turnover. A few respondents suggested that YEC should continue to lobby the City of Whitehorse for a reduction in property tax for lots developed for renewable energy projects.

5.3 BATTERY PROCUREMENT

Through the engagement process, several people made comments about items that should be considered as YEC goes through the process of selecting and purchasing the battery. This included:

- Environmental impacts related to the manufacturing process and the mining of source minerals;
- Cradle-to-grave greenhouse gas emissions;
- Safety track record of the company and technology;
- Quite operation and noise-reducing mitigation options;
- Ability to operate in cold temperatures without comprising the long-term functioning of the battery; and
- Access to advanced metering for energy research.

5.4 RATES AND FINANCIAL CONSIDERATIONS

Many respondents wanted to know what impact this project would have on future electricity rates. A few participants wanted YEC to provide full and detailed project accounting before being asked to provide input. A few respondents suggested that YEC should include the cost of appropriate mitigation measures as they consider these three sites; Site A may be more expensive because there are many people living nearby.

Several people provided comments about the overall cost/benefit analysis of this project. Also, a few respondents suggested that the high cost of this project means that other technologies, such as electric thermal storage, may be more cost effective in terms of cost per kilowatt hour.

5.5 ENERGY PLANNING

Whenever YEC undertakes an engagement process, comments are received about energy planning in general. Many respondents want to see YEC continuing to plan and develop renewable projects to meet growing demand. Several respondents want to see YEC develop new renewable electricity sources in the

next few years so that LNG and diesel are used only for backup. People also want to see demand-side management and energy efficiency programs play a larger role in energy planning.

Respondents wanted to know about the carbon footprint of the grid-scale battery as compared to other projects and want to see YEC focus on sensible, cost-effective and long-term projects. A few participants suggested that YEC should be involved in more partnerships with northern energy innovators from Yukon University, Northern Energy Innovation Program or other organizations.

Respondents suggested a suite of other projects that YEC should, in addition to or instead of, the grid-scale battery. Alternative projects suggested are: more reliable hydro, geothermal, pumped storage at Fish Lake, small scale nuclear, compressed air, refrigerant system or a pump storage system other than water, or transitioning the stand-by generation from diesel to a reversible fuel that can be made using spare energy. It is important for YEC to continue to engage the community and stakeholders as it continues to plan for new renewable energy projects.

Appendix A INFORMATION HANDOUT

BATTERY STORAGE PART OF OUR
Future-Focused Portfolio

battery storage system

QUICK INFO SHEET

yukon energy

Yukon Energy is building a grid-scale battery storage system in the Whitehorse area. As one of the projects identified in our 10-Year Renewable Electricity Plan, the new battery is another way we are delivering sustainable, reliable and affordable electricity to Yukoners. It will help us maximize the amount of renewable resources we use to meet peak demands for electricity, burn less diesel fuel and improve the reliability of our grid.

why energy storage?

On Yukon's isolated power grid, one of the largest challenges we face is meeting peak demands for electricity. This often happens during winter months when water levels are low and customers' need for electricity is high. That's why we have liquefied natural gas (LNG) and diesel engine generators. We turn to them when there's not enough water to generate the power Yukoners need. With the new battery on our grid, we can store extra electricity when there's a lower demand for it and then use it when the demand goes up.

benefits of energy storage

It's sustainable
Uses more renewable electricity and less diesel to meet peak demands for power.

Cuts carbon emissions
Expected to reduce 20,000 tonnes of emissions between 2023 and 2043.

Saves money
Running diesel engines less means fuel and engine maintenance savings.

Improves grid reliability
It will be especially useful during sudden outages or decreases in demand.

Restores power outages faster
It can be turned on at the flip of a switch during a power outage.

how much will this project cost?

The battery will cost between $27 and $30 million to build.

$16.5 MILLION will be covered by the Government of Canada's Green Infrastructure Stream.

$10.5–13.5 MILLION will be covered by Yukon Energy.

We will submit an application to the Yukon Utilities Board to include our share of this investment in rates after we install the battery and it's operational.

what kind of battery will we use?

The most common battery chemistry for grid-scale battery energy storage systems is lithium ion. That's because it is flexible and can be charged many times in its lifetime.

what will the battery look like?

Our battery energy storage system is expected to be about the same width and half the length of a CFL-sized football field, and the height of two people. It will be made up of container units that are quick and easy to install and made for our northern climate.

what will the site look like?

The battery site will be fenced and will have monitors, cameras, and alarms to provide security.

are these batteries safe?

A lithium ion battery is generally considered safe technology. It uses no acid, which eliminates spill and contamination hazards. The risk of fire is very low.

As with any energy storage system, the risks increase if the system is not properly operated or maintained. To manage fire and safety risks, we will:

- select a vendor with **a reliable battery system**
- use **qualified technicians** to do the installation and carry out routine maintenance
- install a monitoring and **fire suppression system** that is **specifically designed for batteries**
- **prepare a fire response plan** for the local fire department and emergency response staff

what sites are we considering for the battery?

We'd like to install the battery close to our existing facilities to reduce construction costs and to make it easier and more effective to operate.

We're looking at three sites that appear to fit that bill. One is on Ta'an Kwäch'än Council Settlement Land and the other two are on Kwanlin Dün First Nation Settlement Land.

SITE A

On Kwanlin Dün First Nation land beside our Takhini substation at Km 8.5 North Klondike Highway

SITE B

On Ta'an Kwäch'än Council land across from our Whitehorse LNG facility on Robert Service Way

SITE C

On Kwanlin Dün First Nation land at the north east corner of the Alaska Highway and Robert Service Way

how will we select the site?

When choosing the battery's final location, we'll consider the following.

- distance from existing generation facilities and transmission lines
- space and technical requirements needed to operate and maintain the battery safely and efficiently
- environmental and socio-economic factors
- partnership opportunities
- input from Ta'an Kwäch'än Council, Kwanlin Dün First Nation, their development corporations and the public
- the site's readiness for utility development

how to get involved

There are several ways you can get more information and provide your feedback on this project.

IN-PERSON COMMUNITY MEETINGS

Tuesday, September 15
Hootalinqua Fire Hall
6:30–8:30 pm

Wednesday, September 16
Yukon Transportation Museum
6:30–8:30 pm

Thursday, September 17
Best Western Gold Rush Inn
6:30–8:30 pm

Submit a question or comment to yecbatteryfeedback@stantec.com.

Complete the online comment form available on our website, yukonenergy.ca/battery.

VIRTUAL COMMUNITY MEETINGS

Tuesday, September 8
7–9 pm

Thursday, September 10
5:30–7:30 pm

Email **yecbatteryfeedback@stantec.com** or visit **yukonenergy.ca/battery** to get the virtual meeting link and log-in details.

COVID-19 protocol

All meetings will include a short presentation and an opportunity for participants to ask questions. If COVID-19 circumstances should deem in-person meetings unsafe, we will replace them with virtual meetings. Please check our website for updated information.

HELP KEEP US
COVID-SAFE

how will we use stakeholder and public input?

We want to hear your comments about this project and the potential sites. Comments received will be summarized in a What We Heard Report that will be made public. The report will be used by our project team and Board of Directors to the determine the final site for the battery and to refine how the site will be designed.

next steps

We will accept comments until September 20, 2020.

Once we have finished the engagement, we will:

- select a final site;
- finish the site design;
- choose and order the battery; and
- get all necessary approvals and permits.

We expect the battery to be operational in 2022.

CONTACT INFORMATION
email: yecbatteryfeedback@stantec.com or communications@yec.yk.ca
website: yukonenergy.ca/battery

yukon energy

Appendix B COMMUNITY MEETING NOTES

A.1 VIRTUAL MEETING #1

Home-Owner Concerns

- Concern that property values will go down; would like to know if YEC has considered this
- Insurance: Questions about home insurance. Will premiums go up? Will they be able to get fire insurance?
- Would like to see a compensation package to make up for reduced property values.

Takhini Site

Site Development and Security

- Light pollution: Concern that light pollution; would like to know what the lighting plans are.
- The existing substation is lit up like a roman candle; do not want the battery to bring this type of light to the North Klondike Highway area. People live there for the rural life-style.
- Concerns that there will be vandalism and breaches to security; vandalism is a growing issue on the North Klondike Highway.
- What will happen if people shoot at the containers? Shooting guns is legal outside City limit; not allowed within City limits.
- The Takhini Road Site will need significant clean-up and remediation before development can happen.

Noise

- Noise - Concern about the noise. How was 45 decibels standard set?
- Concern that 45 dbs is too loud.
- If the 45 db limit is set in the Alberta standard, we should be looking at the standards in other provinces as well. Alberta may have the lowest standards rather than the highest.
- Would like to have information about the nature of the noise study. How was it done? Was it completed by an acoustics firm?
- Was it completed by engineers? Can it the study be made public?

Fire and Public Safety

- Concern about risk of fire and explosion.
- Example of the Arizona battery fire; concern that may happen here.
- Concern about a fire on the Highway; this is the only access route for many.
- Want to understand what would happen in case of an external fire, for example a forest fire.
- What is the risk of explosion? What is the blast radius for the explosion?
- Will the Fire Department at Hootalinqua be able to fight a battery fire? If there is a large fire; back-up will be far away. Will they have the training and equipment they need.
- Need to have a safety plan and a plan for how to deal with the toxic smoke that we be the result of a fire.
- Battery fires are specifically difficult to extinguish.

Opposition to Takhini Site

- Opposed to the Takhini site as it is too close to existing residences. Main concerns are related to property values, insurance rate, light, noise and fire risk.

Site Selection

- Could also consider the space available at each site for future expansion.
- Question about if YEC has a first choice for the site.
- In town options should be considered better options because they are close to existing infrastructure.
- Has YEC asked the City of Whitehorse for a property tax break? Should consider this. Both in town sites.
- Will this project need to go through YESAB regardless of which site is selected?

Battery

- Question about how long the batteries last.
- Questions about the specific type of battery that will be used.
- Hard to assess risks with a new technology.
- Should consider each battery manufacturer's history when sourcing the battery to ensure that we end up with a safe product.
- Want to know the levels of subharmonic frequency. Have the studies been done?
- Seems like YEC does not have a firm capacity in mind; feeling that this should be known at this point in the feasibility.
- Questions about the capacity of the battery.
- Will it be possible to recycle the battery at the end of life?

Capacity and Future Development

- Want to know about the capacity of the plant. Also, what will the potential for expansion look like. Concern that once this battery is built, more containers will be added on.
- How much room is there at each site to add capacity and containers?
- Wanted to know how long the battery could provide power during an outage (7 to 8 hours).

Energy Planning

- Want to know how the energy modelling was completed; what was factored in. For example, electric cars.
- Does YEC know the carbon footprint?

A.2 VIRTUAL MEETING #2

Site Questions:

- Will there be municipal property taxes on settlement lands

Battery Procurement Questions:

- How will the battery be scoped?
- What is the timeline for the project?
- How will the procurement be done?

- Can YEC confirm that size of the battery that it will be buying?
- Is there a set spinning reserve that will be required?
- Has Hatch been hired as the Owners Engineer?
- What is the footprint of the site?
- Will the final size of the battery be a consideration?

A.3 HOOTALINQUA FIREHALL

- How much noise does it make?
- What level of consideration was given to residents near the proposed site?
- What is the db at the site?
- Potential for expansion of the site?
- How close does it need to be to the substation? Limits to how far it can be from the substation
- Why is this a site if residential proximity is taken into consideration?
- What is preferred site? Gathering feedback re: each site
- Advantage to this site because no municipal taxes → YEC talking to City re: reducing taxes
- Tax on FN land? Match lease to life of asset
- Self government agreements → renewable energy opportunities
- What is the cost difference between each site?
- Each site will have the same battery infrastructure
- Each site will have difference site development costs
- Batteries not aesthetically pleasing
- Proposed lighting?
- If the previous LNG proposed facility was placed here, would the battery be there too?
- Does the solar array proposed by Solvest impact the battery?
- What wasn't land by lagoon chosen as a site?
- Ground vibrance during construction & impact to water wells
- Positive affects to residence near site within 1 km?
- Negatives affected to residences at other sites?
- Against eye sore, lighting, noise
- Why haven't other FNs been approached?
- Growth demand starting in 1970?
- Taxation – CoW revenue stream → was to remove as primary driver
- How long will battery capacity last ie. When is another going to be added?
- Where is Moon Lake?
- Against light, noise, view
- Taking away quality of life/way of life
- Lithium explodes with fire / puncture
- Fumes, gases
- Aesthetics
- Effects on livestock → loss in revenues
- Reduction in property value
- Fans blowing
- Financial burdens on homeowners
- Reduction in property value
- Size of fire? Egress?
- Lighting levels? Pollution
- Feel like YEC doesn't care

- No trust with YEC / YG
- Timeline with letters, virtual meetings, in person meetings – RUSHED
- Wildfire risk, little fire breaks → fire break S of Whitehorse
- Increased risk / what happens in low risk situations? → wildfire, truck off road, evacuation plan?
- Fire break to the North? → S of Whitehorse, 500 m wide
- Fire suppression at seacans by YEC (to be completed)
- Consequences of wildlife at battery site?
- Additional training for firefighters?
- Fire hazard study to be completed?
- How much time would neighbors have to leave property if fire?
- Potential for tree barrier for aesthetics possible with fire concerns?
- Cost water supply at site for fire response?
- Toxicity of smoke from fire? YEC to provide composition of fumes
- Fire suppression in seacans?
- Human safety key to site selection
- Illegal dumping – previous concern
- YEC more concerned about short plug in and not surround citizens
- Needs of CoW residents trumping local residents
- Expensive to live in area
- Provide more technical information → make easily available for residents
- Unknowns of technology
- Best internet of all Yukoners
- Will questioned asked be answered clearly and provided to public?
- Has consultation / engagement strategy been approved?
- We don't NOT want the battery, we don't' want it at this site
- Great piece of the puzzle to solve energy deficit
- New housing has electric heating
- Carbon to produce / manufacture batteries
- Hydro, solar → green
- Wind expensive / not practical in North
- Hydro focus in future → tourism
- Disposal of batteries? Cost? Recycled?
- Cradle to grave assessment done in 2016 Resource Plan (has GHG emissions)
- Performance review?
- Cautious moving forward with new technologies
- Want Whitehorse sites by YEC (snowdump)
- Property values to consider
- Life styles to consider
- Not against battery storage
- Moved to this area for a particular reason – life style
- Residences not considered re: 2 industrial and 1 residential site

A.4 YUKON TRANSPORATION MUSEUM

- Does the 20 MW come on instantly in power outage?
- How many times can they be recharged?
- What is the life of the batteries?
- How will a battery be chosen?
- Ancillary support? How will it degrade the battery?

- Do batteries need to be cooled & heated? What're the loses?
- What is the optimal state of charge to meet objectives?
- What is (n-1)?
- Will battery site be expanded?
- Locations other than Moon Lake closer to Whitehorse for pumped storage?
- What're the taxes on each site?
- More liability at Takhini site?
- Air contamination from internal fire suppression?
- Opportunities to install advanced metering for research?
- Artificial or inertial response?
- Event record date? Performance?
- Remote power system – affect inertia, fault current?
- Install data collector locally? Cautious on amount of data stored due to space limitations
- Monitor controls system – feedback system
- Robert Service locations preferred

A.5 BEST WESTERN GOLD RUSH INN – TOWN HALL

- Diesel / LNG can't black start like battery
- Proximity to existing substation
- Grid batteries in Alaska? Insulated?
- What is size of battery?
- How long to deplete battery storage from black start?
- Plot of land size? Battery footprint?
- FN rental vs lease agreement?
- Specialized training for fire dept? who covers? YEC? YG? CoW?
- Ongoing training
- Any direction from YG to utilities board to cover rate rise?
- 40 mWh battery?
- Savings from diesel / LNG?
- How are FN dev corps involved?
- How to calculate kWhr price?
- How're site going to be selected/
- In Whitehorse option – seem like best options
- Takhini option is close to houses, outside of town, further from fire response
- Noise & light pollution?
- Db at site?
- Location of exact site is unknown
- Cost to homeowner → loss of revenue, blackout blinds, way of life, sound proof walls, safety?
- Water for fire suppression?
- What is YEC going to do to mitigation cons if site at Takhini chosen?
- Potential for expansion?
- Site preference?
- What will this add to the rates? Are we talking pennies?
- Consideration to site underground?
- Life span of battery?
- Disposal of end of battery life?
- Locals may not know what are in seacans

- What signage will be displayed?
- What will be offered to nearby property owners?
- Battery able to store excess capacity to be used in winter?
- Primary use for peaking times?
- Providing inertia for grid?
- Used for re-energizing grid?
- On FN land – other available funding?
- FN investment opportunity?
- Light pollution → purpose of lighting?
- Degradation of lithium battery?
- Manufacturer of battery?
- Batteries warrantied?
- Potential environmental impacts? Leaking battery, air quality? What are the mitigation measures?
- Batteries gradually improving?
- Site B is at the end of the runway
- Opportunities for FN?
- Site C is preference
- Cost effective to have more smaller battery banks? Ex at hospital, institution, etc
- Smaller battery banks in addition
- Have both FNs been talked to already?
- What kind of fire suppression? Halogen?
- What kind of electrolyte?

Appendix C STAKEHOLDER & OTHER LETTERS

Hello Zoe,
Thank you for inviting Yukoners Concerned to take part in the discussion on the Battery Storage Plan.

Yukoners Concerned support the Battery Storage concept as part of Yukon Energy's 10 year renewable plan. We see the value of Yukon Energy's battery in providing grid stability and a quick and easy source of electricity for recovering from a power outage.

One of our concerns is that Yukon Energy must in the next three to five years, bring on line about 70 GWh (we note that in the 2019 Yukon Energy used over 68 GWh of thermal backup on the grid) of new renewable electricity to address current and future energy load and ensure that LNG/diesel is used only as emergency backup. Without a major additional energy project we will be relying on LNG and Diesel to meet load demand and charge this massive battery.

In order to meet Yukon's GHG reduction target of 50% by 2030 there will be a need for a combination of significant renewable energy projects, like wind, biomass, solar, heat pumps, pumped storage, and geothermal to ensure we can meet these targets.

Thank-you

Donald J Roberts
Chair, Yukoners Concerned

Yukon Utilities Consumers' Group (UCG)
comments on
Yukon Energy Battery Storage Plan

1. UCG has reviewed all the available information offered on the above plan, including the YEC web page, information package sent out by Stantec, as well as a power point presentation offered to participants. We also checked out the YEC 2016 20 Year Resource Plan, which identifies battery storage research as one of many concepts to consider. Accordingly, we have concluded that there is not ample evidence from all of these, allowing us to give an informed decision of this particular concept.

2. The YEC states in their web: Building a grid-scale battery is one more way Yukon Energy is delivering sustainable, reliable and affordable electricity to Yukoners. The problem here is that they have not given any alternatives to compare with this idea. Not only does this include technology, but also cost comparisons, like LCOE (levelized cost of energy). How can one, including the YEC's and YDC own Boards of Directors, determine if this is indeed the best choice?

3. For example, some alternatives like ramping up some real demand-side-management or energy conservation techniques such as timers on high usage consumption such as hot water tanks and hot tubs etc. to stop the peak bleeding; implementing/mandating thermal heating units for all new buildings; incentives to replace buildings with baseboard heating systems with thermal storage units, incentives to install hot water coils in wood stoves (especially in the outlying communities); employ some non-interest loans, without too many hoops to jump through, to upgrade building efficiencies.

2. For example, some alternatives initiating a new supply-side-management strategy; i.e. what are the results of how purchasing power from the micro-generation program or the IPPs are helping to serve the needs to displace the necessity to build new infrastructure such as battery storage? How has the developments of purchasing power from new community-based solar and wind served the needs to displace the necessity to build new infrastructure such as battery storage?

3. What has YEC done to find alternatives to high demand users during peak hours or peak seasons? Is Yukon Energy working with the mining sector and larger industrial and businesses customers to ensure they are doing their part to establish Peak-Time-Load-Management tools to help solve this issue before we spend many millions on a battery pak?

4. The YEC web goes on to state: **Why a battery?**

On our isolated grid, one of the largest challenges we face is meeting large demands for electricity (known as peak demands) during winter months when water levels are low and customers need for electricity is high. That's why we have liquefied natural gas (LNG) and diesel engine generators. We turn to them when there's not enough water to generate the electricity Yukoners need.

With a new battery on our grid, we can store extra electricity when there's low demand for it and then use it when demand goes up.

OTHER BENEFITS OF BATTERY STORAGE:

Saves money. Running diesel engines less means less money is spent on expensive diesel fuel and maintaining diesel engines.

It's a sustainable solution. The battery uses more renewable electricity and less diesel to meet peak demands for power.

Restores power outages faster. By always being "on," the battery serves as a quick and easy source of electricity that can be turned on at the flip of a switch in a power outage.

Cuts carbon emissions. The new battery is expected to reduce carbon emissions in Yukon by more than 20,000 tonnes between 2023 and 2043.

Improves grid reliability. Using the battery during sudden outages or an unexpected decrease in electricity demand helps ensure grid stability.

Maximizes the outputof our hydro resources. Using the battery to meet sudden changes in the amount of electricity Yukoners need means we don't have to rely on our hydro units to do this. We can generate more hydro power than before.

5. Yukon Energy does not give us any information on whether we will actually be saving money with this project. Is it cheaper than thermal or smaller hydro projects or is this simply a government push? If it needs more than half of the capital from taxpayers, then it is very likely not revenue neutral. What do we compare this with in LCOE at $/Mwh.? Only that the lithium ion battery pak will come in $1,060 per Mwh. [1]

6. Also, this will not get us away from the renting of diesels nor using the LNG plant at certain periods of need. We possibly should be focusing on replacing the old diesel units as they retire (replace as economically feasible as possible in present warehouse), as we will need back-up regardless on what resource we use.

1 Yukon Energy 2016 20 Year Resource Plan, page 53

7. Is spending $30 million on one basket the best alternative for our buck and is there an immediate need? What about Wood Biomass or Gasification in Haines Junction or Whitehorse? What about some smaller hydro projects or run of the river hydro? What about the the proposed Haeckel Hill Wind Farm? What about Nomad Contracting proposal for a Solar Farm outside of Whitehorse? What about National Energy Capital proposed turbines? What about Ta'an Development Corporation plan for geothermal? What about?????

8. There are too many WHAT IFS? What if YEC consults and informs the public on all of these preliminary issues before they stick us with a $30 million tab? Are they that set on accessing tax-payer funds from the Federal Government to the tune of $16.5 million? And then sticking ratepayers with a $13.5 million tab in rate base costs.

9. The YEC has not even finalized their 10 year Resource Plan, nor brought this before their regulator to get proper sanction. But, yet they are proceeding with the battery storage plan.

10. And now the YEC calls this consult. Their motto continues:We have decided on this alternative and now we offer the public some crumbs i.e. where to locate?

11. Not the way we see a consultation process go forward. Does this not leave an LNG taste in your mouth? Or Mayo B? Or a new thermal plant?

12. UCG also has other reservations with battery storage, such as operating this in a northern environment. Are there examples out there of proven short, medium and long-term operation of lithium storage batteries in our extreme northern conditions? The only claim that the Resource Plan identifies is similar installed project in California.[2] Are they also safe to operate at extreme winter conditions?[3] Where will all this lithium, the metal oxide electrodes and other chemicals be disposed of when the batteries are no longer useful? Is it really that environmentally friendly?

13. The newest lithium ion technology claim a 20 year life span. Is this significant cost barrier the best plan for such a short term? The LCOE of lithium ion battery storage is 106 cents per kWh. Even Mayo B, which was a nightmare of cost overruns and flooding problems came in at approximately 20cents per kWh

2 Yukon Energy 2016 20 Year Resource Plan, p. 18

3 Ibid p. 18 Li-ion batteries have several disadvantages such as the metal oxide electrode can become thermally unstable due to over discharge or charge and be subjet to thermal runaway if left unchecked.

(before the Federal and YTG grants), while diesel generation is about 26 cents per kWh. [4]

14. And finally has Yukon Energy made use of the newly formed Yukon University and their Northern Energy Innovation Program (NEI), along with their many highly paid management staff, to further test this concept, as well as assessments on other ideas? Or are they simply continuing to use their preferred consulting firms at top dollar?

4 Yukon Energy web on Mayo B

Yukon Conservation Society INC. 1968

302 Hawkins St. Whitehorse, Yukon Y1A 1X6 (867)668-5678 info@yukonconservation.org

September 18, 2020

Yukon Energy Corporation
#2 Miles Canyon Road
Box 5920, Whitehorse, Yukon
Y1A 6S7

Stephanie Cunha, Manager, Communications
Via email: stephanie.cunha@yec.yk.ca
cc: yecbatteryfeedback@stantec.com

Re: Yukon Energy Corporation 10 Year Plan

To: Stephanie Cunha, Manager, Communications

The Yukon Conservation Society (YCS) welcomes the opportunity to provide further information on our response to the draft 10-yr plan of the Yukon Energy Corporation (YEC). We have provided earlier comments, particularly concerning our support for connecting to the Atlin hydroelectric scheme and the plan to construct a pumped storage at Moon Lake.

YCS is generally supportive of the Yukon Energy Corporation's Ten Year Plan. YCS does see potential improvements to the Ten Year Plan, but generally YCS is supportive of individual projects within the Ten Year Plan.

YCS maintains that the Yukon should reduce territory wide GHG emissions by at least 50% by 2030. YEC plays a key role in doing this, not only providing existing amounts of renewable energy but also being in the position to displace future amounts of fossil fuel generated energy with renewable energy. For example, as electric vehicles become more common they will replace existing gasoline and diesel powered vehicles with potentially renewable energy powered ones, and oil and propane furnaces will be replaced with electric options.

The key, as always, is to increase the amount of renewable energy and drastically reduce the amount of fossil fuel generated energy. Here is YCS's review of Yukon Energy's Ten Year Plan (points taken from the Yukon Energy website on this issue at https://yukonenergy.ca/energy-in-yukon/electricity-in-2030/our-draft-10-year-plan/project-descriptions).

PROJECTS UNDER DEVELOPMENT

Whitehorse Hydro #2 Uprate

YCS is supportive of this. Increasing and improving the efficiency of existing renewable energy infrastructure is one of the most cost efficient and usually the most environmentally benign way to go.

302 Hawkins St. Whitehorse, Yukon Y1A 1X6 (867)668-5678 info@yukonconservation.org

Battery Storage

This is the battery storage project that received federal funding in 2019, not to be confused with the Moon Lake hydro battery storage project. YCS is supportive of this project. However, careful consideration must be given to the economics of this and future similar projects. The high cost of this project suggests distributed technologies such as electric thermal storage may be more cost effective than a grid-scale battery in terms of $ per kWh installed, $ per kW installed, and $ per lifetime $CO_{2,eq}$ reductions. Further analysis will be necessary in coordination with Yukon Energy to explore that possibility.

Electricity purchases from Independent Power Producers

YCS is conditionally supportive of this program but a lot depends on how the power is being produced. Projects that are renewable and small-scale (in a Yukon context) are probably acceptable, whereas those that are not will be of concern to YCS. Each IPP project will require an environmental assessment that YCS will participate in and from that YCS will either support or oppose each particular IPP project.

Micro-Generation Program

YCS is conditionally supportive of this program but a lot depends on how the power is being produced. Projects that are renewable and small-scale (in a Yukon context) are probably acceptable, whereas those that are not will be of concern to YCS.

PLANNED PROJECTS (BASED ON APPROVALS)

Whitehorse Hydro #4 Uprate

YCS is supportive of this. Increasing and improving the efficiency of existing renewable energy infrastructure is one of the most cost efficient and usually the most environmentally benign way to go.

Incremental Diesel Replacement

YCS is not generally supportive of this. The capacity of the diesel generators should be replaced with renewable energy options. However, the need for emergency backup generating capacity is understood. Emergency backup diesel generators should be efficient and will, in this concept, require ongoing replacement.

Southern Lakes and Mayo Enhanced Storage Projects

YCS understands the logic behind the proposed Marsh Lake and Mayo Lake enhancement projects (existing infrastructure, extremely short timeline to bring on line). However, YCS has environmental concerns regarding substantial fluctuations in water levels, particularly in regards

to fish habitat along the shore line, and impacts on wetlands (Roop Wetlands on Mayo Lake, Marsh Lake wetlands by the lake outlet). Completion of detailed environmental assessment is required on this issue. Until such time as these are complete YCS reserves judgement on these projects. It is worth noting that similar concerns occur at Aishihik Lake.

Demand Side Management Programs

YCS is generally a strong supporter of Demand Side Management Programs. YCS support would, of course, depend on the particulars of each program. Initiatives such as the Electric Thermal Storage project is a good example of a positive DSM program.

POTENTIAL FUTURE PROJECTS

Moon Lake Pumped Storage

The Moon Lake could provide 20 MW of power with 20 GWh annually of self-generated (from its surrounding watershed) electricity. Moon Lake can store up to 69 GWh annually if there is excess renewable electricity available from the Yukon grid for pumped energy. If this is understood correctly Moon Lake would allow for the additional storage of 49 GWh of excess electricity from wind, PV, and other existing hydro. This is about 3 months of energy storage at 20 MW.

This has to be balanced against the value of the habitat loss at Moon Lake compared against reducing GHG emissions and/or alleviating stresses on the other hydro reservoirs that are impacting their surrounding habitat.

Generally, though, YCS is supportive of the Moon Lake Pumped Storage.

Electricity Purchases from the Atlin Hydro Expansion

The Atlin hydro project could potentially provide 8 MW of power with 46 GWh annually of renewable electricity to the Yukon grid. YCS is supportive of this project.

Southern Lakes Transmission Network

YCS is supportive of major upgrades to the Southern Lakes Transmission Network. However, environmental assessments would still be required on issues such as widening or changes to powerline Rights of Way corridors, access roads and tails to proposed powerlines, location of supporting infrastructure such as transformer substations etc.

YCS has long been concerned that Rights of Way corridors are not planned adequately to reduce their environmental and areal footprints. YCS feels strongly that new transmission lines should be placed within highway rights of way, where they exist.

Yukon Conservation Society INC. 1968

302 Hawkins St. Whitehorse, Yukon Y1A 1X6 (867)668-5678 info@yukonconservation.org

OTHER CONSIDERATIONS

Wind

The most serious capacity limitation and renewable energy shortfall in the Yukon occurs in the winter and that these limitations are already obvious. The strategy of making up the deficit with diesel and LNG generators may be necessary in the short term but is an expensive and highly undesirable option.

YCS therefore urges acquisition of significant wind power sources in the 10-year plan (either directly through Yukon Energy or by making use of the IPP and micro-generation initiatives) as this offers additional fossil fuel-free electrical generation in the winter as well as a shorter implementation time line than other sources. It is also highly compatible with the Moon Lake pumped storage scheme by providing additional power for storage in the warmer weather season.

Solar

The Yukon has had some solid progress in solar projects lately, with two moderately sized Independent Power Producer solar projects on the horizon. Winter renewables like wind should be more of a focus, especially with ETS and Moon Lake. That being said, solar is particularly useful in the spring when the skies are typically clear, and the days are long and hydro reservoirs are still depleted. There are existing programs in place through the Yukon Government, and these should be developed further. Similar to wind, increases in solar power could either be done directly by YEC or by making use of the IPP and micro-generation initiatives.

Should you have any questions, please contact the undersigned.

Sincerely,

Coral Voss
Executive Director

Appendix D DOOR-KNOCKING COMMENTS

	Door-Knocking Comments	Themes Used for Graphing Purposes
1	• Battery infrastructure should be screened from view.	Screening
2	• Just giver'	Support or opposition
3	• No problems with the proposed site. • Designed home to be able to add a solar array in the future.	Support or opposition
4	• Questions: What size will it be? What % will my rates increase. • Generally the resident supports this project. • Would like to see a more stable grid with fewer power outages. • YEC needs to plan new sources of energy as demand continues to grow. • Concern about the environmental impacts of building this type of battery.	Environmental impact Parking lot: energy rates
5	• Does not want access to the area's quadding trails to be cut off by this project. • Definitely support for this project and this location is fine. • Would like to see projects that lead to more stable power and fewer outages.	Loss of site from recreational purposes
6	• Feels that her home is far enough away that there wont be any issues.	Support or opposition
7	• Does not want to have the battery so close to her home and her garden/vegetable growing business. • Do not want to see this type of infrastructure at the entrance to the community. • Concern that the battery may cause emissions or gases that will impact vegetable production. • Would not want to see or hear the battery. • Concern about environmental impacts of living so close to the battery. • Paragliders use this site as well; should reach out to their association. • Would prefer the site near LNG generators.	Screening Screening: aesthetics from roadway Health impacts to surrounding residents Noise Environmental impact Loss of site from recreational purposes
8	• No issues with the proposed project.	Support or opposition
9	• Prefer a battery at this location over LNG or diesel generator. • Wife will likely have questions.	General.
10	• Questions: • How much noise? • What are the benefits? • What are the timelines. • Would like the site to be screened if the project goes ahead. • Appreciate that YEC is door knocking in the area	Noise Screening
11	• No issues with the proposed site.	Support or opposition

Appendix D Door-Knocking Comments

	Door-Knocking Comments	Themes Used for Graphing Purposes
12	• Do not want to see the battery from the road; need to consider the aesthetics at this site. • Would like to have some information from people who have lived near this type of infrastructure; what to understand the long term impacts on health and environment. • Need to consider aviation safety; the area is so close to the airport that there may be impacts. • People who live in the area use that site for recreation; trails and tobogganing hill. • If the battery catches on fire how will the toxic fumes be managed? • Various property owners along Metropolit Land have expansion plans and the battery may not be compatible with these plans. • There is a busy RV part nearby; need to consider that this area may have the highest population density of all three sites, at least during tourist season. • Proposed site is not flat. • North Klondike Highway site may be better because of lower taxes. • Want to know if there is a plan to add more batteries in the future. • Will the batteries have magnetic properties that could impact airplane navigation? • Want to know where batteries will be made. • Would feel more comfortable if YEC had completed research into impacts; for example will radiation or gases be emitted? • Concern that batteries are dangerous; long term impacts and potential risks are not know or well understood. • Yukon Gardens uses lots of power to heat greenhouses; would like to have access to agriculture rates or off-peak rates.	Screening: Aesthetics from roadway Health impacts to surrounding residents Environmental impact Aviation safety Loss of site from recreational purposes Fear of emergency situation: emergency response - control of fumes Future certainty: expansion Additional information: battery manufacturing Decision-making criteria
13	• Access quadding trails in the area. • Question about the noise that would be produced. • No concerns.	Loss of site from recreational purposes Noise
14	• No in favour of this project at this site; many concerns and questions. • Concern that real estate values will go down and that insurance premiums will go up • Battery are not safe. • Volunteer fire department is not equipped to deal with a battery accident, explosion or fire. • Concern that a fire would block the highway or other local roads and resident swill not be able to get out. • Need to know what the increase to rates will be; senior on a fixed income and it is very hard to manage when rates are increasing. • Moved to the Yukon to get away from this sort of project. • Do not see battery storage as a sustainable option. • YEC needs to commit to letting people know what they decide to do on this site. • YEC needs to provide clear and timely answers to residents' questions. • Residents should not be rushed to provide input; do not want YEC to rush ahead on something that will be such a negative impact on residents. • Want time to learn, understand and provide timely input. • Need to know what will happen if bullets hit the battery or there is a lighting strike.	Fear of emergency situation Fear of emergency situation: emergency response Future certainty Additional information: durability of battery in extreme situations Process: timeline Property values Parking lot: energy rates Fear of emergency situation: evacuation feasibility
15	• Very disappointed that Yukon Energy would consider this site. • Do not support the battery project in this location. • Resident is very sensitive to lights and sounds.	Light Noise Health impacts to

Appendix D Door-Knocking Comments

	Door-Knocking Comments	Themes Used for Graphing Purposes
	• They have just finished building a recording studio and have received YG funding for this project; noise could be a big problem for recording. • This is not a good location for the battery; would be bad for well being of those who live here. • Concern about the risk of a fire and/or explosion. • Would consider moving if this project goes ahead; would not want to live so close to the battery. • Should consider some kind of financial compensation for residents if the project goes ahead at this location.	surrounding residents Fear of emergency situation Additional information: financial compensation for those impacted Reduction in quality of life

Appendix E ONLINE FORMS

	Online Form Comments	Themes Used for Graphing Purposes
1	Hello, I live in riverdale and see no issue with this going near LNG plant. Very excited for the 10 year plan! Thanks for taking bold initiatives and demonstrating the variety of renewable energies available to meet the challenge of if truly divesting from fossil fuels.	Support or opposition
2	I feel that you need to find a different place to do this as there are farm animals and family living right there	Health impacts to surrounding residents
3	I am against the construction of the proposed battery projet at the Takhini Substation. I have close family members living >20 meters from the proposed action and surely this poses health hazards as well as safety risks if there were to be a catastrophe at the batery site! Build it somewhere else please!	Health impacts to surrounding residents Fear of emergency situation
4	The public meeting was most appreciated as this proposed facility at Takhini Substation affects only immediate neighbouring residences. The Takhini Substation site should be removed from the list of potential sites due to residential proximity and permanent devaluation of the neighbourhood with light and sound pollution plus subsequent increases to residential insurance and taxation. This is the second time Yukon Energy has attempted to industrialize our area. By offering our homes to industrial development our local First Nations have also sent a clear message that they are not good neighbours and care nothing about their land, the wildlife corridor or the nature of this location. This battery plan is an over-priced temporary bandaid for Whitehorse's overuse of electricity. Yukon needs more reliable hydro power and less foolish experiments. Yukon has two major and well-known geo-thermal sources that have private businesses sitting on them. Yukon Energy should be negotiating with Takhini Hotsprings and Liard Hotsprings for installation of geo-thermal generation systems instead of allowing a few private individuals to waste Yukon's valuable green energy resources on recreation. Thanks for your time and attention to my concerns and consideration of my suggested solutions.	Light Noise Property value: insurance rates Environmental impact Decision-making criteria
5	Proposing this industrial-grade infrastructure in a residential area is preposterous. It should be located near all the other electrical equipment YEC uses to provide their services - down by the dam site which is one of the three options for this project presented.	Support or opposition
6	Hi, I am writing to advocate for the battery location to be at site 1 or 2 rather than site 3 as site 3 is a residential area and will effect surrounding residents.	Support or opposition
7	what are the sound levels and at what levels do extra measures kick in. In case of fire, what toxic fumes become hazards to health	Noise Fear of emergency situation: emergency response - control of fumes
8	Good morning to who it may concern, it sounds like a great project but not by any place that has people living close there must be other places one could put the Project , imagine if some put that in ur back yard and you had to see it . Any way hope you change ur mind and put some where else. Thank you for ur time	Screening
9	I live across the road for km 8.1 Klondike highway and am absolutely opposed to this project at this location. There are several families within 300m of this location and don't need anymore noise or light pollution. The other sites have ZERO residents that live anywhere near the sites. The thought of this site even being in the running defies logic.	Noise Light Health impacts to surrounding residents Property values

	Online Form Comments	Themes Used for Graphing Purposes
	Thank you	Fear of emergency situation: emergency response Reduction in quality of life Loss of view
10	Hello, I am the direct neighbour of 5.1 mayo road site and will be directly affected by this. You have not alerted me to this happening and I am against this. I recently purchased this property and the plan will directly affect my property value. As well, I have a residence right on the side of my property that will be beside the battery. This is my rental cabin and if the battery creates light and noise (which is will) I will have to reduce my rental cost to tenants which will negatively affect me and my quality of life. As well, this is a rural residential area, if this goes ahead it will affect the way of life for myself and the neighbours. We will never be noise free which is of course upsetting. There will also be more light directly beside my property which will affect my ability to see northern lights, which is a huge assets to this property and it's value. Overall I think it is an unacceptable location and am saddened you have not even told me about it. I had to be alerted by others. Please contact me if you would like to discuss further.	Noise Light Health impacts to surrounding residents Environmental impact Fear of emergency situation Additional information: durability of battery in extreme situations Loss of view Screening Property values Fear of emergency situation: emergency response Fear of emergency situation: evacuation feasibility Property values: insurance rates Additional information: financial compensation for those impacted Reduction in quality of life
11	Please reconsider option 3 that close to a residential area with children. I am sure there is zero research on biology impacts on humans. And if that catches fire it could put a family at risk. Please consider that.	Health impacts to surrounding residents Fear of emergency situation
12	I oppose this venture behind my family's land.Relocate to an isolated region. Thank you.	Support or opposition
13	1. Any Engagement with home owners / community prior? 2. Enviromental Study? 3. Stewardship of the project? 4. No Transparency to families? Thank you	Process: engagement timeline Environmental impact Decision-making criteria
14	I am strongly opposed to the Battery site to me on Mayo road. It is less than 10 meters from my family's home. It is explosive & not safe To be so close to residences .	Fear of emergency situation
15	I am opposed to the gridscale battery especially at Takhini Hotsprings	Support or opposition

	Online Form Comments	Themes Used for Graphing Purposes
16	I believe anything that you can do to produce renewable energy is good. Maintaining water levels is also important. I believe the people that are building and developing houses that use electric heat should have to share more of the cost of the required capital cost. We had a enough electricity to meet the needs before the large population increase. Now we as pensioners are paying to subsidize there heat source.	Support or opposition
17	I am against having this large industrial battery storage in my neighborhood. Living on the klondike hwy ouside of city limits you expect to have peace and quiet, safety, and dark nights. This facility will be an eyesore both day and night in our neighborhood. And will be loud when walking in the land around it. Property value will be affected even if everything goes well. And have not seen any info of implications if somethig went wrong like leaks ,explosions, abanonment. In short i am against the klondike hwy proposed location of this grid scale battery.	Noise Light Screening Loss of view Property values Fear of emergency situation Environmental impact Additional information: end-of-life for battery
18	Hello, I've recently become aware of the planned battery storage project proposed by Yukon Energy. I want to voice my strong opposition to Option 3 of this plan - developing the battery storage project at the Takhini substation. I have recently in the process of purchasing a home located within 250 m of this proposed site. I am first of all severely disappointed that myself, nor the current owners of the property have been made aware of this potential development by representatives of Yukon Energy. In addition the community engagement email is not functioning - disappointing. Secondly I find it abhorrent that Yukon Energy would consider placing this battery storage facility with it's associated noise and light pollution in close proximity to so many residents. It is of great concern that sound mitigation equipment would need to be installed in order for sound levels at the nearest neighbour to be below permissible sound levels. What would happen if this equipment was to fail.This significant increase in noise and light will have immense impact on my daily life and health. We have purchased this home outside of town to enjoy the peace and quiet which will be taken away from us and surrounding residence.Â There is also additional risk to the residents in the area due to the risk of the batteries. If something were to happen this may result in an explosion affecting a radius possibly greater than 200m. Due to this, the storage unit is not located a safe distance away from surrounding residents (30-50m). My property would be impacted if anything were to occur. This is unacceptable! Additionally, this will negatively impact me as this development will effectively devalue my investment and greatly reduce my ability to enjoy my property. The two locations within the city of Whitehorse are clearly more suited to this development as there are little to no social impacts. The fact that Yukon Energy and the Yukon Government would consider this option - valuing a few dollars saved over residents property values and well being is deeply disappointing. In addition, the collection of Whitehorse municipal taxes would have great benefits for the city of Whitehorse. Which in turn would benefit Whitehorse residents rather than harm them.	Noise Light Health impacts to surrounding residents Environmental impact Fear of emergency situation Additional information: durability of battery in extreme situations Loss of view Screening Property values Fear of emergency situation: emergency response Fear of emergency situation: evacuation feasibility Property values: insurance rates Additional information: financial compensation for those impacted Reduction in quality of life

	Online Form Comments	Themes Used for Graphing Purposes
19	Location: Option 3 makes the most sense: The capital cost of all of them is about the same; option 3 puts it on YE's own land to avoid taxes. I wonder though about the "all the eggs in one basket" approach. Since the batteries and inverters are modular, why can't they be spread out across the grid to help cover threats to the transmission lines? If having firefighting ability nearby is an issue, they could still be placed near communities on or adjacent to the existing lines' right-of-way. I also wonder about the life-cycle environmental and social cost of the battery technology. Sure, the most common type may be lithium-ion, but given the source of the raw materials to make them (are they the same as the small-tech lithium-ion batteries that has made headlines re 3rd-world child labour used to mine the heavy metals?) Your documentation doesn't ask about the technology, or give a breakdown of up-front capital cost, ongoing maintenance cost, and talks about future recyclability and not about how long the new batteries will last before the first ones will need to be replaced and how they will be disposed of if new recycling isn't available. Whereas, old-fashioned lead-acid batteries are probably the most recycled item on the planet, with much of the world's supply of lead for them coming from the Faro mine... Since these are stationary batteries (i.e. not motive), providing proper containment from the get-go shouldn't be a big issue. Presumably since the higher peaks happen in the winter anyway, pump-storage isn't an option (e.g. pumping back up the Whitehorse dam, or doing something at the mines in Faro or Mayo), but what about other geography-based energy storage (e.g. some kind of compressed air or refrigerant system or a pump-storage of something other than water)? What about transitioning some of the stand-by generation from diesel to a reversible fuel: something that can be made using spare energy? Like a methanol-cycle (en.wikipedia.org/wiki/Methanol_economy and //en.wikipedia.org/wiki/Dimethyl_ether) which can be made from biomass (such as wood from our abundant burt-over areas). Could YE form partnerships with development companies to create what for them would be demonstration-sized projects but for us would be real-world?	Decision-making criteria Fear of emergency situation: emergency response
20	I strongly support battery storage of power in the Yukon. Option 1 makes the most sense to me as the environmental concern is low and it would allow for an expansion of the amount of batteries in the future. I am opposed to option 3 as it is too close to a residential area.	Support or opposition
21	I am against the mayo road location	Support or opposition
22	Option 1 - you are putting "all your eggs in one basket". The LNG should NEVER been built where it is but no point crying about spilled milk. I realize why you suggest this but think about it!! 1. It's at the end of a runway!!! 2. You have two main power sources in a river valley, in front of a dam, in an earthquake zone!!!! 3. If either the LNG or the batteries do have a catastrophic failure one would probably take out the other!!!! Option 2 - 1. Again, at the end of a runway/flight path 2. At least it's higher! 3. Still too close for my liking Option 3 1. No airport,	Fear of emergency situation; Support or opposition

	Online Form Comments	Themes Used for Graphing Purposes
	2. On "solid" ground, away from the river 3. Nothing to take out in the infrastructure presently in place 4. Right beside a substation, so easier to tie into. If the entire dam went in an earthquake you have this and the substation, you could move in diesel generators and still have the batteries to help I hope you actually listen to the public THIS time Thank you	
23	Put this somewhere away from peoples homes. It decreases our property value and our home lives. Strongly oppose the takhini substation location - there are too many families in this area.	Property values Reduced quality of life
24	Hello Minister Pillai, I am formally writing to you about the proposed battery project by Yukon Energy Corporation. My mother [Redacted] and I are opposed to the Takhini substation site being selected as the location for the proposed Battery Project. Our property is located within 800 meters (2 Five Mile Road) of the proposed Takhini site and would be impacted if this site was further developed for the battery project. We are opposed for several reasons. We have chosen to rural living for peace that it provides. Yes we are adjacent to the Mayo Road, however the noise from the road is not consistent and 24 hrs a day. This battery project would bring a consistent drone. No one has addressed the issue of the noise from the inverters converting energy to be stored. It is not fair that the main reason for this site being the most appealing is because property taxes are lower. How is it that our own Government can chose to avoid property taxes? This is not an acceptable reason and is not considerate of the people who have chosen a rural way of life. We are concerned about how this project would impact our insurance. Both the possible increase in rates and if there was ever a need to make an insurance claim due to an incident involving the battery project. What compensation and assurance would there be from the Government and Yukon Energy? We are concerned about how this project will impact our property value. What compensation would there be as we anticipate our property being less desirable to live due to the battery project and the noise and safety concerns it brings. We have several safety concerns: This site would not have 24 hr personnel security. While there may be a camera system it will inevitably not be able to monitor for those individuals that cause mischief and shoot a gun at the sea cans. If a bullet were to pierce a battery it could cause a fire or worse cause an explosion. As of late the Mayo road has seen a couple of vehicle fires recently and vandalism is a real concern. Our property is designated as Rural and as such the remaining area should also remain rural and no further infrastructure development be allowed to expand outside the existing foot print of current structures. The risk of fire both from the heat of the batteries themselves and from wildland or structure fires is a very real issue. Our fire department is not equipped to handle a battery fire as well as protect residential structures. We believe this is a band aid solution to Yukon's energy problem and that the	Fear of emergency situation Fear of emergency situation: emergency response Future certainty Additional information: durability of battery in extreme situations Process: timeline Property values Parking lot: energy rates Fear of emergency situation: evacuation feasibility

	Online Form Comments	Themes Used for Graphing Purposes
	Government has failed to develop a long term plan to meet the requirements of Yukoner's. We are concerned that once the Takhini site is developed with a battery project that the site will be increased in size over the subsequent years. We are of the opinion that this technology does not have viable end of life recycling and that Yukon will be left to store and care for the hazardous material. The is no guarantee that the manufacturer will be around at the end of life for these batteries. This is not environmentally friendly to Yukon. Yukon Energy has not shown any data that the carbon foot print through the three stages (manufacturing, end user use and end of life) is any less than our current energy consumption. Would this project merely export Yukon's carbon emissions? Is lithium mining environmentally friendly. How can we compare lithium mining pollution to carbon emissions as a fair trade-off. I would also like you to know that the impression being given right now is that Yukon Energy is trying to rush through the consultation process. They have done a poor job of communicating the public consultations. Very few residents have been made aware of this project. Infact the night of the first virtual meeting September 9, 2020 was the day that we received our notification in the mail. Why is our Government trying move this through so quickly? Also, the team conducting the public consultation appears ill prepared and it does not appear that an in-depth review of this project has been completed. The team was not prepared with many of the questions during the Microsoft Teams meeting. Again, indicating a sense that the Government and Yukon Energy are scrambling for a solution to Yukon's energy shortage. Will the minister commit to taking Site A Takhini off the table for the battery project? Mr Minister Pillai, I welcome your response and would appreciate further opportunity to discuss my concerns around this project with you. Thank yiou for taking the time to read my email. Regards, [Redacted]	
25	Really don't appreciate get late notice of the first team call for this. I got my notice in the mail September 15 and the first team call was that night. I'm do not want this in our community because it's close to a number of us. The other two sites do not have residents next to them like we are to the Takhini substation. Why should we be have too have our area disturbed with noise, and a football field of C-cans in our neighborhood. We live outside of town to enjoy wildlife free from noise and be able step out of our front door to see northern light. This will have high impact on our way of life not to mention the added cost of taxes, insurance, electricity costs, noise and the beauty we enjoy will be made ugly, and resale of property will be affected. Please reconsider taking this site out of your planning and let us have the life we enjoy. I am not opposed to battery storage but I am very upset with it being in my back yard. I'm a senior on a pension and the added cost to my property because of this I'm not sure how I can afford the added cost that this will impact me.	Process: engagement timeline

	Online Form Comments	Themes Used for Graphing Purposes
26-32	I am writing you today to express that I am opposed to the Yukon Energy Grid-Scale Battery project at the Takhini Substation. There are many reasons I am writing to you today and they include: 1. The noise level and how it affects those around it, including the mental health of residents in the area 2. The lighting and how it will greatly alter the way of life in this location by removing northern lights viewing and stargazing 3. Unknown gases and fumes that may come from the units 4. Potential for leaks and ground contamination 5. The risk of explosion and lives it would take if this occurred 6. The risk of fire from internal and external sources, such as a wildfire 7. The risk of vandalism and how this is a large issue in this neighbourhood 8. The size and how it will affect our view 9. How it will affect resale for properties in this area 10. How the local fire station is clearly unable to save structures in the immediate area in event of a catastrophic event 11. The increase in the cost of insurance to residents 12. The financial increases such as the cost of noise and light reducing equipment, lost rent, loss of cattle/farm sales, loss of horse boarding, secondary driveways as escape routes, time invested to complete these tasks, and attend meetings. 13. Potential that potential home buyers will not want to purchase in this area anymore as the attractive factor would be removed. 14. Loss of current way of life 15. No positives for people in the direct area only loss 16. Various safety concerns as a whole Please consider the other 2 locations for this project as I feel this is not an appropriate area for such a large battery.	Noise Light Health impacts to surrounding residents Environmental impact Fear of emergency situation Additional information: durability of battery in extreme situations Loss of view Screening Property values Fear of emergency situation: emergency response Fear of emergency situation: evacuation feasibility Property values: insurance rates Additional information: financial compensation for those impacted Reduction in quality of life

Appendix F E-MAILS

	E-Mail Comments	Themes Use for Graphing Purposes
1	Hi Zoe, Below is an email I sent to the minister in regards to the Takhini substation. I believe you are aware of my concerns but wanted to keep you in the loop as well. I thought I sent to you but it came back as not sent. Thanks Hello Minister Pillai, My name is [Redacted] and I am a wife to [Redacted] and mother to [Redacted]. I am a nurse in continuing care, and a women entrepreneur in our lovely city. My family recently purchased the 5.1 Mayo Road property from The Hurburt's. I am writing to you today in regards to the proposal to have Yukon Energy's new large scale battery project build on the 5.1 Mayo Road location at Takhini substation. First off I would like to say I am saddened that this is even been provided as an option, with minimal information anyone can see that it is an unacceptable location other than Yukon Energy will be able to save a few thousand dollars each year on property tax. I do not feel it is right to have such a large impact on our way of life to save a small amount of money. Especially when there are very close alternatives that do not affect homes in this direct way. I am very much so opposed to this project and I will explain more below. I would like to be clear that I am prepared to take this information to any and all media outlets if necessary. My first and greatest concern is the noise level. I recently purchased my property and one of the draws as a buyer was that we were able to leave the city for some quiet. Clearly not guaranteed silence and I understand that but in the middle of the evening/night I can go outside and enjoy what nature has to offer. I paid a great deal for this ability and I am now being told that "hopefully" the noise will be low enough at my house that it's 50db which is considered "acceptable" for a typical Canadian suburb. This is not accounting for the rest of my property which will be louder than this. This noise will be a loud constant hum, I don't not know a Whitehorse suburb that is even this loud. I do not feel comparing a Calgary suburb amount of noise is acceptable in rural Whitehorse. This will affect my mental health, and my families mental health. I also have several rentals on the property that will also be negatively impacted which will end in large reductions of rent to be able to have tenants willIng to listen to this noise and I will have a significant reduction in property value. Total I have 3 residences that will be affected and could lead to upwards of almost a million dollars in lost rental income over the next 20 years. So they can save a few dollars... how is this fair? My other concerns, are also very important to me. See below: I will now have an area directly beside my property that has half a football size of trees removed. I will no longer have a lovely view of trees and mountains. I will look at 16-22 (maybe they "don't really know") 40' seacans. Do you want an large number of 40' seacans beside your home? This is not accepted in city subdivisions? Why is this ok? This is not an industrial area. It's rural residential. This also includes, half a football sized area that will now be lit up bright 24/7. Did you know that I can current watch northern lights from my bedroom window? This will no longer be an option with so much light pollution. The light will also have negative effects on my family, tenants, cattle, and pigs. There is also the fire danger to be aware of. These containers will have fire suppression gear that will hopefully work if there is an internal fire. They are "unaware" if the gear will work if a forest fire is to come through this area. If these containers catch fire they may explode or at minimum spread the fire at a much	Noise Light Health impacts to surrounding residents Environmental impact Fear of emergency situation Additional information: durability of battery in extreme situations Loss of view Screening Property values Fear of emergency situation: emergency response Fear of emergency situation: evacuation feasibility Property values: insurance rates Additional information: financial compensation for those impacted Reduction in quality of life

	E-Mail Comments	Themes Use for Graphing Purposes
	faster rate. Wiping out my entire property and all of its structures (13 on my property alone, not counting other neighbours) This risk is also concerning as vandalism is very real in Whitehorse. Just last month a car was lit on fire on this road. Most people will be uneducated that these seacans are explosive batteries. It is a very really risk someone will light one on fire or shoot them with a gun. Unaware that this can cause as explosive reaction. I do not believe the nearby volunteer fire department is the appropriate response team to such a risk. My home and other buildings will likely be all gone from such a small act. If me and my family, including my 18 month old son are lucky enough to survive. There has been no plan of evacuation if something like this was occur. That's on me as a property owner to figure out how to get my family to safety in the event of an emergency. I do not think it is right I need to raise an 18month old, work full time as a essential nurse, help run my husbands home based business and now I need to worry about how I can escape from a football field size explosion or grand size fire? Really! 2020 is hard enough. I am not a dramatic person but something so unreasonable is being pushed on me and forcing me to write you today. There are unknowns about the fumes from these batteries and being less than 5 meters from the site how this will affect my small family over the next 20 years. I do not want my son exposed to this risk to save some property tax. There are other unknowns about increases over the next 20 years to home insurance being beside a fire risk. Expenses for secondary roads for escaping, noise reducing equipment for my home and rentals, light reducing curtains for the homes on the property. Reductions in rental income. Negative impacts to my livestock and subsequent effected income from it over then next 20years, I have cattle currently but have pigs and horses coming in the near future as well. Lastly to note, I am the closest property to this project and have NOT been notified by anyone that it was being considered. No letter or phone call. I learned about it from the last owner, who heard it from someone. This does not feel right. I would have missed all the meetings to become educated on this and have my voice considered. This all leads to the overall negative impact on my property. This was a very expensive property to purchase and now it will be worth significantly less due to the huge changes to the surrounds. To recap, your government and Yukon energy do not want to pay property tax so you are forcing my family personally to loose hundreds of thousands in property value, put us in danger, negatively effect our mental wellbeing, increase our personal yearly expenses and decrease our quality of life. I am asking for you to seriously consider what is being proposed and how it is really going to affect those around this battery plant. I am asking for the 5.1 Mayo Road location to be removed as an option for this project. I am pro moving forward and pro the battery in Whitehorse. I just do not feel it is appropriate to have it in a residential area. Please consider this request. If this is not removed within a reasonable time frame I will be going forward with my story and making sure anyone I can is aware of what is happening. Thank you for your time. Feel free to contact me for clarification or more information. I look forward to your announcement that this location has been removed from the consideration. Sincerely,	
2	Hello Zoe, I have recently become aware of the Yukon Energy Storage Battery project and would like to express my concerns with siting a battery storage facility at the Takhini Substation.	Noise Light Reduced quality of life Fear of emergency situation

	E-Mail Comments	Themes Use for Graphing Purposes
	The takhini substation location is the only option that is within a residential area. I am concerned with the impacts to local residents for the following reasons: - The proximity to residential properties. The closest house is 30m and up to 13 properties are within 300m. The storage facility will produce noise and light pollution 24/7. This significantly impacts the quality of life for residents that have worked hard to pay for country residential living. - The risks to human lives. If the battery is punctured or if a wildlife reaches the batteries, there is a risk of explosion. Given the proximity to residents, it is unacceptable to have the battery storage in this location. - In the event of an emergency (fire, explosion), the takhini substation is located 25 minutes from town and would not provide for expedient response by firefighters or ambulance.The other two options are located near the existing Yukon Energy facility at the dam and the proximity would provide greater response times in case of emergency and allow for convenient access for maintenance and inspections. - impacts to property values. The facility will reduce property values due to the unsightly nature of the seacans and noise and light pollution. Please consider the other two locations near the dam. They would provide for convenience for maintenance, emergencies and a shorter distance to transmit power to the batteries. In conclusion, out of the three locations proposed, the takhini subsubstation option will have the greatest socio-economic impacts and therefore should not be the selected location for the battery storage facility. Thank you for your consideration,	Fear of emergency situation: emergency response Property values Screening Additional information: durability of battery in extreme situations
3	Hello Minister Pillai, I am formally writing to you about the proposed battery project by Yukon Energy Corporation. My mother (Susan Willoughby) and I are opposed to the Takhini substation site being selected as the location for the proposed Battery Project. Our property is located within 800 meters (2 Five Mile Road) of the proposed Takhini site and would be impacted if this site was further developed for the battery project. We are opposed for several reasons. 1. We have chosen to rural living for peace that it provides. Yes we are adjacent to the Mayo Road, however the noise from the road is not consistent and 24 hrs a day. This battery project would bring a consistent drone. No one has addressed the issue of the noise from the inverters converting energy to be stored. 2. It is not fair that the main reason for this site being the most appealing is because property taxes are lower. How is it that our own Government can chose to avoid property taxes? This is not an acceptable reason and is not considerate of the people who have chosen a rural way of life. 3. We are concerned about how this project would impact our insurance. Both the possible increase in rates and if there was ever a need to make an insurance claim due to an incident involving the battery project. What compensation and assurance would there be from the Government and Yukon Energy?	Fear of emergency situation Fear of emergency situation: emergency response Future certainty Additional information: durability of battery in extreme situations Process: timeline Property values Parking lot: energy rates Fear of emergency situation: evacuation feasibility

	E-Mail Comments	Themes Use for Graphing Purposes
	4. We are concerned about how this project will impact our property value. What compensation would there be as we anticipate our property being less desirable to live due to the battery project and the noise and safety concerns it brings. 5. We have several safety concerns: This site would not have 24 hr personnel security. While there may be a camera system it will inevitably not be able to monitor for those individuals that cause mischief and shoot a gun at the sea cans. If a bullet were to pierce a battery it could cause a fire or worse cause an explosion. As of late the Mayo road has seen a couple of vehicle fires recently and vandalism is a real concern. 6. Our property is designated as Rural and as such the remaining area should also remain rural and no further infrastructure development be allowed to expand outside the existing foot print of current structures. 7. The risk of fire both from the heat of the batteries themselves and from wildland or structure fires is a very real issue. Our fire department is not equipped to handle a battery fire as well as protect residential structures. 8. We believe this is a band aid solution to Yukon's energy problem and that the Government has failed to develop a long term plan to meet the requirements of Yukoner's. 9. We are concerned that once the Takhini site is developed with a battery project that the site will be increased in size over the subsequent years. 10. We are of the opinion that this technology does not have viable end of life recycling and that Yukon will be left to store and care for the hazardous material. The is no guarantee that the manufacturer will be around at the end of life for these batteries. This is not environmentally friendly to Yukon. 11. Yukon Energy has not shown any data that the carbon foot print through the three stages (manufacturing, end user use and end of life) is any less than our current energy consumption. Would this project merely export Yukon's carbon emissions? Is lithium mining environmentally friendly. How can we compare lithium mining pollution to carbon emissions as a fair trade-off. I would also like you to know that the impression being given right now is that Yukon Energy is trying to rush through the consultation process. They have done a poor job of communicating the public consultations. Very few residents have been made aware of this project. Infact the night of the first virtual meeting September 9, 2020 was the day that we received our notification in the mail. Why is our Government trying move this through so quickly? Also, the team conducting the public consultation appears ill prepared and it does not appear that an in-depth review of this project has been completed. The team was not prepared with many of the questions during the Microsoft Teams meeting. Again, indicating a sense that the Government and Yukon Energy are scrambling for a solution to Yukon's energy shortage. Will the minister commit to taking Site A Takhini off the table for the battery project? Mr Minister Pillai, I welcome your response and would appreciate further opportunity to discuss my concerns around this project with you. Thank yiou for taking the time to read my email. Regards,	
4	Hello Yukon Energy, Thank you for this opportunity to provide feedback on Site A. I presume it has been designated Site A as it is your preferred option for a battery storage site, which concerns me.	Fear of emergency situation Fear of emergency situation: emergency

	E-Mail Comments	Themes Use for Graphing Purposes
	I live at [Redacted] and have several concerns regarding your designation of Site A as a proposed battery storage site. I note that you intend to install a fire suppression system specific to batteries. Good. But while you state that the possibility of fire resulting from lithium ion batteries is low, but there is still a risk that it will spread to the surrounding forest. Even a minimal risk of fire is of major concern to those of us who live close to the proposed site, for the following reasons: 1. The prevailing winds are from the south-east, sweeping quite strongly up the mountain where Vista Road is located. Though we have enjoyed a wet summer, usually conditions are tinder dry in this area. I am unsure of the reason for this, but I do know that we receive much less rain than town. Once ignited, a fire could rapidly take every structure north and northwest of Site A for miles within a short period of time. 2. We are dependent on a volunteer fire department which has limited access to a continuous source of pressurized water to fight fires. 3. In the event of a fire at Site A, would the power be cut to the surrounding area? This would cut power to well pumps, making water inaccessible. Home owners without emergency generators would be unable to mount even a minimal defense. 4. Business owners/operators in the vicinity have already experienced difficulty obtaining fire insurance and many find the cost prohibitive. Those who lose businesses might well never recover. 5. The location of such a facility so close in proximity to dwellings concerns me. People who have recently purchased property at premium prices could find their property taking a plunge in value. It seems to me that Site B or C would be preferable as they are not located in residential areas and are closer to fire stations with more rapid response capabilities, as well as to other emergency response organizations. Very truly yours,	response Property values: insurance rates Property values
5	Hello, I am writing to you today to express that I am opposed to the Yukon Energy Grid-Scale Battery project at the Takhini Substation. I live directly across the highway from the current Substation and proposed Battery project. There are many reasons I am writing to you today and they include: The noise level and how it affects those around it, including the mental health of residents in the area. The lighting and how it will greatly alter the way of life in this location by removing northern lights viewing and stargazing The size and how it will affect our view How it will affect resale for properties in this area How the local fire station is clearly unable to save structures in the immediate area in event of a catastrophic event Potential that potential home buyers will not want to purchase in this area anymore as the attractive factor would be removed. Loss of current way of life There is absolutely nothing positive for anyone that lives in the area.	Noise Light

	E-Mail Comments	Themes Use for Graphing Purposes
	Please consider the other 2 locations for this project as I feel this is not an appropriate area for such a large battery. Thank you for your time,	
6	Hello Zoe, I have recently become aware of the Yukon Energy Battery Storage project and would like to express my concerns with siting a battery stoage facility at the Takhini Substation. The takhini substation location is the only option that is within a residential area. I am concerned with the impacts to local residents for the following reasons: - The proximity to residential properties. The closest house is 30m and up to 13 properties are within 300m. The storage facility will produce noise and light pollution 24/7. This significantly impacts the quality of life for residents that have worked hard to pay for country residential living. - The risks to human lives. If the battery is punctured or if a wildlife reaches the batteries, there is a risk of explosion. Given the proximity to residents, it is unacceptable to have the battery storage in this location. - In the event of an emergency (fire, explosion), the takhini substation is located 25 minutes from town and would not provide for expedient response by firefighters or ambulance.The other two options are located near the existing Yukon Energy facility at the dam and the proximity would provide greater response times in case of emergency and allow for convenient access for maintenance and inspections. - impacts to property values. The facility will reduce property values due to the unsightly nature of the seacans and noise and light pollution. Please consider the other two locations near the dam. They would provide for convenience for maintenance, emergencies and a shorter distance to transmit power to the batteries. In conclusion, out of the three locations proposed, the takhini subsubstation option will have the greatest socio-economic impacts and therefore should not be the selected location for the battery storage facility. I see no reason for 13 families and homes to be negatively impacted with this project when there are suitable, if not better, options available. Thank you for your consideration,	Noise Light Reduced quality of life Feat of emergency situation Fear of emergency situation: emergency response Property values Screening
7	Good day, I am writing to you today in regards to the proposed yukon energy battery locations. I recently found out through some of the other residents out in the Takhini area about this proposed development. I think it's a great idea to build a battery to cut down on the diesel generator use in the winter and reduce emissions. However as a resident that will be affected by the construction and then the running of the battery if it is constructed beside the takhini substation I really hope that this does not happen. My understanding from reading the information that has been provided is that there is a risk of explosion. I understand that this is a small risk with proper maintenance and observation. I feel that the fact that it is even possible should dictate that it cannot be constructed anywhere near a residence where the event would be catastrophic. Also it would be much easier to maintain and observe if it was constructed at location 1 or 2. I also read that there would be lights and noise all year. I firmly believe that the people that have chosen to live in that area did so to enjoy the peace and quiet being out of town. It would be disappointing if Yukon energy decided to ruin peoples peace and quiet over a price tag.	Fear of emergency situation Light Noise Decision-making criteria Process: engagement timeline Property values Reduction in quality of life

	E-Mail Comments	Themes Use for Graphing Purposes
	I would like to know why I am only finding out about this proposed project now, it must have been in the works for quite some time if the end date for public engagement is only a week away. The fact that it has been proposed to build in this area with residences being directly affected with no serious effort made to inform people of said proposal is unacceptable. This has a direct affect on quality of living, value of property, and safety in the area for all nearby residences. I am aware that there are a small number of residences that would be affected by this battery storage, however option 1 doesn't poorly affect any residences. This fact alone answers the question for me as to which location should be chosen. As I stated above I sincerely hope that Yukon energy and anyone else involved in the decision making process will give more weight to the quality of life for residents as opposed to saving a few bucks.	
8	Hi Zoe - I'm wondering about the noise and light contributions of the project - or any air emissions. Can you direct me to materials characterizing these issues? Thanks	Noise Light Environmental impact
9	Hello All, I've recently become aware of the planned battery storage project proposed by Yukon Energy. I want to voice my strong opposition to Option 3 of this plan - developing the battery storage project at the Takhini substation. As a homeowner located within 250 m of this proposed site I am first of all severely disappointed that I have not been made aware of this potential development by representatives of Yukon Energy. In addition the community engagement email is not functioning - disappointing. Secondly I find it abhorrent that Yukon Energy would consider placing this battery storage facility with it's associated noise and light pollution in close proximity to so many residents. I have spent a considerable sum of money purchasing and developing this land in the past year and this development will effectively devalue my investment and greatly reduce my ability to enjoy my property. The two locations within the city of Whitehorse are clearly more suited to this development as there are little to no social impacts. The fact that Yukon Energy and the Yukon Government would consider this option - valuing a few dollars saved over residents property values and well being is deeply disappointing. Regards,	Process: engagement timeline Noise Light Property values Decision-making criteria
10	So after reading Friday's paper nobody seems to want this facility in their backyard and I do not want it in my backyard at the intersection of Robert Service Way and speaking with my neighbours they do not want it either. I am somewhat puzzled regarding the three locations that been picked, I understand that one of the criteria requirements being location must be on First Nation's property but if that means it has to be close to residences then maybe that criteria should be changed and this facility be installed somewhere that it isn't in somebody's backyard. To build this heavy industrial facility at the entrance to our city would be absurd not to mention it would reduce property values substantially in this area. There is a lovely RV park kitty corner to this location and I'm sure their business would be affected if this location were chosen. When your representatives were at my home educating and discussing the location for this facility, the topic that these batteries were quite flammable never	Decision-making criteria Property values Fear of emergency situation Fear of emergency situation: emergency response - containment of fumes Health of surrounding residents

	E-Mail Comments	Themes Use for Graphing Purposes
	came up, now that the article in the Yukon News, mentions this possible hazard. So even though this would be a very unlikely disaster to happen, I understand that the smoke and fumes from this type of a fire would be very dangerous, thus I do not want this in my backyard either! Please reply that you have received this message. Regards	
11	Hello, In regards to the proposed battery farm location at the top of Robert service way I would also like to object as I am the owner of an RV Park at the corner of Hamilton and Robert service way. This would be an eyesore for my customers who are looking to come to the Yukon to experience nature rather than an industrial battery site. I also think having this be at the entrance to our city impact tourism negatively in general. It is with these points in mind that I would strongly object to this being considered for the location of the batteries. Thank you	Screening: aesthetics from the roadway
12	I am against having this large industrial battery storage in my neighborhood. Living on the klondike hwy ouside of city limits you expect to have peace and quiet, safety, and dark nights. This facility will be an eyesore both day and night in our neighborhood. And will be loud when walking in the land around it. Property value will be affected even if everything goes well. And have not seen any info of implications if somethig went wrong like leaks ,explosions, abanonment. In short i am against the klondike hwy proposed location of this grid scale battery	Light Noise Reduction in quality of life Screening Property values Fear of emergency situation Environmental impact Additional information: end-of-life for battery
13	Dear Zoe Morrison, I've only today become aware of the planned battery storage project proposed by Yukon Energy. I would like to start off by saying I am in favor of creating clean sustainable energy options for the Yukon and I am supportive of the battery storage project. However, I want to voice my strong opposition to Site Option 3 of this plan - developing the battery storage project at the Takhini substation. I have many concerns with Yukon Energy considering placing this battery storage facility so close to residents with it's associated Health and Safety risks, especially the noise and light pollution in close proximity to so many residents. It is of great concern that sound mitigation equipment would need to be installed in order for sound levels at the neighbouring properties to be below permissible sound levels (Battery Site Location Option 3, Yukon Energy Website). What would happen if this equipment was to fail? What are the impacts to surrounding residences? This significant increase in noise and light will have immense impact on our daily life and health. There is also additional risk to the residents in the area due to the risk of the batteries. If something were to happen this may result in an explosion affecting a radius possibly greater than 200m. Due to this, the storage unit is not located a safe distance away from surrounding residents (30-50m). My property would be impacted if anything were to occur. This is an unacceptable risk for residents. I am in the process of purchasing a property 150 m from the proposed Site Option 3 and our home will be located approximately 250 m away. We have purchased this home outside of town to enjoy the peace and quiet it has to	Process: engagement timeline Noise Light Sound Fear of emergency situation Fear of emergency situation: emergency response Decision-making criteria Health impacts to surrounding residents Property values Reduction in quality of life

	E-Mail Comments	Themes Use for Graphing Purposes
	offer, which will be taken away from us and the many other surrounding residents. With all of this in mind and the proximity of the battery storage, our residential property value will be significantly decreased along with the surrounding properties. It will also greatly reduce our ability to enjoy our property, impacting our quality of life. The two locations within the city of Whitehorse are clearly more suited for this development as there are little to no health and social impacts. As mentioned on the Yukon Energy Website, the nearest neighbours are greater than 150m away and of industrial nature, not residential. This greater distance from the storage facility will result in noise levels from the battery to be below permissible sound levels at the nearest neighbour for both options 1 and 2, which are in close proximity to the Whitehorse Substation. This close proximity to the Whitehorse substation would also allow very quick responses to any emergencies. I also believe that the collection of Whitehorse municipal taxes would have great benefits for the City of Whitehorse. Which in turn would benefit Whitehorse residents rather than harm them. In conclusion, I hope that Yukon Energy and the Yukon Government would not consider site option 3 - valuing a few dollars saved over residents health and well being. I am also disappointed with the communication of this potential development by representatives of Yukon Energy. I am finding out about this possible development only after virtual access to public meetings has passed and I am currently working away from Whitehorse and cannot attend the in person meeting next week. This is extremely concerning and disappointing to not be able to have a voice in this decision. Regards,	
14	Hello Zoe, I received your contact from a neighbor and am sending you this email in regards to the planned Yukon battery storage project. The email for community engagement does not appear to be functioning, so if i should be contacting someone else please let me know. In the past year I have purchased land across from the Takini substation to build my home. Construction is planned to begin in early October of this year, I have already spent time, money and considerable effort to clear the land at the build site which would be less than 300 m from the battery farm. This 5 acre property cost a considerable sum of money in order to have the peace and quiet of the countryside. I have no issue with the current electrical station as there is no noise and little light pollution. The construction of the battery storage and the associated noise and light pollution will devalue my land, house and my enjoyment of the land I have worked my lifetime to afford. I was unaware of the potential for this development at the time of sale and it appears thus far Yukon energy has done a terrible job of outreach/community engagement. As one of the closest land owners I am disgusted I needed to be informed from a neighbor about the upcoming meetings and the potential for this development to take place rather than being informed directly from a Yukon energy representative. Furthermore I find it reprehensible that Yukon energy has even considered to place this battery farm within 30 to 50 m of a residential property. While it is clear for the two Whitehorse options efforts have been made to conceal the battery farm from the roadway where there are no residential properties to consider. The same	Property values Noise Light Process: engagement timeline Decision-making criteria

	E-Mail Comments	Themes Use for Graphing Purposes
	effort is not being made for option 3 where you have multiple residences under 300 m from the facility. Overall disappointed that Yukom Energy appears to have a complete disregard for residents property values and personnel well being to even consider option 3 to save money. Thank you for your time,	
15	Hello, I just wanted to bring my concerns forward in regards to putting this battery storage out near Takhini subdivision, site A. There is a young family that moved out of town to have a quite, safe place to raise their family and now has to be worried about a giant field of batteries. This is so unacceptable and upsetting to hear the possibility this could happen here, as many people live in the Yukon to be away from the noise and light of a city. We have beautiful country residential land here and should be protected at all costs. The other two options are great as they are not near subdivisions and are closed to what are already industrialized areas in Whitehorse. Please consider not putting this battery site at Site A as there are much better options for this. Thank you,	Noise Light Fear of emergency situation Reduced quality of life
16-58	Hello, I am writing you today to express that I am opposed to the Yukon Energy Grid-Scale Battery project at the Takhini Substation. There are many reasons I am writing to you today and they include: 1. The noise level and how it affects those around it, including the mental health of residents in the area 2. The lighting and how it will greatly alter the way of life in this location by removing northern lights viewing and stargazing 3. Unknown gases and fumes that may come from the units 4. Potential for leaks and ground contamination 5. The risk of explosion and lives it would take if this occurred 6. The risk of fire from internal and external sources, such as a wildfire 7. The risk of vandalism and how this is a large issue in this neighbourhood 8. The size and how it will affect our view 9. How it will affect resale for properties in this area 10. How the local fire station is clearly unable to save structures in the immediate area in event of a catastrophic event 11. The increase in the cost of insurance to residents 12. The financial increases such as the cost of noise and light reducing equipment, lost rent, loss of cattle/farm sales, loss of horse boarding, secondary driveways as escape routes, time invested to complete these tasks, and attend meetings. 13. Potential that potential home buyers will not want to purchase in this area anymore as the attractive factor would be removed. 14. Loss of current way of life 15. No positives for people in the direct area only loss 16. Various safety concerns as a whole	Noise Light Health impacts to surrounding residents Environmental impact Fear of emergency situation Additional information: durability of battery in extreme situations Loss of view Screening Property values Fear of emergency situation: emergency response Fear of emergency situation: evacuation feasibility Property values: insurance rates Additional information: financial compensation for those impacted Reduction in quality of life

	E-Mail Comments	Themes Use for Graphing Purposes
	Please consider the other 2 locations for this project as I feel this is not an appropriate area for such a large battery. Thank you for time,	

Appendix G FACEBOOK INPUT

Facebook Comments	Themes Used for Graphing
Solar panels, wind turbines and batteries have a useful life of about 10 years max. warranty says 25 but companies fold before the units fail, so they let the lawyers sort it out. Cheap Chinese products seldom last more the…	Additional information: end-of-life for battery
Re: Solar panels… Yup they should brand SMN as “nuclear batteries”	Misc. comment
Re: Solar panels… Small modular nucular would be amazing, too bad there is negative stigma around nuclear right now, nuclear needs a rebirth	Misc. comment
Re: Solar panels… I've read a fair amount about nuclear and one of the sad things about it is that BWR reactors fit far too conveniently into the nuclear fuel chain in order to keep loads of very specialist fissile material around other government projects in defense …	Misc. comment
Re: Solar panels… Thorium wasn’t used because it doesn’t produce bomb materials. The electricity produced was a useful byproduct of the uranium route chosen, it made the programme easier to sell to the public	Misc. comment
Re: Solar panels… Image a world where profiteering war dogs didn’t shape our energy landscape, globally. Even now you've got people laughing at your comments as if the all somehow know better than you about renewable falsehoods. Consensus is a powerful drug.	Misc. comment
Re: Solar panels… The Covid Consensus is another example of that fallacy. Yes, Crichton said it well: "there is no such thing as consensus science. If it's consensus, it isn't science. If it's science, it isn't consensus."	Misc. comment
I'm wondering how green is getting all the material for these green product? No one seems to tell us of the chemicals used or how its disposed of. In the end, no one will give a cost to the consumer	Additional information: connection between batteries and sustainability
Re: I'm wondering... Batteries & solar cells made in china are not ‘green’ in any sense of the word. Too many Yukoners believe toxic pollution is OK if it happens in Chine but that’s believe in the ‘peeing end of the pool’. Most of the mercury pollution in north America comes from dirty coal burning in China.	Additional information: connection between batteries and sustainability Environmental impact
Why don’t they tell the public what going green did in Ontario a few years ago. Then to go back people could not pay the power bills. This going green thing just costs and costs and to get rid of the waste from it is an toher thing!	Misc. comment

Facebook Comments	Themes Used for Graphing
Pumped storage into Fish Lake would be a lot more efficient with a longer useful lifetime than batteries to store excess power from intermittent renewables like solar	Decision-making criteria
That a good one what that cost?? It won't be them for sure ,and a money grab for some that likely retiring some were else anyway.	Misc. comment
It is juste Another way to wate money and big money [3 thumbs down]	Misc. comment
And how often do the batteries have to be changed??	Additional information: end-of-life for battery
Re: And how often… About every 3 pandemics, but it gets expense because the hipsters keep mistaking them for tiny homes and getting electrocuted while trying to live in there. Climate change is the worst!	Misc. comment
Make a contract with Tesla????	Misc. comment
Costs more to set up than its worth	Decision-making criteria
Re: Costs more to… could you back up your claim with some evidence?	Misc. comment
Re: Costs more to… Look at every single time a feel good energy program is put on by any government any where how cost effective they are	Misc. comment
Oh are we going to see our power rates go up	Parking lot: energy rates
Great. Get ready for skyrocketing electrical bills	Parking lot: energy rates
Would an electric vehicle be an appliance? [Link to Yukon Government website]	Misc. comment