



YEC Whitehorse Thermal Permitting Engagement

What We Heard Report

May 8, 2023

Prepared for:

Yukon Energy Corporation
2 Miles Canyon Road
Whitehorse YT Y1A 6L4

Prepared by:

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YEC WHITEHORSE THERMAL PERMITTING ENGAGEMENT

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YEC WHITEHORSE THERMAL PERMITTING ENGAGEMENT

Project Overview

1.0 PROJECT OVERVIEW

As part of its ongoing work to provide Yukoners with sustainable, reliable, and cost-effective electricity, Yukon Energy will be submitting a proposal to renew its existing air emissions permit in Whitehorse. This permit is needed to run the diesel and liquefied natural gas (LNG) generators at the Whitehorse Rapids Generating Station on Robert Service Way. While these generators are used to produce less than 10% of the power Yukoners use each year, they are critical to helping Yukon Energy keep the lights on and houses warm during the winter, when demand for electricity is high, and during emergencies. To support and inform their permit application, Yukon Energy undertook extensive stakeholder and community feedback to share information about the generators and permitting process and solicit valuable feedback. The following report is a summary of what was completed during the engagement and what was heard.

GOALS

Between November 2022 and April 2023, Stantec completed engagement on behalf of Yukon Energy about the upcoming YEC Whitehorse thermal energy permit renewal. The goals of the engagement process were to:

- Enhance understanding about thermal energy.
- Educate people about the role of thermal energy in Yukon's electrical makeup.
- Help people understand when and why thermal energy sources are used.
- Collect feedback from affected rightsholders and governments.
- Collect feedback from residents and stakeholders, identifying potential concerns.



YEC WHITEHORSE THERMAL PERMITTING ENGAGEMENT

Engagement Methods

2.0 ENGAGEMENT METHODS

During this engagement project, several different engagement methods were used to share information and gather feedback: community-wide and targeted notifications, an in-person community meeting, an online community meeting, stakeholder meetings, surrounding property outreach and door-knocking, and acceptance of both online and emailed comments.

The follow section details all engagement methods used throughout this project.

2.1 NOTIFICATIONS

To notify interested parties about the thermal permit relicensing and upcoming engagement opportunities, the following notification methods were used.

2.1.1 Community-wide mailer

An informational mailer was sent by Yukon Energy to residents in Whitehorse in November 2022. A copy of this mailer and the Canada Post Statement of Mailing (SOM) has been included in **Appendix A Notifications**.

2.1.2 Stakeholder e-mails

E-mails were sent to all stakeholders identified in **Table 1 - Stakeholder List** in November 2022. A copy of the email and attachment included has been included in **Appendix A Notifications**.

Follow-up emails were sent in January 2023 to advise stakeholders of the change in date for the community meetings.



YEC WHITEHORSE THERMAL PERMITTING ENGAGEMENT

Engagement Methods

Table 1 – Stakeholder List

Category	Representative	Role
Elected Official Yukon Government	Hon. Nils Clarke	MLA, Riverdale North
Elected Official Yukon Government	Hon. Tracey-Anne McPhee	MLA, Riverdale South
Elected Official Yukon Government	Lane Tredger	Whitehorse Centre
City of Whitehorse Administration Bylaw		Manager of Bylaw Services
City of Whitehorse Administration Permitting		Manager of Land and Building Sales
City of Whitehorse Administration Planning		Manager of Planning and Sustainability
Yukon Government Administration Environmental Assessment Unit		Manager of Environmental Affairs
Riverdale Community Association		[Undefined]
Yukon Conservation Society		Energy Analyst

2.1.3 Surrounding property letters

To ensure all property owners surrounding the generators were adequately notified of the license renewal project and upcoming opportunities to provide feedback, an introduction letter was mailed to all properties within 2 km of the Whitehorse Rapids Generating Station, located on Robert Service Way. The mailing list for properties to be contacted was provided by Yukon Energy based on the Government of Yukon's database of properties in Whitehorse. As shown in **Table 2 – Surrounding Property Notifications**, two different notifications were sent to advise people of the date change of the open houses. The number of properties also changed between Notification 1 and Notification 2 to reflect duplicated or missed properties, and incorrect addresses.

Table 2 – Surrounding Property Notifications

Distance from Project Area	Properties Notified	
	Notification 1 (December 9, 2022)	Notification 2 (January 13, 2023)
2 km	1,679	1,617

Notification 1

The purposed of Notification 1, sent on December 9, 2022, was to introduce the project, answer some anticipated high-level questions, share information about the upcoming public meetings, and direct



YEC WHITEHORSE THERMAL PERMITTING ENGAGEMENT

Engagement Methods

questions to the online comment form on the YEC website, or the project email address (YECWhitehorseThermalPermit@stantec.com).

Notification 2

The purpose of Notification 2, sent January 13, 2023, was to notify recipients of the change in open house dates and direct questions to the online comment form on the YEC project website, or the project email address.

2.1.4 Other

In addition to the notification methods described above Yukon Energy also completed a variety of notifications without the assistance of Stantec.

Project website

To share background information about the project about upcoming engagement opportunities, Yukon Energy prepared a project-specific landing page on their website (<https://yukonenergy.ca/thermalpermit>). A copy of this website has been included in **Appendix A Notifications**.

Media posts

As shown in **Table 3 – Media advertisements**, using Facebook, printed posters, local radio, and local newspapers, Yukon Energy shared a variety of notifications regarding the project and upcoming engagement sessions.

Table 3 – Media advertisements

Description	Date
Facebook organic event	March 14 - 29, 2023
Facebook boosted event	March 16 - 29, 2023
Printed poster	March 17 - 19, 2023
Newspaper ads (Yukon News, Whitehorse Star)	March 22 and 24, 2023
Radio (CKRW, CHON)	March 17 - 29, 2023

2.2 DOOR-KNOCKING

In addition to sending out letters and a handout to each property owner within 2 km of the generator site, representatives from Stantec or YEC visited every occupied building within 800 m. 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.



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Engagement Methods

As shown in **Table 4 – Door-Knocking Summary**, 85 residents were spoken with during the door-knocking process with 25 comments gathered. All comments were recorded, have been included in **Appendix C Door-Knocking Comments**.

Table 4 – Door-Knocking Summary

Date	Properties Visited	Outcome		
		No Response, Left a Flyer	Spoke Briefly	Longer Conversation
March 13, 2023	40	17	15	8
March 15, 2023	67	34	29	4
March 23, 2023	74	45	28	1
Total	181 (100%)	96 (53%)	72 (40%)	13 (7%)

2.3 STAKEHOLDER ENGAGEMENT

During the onset of this project, a short list of stakeholders were identified to be engaged about the permit renewal. These stakeholders were chosen based on their existing relationships with Yukon Energy having expressed interest in similar projects in the past, role in the community, and proximity to the generator site. As outlined at a high level in **Table 5 – Stakeholder Engagement Summary**, all stakeholders were sent notifications about the project and its engagement process, as well as offered opportunities to meet with the project team to further discuss the permit renewal and share their feedback. As shown, meetings were held with the City of Whitehorse’s Planning department, Government of Yukon Environmental Assessment Unit, and Yukon Conservation Society.

All comments received from stakeholders have been included in **Appendix D Stakeholder Meeting Notes** and have been incorporated into the themes included in **Section 2.0 Feedback Gathered**.

Table 5 – Stakeholder Engagement Summary

Stakeholder	Representative	Engagement	Date
Elected Official - YG	Hon. Nils Clarke MLA Riverdale North	Notifications	November 24, 2022 January 10, 2023
	Hon. Tracy-Anne McPhee MLA Riverdale South		
	Lane Tredger MLA Whitehorse Centre		
Elected Official - City of Whitehorse	Mayor and Council	Notifications	November 24, 2022 January 10, 2023
City of Whitehorse Administrative departments	Bylaw Services department	Notifications	November 25, 2022 January 13, 2023
	Permitting department		
	Planning department		
	Planning department	In-person meeting	March 22, 2023



YEC WHITEHORSE THERMAL PERMITTING ENGAGEMENT

Engagement Methods

Stakeholder	Representative	Engagement	Date
Government of Yukon Administrative departments	Air/Noise Emissions Regulator	Notifications	November 25, 2022 December 6, 2023
		Meetings	Ongoing throughout 2023
Yukon Conservation Society	Energy Analyst	Notifications	November 25, 2022 January 13, 2023
		Online meeting	March 29, 2023
Riverdale Community Association	Undefined	Notifications	November 25, 2022 January 13, 2023

2.4 COMMUNITY MEETINGS

2.4.1 Presentation

The presentation used during community meetings was designed to provide an overview of Yukon's electrical system and the project prior to addressing known concerns such as noise and air emissions. A copy of the presentation has been included in **Appendix E Community Meeting Presentation**.

2.4.2 Online meeting

Microsoft Teams

March 27, 2023

Attendees: 8 members of the public

On Monday March 27th Stantec hosted an online community meeting from 6:00 to 8:30 pm, on the Microsoft Teams platform. This meeting had eight participants. During the meeting, two representatives from Yukon Energy guided attendees through a PowerPoint presentation about the project, answering questions as they arose. Notes taken during the meeting included in **Appendix F Community Meeting Notes**.

As described in the meeting notes and throughout Section 2.1 Key Themes, participants during the online meeting expressed concerns about the noise associated with the generators, Yukon Energy's continued use of non-renewable energy, and air pollution. In addition to these topics, specific questions were posed about the accuracy of the Hemmera noise monitoring report from 2020, specifically regarding the baseline measurements used.



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Engagement Methods

2.4.3 In-person meeting

March 29, 2023

Attendees: 20 members of the community

On March 29th Stantec hosted an in-person community meeting from 6:30 to 8:30 pm at Grey Mountain School. As described in the meeting notes and throughout Section 3.1 Key Themes, participants during the in-person meeting expressed concerns about noise associated with the generators, greenhouse gas emissions, and air pollution. There were also many questions including: the supplier of diesel being used, how much diesel is stored on-site, what type of emergency planning is done for the site, why there are odor emissions from the site, how air emissions monitoring is completed, costs of different types of energy generations.

2.5 SUBMITTED COMMENTS

During engagement, all interested parties were encouraged to submit comments and questions using the online comment form on the YEC project website, or the project email address (YECWhitehorseThermalPermit@stantec.com).

In total, 11 comments were submitted through these methods; a redacted version of the comments has been included in **Appendix G Submitted Comments**.

2.6 NOTES ON THE ENGAGEMENT PROCESS

2.6.1 First Nation governments

All interactions with First Nation governments for this project were undertaken by Yukon Energy. Notifications were sent to representatives from Kwanlin Dün First Nation's Heritage, Lands, and Resources department and Ta'an Kwach'an Council's Lands, Resources, and Heritage department on November 4, 2022; November 21, 2022; January 9, 2023; and March 9, 2023.



YEC WHITEHORSE THERMAL PERMITTING ENGAGEMENT

Feedback Gathered

3.0 FEEDBACK GATHERED

This section provides a detailed review of the feedback gathered throughout the engagement process, across all engagement methods. Where required to inform the context of the concern, quotes have been included as taken from submitted comments. A detailed description of interactions undertaken is included in **Appendix G Submitted Comments**.

3.1 KEY THEMES

3.1.1 Noise

Noise was the primary topic of feedback gathered throughout the engagement process. Some residents who live nearby raised concerns about being able to hear the generators with some describing that noise as not bothersome, while others referred to it as too loud. During discussions, it was further understood that a variety of factors influence noise levels associated with the generators including air temperatures, groundcover types (snow, ice, grass, gravel), and the type of generator (temporary or permanent) because of their design and age. In general, there was a desire expressed by participants for Yukon Energy to take steps to mitigate the noise levels associated with the generators in whatever means necessary.

Several participants raised concerns about the methods and assumptions used in the 2020 Hemmera noise study. It was noted that the noise levels used as standard did not seem appropriate for the Riverdale community, and that the baseline information provided in the report was a standardized level rather than an actual measurement. Some participants wanted more information about noise levels and monitoring.

3.1.2 Emissions and air pollution

There were concerns expressed regarding the use of the term “emissions” when discussing the permitting process as it was widely agreed emissions meant pollution; as such, the term pollution should be used. During discussions, Yukon Energy responded that emissions is the term used on the permit. There were also a variety of questions surrounding how emissions are tracked as diesel and LNG must be trucked to the facility from elsewhere. It was noted that all handlers of fuels are required to track emissions; as such, emissions are tracked cumulatively by a variety of handlers.

Some participants raised questions and concerns about how air emissions permitting is done based on modelling rather than direct monitoring right at Yukon Energy’s operations. People wondered about how wind speed and direction, temperature, and pollution from vehicles and woodsmoke would impact the considerations of the permit. Participants were looking for more information about both historic and current air quality monitoring so that they could understand real-time emissions levels, compared to the



YEC WHITEHORSE THERMAL PERMITTING ENGAGEMENT

Feedback Gathered

standards. Some people expressed concerns about rising pollution levels in Whitehorse in general and potential negative impacts on public health.

There was also a concern raised about odours associated with the facility, which can only be smelled when nearby not in neighbouring areas; however, it was unclear to those who had experienced them if that was normal or cause for alarm.

3.1.3 The role of thermal energy in Yukon

Whenever YEC undertakes an engagement process, comments are received about energy planning in general. Many respondents expressed wanting to see YEC continue to plan and develop renewable projects to meet growing demand rather than continuing to rely on non-renewable sources such as diesel or LNG. Participants pointed specifically to wind, geothermal, Moon Lake pumped storage and new hydro projects as potential options.

There were also concerns regarding the increasing demand for electricity in the Yukon due to increased encouragement for buildings and vehicles to be electrified; and that those increased would result in more demand for non-renewable sources as back-up.

Some participants want to see a plan for YEC to move away from thermal energy completely to address concerns about sustainability and the climate emergency. Some participants commented that they do not feel that YEC is moving quickly enough towards the transition to renewables. There were also concerns expressed about storing diesel close to the Yukon River, and the full life-cycle accounting of the greenhouse gas emissions associated with the LNG plant.

3.1.4 Preference for rental diesel units

Throughout discussions, it was stated that the rental diesel units Yukon Energy uses produce less noise and less air emissions than the permanent ones because they are newer. With this information, participants expressed a desire to have Yukon Energy rely more on the temporary units than the older, permanent ones. Some participants asked about the possibility of extending the rental diesel lease term so that they would be used later into the spring.



APPENDIX A

Notifications

Appendix A NOTIFICATIONS

A.1 COMMUNITY-WIDE MAILER

ensuring reliable winter power

YUKON ENERGY NEEDS TO RENEW ITS AIR
EMISSIONS PERMIT



In early 2023, we'll be submitting a proposal to renew our existing air emissions permit in Whitehorse. We need an air emissions permit to run our diesel and liquefied natural gas (LNG) generators at the Whitehorse Rapids Generating Station on Robert Service Way. While we use these generators to produce less than 10% of the power Yukoners use each year, they are critical to helping us keep the lights on and houses warm during the winter, when demand for electricity is high.

We are not asking for anything new or different in our proposal. We're simply asking to be able to run the generators at the same capacity as we have in the past.





why do we need an air emissions permit?

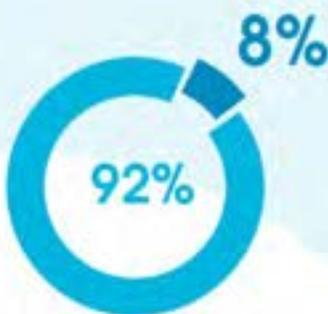
We need an air emissions permit to be able to run our diesel and LNG generators. Our current air emissions permit is set to expire at the end of 2024. We're asking to renew our existing air emissions permit for another 10 years.

Yukoners need far more electricity in winter than at any other time of the year. This leads to peak power demand situations, in which our hydro units cannot generate all the electricity we need. Available at the flip of a switch, our diesel and LNG generators ensure Yukoners have reliable electricity service during these winter peaks, emergencies, and whenever renewable resources aren't available.



our existing permit

Our air emissions permit is issued by the Yukon government, following an assessment by the Yukon Environmental and Socio-economic Assessment Board (YESAB). The permit allows us to produce 16 megawatts of electricity from diesel generators, and 13.2 megawatts from LNG generators in Whitehorse. Historically, the permit has also authorized up to 12 additional megawatts of diesel that can be used during emergencies.



In 2021, **92%** of the electricity Yukon Energy produced came from **renewable sources**, primarily hydro.

The other **8%** came from **thermal resources**, used primarily during the winter months.

16
megawatts
FROM DIESEL GENERATORS

13.2
megawatts
FROM LIQUIFIED NATURAL
GAS GENERATORS

12
megawatts
FROM DIESEL GENERATORS
THAT CAN BE USED DURING
EMERGENCIES



our plans for the future

The Yukon is experiencing growing demand for electricity, with higher and more frequent periods of peak demand. We share Yukoners' desire to reduce the use of diesel and LNG to generate electricity. Much of the work we've been doing over the past few years, and will be doing for years to come, has been focused on this desire. Negotiating a deal to buy renewable electricity from Atlin, completing our own Whitehorse hydro unit upgrades and our grid-scale battery project are examples of these efforts.

We're focused on renewables. Our goal to generate an average of 97% renewable electricity by 2030 speaks to that. However, operating an isolated grid like ours means there will always be a small but critical role for diesel and LNG to play.



noise and air quality

As part of the YESAA assessment process, we are conducting both air quality and noise impact studies.

Monitoring results from 2022 found that while some residents in Riverdale can hear the diesel generators while they're running, sound levels are well below permissible levels. We will continue to monitor these levels as part of this project and share the results when they are available.



your role in this

We are looking for your feedback. Your feedback will then be considered during the development of our proposal to YESAB. We plan to submit our proposal in early 2023.



ATTEND AN IN-PERSON MEETING

- January 19 from 6:30 to 8:30 pm at the Heart of Riverdale Black Box Theatre



ATTEND A VIRTUAL MEETING

- January 17 from 7 to 9 pm. A link will be added to yukonenergy.ca/thermalpermit prior to the meeting



SUBMIT A QUESTION OR COMMENT

- Fill out the online form at yukonenergy.ca/thermalpermit
- Email at YECWhitehorseThermalPermit@stantec.com



Neighbourhood Mail - Fully Featured
Courrier de quartier - Haut de gamme

Mailed By Customer Number Expédié par N° du client: 9312305

INTEGRAPHICS LTD.

121 GALENA RD
WHITEHORSE YT Y1A 2W7

Mark Girling
867-667-4639

Mailed on behalf of Expédié au nom de: 9312305 INTEGRAPHICS LTD.

CIF ACMA: No / Non

Customer Reference Référence du client: YUKON ENERGY

Pieces Size Format des articles: Up to/Jusqu'à 30.5x15.24x1.9 cm (12x6x0.75 in)

Paid By Customer No. N° du client/compte 9312305
Method of Payment Mode de paiement Credit Card / Carte de crédit
Contract No. N° de la convention

Transmitted/Transmis: 2022/11/29 16:22 EST

Deposit Summary / Sommaire du dépôt

Location / Bureau:

CHILKOOT CENTRE PO 0857
115-36 CHILKOOT WAY
WHITEHORSE YT Y1A 2A0



ZYAA 12003 17393 33780 00000 0000

Acceptance and RTO Scans Required (CPC use only)

Balayage d'acceptation et RTO requis (À l'usage de SCP seulement)

Service Description / Description du service	Pieces / Articles	Weight / Piece / Poids / article
Neighb Mi Sid / C. de quartier st	7,299	8.10 g
	7,299	59.122 kg

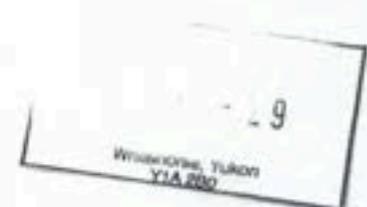
Containers / Conteneurs (Customer estimate / Evaluation du client)	
Customer Supplied Containers / Conteneurs fournis par le client	4

Entire Mailing / Envoi complet

Product / Produit	Cost Centre Reference / Référence centre de coûts	Deposit Date / Date du dépôt	Pieces / Articles	Weight/Piece / Poids/article	\$ / Piece / \$ / article	\$ / kg	Start Date de liv. / \$ / Piece / \$ / article	Transportation / Transport / Pieces / \$ / article	Total Cost (\$) / Total des frais (\$)
00005		2022/11/30	7,299	8.10 g	\$0.17300			7,299 \$0.0110	\$1,343.02
TOTAL			7,299	59.12 kg					\$1,343.02

Deposit Type / Type de dépôt
Full Mailing - One Deposit / Dépôt entier - Un seul dépôt

Base Charges / frais de base	\$1,262.73
SMB Savings / Épargnes PME	-\$189.41
Option: Transport Fees / Frais de transport	\$80.29
Sub-total Before Taxes / Total partiel avant les taxes	\$1,153.61
GST/TPS \$57.68 HST/TVH \$0.00 PST/TVP \$0.00	\$57.68
Total Amount Due to CPC / Montant total dû à la SCP	\$1,211.29



The Customer warrants that the order details listed above are prepared in accordance with the terms and conditions specified in the Customer's Agreement and has been validated for accuracy of information contained within.

Le Client garantit que les détails de la commande ci-dessus ont été préparés en conformité avec les termes et conditions spécifiés dans l'accord du client et a été validé pour l'exactitude des renseignements qu'il contient.

Authorized Customer Signature / Signature autorisée du client:

X

CPC GST # N° SCP TPS 119321495

This document must accompany your mailing to the Accepting Location.
Ce document doit accompagner votre envoi au bureau de dépôt.

Received by Initials / Employee No. /
Reçu par initiales / N° de l'employé:

A.2 STAKEHOLDER LETTER



#2 Miles Canyon Road
Box 5920, Whitehorse
Yukon Y1A 6S7
yukonenergy.ca

November 24, 2022

The Honourable Tracy-Anne McPhee
Deputy Premier
Minister of Health and Social Services
Minister of Justice
M.L.A Riverdale South
Delivered by email: Tracy.McPhee@yukon.ca

Reference: Yukon Energy Whitehorse Thermal Permit Renewal

As part of our ongoing work to provide Yukoners with sustainable, reliable and cost-effective electricity, Yukon Energy will be submitting a proposal to renew its existing air emissions permit in Whitehorse. This permit is needed to run the diesel and liquefied natural gas (LNG) generators at the Whitehorse Rapids Generating Station on Robert Service Way. While these generators are used to produce less than 10% of the power Yukoners use each year, they are critical to helping Yukon Energy keep the lights on and houses warm during the winter, when demand for electricity is high, and during emergencies.

Yukon Energy's current air emissions permit is set to expire at the end of 2024. To renew the permit for another 10 years, Yukon Energy will be submitting a proposal to the Yukon Environmental and Socio-economic Assessment Board (YESAB) in early 2023.

We are not asking for anything new or different in our proposal; we are simply asking to be able to run the generators at the same capacity as we have in the past.

As the M.L.A for Riverdale South, we wanted to make you aware of this project. Our engagement process will include:

- A community-wide mailer introducing the project to all Whitehorse residents (attached);
- Addressed letters sent to property owners within 2km of Yukon Energy's diesel generators in Whitehorse;
- Door-knocking at residences and businesses within 800m of Yukon Energy's diesel generators in Whitehorse;
- One-on-one meetings with stakeholders;
- One on-line meeting on January 17, 2023 from 7-9 pm; and
- One in-person public meeting held at the Heart of Riverdale Community Centre on January 19, 2023, from 6:30-8:30pm.





#2 Miles Canyon Road
Box 5920, Whitehorse
Yukon Y1A 6S7
yukonenergy.ca

Further details about the project can be found in the attached mailer or at www.yukonenergy.ca/thermalpermit. Please do not hesitate to contact me at 393-5400 or Andrew.Hall@yec.yk.ca if you have any questions or want to discuss any aspects of this project.

Regards,

A handwritten signature in black ink, appearing to read "Andrew Hall".

Andrew Hall, President & CEO

Cc:

The Honourable John Streicker, Minister responsible for Yukon Energy Corporation;
Lesley Cabott, Chair, Yukon Energy Corporation Board of Directors;
Michael Muller, Vice President, Planning, Environment and Health & Safety, Yukon Energy Corporation.





#2 Miles Canyon Road
Box 5920, Whitehorse
Yukon Y1A 6S7
yukonenergy.ca

January 10, 2023

The Honourable Tracy-Anne McPhee
Deputy Premier
Minister of Health and Social Services
Minister of Justice
M.L.A Riverdale South
Delivered by email: Tracy.McPhee@yukon.ca

Reference: Yukon Energy Whitehorse Thermal Permit Renewal

In November of 2022 you should have received information via email about our thermal permitting project. Please be advised that the community meetings originally scheduled for January 17, 2023, and January 19, 2023, have been rescheduled. The in-person meeting has been rescheduled to March 29, 2023, and the online meeting to March 27, 2023. These meetings have been rescheduled so that we can share up-to-date project details with the public. It will also allow us more time to complete sound and air quality studies. This information will then help us to have more informed conversations at the community meetings.

As the M.L.A for Riverdale South, we wanted to make you aware of this change. Our engagement process will now include:

- Addressed letters sent to property owners within 2km of Yukon Energy's diesel generators in Whitehorse advising them of this change;
- Door-knocking at residences and businesses within 800m of Yukon Energy's diesel generators in Whitehorse;
- One-on-one meetings with stakeholders;
- One on-line meeting on March 27, 2023 from 6:00-7:30pm; and
- One in-person public meeting held at Grey Mountain Primary School on March 29, 2023, from 6:30-8:30pm.



#2 Miles Canyon Road
Box 5929, Whitehorse
Yukon Y1A 6S7
yukonenergy.ca

Further details about the project can be found at www.yukonenergy.ca/thermalpermit.
Please do not hesitate to contact me at 393-5400 or Andrew.Hall@yec.yk.ca if you have
any questions or want to discuss any aspects of this project.

Regards,

A handwritten signature in black ink, appearing to read "A. Hall".

Andrew Hall, President & CEO

Cc:

The Honourable John Streicker, Minister responsible for Yukon Energy Corporation;
Lesley Cabott, Chair, Yukon Energy Corporation Board of Directors;
Michael Muller, Vice President, Planning, Environment and Health & Safety, Yukon
Energy Corporation.



A.3 SURROUNDING PROPERTY LETTER – DECEMBER



#2 Miles Canyon Road
Box 5920, Whitehorse
Yukon Y1A 6S7
yukonenergy.ca

December 2022,

Dear Property or Business Owner:

Re: Yukon Energy Whitehorse Thermal Permit Renewal

As part of our ongoing work to provide Yukoners with sustainable, reliable and cost-effective electricity, Yukon Energy will be submitting a proposal to renew its existing air emissions permit in Whitehorse. This permit is needed to run the diesel and liquefied natural gas (LNG) generators at the Whitehorse Rapids Generating Station on Robert Service Way.

You are receiving this letter because you own property near the Whitehorse Rapids Generating Station. As a property owner in the area, we wanted to share details about this project and to invite you to provide feedback.

Why is diesel and LNG (thermal) being used?

While these generators are used to produce less than 10% of the electricity Yukoners use each year, they are critical to helping Yukon Energy keep the lights on and houses warm during the winter, when demand for electricity is high.

Will you be adding more thermal capacity?

No, we are not asking to add more thermal capacity in our proposal.

What about noise?

Over the years, we've heard that public safety, noise, air quality and sustainability are your primary interests when it comes to Yukon Energy's work. We want to assure you that in renewing this permit, we are keeping these considerations top-of-mind. As part of the assessment process, we are conducting both air quality and noise impact studies.

We continue to monitor sound levels from the permanent diesel generators in Whitehorse to ensure levels are lower than permissible levels.

We will continue to monitor these levels and share the results when they are available.

What's next?

From now until the end of January, we will be carrying out engagement about the project. Please do not hesitate to reach out with questions or to provide your feedback. There are several ways that you can get involved.

Community meetings

Two community meetings have been planned to share information and answer your questions.

- On-line meeting: Tuesday, January 17th, at 7 p.m., see the project website for the meeting link
- In-person meeting: Thursday, January 19th, 6:30 - 8:30 p.m. at the Heart of Riverdale Community Centre

Submit a question or comment

You can submit a question or comment by:

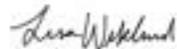
- Filling out the online form at www.yukonenergy.ca/thermalpermit
- E-mailing YEC.WhitehorseThermalPermit@stantec.com

Feedback on the project will be collected until January 27, 2023 and will be used to help us refine our proposal to renew our air emissions permit.

For more information about the project and Yukon Energy's plans for the future, please visit: www.yukonenergy.ca/thermalpermit

Thank you in advance for your time; we look forward to hearing from you.

Regards,



Lisa Wiklund

Communications Manager, Yukon Energy

A.4 SURROUNDING PROPERTY LETTER – JANUARY



#2 Miles Canyon Road
Box 5920, Whitehorse
Yukon Y1A 6S7
yukonenergy.ca

January 2023,

Dear Property or Business Owner:

Re: Yukon Energy Whitehorse Thermal Permit Renewal

In December of 2022, you should have received a letter with information about Yukon Energy's thermal (LNG and diesel) permitting project and how to provide your feedback about the project.

If you did not receive our first letter, a description of the project can be found below or at yukonenergy.ca/thermalpermit.

We would like to let you know that the community meetings originally scheduled for January 17, 2023, and January 19, 2023, have been rescheduled. The in-person meeting has been rescheduled to March 29, 2023, and the online meeting to March 27, 2023.

These meetings have been rescheduled so that we can share up-to-date project details with you. It will also allow us more time to complete sound and air quality studies, the results of which we know are important to you. This information will then help us to have more informed conversations at the community meetings.

What is Yukon Energy's thermal permitting project?

As part of our ongoing work to provide Yukoners with sustainable, reliable, and cost-effective electricity, Yukon Energy will be submitting a proposal to the Yukon Environmental and Socio-economic Assessment Board (YESAB) to renew its existing air emissions permit in Whitehorse. This permit is needed to run the diesel and liquefied natural gas (LNG) generators at the Whitehorse Rapids Generating Station on Robert Service Way. We are not asking to add more thermal capacity in our proposal.

While these generators are used to produce less than 10% of the electricity Yukoners use each year, they are critical to helping Yukon Energy keep the lights on and houses warm during the winter when demand for electricity is high.

Get involved

There are several ways that you can get involved. Please do not hesitate to reach out with questions or to provide your feedback.

Community meetings

Two community meetings have been planned to share information and answer your questions.

- Online meeting: March 27, 2023, from 6:00 to 7:30 pm, see the project website for the meeting link

- In-person meeting: March 29, 2023, from 6:30 to 8:30 pm at Grey Mountain Primary School Gym

Submit a question or comment

You can submit a question or comment by:

- Filling out the online form at www.yukonenergy.ca/thermalpermit
- E-mailing YECWhitehorseThermalPermit@stantec.com

Feedback received will be used to help us refine the proposal to renew our air emissions permit.

For more information about the project and Yukon Energy's plans for the future, please visit:
www.yukonenergy.ca/thermalpermit

Thank you in advance for your time; we look forward to hearing from you.

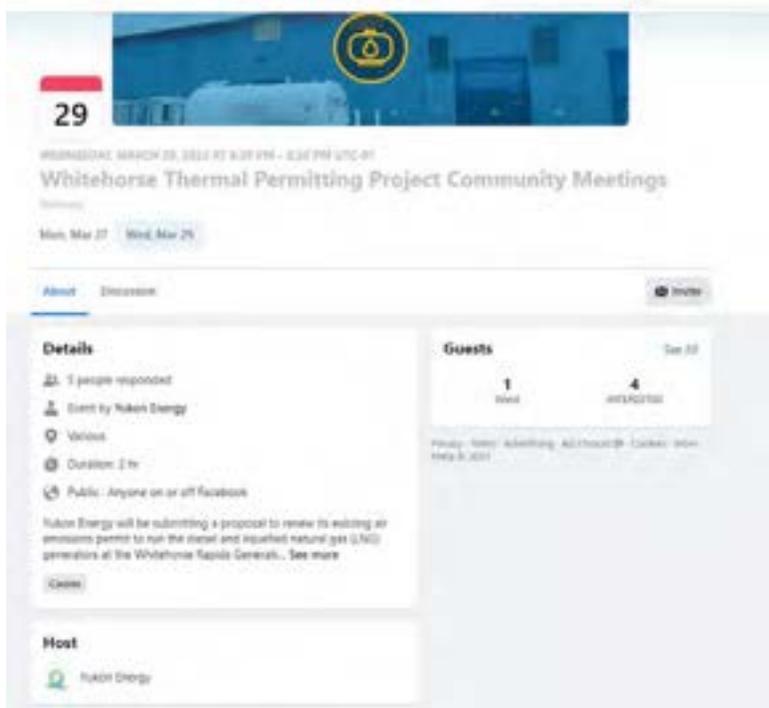
Regards,



Lisa Wiklund

Communications Manager, Yukon Energy

A.5 SOCIAL MEDIA ADVERTISEMENTS



APPENDIX B

Project Website



Noise and Air Quality

As part of the RESAA assessment process, we are conducting both air quality and noise impact studies.

To support that process, we'll be making assessments of both air quality and noise impacts. Monitoring results from 2022 found that while some residents in the study can hear the diesel generators while they're running, sound levels are below permissible levels. We will continue to monitor these levels as part of this project and share the results when they are available.

- Electricity 101
- Projects and Facilities**
 - Deasech Dam Replacement & Reservoir Project
 - Southern Lakes Expansion
 - New Thermal Generation
 - Sheepstone Hydro Plant
 - Wahkiakum Hydro Plant
 - Mayo Hydro Plant
 - Capreol Hydro Plant
 - Deasech Facilities
 - Operations and Maintenance
 - Mayo Lake Interconnection
 - Deasech
 - Grid-scale Battery Storage
 - Mayo to McQuesten Transmission Project
 - Reynolds Substation Upgrade
 - Wahkiakum Expansion
 - Reports to the Board
 - Wildhorse Thermal Planting
 - Search for results
- Electricity in 2024
- Energy Storage
- Standing Offer Program
- More Information

APPENDIX C

Door-Knocking Comments

Appendix C

DOOR-KNOCKING COMMENTS

YEC Whitehorse Thermal Engagement
 Door-Knocking Tracking Sheet

Number	Street	Date	Timeframe	Project Team Rep.	Visited ✓	No response, left flyer ✓	Spoke briefly ✓	Conversation ✓	Comments Received
259	ALSEK ROAD	23-Mar-23	7:15 PM	Jamie Davignon, Zoë Morrison	✓		✓		
261	ALSEK ROAD	23-Mar-23	7:15 PM	Jamie Davignon, Zoë Morrison	✓	✓			
263	ALSEK ROAD	23-Mar-23	7:15 PM	Jamie Davignon, Zoë Morrison	✓		✓		
265	ALSEK ROAD	23-Mar-23	7:15 PM	Jamie Davignon, Zoë Morrison	✓	✓			
267	ALSEK ROAD	23-Mar-23	7:15 PM	Jamie Davignon, Zoë Morrison	✓	✓			
273	ALSEK ROAD	23-Mar-23	7:15 PM	Jamie Davignon, Zoë Morrison	✓	✓			
275	ALSEK ROAD	23-Mar-23	7:15 PM	Jamie Davignon, Zoë Morrison	✓	✓			
277	ALSEK ROAD	23-Mar-23	7:15 PM	Jamie Davignon, Zoë Morrison	✓	✓			
279	ALSEK ROAD	23-Mar-23	7:15 PM	Jamie Davignon, Zoë Morrison	✓		✓		
281	ALSEK ROAD	23-Mar-23	7:15 PM	Jamie Davignon, Zoë Morrison	✓	✓			
283	ALSEK ROAD	23-Mar-23	7:15 PM	Jamie Davignon, Zoë Morrison	✓	✓			
1	BELL CRESCENT	13-Mar-23	5:30 PM	Cyrus Adams	✓		✓		
2	BELL CRESCENT	13-Mar-23	5:30 PM	Jamie Davignon	✓				
3	BELL CRESCENT	13-Mar-23	5:30 PM	Cyrus Adams	✓		✓		Noise concern
4	BELL CRESCENT	13-Mar-23	5:30 PM	Jamie Davignon	✓		✓		
5	BELL CRESCENT	13-Mar-23	5:30 PM	Cyrus Adams	✓	✓			
6	BELL CRESCENT	13-Mar-23	5:30 PM	Jamie Davignon	✓		✓		
7	BELL CRESCENT	13-Mar-23	5:30 PM	Cyrus Adams	✓			✓	Noise concern
8	BELL CRESCENT	13-Mar-23	5:30 PM	Jamie Davignon	✓		✓		
9	BELL CRESCENT	13-Mar-23	5:30 PM	Cyrus Adams	✓			✓	Lots of questions submitted online
10	BELL CRESCENT	13-Mar-23	5:30 PM	Jamie Davignon	✓			✓	Too noisy, fuel/oil expensive, emissions concerns
11	BELL CRESCENT	13-Mar-23	5:30 PM	Cyrus Adams	✓	✓			
12	BELL CRESCENT	13-Mar-23	5:30 PM	Jamie Davignon	✓	✓			
13	BELL CRESCENT	13-Mar-23	5:30 PM	Cyrus Adams	✓			✓	Explained project in detail
15	BELL CRESCENT	13-Mar-23	5:30 PM	Cyrus Adams	✓			✓	Aware of project
17	BELL CRESCENT	13-Mar-23	5:30 PM	Cyrus Adams	✓			✓	Opposed to project. Climate change concerns
19	BELL CRESCENT	13-Mar-23	5:30 PM	Jamie Davignon	✓		✓		Would like to see YEC go to nuclear power and get rid of diesel
21	BELL CRESCENT	13-Mar-23	5:30 PM	Cyrus Adams	✓			✓	Noise
23	BELL CRESCENT	13-Mar-23	5:30 PM	Cyrus Adams	✓		✓		Coming to meeting/ aware
24	BELL CRESCENT	13-Mar-23	5:30 PM	Jamie Davignon	✓		✓		
25	BELL CRESCENT	13-Mar-23	5:30 PM	Cyrus Adams	✓	✓			
26	BELL CRESCENT	13-Mar-23	5:30 PM	Jamie Davignon	✓		✓		
27	BELL CRESCENT	13-Mar-23	5:30 PM	Cyrus Adams	✓	✓			
28	BELL CRESCENT	13-Mar-23	5:30 PM	Jamie Davignon	✓		✓		
29	BELL CRESCENT	13-Mar-23	5:30 PM	Cyrus Adams	✓		✓		Sound concern and data points in Hemmerra Report
30	BELL CRESCENT	13-Mar-23	5:30 PM	Jamie Davignon	✓	✓			
31	BELL CRESCENT	13-Mar-23	5:30 PM	Cyrus Adams	✓	✓			
33	BELL CRESCENT	13-Mar-23	5:30 PM	Cyrus Adams	✓	✓			
35	BELL CRESCENT	13-Mar-23	5:30 PM	Cyrus Adams	✓	✓			
39	BELL CRESCENT	13-Mar-23	5:30 PM	Cyrus Adams	✓	✓			
41	BELL CRESCENT	13-Mar-23	5:30 PM	Cyrus Adams	✓		✓		Noise - concerns about rolling blackouts



YEC Whitehorse Thermal Engagement Door-Knocking Tracking Sheet

Number	Street	Date	Timeframe	Project Team Rep.	Visited ✓	No response, left flyer ✓	Spoke briefly ✓	Conversation ✓	Comments Received
42	BELL CRESCENT	13-Mar-23	5:30 PM	Jamie Davignon	✓			✓	Diesel louder than LNG, more pollutant, plan more efficiently and start LNG earlier when anticipating a cold period (they take a while to warm up) How much carbon use during summer vs. winter? What is the role of YEC and energy conservation? Plan for removing/ replacing current diesel generators?
43	BELL CRESCENT	13-Mar-23	5:30 PM	Cyrus Adams	✓	✓			
44	BELL CRESCENT	13-Mar-23	5:30 PM	Jamie Davignon	✓		✓		
45	BELL CRESCENT	13-Mar-23	5:30 PM	Cyrus Adams	✓		✓		
46	BELL CRESCENT	13-Mar-23	5:30 PM	Cyrus Adams	✓	✓			
47	BELL CRESCENT	13-Mar-23	5:30 PM	Cyrus Adams	✓	✓			
48	BELL CRESCENT	13-Mar-23	5:30 PM	Cyrus Adams	✓	✓			
49	BELL CRESCENT	13-Mar-23	5:30 PM	Cyrus Adams	✓		✓		
50	BELL CRESCENT	13-Mar-23	5:30 PM	Cyrus Adams	✓	✓			
51	BELL CRESCENT	13-Mar-23	5:30 PM	Cyrus Adams	✓	✓			



YEC Whitehorse Thermal Engagement Door-Knocking Tracking Sheet

Number	Street	Date	Timeframe	Project Team Rep.	Visited ✓	No response, left flyer ✓	Spoke briefly ✓	Conversation ✓	Comments Received
1	BOSWELL CRESCENT	15-Mar-23	5:30 - 7:30 PM	Cyrus Adams	✓		✓		
3	BOSWELL CRESCENT	15-Mar-23	5:30 - 7:30 PM	Cyrus Adams	✓		✓		
4	BOSWELL CRESCENT	15-Mar-23	5:30 - 7:30 PM	Cyrus Adams	✓		✓		
5	BOSWELL CRESCENT	15-Mar-23	5:30 - 7:30 PM	Cyrus Adams	✓	✓			
6	BOSWELL CRESCENT	15-Mar-23	5:30 - 7:30 PM	Cyrus Adams	✓	✓			
7	BOSWELL CRESCENT	15-Mar-23	5:30 - 7:30 PM	Cyrus Adams	✓		✓		
8	BOSWELL CRESCENT	15-Mar-23	5:30 - 7:30 PM	Cyrus Adams	✓		✓		
9	BOSWELL CRESCENT	15-Mar-23	5:30 - 7:30 PM	Cyrus Adams	✓	✓			
10	BOSWELL CRESCENT	15-Mar-23	5:30 - 7:30 PM	Cyrus Adams	✓	✓			
11	BOSWELL CRESCENT	15-Mar-23	5:30 - 7:30 PM	Cyrus Adams	✓	✓			
12	BOSWELL CRESCENT	15-Mar-23	5:30 - 7:30 PM	Cyrus Adams	✓	✓			
13	BOSWELL CRESCENT	15-Mar-23	5:30 - 7:30 PM	Cyrus Adams	✓	✓			
14	BOSWELL CRESCENT	15-Mar-23	5:30 - 7:30 PM	Cyrus Adams	✓	✓			
15	BOSWELL CRESCENT	15-Mar-23	5:30 - 7:30 PM	Cyrus Adams	✓			✓	Against due to noise
16	BOSWELL CRESCENT	15-Mar-23	5:30 - 7:30 PM	Cyrus Adams	✓		✓		
17	BOSWELL CRESCENT	15-Mar-23	5:30 - 7:30 PM	Cyrus Adams	✓		✓		
18	BOSWELL CRESCENT	15-Mar-23	5:30 - 7:30 PM	Cyrus Adams	✓		✓		
19	BOSWELL CRESCENT	15-Mar-23	5:30 - 7:30 PM	Cyrus Adams	✓			✓	Concern over the location of the LNG plant and Whitehorse Dam due to danger associated with the floodplain. Referenced Don Roberts, an activist opposed to the LNG plant
20	BOSWELL CRESCENT	15-Mar-23	5:30 - 7:30 PM	Cyrus Adams	✓			✓	Support the project
21	BOSWELL CRESCENT	15-Mar-23	5:30 - 7:30 PM	Cyrus Adams	✓		✓		
22	BOSWELL CRESCENT	15-Mar-23	5:30 - 7:30 PM	Cyrus Adams	✓			✓	Support project
23	BOSWELL CRESCENT	15-Mar-23	5:30 - 7:30 PM	Cyrus Adams	✓	✓			
25	BOSWELL CRESCENT	15-Mar-23	5:30 - 7:30 PM	Cyrus Adams	✓	✓			
27	BOSWELL CRESCENT	15-Mar-23	5:30 - 7:30 PM	Cyrus Adams	✓		✓		Support project
29	BOSWELL CRESCENT	15-Mar-23	5:30 - 7:30 PM	Cyrus Adams	✓		✓		
31	BOSWELL CRESCENT	15-Mar-23	5:30 - 7:30 PM	Cyrus Adams	✓	✓			
32	BOSWELL CRESCENT	15-Mar-23	5:30 - 7:30 PM	Cyrus Adams	✓		✓		
33	BOSWELL CRESCENT	15-Mar-23	5:30 - 7:30 PM	Cyrus Adams	✓	✓			
34	BOSWELL CRESCENT	15-Mar-23	5:30 - 7:30 PM	Cyrus Adams	✓	✓			
35	BOSWELL CRESCENT	15-Mar-23	5:30 - 7:30 PM	Cyrus Adams	✓	✓			
36	BOSWELL CRESCENT	15-Mar-23	5:30 - 7:30 PM	Cyrus Adams	✓		✓		
37	BOSWELL CRESCENT	15-Mar-23	5:30 - 7:30 PM	Cyrus Adams	✓	✓			
38	BOSWELL CRESCENT	15-Mar-23	5:30 - 7:30 PM	Cyrus Adams	✓	✓			
39	BOSWELL CRESCENT	15-Mar-23	5:30 - 7:30 PM	Cyrus Adams	✓				
40	BOSWELL CRESCENT	15-Mar-23	5:30 - 7:30 PM	Cyrus Adams	✓		✓		
41	BOSWELL CRESCENT	15-Mar-23	5:30 - 7:30 PM	Cyrus Adams	✓	✓			
42	BOSWELL CRESCENT	15-Mar-23	5:30 - 7:30 PM	Cyrus Adams	✓	✓			
43	BOSWELL CRESCENT	15-Mar-23	5:30 - 7:30 PM	Cyrus Adams	✓		✓		
44	BOSWELL CRESCENT	15-Mar-23	5:30 - 7:30 PM	Cyrus Adams	✓		✓		
45	BOSWELL CRESCENT	15-Mar-23	5:30 - 7:30 PM	Cyrus Adams	✓	✓			
47	BOSWELL CRESCENT	15-Mar-23	5:30 - 7:30 PM	Cyrus Adams	✓	✓			
49	BOSWELL CRESCENT	15-Mar-23	5:30 - 7:30 PM	Cyrus Adams	✓		✓		



YEC Whitehorse Thermal Engagement
 Door-Knocking Tracking Sheet

Number	Street	Date	Timeframe	Project Team Rep.	Visited ✓	No response, left flyer ✓	Spoke briefly ✓	Conversation ✓	Comments Received
51	BOSWELL CRESCENT	15-Mar-23	5:30 - 7:30 PM	Cyrus Adams	✓		✓		
53	BOSWELL CRESCENT	15-Mar-23	5:30 - 7:30 PM	Cyrus Adams	✓		✓		
55	BOSWELL CRESCENT	15-Mar-23	5:30 - 7:30 PM	Cyrus Adams	✓	✓			
56	BOSWELL CRESCENT	15-Mar-23	5:30 - 7:30 PM	Cyrus Adams	✓	✓			
57	BOSWELL CRESCENT	15-Mar-23	5:30 - 7:30 PM	Cyrus Adams	✓	✓			
58	BOSWELL CRESCENT	15-Mar-23	5:30 - 7:30 PM	Cyrus Adams	✓		✓		
59	BOSWELL CRESCENT	15-Mar-23	5:30 - 7:30 PM	Cyrus Adams	✓	✓			
60	BOSWELL CRESCENT	15-Mar-23	5:30 - 7:30 PM	Cyrus Adams	✓		✓		Support
61	BOSWELL CRESCENT	15-Mar-23	5:30 - 7:30 PM	Cyrus Adams	✓		✓		
62	BOSWELL CRESCENT	15-Mar-23	5:30 - 7:30 PM	Cyrus Adams	✓		✓		
63	BOSWELL CRESCENT	15-Mar-23	5:30 - 7:30 PM	Cyrus Adams	✓	✓			
64	BOSWELL CRESCENT	15-Mar-23	5:30 - 7:30 PM	Cyrus Adams	✓	✓			
65	BOSWELL CRESCENT	15-Mar-23	5:30 - 7:30 PM	Cyrus Adams	✓	✓			
66	BOSWELL CRESCENT	15-Mar-23	5:30 - 7:30 PM	Cyrus Adams	✓		✓		
67	BOSWELL CRESCENT	15-Mar-23	5:30 - 7:30 PM	Cyrus Adams	✓		✓		
68	BOSWELL CRESCENT	15-Mar-23	5:30 - 7:30 PM	Cyrus Adams	✓	✓			
69	BOSWELL CRESCENT	15-Mar-23	5:30 - 7:30 PM	Cyrus Adams	✓		✓		
70	BOSWELL CRESCENT	15-Mar-23	5:30 - 7:30 PM	Cyrus Adams	✓	✓			
71	BOSWELL CRESCENT	15-Mar-23	5:30 - 7:30 PM	Cyrus Adams	✓		✓		
72	BOSWELL CRESCENT	15-Mar-23	5:30 - 7:30 PM	Cyrus Adams	✓	✓			
73	BOSWELL CRESCENT	15-Mar-23	5:30 - 7:30 PM	Cyrus Adams	✓		✓		
74	BOSWELL CRESCENT	15-Mar-23	5:30 - 7:30 PM	Cyrus Adams	✓	✓			
75	BOSWELL CRESCENT	15-Mar-23	5:30 - 7:30 PM	Cyrus Adams	✓		✓		
77	BOSWELL CRESCENT	15-Mar-23	5:30 - 7:30 PM	Cyrus Adams	✓	✓			
79	BOSWELL CRESCENT	15-Mar-23	5:30 - 7:30 PM	Cyrus Adams	✓	✓			



YEC Whitehorse Thermal Engagement
 Door-Knocking Tracking Sheet

Number	Street	Date	Timeframe	Project Team Rep.	Visited ✓	No response, left flyer ✓	Spoke briefly ✓	Conversation ✓	Comments Received
236	ALSEK ROAD	23-Mar-23	5:30 - 6:30 PM	Jamie Davignon, Zoë Morrison	✓		✓		
238	ALSEK ROAD	23-Mar-23	5:30 - 6:30 PM	Jamie Davignon, Zoë Morrison	✓		✓		
240	ALSEK ROAD	23-Mar-23	5:30 - 6:30 PM	Jamie Davignon, Zoë Morrison	✓	✓			
242	ALSEK ROAD	23-Mar-23	5:30 - 6:30 PM	Jamie Davignon, Zoë Morrison	✓	✓			
2	BLANCHARD ROAD	23-Mar-23	5:30 - 6:30 PM	Jamie Davignon, Zoë Morrison	✓	✓			
4	BLANCHARD ROAD	23-Mar-23	5:30 - 6:30 PM	Jamie Davignon, Zoë Morrison	✓	✓			
6	BLANCHARD ROAD	23-Mar-23	5:30 - 6:30 PM	Jamie Davignon, Zoë Morrison	✓	✓			
8	BLANCHARD ROAD	23-Mar-23	5:30 - 6:30 PM	Jamie Davignon, Zoë Morrison	✓	✓			
10	BLANCHARD ROAD	23-Mar-23	5:30 - 6:30 PM	Jamie Davignon, Zoë Morrison	✓	✓			
11	BLANCHARD ROAD	23-Mar-23	5:30 - 6:30 PM	Jamie Davignon, Zoë Morrison	✓	✓			
12	BLANCHARD ROAD	23-Mar-23	5:30 - 6:30 PM	Jamie Davignon, Zoë Morrison	✓		✓		Noise
13	BLANCHARD ROAD	23-Mar-23	5:30 - 6:30 PM	Jamie Davignon, Zoë Morrison	✓	✓			
14	BLANCHARD ROAD	23-Mar-23	5:30 - 6:30 PM	Jamie Davignon, Zoë Morrison	✓		✓		Noise
16	BLANCHARD ROAD	23-Mar-23	5:30 - 6:30 PM	Jamie Davignon, Zoë Morrison	✓	✓			
18	BLANCHARD ROAD	23-Mar-23	5:30 - 6:30 PM	Jamie Davignon, Zoë Morrison	✓			✓	Renewals of diesel mufflers? Stack in order of pollutants' impacts. Grandfathering is arcaic. Natural mega phone - current location of generators are amplifying the sound
20	BLANCHARD ROAD	23-Mar-23	5:30 - 6:30 PM	Jamie Davignon, Zoë Morrison	✓	✓			
22	BLANCHARD ROAD	23-Mar-23	5:30 - 6:30 PM	Jamie Davignon, Zoë Morrison	✓		✓		
24	BLANCHARD ROAD	23-Mar-23	5:30 - 6:30 PM	Jamie Davignon, Zoë Morrison	✓		✓		
26	BLANCHARD ROAD	23-Mar-23	5:30 - 6:30 PM	Jamie Davignon, Zoë Morrison	✓	✓			
27	BLANCHARD ROAD	23-Mar-23	5:30 - 6:30 PM	Jamie Davignon, Zoë Morrison	✓		✓		
28	BLANCHARD ROAD	23-Mar-23	5:30 - 6:30 PM	Jamie Davignon, Zoë Morrison	✓		✓		
29	BLANCHARD ROAD	23-Mar-23	5:30 - 6:30 PM	Jamie Davignon, Zoë Morrison	✓	✓			
30	BLANCHARD ROAD	23-Mar-23	5:30 - 6:30 PM	Jamie Davignon, Zoë Morrison	✓	✓			
31	BLANCHARD ROAD	23-Mar-23	5:30 - 6:30 PM	Jamie Davignon, Zoë Morrison	✓	✓			
32	BLANCHARD ROAD	23-Mar-23	5:30 - 6:30 PM	Jamie Davignon, Zoë Morrison	✓	✓			
33	BLANCHARD ROAD	23-Mar-23	5:30 - 6:30 PM	Jamie Davignon, Zoë Morrison	✓	✓			
34	BLANCHARD ROAD	23-Mar-23	5:30 - 6:30 PM	Jamie Davignon, Zoë Morrison	✓	✓			
35	BLANCHARD ROAD	23-Mar-23	5:30 - 6:30 PM	Jamie Davignon, Zoë Morrison	✓	✓			
36	BLANCHARD ROAD	23-Mar-23	5:30 - 6:30 PM	Jamie Davignon, Zoë Morrison	✓	✓			
38	BLANCHARD ROAD	23-Mar-23	5:30 - 6:30 PM	Jamie Davignon, Zoë Morrison	✓	✓			



YEC Whitehorse Thermal Engagement
 Door-Knocking Tracking Sheet

Number	Street	Date	Timeframe	Project Team Rep.	Visited ✓	No response, left flyer ✓	Spoke briefly ✓	Conversation ✓	Comments Received
1	BATES CRESCENT	23-Mar-23	6:45 - 7:15 PM	Jamie Davignon, Zoë Morrison	✓	✓			
2	BATES CRESCENT	23-Mar-23	6:45 - 7:15 PM	Jamie Davignon, Zoë Morrison	✓	✓			
3	BATES CRESCENT	23-Mar-23	6:45 - 7:15 PM	Jamie Davignon, Zoë Morrison	✓	✓			
4	BATES CRESCENT	23-Mar-23	6:45 - 7:15 PM	Jamie Davignon, Zoë Morrison	✓	✓			
5	BATES CRESCENT	23-Mar-23	6:45 - 7:15 PM	Jamie Davignon, Zoë Morrison	✓		✓		
6	BATES CRESCENT	23-Mar-23	6:45 - 7:15 PM	Jamie Davignon, Zoë Morrison	✓		✓		
7	BATES CRESCENT	23-Mar-23	6:45 - 7:15 PM	Jamie Davignon, Zoë Morrison	✓		✓		New hydro, fewer gen b/c noise
9	BATES CRESCENT	23-Mar-23	6:45 - 7:15 PM	Jamie Davignon, Zoë Morrison	✓		✓		Noisy, move out of town
11	BATES CRESCENT	23-Mar-23	6:45 - 7:15 PM	Jamie Davignon, Zoë Morrison	✓	✓			
13	BATES CRESCENT	23-Mar-23	6:45 - 7:15 PM	Jamie Davignon, Zoë Morrison	✓		✓		
15	BATES CRESCENT	23-Mar-23	6:45 - 7:15 PM	Jamie Davignon, Zoë Morrison	✓		✓		
17	BATES CRESCENT	23-Mar-23	6:45 - 7:15 PM	Jamie Davignon, Zoë Morrison	✓	✓			
20	BATES CRESCENT	23-Mar-23	6:45 - 7:15 PM	Jamie Davignon, Zoë Morrison	✓	✓			
22	BATES CRESCENT	23-Mar-23	6:45 - 7:15 PM	Jamie Davignon, Zoë Morrison	✓		✓		
23	BATES CRESCENT	23-Mar-23	6:45 - 7:15 PM	Jamie Davignon, Zoë Morrison	✓	✓			
25	BATES CRESCENT	23-Mar-23	6:45 - 7:15 PM	Jamie Davignon, Zoë Morrison	✓		✓		
27	BATES CRESCENT	23-Mar-23	6:45 - 7:15 PM	Jamie Davignon, Zoë Morrison	✓		✓		Can hear it, don't bother them
29	BATES CRESCENT	23-Mar-23	6:45 - 7:15 PM	Jamie Davignon, Zoë Morrison	✓		✓		



YEC Whitehorse Thermal Engagement
 Door-Knocking Tracking Sheet

Number	Street	Date	Timeframe	Project Team Rep.	Visited ✓	No response, left flyer ✓	Spoke briefly ✓	Conversation ✓	Comments Received
1	VAN GORDA PLACE	23-Mar-23	6:10 - 6:25 PM	Jamie Davignon, Zoë Morrison	✓	✓			
2	VAN GORDA PLACE	23-Mar-23	6:10 - 6:25 PM	Jamie Davignon, Zoë Morrison	✓	✓			
3	VAN GORDA PLACE	23-Mar-23	6:10 - 6:25 PM	Jamie Davignon, Zoë Morrison	✓		✓		
4	VAN GORDA PLACE	23-Mar-23	6:10 - 6:25 PM	Jamie Davignon, Zoë Morrison	✓	✓			
5	VAN GORDA PLACE	23-Mar-23	6:10 - 6:25 PM	Jamie Davignon, Zoë Morrison	✓		✓		
6	VAN GORDA PLACE	23-Mar-23	6:10 - 6:25 PM	Jamie Davignon, Zoë Morrison	✓		✓		
7	VAN GORDA PLACE	23-Mar-23	6:10 - 6:25 PM	Jamie Davignon, Zoë Morrison	✓		✓		
8	VAN GORDA PLACE	23-Mar-23	6:10 - 6:25 PM	Jamie Davignon, Zoë Morrison	✓		✓		
9	VAN GORDA PLACE	23-Mar-23	6:10 - 6:25 PM	Jamie Davignon, Zoë Morrison	✓	✓			
10	VAN GORDA PLACE	23-Mar-23	6:10 - 6:25 PM	Jamie Davignon, Zoë Morrison	✓	✓			
11	VAN GORDA PLACE	23-Mar-23	6:10 - 6:25 PM	Jamie Davignon, Zoë Morrison	✓		✓		
12	VAN GORDA PLACE	23-Mar-23	6:10 - 6:25 PM	Jamie Davignon, Zoë Morrison	✓	✓			
13	VAN GORDA PLACE	23-Mar-23	6:10 - 6:25 PM	Jamie Davignon, Zoë Morrison	✓		✓		
5	BONANZA PLACE	23-Mar-23	6:30 PM	Jamie Davignon, Zoë Morrison	✓	✓			
6	BONANZA PLACE	23-Mar-23	6:30 PM	Jamie Davignon, Zoë Morrison	✓	✓			



YEC Whitehorse Thermal Engagement Door-Knocking Tracking Sheet

Number	Street	Date	Timeframe	Project Team Rep.	Visited ✓	No response, left flyer ✓	Spoke briefly ✓	Conversation ✓	Comments Received
25	SELKIRK STREET			N/A City-owned infrastructure					
60	SELKIRK STREET								
100	ROBERT SERVICE WAY								
120	ROBERT SERVICE WAY			N/A City-owned infrastructure					
LOT 2	WHITEHORSE AIRPORT SUBDIVISION			Airport tenants					



APPENDIX D

Stakeholder Meeting Notes

Appendix D STAKEHOLDER MEETING NOTES

Thermal permitting – City of Whitehorse

March 29, 2023

In attendance:

- Lewis – mining
- Scott – energy
- Tara – ETS
- Martin – Executive Director
- Travis
- Lisa

Questions:

1. How often do you update your load forecasts?
2. Is it possible to increase the IPP program as a result of recent federal budget? Tax breaks within the federal budget to support this?
3. If the rental diesels produce less emissions than the installed, why don't we use the rentals all the time?
4. Are you planning to replace some of the permanent diesel units?
5. What does EPA Tier 4 mean? How do the rentals fit into this?
6. Any consideration given to upstream emissions when modelling emissions?
7. If the WRGS is at about 60% of its capacity in the winter, any discussion to increase its winter capacity?
8. Will retired Merlees go to the Transportation Museum?

Notes:

- YCS is generally supportive of the IPP program, but disappointing to see how miniscule their contribution to the grid is.
- Overall happy to have met with YEC and found presentation informative.

Thermal permitting – City of Whitehorse

March 22, 2023

In attendance:

- Matt – planning department
- Travis
- Lisa

Questions:

1. What is the 40% expected growth based on?
2. What's the timeframe for getting an air emissions permit?
3. Are the BC guidelines only for residential dwellings?
 - a. I.e., would the Millennium Trail be considered under the guidelines?
4. Will sound mitigation be included in the YESAA proposal?
5. Is there a technical working group for this project too?
6. You mentioned hazardous waste, can you tell me more?
7. How long can the Decision Document be used for?

Notes:

- YESAA has already reached out to the City about this project
- City currently developing their City Community Plan, of which renewable energy infrastructure is an important piece.

APPENDIX E

Community Meeting Presentation

Appendix E COMMUNITY MEETING PRESENTATION



Thermal Permitting Project

Community Meeting
March 27

With thanks and gratitude

Yukon Energy recognizes that this project takes place on the Traditional Territories of the Kwanlin Dün First Nation and the Ta'an Kwäch'än Council.

Today's discussion

- Introductions
- Yukon's electricity system
- Project overview
- Air and noise
- Next steps
- Open Q&A

Goal:

Yukon Energy needs to renew its air emissions permit in Whitehorse.

We are here today to share information about the project, answer your questions and gather your feedback.

Introductions

Stantec

- Zoë Morrison, Community Planning and Engagement
- Amanda Haeusler, Community Planning and Engagement

Yukon Energy

- Michael Muller, Vice President – Planning, Environment, Health & Safety
- Stephanie Cunha, Vice President – External Relations
- Travis Ritchie, Director – Environment, Assessment and Licensing
- Lisa Wiklund, Manager – Communications

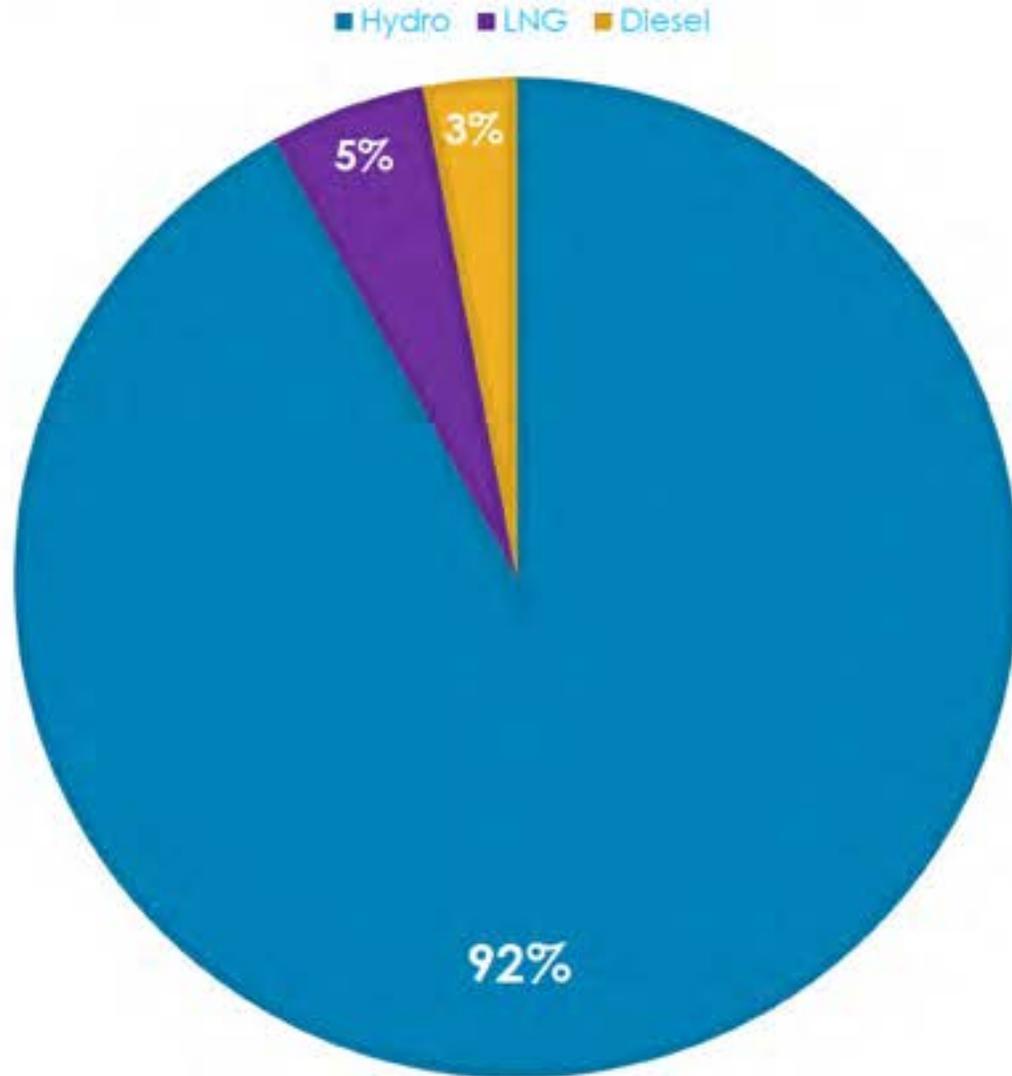
Yukon's electricity system

Our plans for the future

Our energy grid



Generation supply for 2022



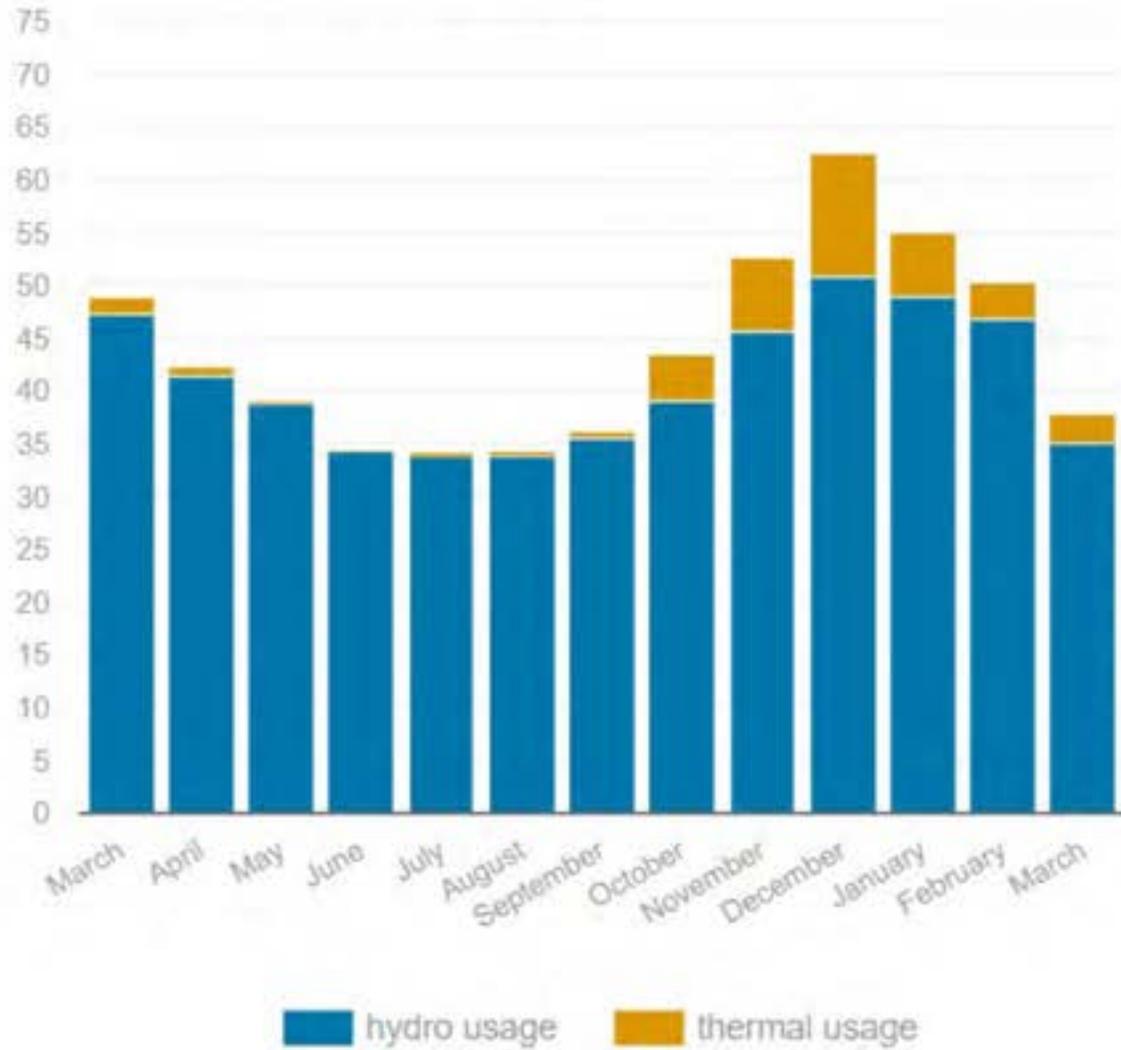
Today, over 90% of all Yukon's electricity is produced by existing hydro facilities.

As demand for electricity increases, all our available hydro power is not enough to meet Yukoners' energy needs in the winter. We use LNG & diesel to fill the gap.

Monthly load consumption

March 2022 to March 2023

In gigawatt hours



Our assets – Hydro



**Aishihik
Hydro: 37 MW**



Mayo Hydro: 15 MW

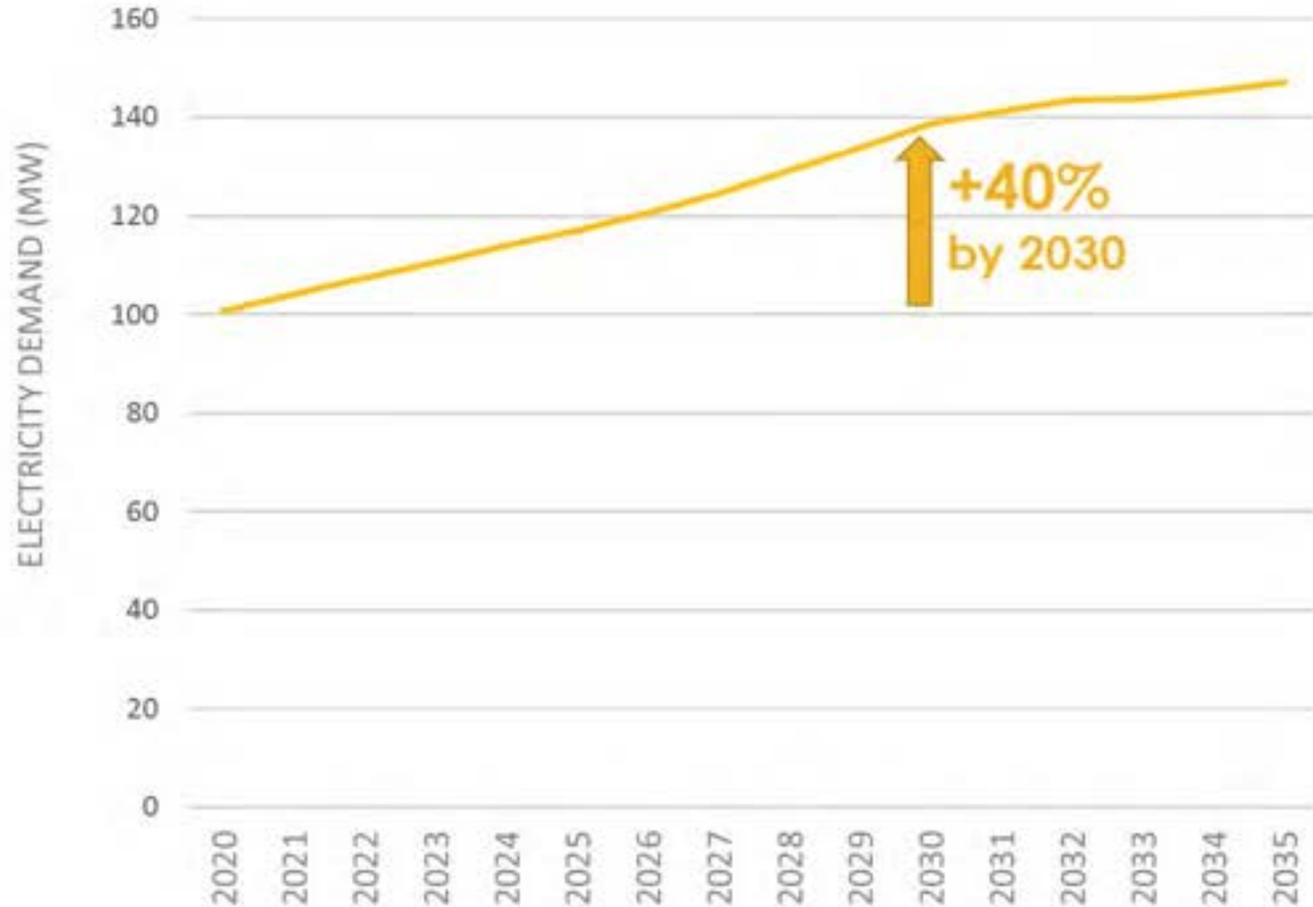


Whitehorse Hydro: 41 MW

Our assets – Thermal



Demand for electricity is growing



Why?

- Continued growth in population & electricity use
- Policy actions to address the climate change emergency

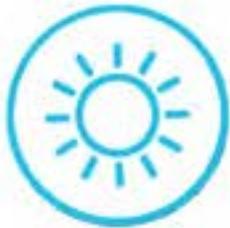
Our 2030 Vision



Current and future projects



HYDRO
RELICENSING



MICRO-
GENERATION



BATTERY
STORAGE



HYDRO
UPGRADES



INDEPENDENT
POWER
PRODUCERS



ATLIN HYDRO
EXPANSION



DEMAND-SIDE
MANAGEMENT



THERMAL
REPLACEMENT



MOON LAKE
PUMPED STORAGE



SOUTHERN LAKES
TRANSMISSION NETWORK
EXPANSION

Project overview

Yukon Energy needs to renew its
air emissions permit in Whitehorse

Why do we need an air emissions permit?

- To operate the diesel and liquified natural gas (LNG) generators at the Whitehorse Rapids Generating Station



Why is this project important?

It helps keep the lights on

during winter peaks and emergencies now and in the future.

Diesel and LNG help to restore power quickly

Diesel and LNG are used during:



Maintenance



Low water

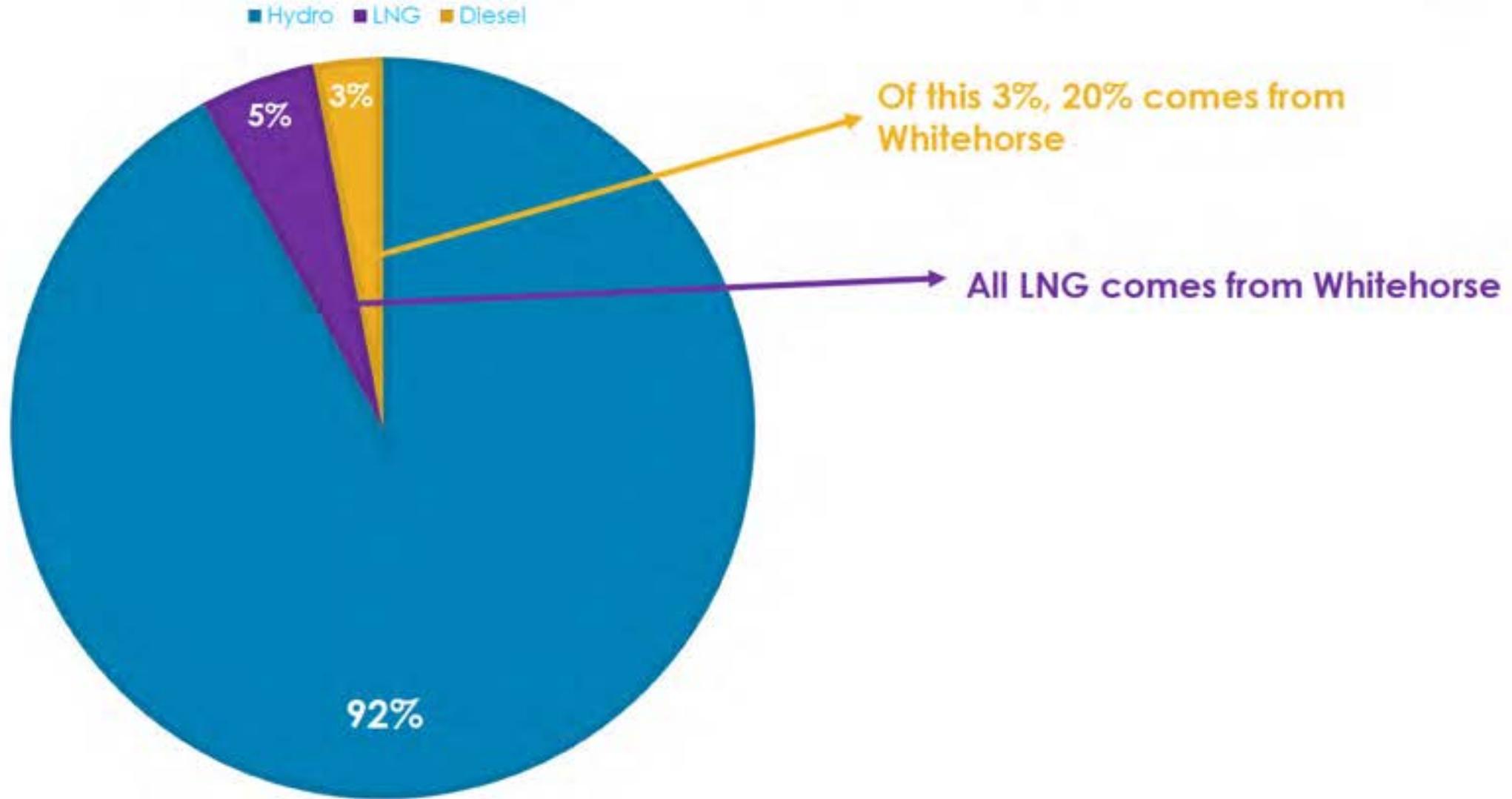


Peak demand



Unplanned
outages

Generation supply in Whitehorse



Our existing Whitehorse permit

13.2

megawatts
from liquified
natural gas
generators

16

megawatts
from diesel generators

12

megawatts
from diesel generators
that can be used
during emergencies

Our existing permit *continued*

- Existing permit will expire December 31, 2024
- Renewal will extend the permit for another 10 years
- Not asking to add more thermal capacity

Our permanent LNG and diesel units



- Three units



- Seven original units
- Three end-of-life units decommissioned
- Will be replaced summer 2024

Our rental diesel generators

- Rental diesel units are used when there's not enough hydro and LNG to meet electricity demand.
- Yukon Energy uses its rental diesel generators before its permanent diesel generators because:
 - It is more cost-effective
 - They produce less emissions than the permanent units

Our rental diesel generators

- For winter 2022/23, 10 units in Whitehorse (9 installed, 1 spare)
- Rental diesel generators located in Whitehorse parking lot because of:
 - Proximity to existing infrastructure
 - Accessibility
 - Available space
- Yukon Energy can use its rental units between December 1 and April 30

Whitehorse air and noise

What we've heard is important

Air quality modelling

- Yukon Energy has modelled 8 different configurations of generator types, capacities and fuel sources at the WRGS.
- Preliminary results indicate that all scenarios meet the previous Yukon Ambient Air Quality Standards.

Air quality modelling

- Permissible levels under the Yukon Ambient Air Quality Standards are expected to decrease in 2025.
- Yukon Energy is exploring options as to how it can reduce its air emissions in Whitehorse to comply with new standards.
- Modelling results will also inform human health risk assessment.

Air quality

Potential emission reduction

- Replace 5 MW of diesel capacity in Whitehorse with new, cleaner diesel generators in summer 2024
- We are also considering:
 - application of best-in-class emissions management technologies on permanent and mobile generators
 - limiting use of older, less-clean diesel units to emergency situations

Sound monitoring

- No noise regulation in the Yukon applicable to the WRGS.
- British Columbia Oil and Gas Commission's Noise Control Best Practices Guideline is commonly used in the Yukon.
- Hemmera conducted sound monitoring for Yukon Energy in Riverdale in 2020.
- Yukon Energy conducts regular sound monitoring at the substation on Nisutlin Drive.



Sound monitoring (2020 Hemmera study)

- In April 2020, we had to run our permanent diesel units because of:
 - low water levels
 - one of our LNG generators was out of service
- Why only 4 diesel generators were running during time of monitoring

Sound monitoring results (2020 Hemmera study)

Location	Decibel level (daytime – 07:00 to 22:00) in dB	Decibel level (nighttime – 22:00 to 07:00) in dB	BC OGC Guidelines in dB
Bell Crescent	52.5	38.7	61.0
Riverside substation (Nisutlin Drive)	66.4	56.6	61.0

Sound monitoring results (Yukon Energy)

Date	Decibel level (daytime – 07:00 to 22:00) in dB	Average number of units running in Whitehorse	BC OGC Guidelines in dB
Feb 27, 2023	49.65	2.75	61.0
Feb 28, 2023	45.36	3.5	61.0
March 6, 2023	47.88	4.125	61.0

Sound

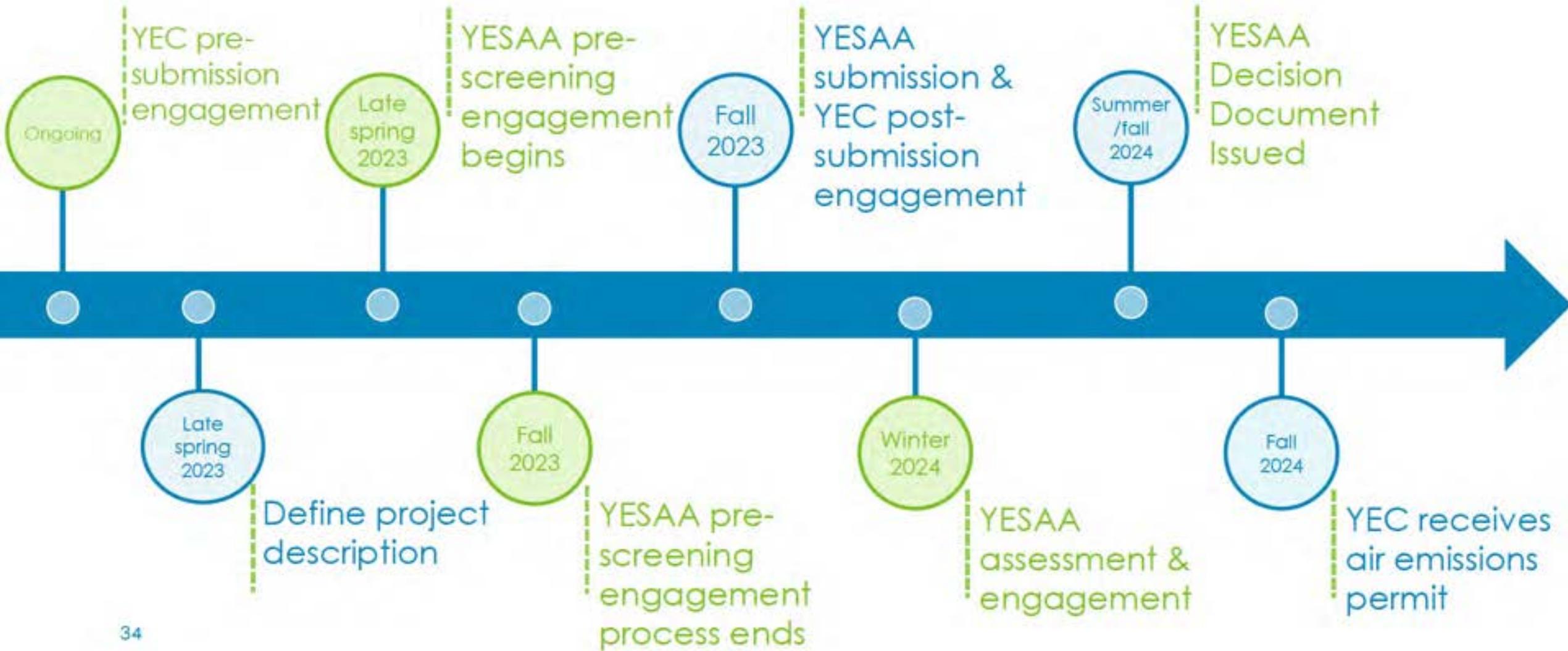
potential mitigation

- Ongoing noise monitoring data for the WRGS will be used to complete a noise impact assessment to support the YESAA project proposal.
- Exploring potential sound mitigation options like:
 - Mufflers for intake and exhaust air
 - Replacing 5 MW of diesel capacity in Whitehorse with new, quieter diesel generators in summer 2024

Next steps

Project schedule and what's coming up

Project schedule



How to provide feedback

1. Provide your comments today
2. Submit a question or comment
 - Email YECWhitehorseThermalPermit@stantec.com
3. Complete the form
 - At yukonenergy.ca/thermalpermit
4. Participate in the YESAB Pre-submission Engagement Process

Deadline for comments to be considered in Yukon Energy's Project Proposal is August 31, 2023.

Questions

Thank you for your time

APPENDIX F

Community Meeting Notes

Appendix F

COMMUNITY MEETING NOTES

Dec 19

118.5 MW — 2023 model 135 MW

Date 03/29/23

6:00

YEC Thermal Licensing Renewal.

@ 6:30pm. ~~Monday~~ Wednesday, March 29

(2)

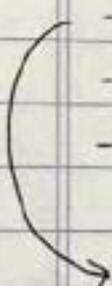
Attendees: 9 + 11

YEC: Stephanie, Rod, Travis, Michael
Lisa

Stantec: Zoi, Jamie.

MWhours @ Mayo — 17% of electricity

- total production actuals - [redacted]
- what are YEC using to meet the peak - [redacted]
- why is Aishihik rated higher than Whitehorse?
 ↑ 37MW vs 41MW ↑



how many per year

↳ literacy on actuals. — operations.
seasonal contributions from facilities.

- scientific paper showing LNG cleaner than diesel
 ↳ production/fracking
- ~~how does~~ 18 month window of emissions — how much is Gt/bis?
- how do you measure pollutants / what is being reduced?
- do you have to run all 3 LNG to operate?
- who is diesel supplier?
- how much diesel is stored on site?
- is there emergency planning w/ fuel storage?

- proximity to Yukon River.
- walking Millennium, smell sulphur
 - ↳ wasn't sure if emergency / should phone someone?
- is public aware of why the sulphur smell might be around?

- does air quality monitoring take into account wind?
- does it look at where the particulates are depositing? i.e. wind over Shwatka?
 - ↳ From vehicle emissions
- pollutants in valley, more woodsmoke in Riverdale
 - ↳ during inversions, do we know cumulative effects?
- school traffic, diesel school buses
- * considerably noticeable on cold winter days.

- any action to reduce the noise?
 - ↳ so no actual construction has been completed to reduce the noise
- walk Millennium regularly, very loud
 - ↳ live on Firth ↑ hear on cold days.

- seeking permit for certain noise level?
- are there only guidelines?
 - i.e. no codes / standards.

Date 03/29/23

- how much does permit cost?
 - Mayo - \$6500 - cost for Y6 consultant to review.
- this isn't tool for how much pollution
 - ↳ would like to see how much pollution has been emitted in last 10 years?
 - quantify b7H6s emitted.
 - why didn't we see a graph demonstrating this?
 - ↳ add to website
- ~~what~~ couldn't find mtg on website
 - ↳ mtg was great but was hard to find.
- is YEC bldg new thermal generation plant?
 - ↳ found on website.
 - ↳ permanent.
- you are replacing some units?
- concerned about noise. demonstrating dbs.
how do you know those guidelines meet our requirements?
- Riverdale is quiet neighborhood.
- diesel noise more prominent now than it was years ago.

Date

- do you track the running time of the thermal generation?
- how many years of record on noise?
 & that was engaged by Client complaints?
- stacking based on noise now?
- challenge for YEC is to review reducing fossil fuel, build situation to use renewables w/ lower sound levels.
- doesn't seem to be a prominent message.
- LN6 site took budget from developing wind or replacing diesels.
 - also invest in storage at homes.
 - could have had 10 years of wind & not 10 years of pollution.
- Atlin is so expensive
- Mayo B - \$20M - only 7 MW.
- we want to present other options to support hydro.
 - avoid intg peak w/ fossil fuels
- ~~noise~~ refer to Atlin as economic boom
 - ↳ \$46M per MW
 - KDEN - wind - 4MW @ \$20M each - \$24M

Date 03/29/23

- premier commenting hooking up to Site C
- need to ~~local~~ look local, Yukon
 - NOT BC.
- KDFN → wind took 3 years.
- highly doubt Athin will be online to another 8-10 years.
 - ↳ not owned by Yukon.
- is glacier fed waters @ risk.
hydro not sustainable long-term?
 - ↳ increased water over last few years
- I don't think that is justification for more thermals.
- health effects from climate change + hydrocarbons.
- sense of urgency that doesn't seem apparent.
- can only get 10 year permit?
- YEC mandate use to be more wind development.
 - ↳ wind more plentiful during winter
 - mandate removed in 2005.
 - YEC needs to be re-educated.
 - produced models based on YEC data
 - would need more diesel but most supplement by wind.
 - Sally + JP to do presentation.
 - buying from Heccehill
 - optimization model w/ Yukon grid
 - * meet space heating + transportation.

Date

- transition 5000 homes to electric
15 MW of wind would supplement that.
- how much storage for wind
↳ in bldgs.
- Moon Lake is good idea.
+ wind + hydro = enough for Yukon.
- wind going to double YEC elec capacity
going full electric.
LNG, largest step back.
1998 - lost Faro - 98% hydro @ time.

comment form

DATE _____

- how long have you collected noise data?
- so you're saying your stacking order is determined by noise?
- so the real challenge for YEC is to diversify / build a situation where we have renewables w/o noise?
- why can't we replace coal/diesel with wind? Why are we spending \$ on diesel / LNG when we could be investing in wind?
- we want other options, we want to present other options to you.
- I've lived here 60 years, noise / pollution levels I've been exposed to, you keep referring to Athin as the solution, but it's too expensive! We should be looking @ KDFN and their wind farms - why can't we build wind? Build in Carcross or Faro?
- BC interconnect ridiculous, too expensive, who will pay?
- we need to look @ what's local
- costs are ballooning!
- are dams sustainable bc of climate change impacts?
- we have to get off fossil fuels, we're on a clock, why look @ 10-years, maybe a 5 year permit better.
- there are human health effects from hydrocarbons
- there doesn't seem to be any urgency
- used to be in YEC's mandate to explore wind, it was being explored by YEC
- ↳ YEC needs to be re-educated about benefits of wind
 - ↳ wind can replace need for thermal, eventually, we would need bigger diesel
- JP + Sally would like to present to YEC about wind, lets bring in data from YCS + Haeckle Hill and re-study it.
- wind combined w/ pump storage is the key!

plant,
but would
run it
less.

SUBMIT YOUR COMMENTS

In-person: to a Yukon Energy team member

Email: communications@yec.yk.ca

Mail: Yukon Energy c/o Community Engagement
#2 Miles Canyon Road, Box 5920, Whitehorse, Yukon Y1A 6S7



comment form

DATE _____

€

- couldn't find info about open house on YEC website
- what was the peak demand?
↳ and this is @ single point in time?
- really like PeakSmart program
- I always thought WEC's dam was biggest source of electricity?
- who requires us to plan for N-1? what are we worried about?
- * I'd like to see a list of how many megawatts or gigawatt hours each facility produces per year. for hydro
↳ [redacted]
- people might be interested to know [redacted]
- when is LNL used? just during peak hours? some sort of order?
- would like to see proof that LNL is cleaner than diesel → scientific paper to show this.
- pollution emissions, not air emissions
- what are we doing to address climate change?
- how does WEC's relate to
- what is time frame for permit?
- do we know how ~~then~~ much of the emissions (ex-carbon) is actually being emitted?
- what is the cost of polluting the air?
- how do we measure what's being produced?
- do you have to have 3 units running @ same time?
- who is the supplier of rentals? when they leave them in the summer, do we charge them a rental fee?
- how much diesel is stored on-site?
- emergency planning around diesel storage?

SUBMIT YOUR COMMENTS

In-person: to a Yukon Energy team member

Email: communications@yec.yk.ca

Mail: Yukon Energy c/o Community Engagement
#2 Miles Canyon Road, Box 5920, Whitehorse, Yukon Y1A 6S7



- Storage is so close to the Yukon River
- sometimes I've smelt sulphur, ~~what~~ what would cause that?
- ↳ should I phone someone? Should I be concerned?
- ↳ residents don't know what a fuel spill/leak would entail?
- Does air modelling take into account the wind? The wind direction?
- we have a "soup" of pollutants in the valley, from a variety of factors, do we know enough about the implications of these emissions?
 - ↳ wood smoke
 - ↳ buses
 - ↳ cars
- what are you currently doing to reduce noise?
- when I walk the Millennium Trail, I notice it can be very loud, it's noticeable
- when do you exceed noise guidelines?
- so you're seeking a permit for a certain noise level?
- how much does this permit cost?
- this isn't really a tool for monitoring how much you've emitted in the last 10 years
- I want to understand / see you quantify the bottles ~~now~~, why didn't you show annual emissions report?
 - ↳ Sally wants to see emissions report by facility *
 - ↳ available through Y6
 - ↳ she wants to see it on YEC website
- make it more upfront on YEC website when we're hosting a community meeting
- * ensure clear on YEC website that we're not building 20MW diesel plant
 - not building a plant but you are upgrading your existing?
 - how do you know the guidelines meet our processes? Meet our areas / how are thresholds defined?
 - the diesels are louder / seem like they're running more now?
 - Do you keep track of running time of generators?



Meeting Notes

YEC Whitehorse Thermal Engagement - Public Information Session

Project/File: YEC Whitehorse Thermal Renewal / 144903336
Date/Time: March 27, 2023 / 6:00 PM
Location: Microsoft Teams
Attendees: **Yukon Energy Corporation**
Lisa Wiklund, Stephanie Cunha, Michael Muller, Travis Ritchie
Stantec
Zoë Morrison, Amanda Haeusler
Public Guests



Introductions – presented by Zoë

Troubleshooting – managed by Amanda

- A pdf of the presentation was sent to an attendee having issues with seeing that presentation

Yukon's electricity system – presented by Michael

Slide: Demand for electricity is growing

- Are you telling us that you are burning more fuel to address the climate change emergency?

Project overview – presented by Travis

Slide: Diesel and LNG help to restore power quickly

- How come you keep on talking about air emissions when it is actually pollution emissions that you are getting your permit for?
 - The permit is called "an air emissions permit" through Yukon government
 - o But it is not a very responsible way to talk about this; you are asking for permission to pollute in the air which causes climate change
- Will this also include fugitive emissions?
 - Yes, the permit also includes fugitive emissions; which would be from the natural gas storage; which is all quantified and reported
- I've heard LNG can't start very quickly when it is very cold
 - Yes, it does take a few minutes to come online (10-15min) to have the fuel go from liquid natural gas to gaseous natural gas. Diesel is used during that 10-15min window and then ramped down once the LNG is available

Slide: Generation supply in Whitehorse

- Where are the other 80% diesels located?
 - Dawson, Mayo, Ashihik

Slide: Our existing permit

- The 12MW part was temporary and expired last year. Why is it presented as the existing permit? And asking to make the expired 12MW permanent?
 - Because YEC still has access to this in the event of an emergency
- So this is an increase in thermal capacity?
 - It was previously allowed in the case of an emergency, but now would be permitted
- So would any time that the supply exceeds demand be considered an emergency for these purposes?
 - If anytime demand exceeds supply, that is considered an emergency. Typically they plan for winter demand, and then also consider what happens if/ when the supply (Ashihik) isn't available; that amount needs to be available as well. The frequency that we were in the emergency zone this past winter was within the magnitude of hours, even though new demand highs were hit.
- You'll need to increase you're diesel power back up with electric demand increases. Are you planning to buy bigger diesels?
 - At this time, no; we will be trying to bring on more renewable resources. If there is more demand for system back-ups due to system growth, then more diesel may be needed.

Slide: Our permanent LNG and diesel units

- Are those the Merlees?
 - Yes, they have been decommissioned and do not exist in the plant anymore
- What about moving them out of downtown?
 - *Not answered, will be discussed shortly*

Slide: Our rental diesel generators

- Eyesore
- The permit says that the rentals are only supposed to be used for n-1
 - Yes but also need to be used in the order of most efficiency which takes precedence over any other aspect of the permit
- Why are they being run instead of the permanent ones-if not on the permit?
- Why are rental units restricted to April 20 if they're more efficient than the permanent diesel generators?
 - They are run during the time they are needed December 1 – April 30 but stay onsite because they don't have any other renters
- Why did the regulator specify N-1 use only?
- There have been years when low water meant that the diesels were running well into May. Is there a long term plan to address this?
 - This is during times of low water, or high demand on the hydro system that wasn't anticipated which would be emergency scenario during draught. The reservoir also has to meet down-stream flows.
- So why not extend the rental contract?
 - Usually in the spring there is an opportunity to meet demand using other resources but there is a new contract negotiation coming up this year which would look at potentially extending this.
- So in the future, no change to the duration of the rental?
 - Not at the moment

- Climate change will make the hydro system more precarious

Air and noise

Slide: Air quality modelling (27)

- Do those Air Quality standards take into account close proximity to residential neighbourhoods? I'm guessing that the location of the Whitehorse diesel generators is pretty unusual compared to other generating locations in Canada.
 - It applies from the fence line of an emitter and considers the ambient emissions already in the air + your emissions
- These are GHG emissions that need to be regulated

Slide: Air quality (28)

- What about the natural gas emissions which gets vented when the LNG is delivered between Fort Nelson and Whitehorse?
 - Fugitive emissions from YEC are captured by them, but vendors capture their own as well
- Can you provide the emissions data for the past 10 years at the LNG plant? Want to get off of this source. Want to get these numbers in front of the regulator to encourage these shifts.
- "Loud" is wasted energy, it's inefficient and people don't like it. And it comes out on our power bill – rental costs, etc. We need to reduce emissions.

Slide: Sound monitoring (2020 Hemmera study) (29)

- In 2020 every one was home to hear the noise and smell the pollution.
- Does Yukon Energy stand by the monitoring report produced by Hemmera in 2020? If so why is it no longer linked on your website?
 - Lisa may be able to answer why the link is no longer available
- This report does meet scientific standards; as such, it is alarming that YEC is relying on it.
- It's concerning that a scientific study that is so flawed, is still released by YE. it begs the question: what other studies are flawed
 - There is supplemental studies that have been undertaken which we will provide a link to
 - Further studies have shown that the permanent diesel units are the ones causing problems
 - YEC has been able to listen to the new noise studies being captured to analyze what other ambient noises are present
- Before the Dam the sound was the rapids, much more peaceful and salmon friendly.
- This study should be retracted, it's embarrassing and misleading to draw conclusions without being very clear about the limitations of the study.
- The report claimed that the noise levels were lower when the generators were on than off. Baseline measurements were only made at a couple locations and then used assumptions for absent locations – using a baseline of an 'urban environment', which led to the assumed baseline being higher than the actual modelled level meaning the model resulted in a negative value; which should have been a huge red flag, but it wasn't flagged.
 - While the assumed baseline may have been wrong, it's important to focus on what was measured; those were actual measurements.
- Really glad to see the various noise mitigation measures being considered.
- Agree that the old generators are the ones causing issues.

Slide: Sound monitoring results (30)

- I've measured the sound well over 75 db often
- This study characterized the Bell crescent as "urban" (rather than suburban), hence the guideline level of 61 dB.
 - Population density of Riverdale and distance to heavily trafficked road, and other
- Are these figures for the newer units running or the old ones that were running when Hemmera did their assessment?
- Is the sound louder the colder it is?
 - Temperature has some influence on how sound is propagated, but it's mainly the gradient of temperatures that allow noise to move through the different layers of air, and also the surfaces available to allow noise to bounce influence it so snow can create a soft surface whereas right after the snow melts (spring), where there are harder surfaces
- Has there been any sound monitoring (or modelling) done with the rentals running? Since they are what's run December thru April?
 - Yes there has been some, the permanent units are louder than the temporary

Next steps

Open Q&A

- When the emissions monitoring was done, with a certain distance from the units, was there any secondary testing done that would 'float' over to residents nearby?
 - YG captures ambient emissions at a national station downtown; YEC then does modelling with that data to project what the emissions would be
- The monitoring station is downtown? There is no monitoring onsite?
 - Monitoring stations are very often located away from an emitter, not on site; that is so that the pollutants are captured in the actual environment where other pollutants are, and can capture how they change. The modelling though can capture how those numbers change at different locations throughout the community.
- The fact that there isn't any onsite monitoring seems stupid and the fact that that isn't required should be changed.
 - That isn't required by the regulator so continuous monitoring isn't done.
- YEC must monitor for temperature at the hydro plant?
- How about the fish ladder?
- How do you regulate something you're not measuring?
- When the tests are done, are they 24hr/ day?
- Most of these are done on modelling, not monitoring; is there any way to do these studies using monitoring results rather than modelling?
 - In past projects, the regulators have required ongoing monitoring stations where there is enough uncertainty about the modelling to confirm the results through that method. These can cost a lot of money which is only a secondary cost but is a factor.
 - These models are used across the world so they are reliable and very standard practice; as such, there is a high degree of confidence in the models.

Final comments

- Continuous monitoring data has been done since the 2020 study which has shed light to the noise issues
- Commonly asked questions will be fielded on the website
- More detailed questions will be answered directly with those who submit them, as they are available

The meeting adjourned at 7:50 PM.

The foregoing is considered to be a true and accurate record of all items discussed. If any discrepancies or inconsistencies are noted, please contact the writer immediately.

Regards,

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Attachment: [Attachment]

APPENDIX G

Submitted Comments

Appendix G SUBMITTED COMMENTS

Table 6 – Submitted Comments (Redacted)

Date Received	Source	Comment/ Question
2-Dec-22	Online form	Yes please renew. Electricity is a necessary resource of which We cannot be without! No matter what!
2-Dec-22	Online form	The most critical move that must be taken, certainly in Whitehorse, is to develop an intensive refit of housing to use closed loop, vertical geothermal installations. While you are studying the industrial development of geothermal resources, you are missing the opportunity to make use of a proven, cost effective and extremely efficient technology that would stabilize energy use and costs. I have heard of concerns about the aquifer below Riverdale being a concern, but with closed loop systems and non-toxic fluids in the closed loop, those concerns seem somewhat more than slightly spurious. Regardless, ground based geothermal on a home / business level would dramatically reduce the Yukon's consumption of electrical power.
7-Dec-22	Online form	Diesel generator noise is still a irritant, especially on calm winter nights! A noise reduction barrier around the backup generators would be appreciated! I live on Duke Road next Vanier School.
9-Dec-22	Online form	Small nuclear plant https://yukonenergy.ca/energy-in-yukon/projects-facilities/whitehorse-thermal-permitting
12-Dec-22	Online form	Would you be able to share more information & data on previous and current years noise & air quality for the neighborhood as a result of the project? Can noise & air quality for the neighborhood be checked in real time & be available for the public/residents? Due to dated age of Yukon air quality regulations, would YEC voluntary support the adoption of other more recent air/noise guidelines/standards/enforcement from other jurisdictions (i.e. CCME or BCMoE).
18-Dec-22	Online form	Hello, I have the following questions regarding Yukon Energy's plan to renew the permit for Thermal Generation at the Whitehorse Rapids Generating Station: (1) Given that the previous sound monitoring report (2020) acknowledged that sound levels at some Riverdale homes were higher than allowed by BC OGC and Health Canada, what progress (if any) has been made towards Yukon Energy's stated commitment to: "Explore possible ways to reduce noise levels at the Whitehorse diesel plant. This may include adding equipment to the generators to muffle noise, making changes to the building or other options." (2) What are the noise levels of the permanent diesel generators compared to the newer temporary generators? (3) What are the generating efficiencies of the permanent diesel generators compared to the newer temporary generators? (4) Is there a long-term vision for diesel generation in Whitehorse? Has Yukon Energy considered moving its diesel generation to a different location, for example the new battery facility currently under construction up the hill?

Date Received	Source	Comment/ Question
		I look forward to your answers, [Redacted]
18-Dec-22	E-mail	<p>Please add the link for the January 17 online meeting on this website (yukonenergy.ca/thermalpermit).</p> <p>Also, I have the following questions:</p> <p>(1) Given that the previous sound monitoring report (2020) acknowledged that sound levels at some Riverdale homes were higher than allowed by BC OGC and Health Canada, what progress (if any) has been made towards Yukon Energy's stated commitment to: "Explore possible ways to reduce noise levels at the Whitehorse diesel plant. This may include adding equipment to the generators to muffle noise, making changes to the building or other options."</p> <p>(2) What are the noise levels of the permanent diesel generators compared to the newer, temporary generators?</p> <p>(3) What are the efficiencies of the permanent diesel generators compared to the newer, temporary generators and the LNG generators?</p> <p>(4) Has Yukon Energy considered moving its diesel generation to a different location, for example the new battery facility under construction up the hill?</p>
1-Jan-23	Online form	<p>I am a Riverdale resident and interested in the renewal of the thermal permit.</p> <p>I have visited the thermal permit page on Yukon Energy's website. Could you provide me with a copy of the current thermal permit as well as the results of air quality monitoring that has been done as a condition of this permit?</p> <p>Thank you [Redacted]</p>
8-Jan-23	E-mail	<p>Hello,</p> <p>I'm writing to ask some questions about the "Yukon Energy, Whitehorse Rapids Generating Station – Noise Monitoring Assessment" Report produced by Hemmera Envirochem Inc. on behalf of Yukon Energy in 2020.</p> <p>The report found that thermal generation noise levels at the Nisutlin road substation and nearby residences exceeded the limits according to guidance from both BC Oil and Gas Commission and Health Canada.</p> <p>Operating noise levels were also measured at a residence on Bell Crescent, and the report used this measurement to claim that residential noise levels were within the guidance set by Health Canada. I have several questions about this claim and the measurement process used to back it up:</p> <p>1. Why were baseline noise measurements, which were performed for other locations in the study, not made at the residential location on Bell Crescent? Given that the calculation required for the Health Canada guideline is based on a difference between operating and baseline noise levels, this seems like a major oversight and a violation of basic scientific principles related to proper controls.</p> <p>2. Section 3.2.3 of the report states: "During the period of operation monitoring the generating station was running with between one and four generators..." Can Yukon Energy please provide more information on how many generators were running, and for how long, on the days when each measurement was made? While it's not clearly stated</p>

Date Received	Source	Comment/ Question
		<p>in the report, it appears that each location was measured only once, and that each measurement was made on a different day.</p> <p>3. What are the criteria that were used to characterize the residential area on Bell crescent as "urban" rather than "suburban" in order to choose an assumed baseline noise level of 60 dBA (page 4)? What would the assumed baseline have been for a suburban area?</p> <p>4. The calculation using the assumed urban baseline of 60 dBA yielded a result of -1.5 dBA (page 4), suggesting that the Bell Crescent location is quieter when the diesel generators are in operation. This not only defies common sense but it is verifiably false. Did this raise any flags?</p> <p>Overall, I'm concerned that the methods and assumptions used in the Noise Monitoring Assessment were chosen to generate a desired result, rather than to thoroughly assess the noise contributions of the diesel generators in the nearby residential area.</p> <p>Given that Yukon Energy is in the process of applying for a renewal of its Thermal Energy Generation permits for the affected location, I would appreciate a timely response to these questions.</p> <p>Many thanks, [Redacted]</p> <p>Please note that I would have liked to include the Hemmera study authors on this message, however their email contact information is not provided in the report or available online.</p>
18-Jan-23	Online form	<p>Is there any work being done to capture (scrub) the emissions from diesel or LNG burning? Carbon Capture and/or capturing the particulate matter would be a worthy project.</p>
25-Mar-23	E-mail	<p>Hello,</p> <p>In December, I submitted a number of questions related to the renewal of Yukon Energy's thermal permits for Whitehorse (see below). On January 8, I sent this group of recipients some additional questions related to the "Yukon Energy, Whitehorse Rapids Generating Station – Noise Monitoring Assessment" Report produced by Hemmera Envirochem Inc. on behalf of Yukon Energy in 2020.</p> <p>I have not received answers to any of the questions that I posed. Given that the public consultation for the permit renewal is taking place this week, when can I expect a response?</p> <p>Thank you, [Redacted]</p>