



#2 Miles Canyon Road
Box 5920, Whitehorse
Yukon Y1A 5S7
yukonenergy.ca

January 10, 2023

Mayor Laura Cabott and City Council
City of Whitehorse

Delivered by email: MayorandCouncil@whitehorse.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 Mayor and Council of the City of Whitehorse, 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; and
- One in-person public meeting held at Grey Mountain Primary School on March 29, 2023, from 6:30-8:30pm.

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 "Andrew Hall".

Andrew Hall, President & CEO



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

yukonenergy.ca

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.





Sound Monitoring in Faro

January 2023

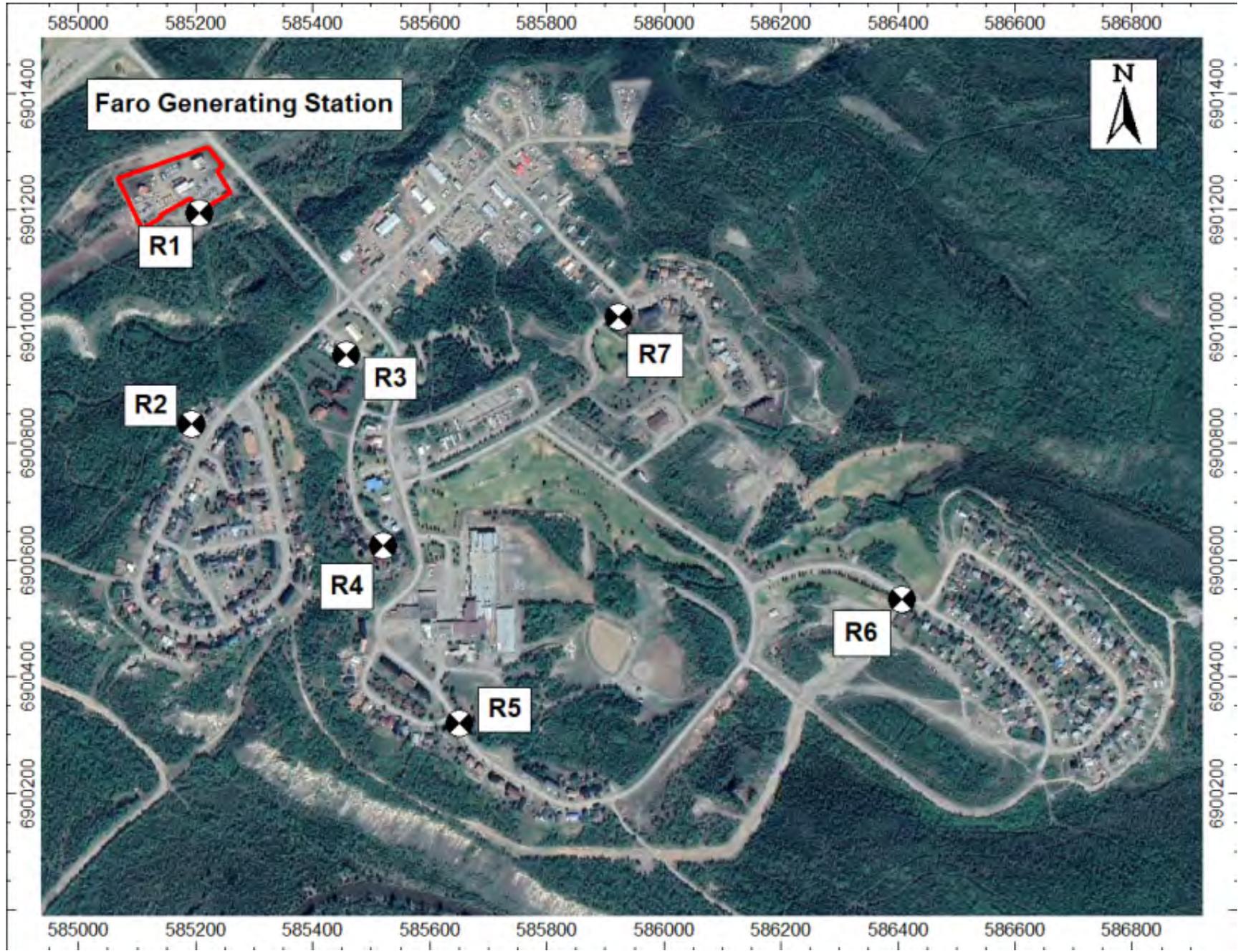


Agenda

- Sound monitoring
- Sound monitoring results
- Noise complaint management plan
- Sound modelling
- Sound modelling results
- Mitigation actions
- Q&A period

Sound monitoring

- No noise regulation in the Yukon
 - BC Oil and Gas Commission's Noise Control Best Practices Guideline
- Nighttime permissible sound level: 43 dBA
- Daytime permissible sound level: ~53 dB
- Monitoring completed in March 2021 and March 2022
- Meteorological conditions at time of monitoring:
 - Temperature range: +5°C to -4°C
 - Windspeeds: 0 km/hr to 16km/hr



Sound monitoring results

- Very low ambient sound levels in Faro means noise from sources like the FGS more obvious

	R2	R3	R4	R5	R6	R7
Ambient nighttime	23.6	25.4				
Ambient daytime	35.4	33.9				
FD1, FD7, 3 rental units (10.6 MW)	44.1	53.6	50.5	44.5	41.4	45.4

Noise complaint management

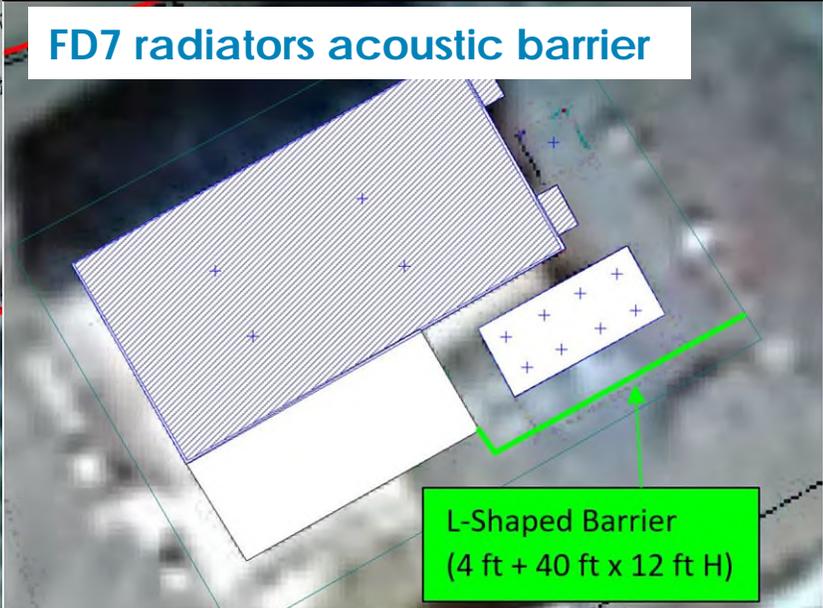
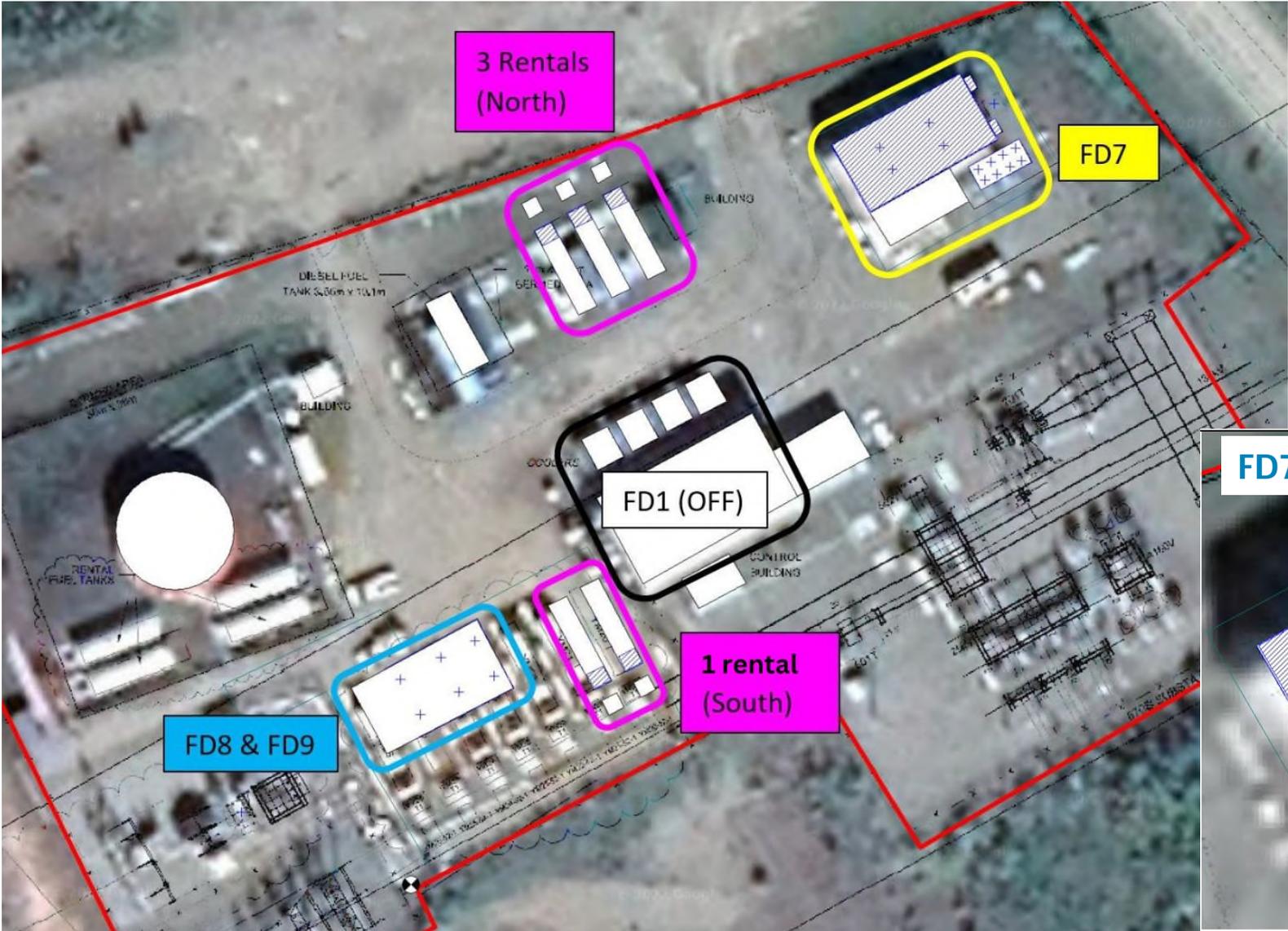
- Amended air emissions permit (allows YEC to generate 15.5 MW vs. 10.6 MW) requires noise complaint management plan
- Complaint management plan includes:
 - Sign at FGS and contact information
 - Process for community engagement
 - Comment form on YEC website
 - Dispute resolution process
 - Reporting process

Sound modelling

- YEC in process of replacing 1 diesel generator at FGS
- Modelled sound levels of different operational configurations at FGS
- Meteorological conditions for modelling:
 - Temperature: 0°C
 - Humidity: 70%
 - Windspeeds: 4-18 km/hr

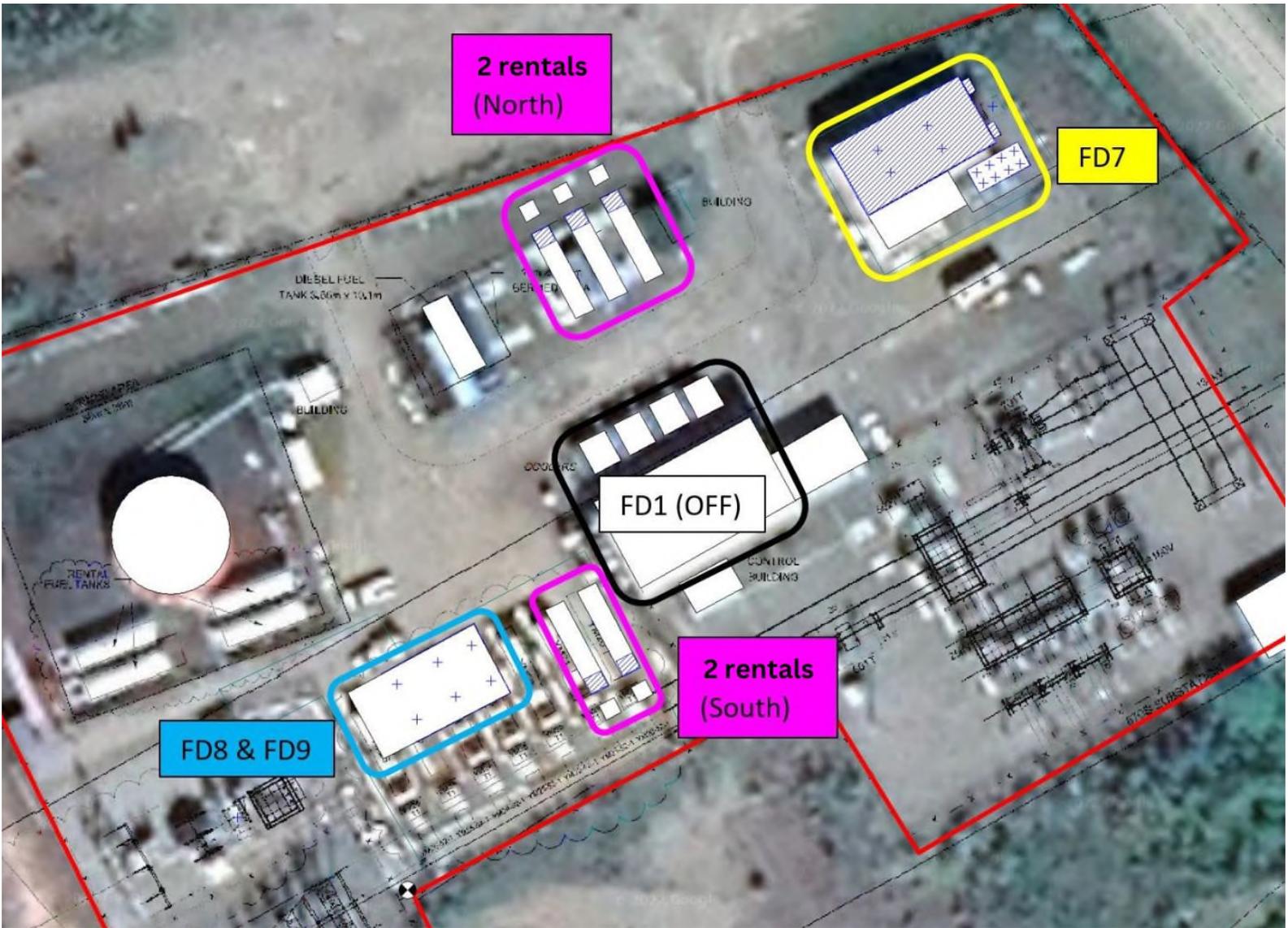
Proposed operating configuration (option A)

- FD7, FD8, FD9 and 4 Rentals (3 North, 1 South, 1 spare)
- Includes FD7 radiators acoustic barrier



Proposed operating configuration (option B)

- FD7, FD8, FD9 and 4 Rentals (2 North, 2 South, 1 spare)
- Includes FD7 radiators & 2 South rental units' acoustic barrier



Sound modelling results

	R2	R3	R4	R5	R6	R7
Ambient nighttime	23.6	25.4				
Ambient daytime	35.4	33.9				
Proposed operating configuration (option A)	45.0	50.3	46.8	39.7	40.1	42.3
Proposed operating configuration (option B)	42.7	49.9	45.3	37.5	39.8	42.4

Mitigation actions

Replace FD1

- In-service: Q4 2023

Acoustic barrier for cooling system

- Would result in 3.1 dB reduction

Reduce rental generators from 7 to 5

- 5th on-site as spare

Relocate 3 of 5 generators

- Arrange so sound directed away from Faro

Exploring feasibility of additional sound mitigation options

- Like 2 south units' acoustic barrier

=

**20% to 30%
sound
reduction**



yukon
energy
the power of yukon

Air quality

- Since 2008, air quality around the Faro plant has been assessed 3 times
- Assessments found operations not likely to have significant adverse effects on the environment or human health
- Currently conducting another round of air quality monitoring
- Installing air quality monitoring equipment to measure nitrous oxide concentrations
 - A sound monitoring device will also be included with this equipment
- If results from air quality monitoring found to exceed the permissible levels, Yukon Energy will develop an air quality management plan
- Plan would be reviewed and approved by the Government of Yukon

Why the Faro Generating Station?

- Enough room to install the generators within the fence line on Yukon Energy property
- Room in Yukon Energy's yard to build substation needed to connect the generators to Yukon grid
- Existing fuel storage tank on site and room to add extra temporary fuel tanks
- Keeping rentals together cost-effective and the best way to meet peak demand across the Yukon grid
- Why not in Mayo or Dawson?
 - Not enough room for units, fuel and electrical equipment

From: [Travis Ritchie](#)
To: "[Elizabeth.Barker](#)"
Subject: RE: [EXT] RE: Faro Station Modifications
Date: February 20, 2023 9:53:00 AM
Attachments: [image002.png](#)
[image003.png](#)
[image004.png](#)
[image005.png](#)
[image006.png](#)
[image007.png](#)

Hi Liz,

Thanks for that info. Appreciate it.

We'll get the modification proposal to you as soon as we can. Likely next month or in April once our engineering team solidifies the draft plan.

Regards,

Travis

From: Elizabeth.Barker <Elizabeth.Barker@yukon.ca>
Sent: February 20, 2023 9:17 AM
To: Travis Ritchie <Travis.Ritchie@yec.yk.ca>
Subject: RE: [EXT] RE: Faro Station Modifications

Hi Travis,

I appreciate the additional context around YEC's operations. It's good to hear the permit capacity is built into the system controls.

I'd like to let you know that based on the information received to date, the proposed changes to the Faro station are not considered YESAB assessable. We will further evaluate and confirm this decision once we're received formal notification and more details from YEC.

Thanks,
Liz

Elizabeth Barker
Environmental Protection Analyst
Environment | Standards and Approvals
T 867-667-5456 | Yukon.ca

From: Travis Ritchie <Travis.Ritchie@yec.yk.ca>
Sent: Thursday, February 16, 2023 10:00 AM
To: Elizabeth.Barker <Elizabeth.Barker@yukon.ca>
Subject: RE: [EXT] RE: Faro Station Modifications

Hi Liz,

Thanks for your note.

For context, we are still responding to evolving operational needs and community concerns in Faro, so are only in the planning phase of any potential changes. Recent dialogue with the municipal government and residents in the Town of Faro is part of the engagement we are undertaking during this phase. Once we have a draft plan crystallized we had planned to engage your team for review and approval of the potential changes, so we will make sure Part 2, Item 5 of the permit is followed once we reach that point.

Regarding permitted operational capacity I wanted to share that the System Operators are familiar of our permit thresholds and have these rules built directly into their system controls. Any attempt to dispatch more generation at a facility beyond its permitted capacity prompts an alarm that annunciates to the Operator so that we maintain compliance with this permit requirement. As you may know, YEC maintains installed capacity at several of its thermal generating stations that exceeds the operational thresholds allowed by the air emissions permits. This redundancy ensures if any units fail to start when called upon, that we have sufficient back-up resources to meet system demands. In any extraordinary circumstances where we may have an emissions exceedance we would notify your office and that of the Compliance and Inspections Unit forthwith.

Hope this additional context is helpful.

Thanks again.

Regards,

Travis

From: Elizabeth.Barker <Elizabeth.Barker@yukon.ca>

Sent: February 16, 2023 8:37 AM

To: Travis Ritchie <Travis.Ritchie@yec.yk.ca>

Subject: RE: [EXT] RE: Faro Station Modifications

Hi Travis,

Thanks very much for the responses. While I recognize that you have provided information about the proposed modification below, I'll still ask that prior to making any modifications at the Faro station, please send me an official notification and wait until we have approved the modifications before proceeding with them, as per Part 2.5 of the current permit as shown below.

5. The permittee shall obtain approval from an environmental protection analyst prior to:

- a) any addition, modification, removal or replacement of any equipment or components related to the release, abatement, control or treatment of air emissions; or
- b) any change in location of the source(s).

Additionally, as you are aware, the Faro station was assessed and permitted for a capacity of 15.5MW. Operation above a capacity of 15.5MW will result in non-compliance and could result in further enforcement action.

Thanks again for the quick response and I'll be in touch regarding the complaint management plan.

Cheers,
Liz

From: Travis Ritchie <Travis.Ritchie@yec.yk.ca>
Sent: February 14, 2023 2:47 PM
To: Elizabeth.Barker <Elizabeth.Barker@yukon.ca>
Cc: Lisa Wiklund <lisa.wiklund@yec.yk.ca>
Subject: RE: [EXT] RE: Faro Station Modifications

Hi Liz,

Sorry for the delay. Please see my response embedded below.

Please let me know if you need anything further or would like to discuss.

Regards,

Travis

From: Elizabeth.Barker <Elizabeth.Barker@yukon.ca>
Sent: February 14, 2023 1:54 PM
To: Travis Ritchie <Travis.Ritchie@yec.yk.ca>
Cc: Lisa Wiklund <Lisa.Wiklund@yec.yk.ca>
Subject: RE: [EXT] RE: Faro Station Modifications

Hi Travis,

I need to write a response this week and I was hoping you could answer the following questions?

Are all of the following modifications going to occur at the Faro station: **RESPONSE: Yes**

- Decommissioning FD1 – Mirrlees KV16 Generator
- Adding two new “permanent” generators, FD8 and FD9.
- Moving 3 “temporary” rental generators and infrastructure to a different location in the facility.
- Removing 2 “temporary” rental generators.
- Possible addition of sound barriers around FD7 and/or two of the rentals

If yes...

What is the nameplate capacity and tier of FD8 and FD9?

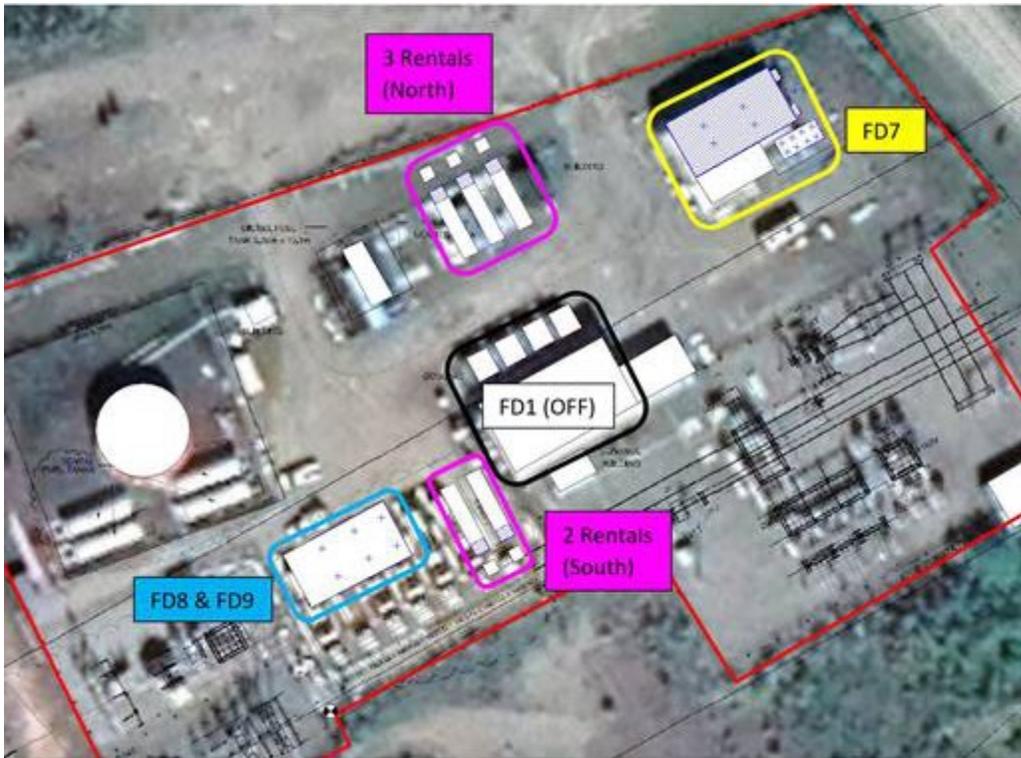
RESPONSE: FD1 is now end of life and we are planning to replace that permitted capacity with 2 x ~2.5 MW EPA Tier 4 and CARB certified diesel generators. This represents an investment by YEC in 'best available technology' and will result in reduced noise and criteria air contaminant (CAC) emissions from the existing Pre-Tier FD1 unit (1960's technology). FD1 represents 5.15 MW of the capacity at the FGS.

Which temporary generators are being removed?

RESPONSE: A portion of the capacity installed at the FGS is made up of rental units (currently 7 x 1.8 MW) that are in place as backup in case any other unit fails to start or is down for planned/unplanned maintenance or repair when the capacity is needed. We anticipate that with the installation of FD8 and FD9, to replace the less reliable FD1, this will allow us to remove two (2) of the seven (7) rental units of this redundant capacity at site in the near term. The temporary rental generators are as described in our previous assessment and permitting documentation (i.e., Caterpillar XQ2000/3516C, EPA Tier 2 and CARB certified units). With the revised configuration we will have approximately 2 MW of back up capacity available at site to complement the operating/production capacity of 15.5 MW allowed under our AEP.

Which rental generators are being moved?

RESPONSE: Due to noise complaints we are planning to relocate 3 of the remaining 5 rental units to a location approximately 45 metres northwest of their current location. This will allow the existing FD1 building to provide some sound attenuation during their operation. We are evaluating the feasibility of additional sound attenuation for the remaining rental units as part of our planning, but don't have an engineering assessment or cost estimate completed yet. See draft site sketch below for planned locations of units.



How far from their current location? A figure would be ideal. **RESPONSE: See above and attached.**

On a side note, I received your response in regards to the Faro Station Complaint Management System and will get back to you as soon as I can so we can finalize that plan.

Thanks and have a great day,
Liz

From: Travis Ritchie <Travis.Ritchie@yec.yk.ca>
Sent: February 9, 2023 9:04 AM
To: Elizabeth.Barker <Elizabeth.Barker@yukon.ca>
Cc: Lisa Wiklund <lisa.wiklund@yec.yk.ca>
Subject: [EXT] RE: Faro Station Modifications

Hi Liz,

Thanks for reaching out.

As part of the presentation in Faro recently we also received several questions from a member of the public and are working on responses. I will try to get our responses over to you shortly for your consideration. If after reviewing, you have any follow up questions or concerns with our responses please feel free to reach out to me. Overall, I hope that what we share makes sense and is

appropriate from your perspective, so I appreciate you connecting with me on this.

Regards,

Travis



Travis Ritchie

Manager - Environment, Assessment, & Licensing

Telephone: 867-393-5350 | Mobile: 867-333-0300



Sustainable Electricity Company™



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Please consider the environment before printing this e-mail

SM-YEC-20141008MYEC-20141008

From: Elizabeth.Barker <Elizabeth.Barker@yukon.ca>

Sent: February 9, 2023 8:08 AM

To: Travis Ritchie <Travis.Ritchie@yec.yk.ca>

Subject: Faro Station Modifications

Good Morning Travis,

Our minister received a message with some questions from a member of the public asking about proposed modifications to the Faro plant, as presented on January 24th by Paul Murchison and Ed Peake. The modifications described are as follows:

- Decommissioning FD1 – Mirrlees KV16 Generator
- Adding two new “permanent” generators, FD8 and FD9.
- Moving 3 “temporary” rental generators and infrastructure to a different location in the facility.
- Removing 2 “temporary” rental generators.
- Possible addition of sound barriers around FD7 and/or two of the rentals
- YEC has stated that these modifications will change sound emissions from the

FGS

I'd like to respond as soon as possible so I'm just looking for confirmation that these modifications are being planned and that we will receive notification prior to any work as per Part 2.5 of the Faro permit.

Thanks very much,
Liz



Elizabeth Barker

Environmental Protection Analyst
Environment | Standards & Approvals
T 867-667-5456 | Yukon.ca



Thermal Permitting Project

City of Whitehorse
March 22



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
- Next steps
- Open Q&A



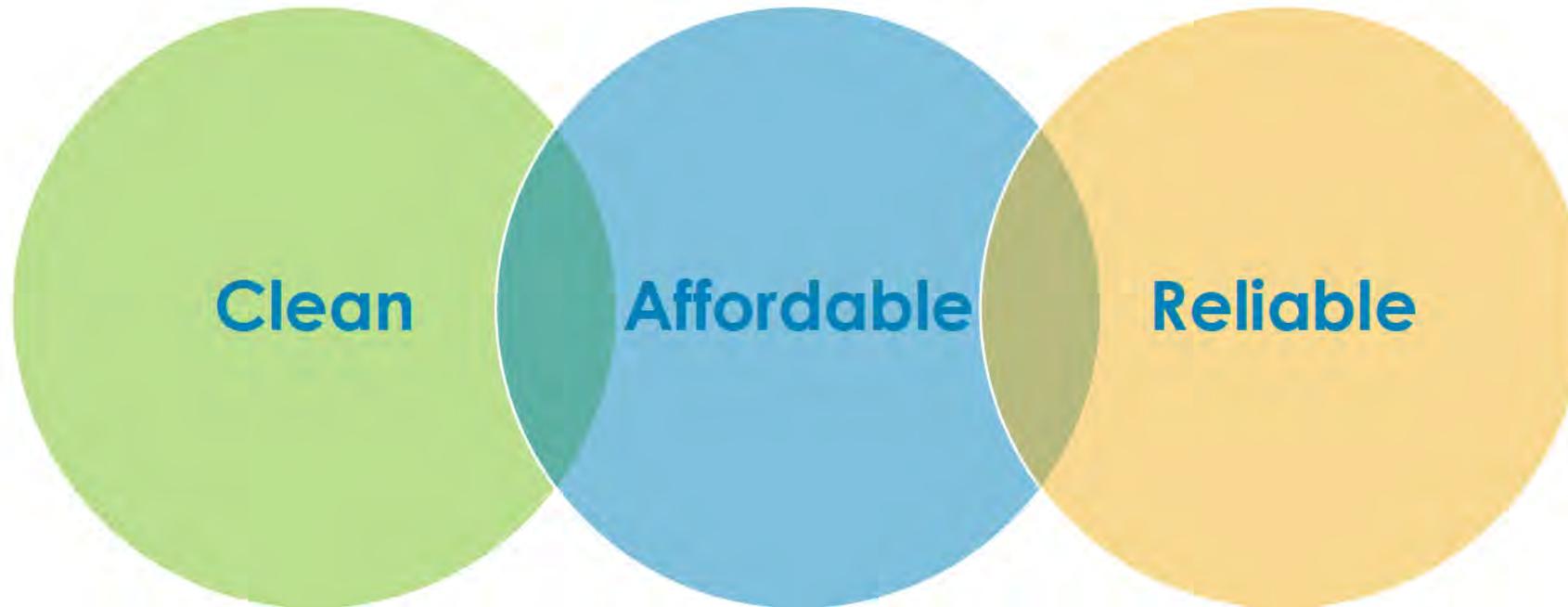
Yukon's electricity system

Our plans for the future

Our energy grid



Our 2030 Vision



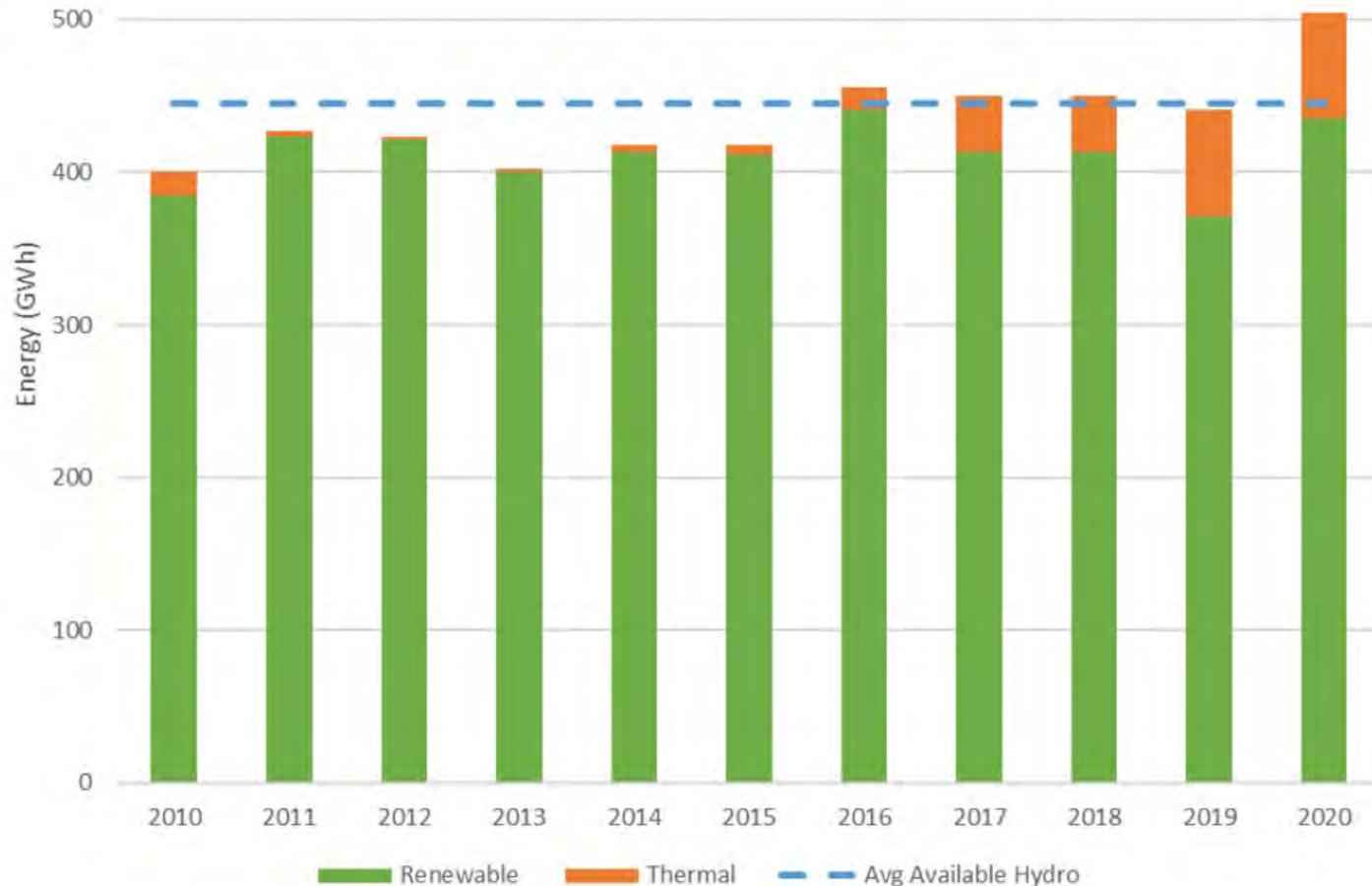
Electricity generated is **97% renewable**. Less LNG and diesel are used to generate electricity. Emissions in the heating and transportation sector are reduced by electrification.

Significant federal funding is required in order to minimize impacts on electricity rates and ensure our plan is affordable.

The projects focus on the delivery of dependable winter capacity to ensure reliable electricity is available during cold winter nights.



Renewable resources: the pillar of Yukon's energy today



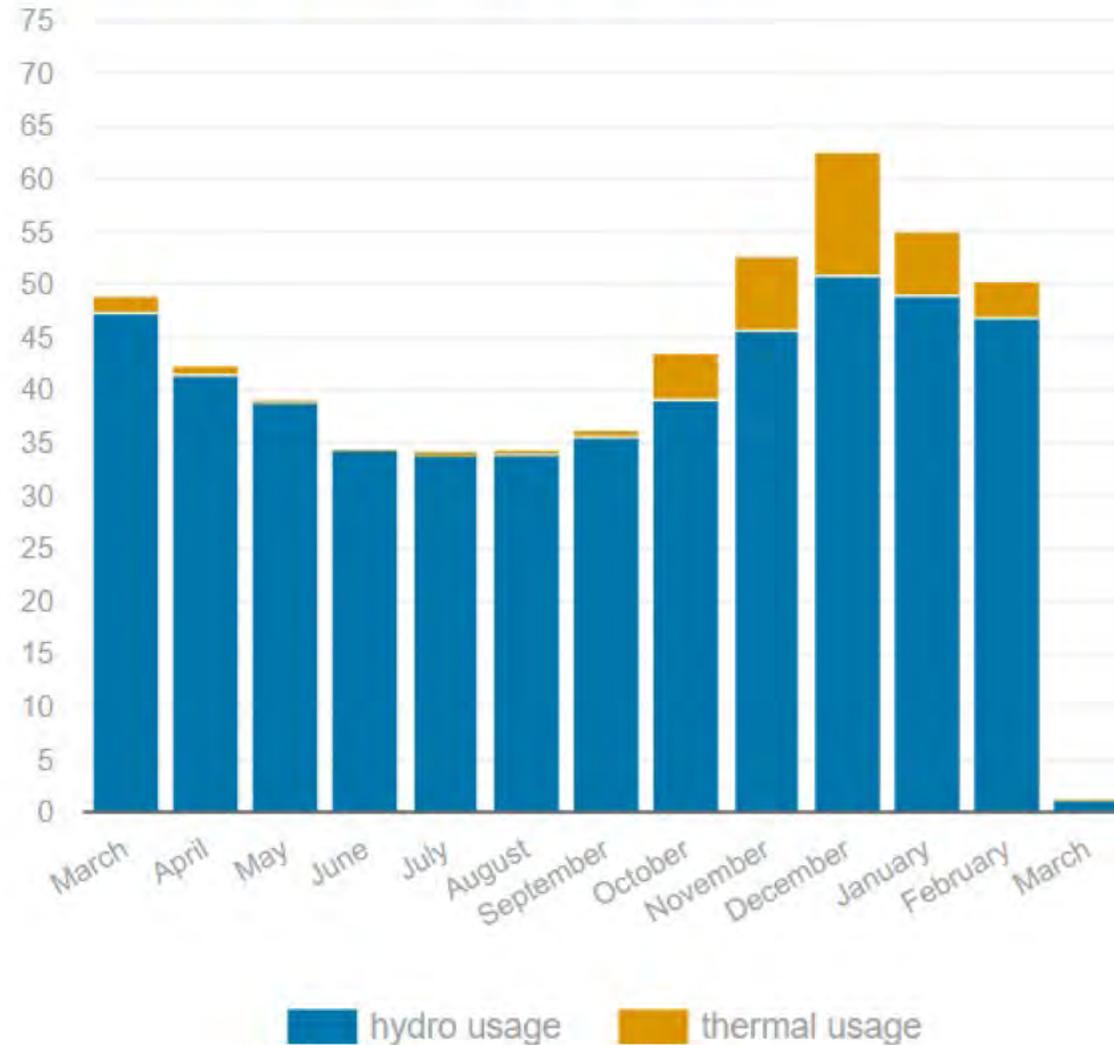
Today, over 90% of all Yukon's electricity is produced by existing hydro facilities.

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.



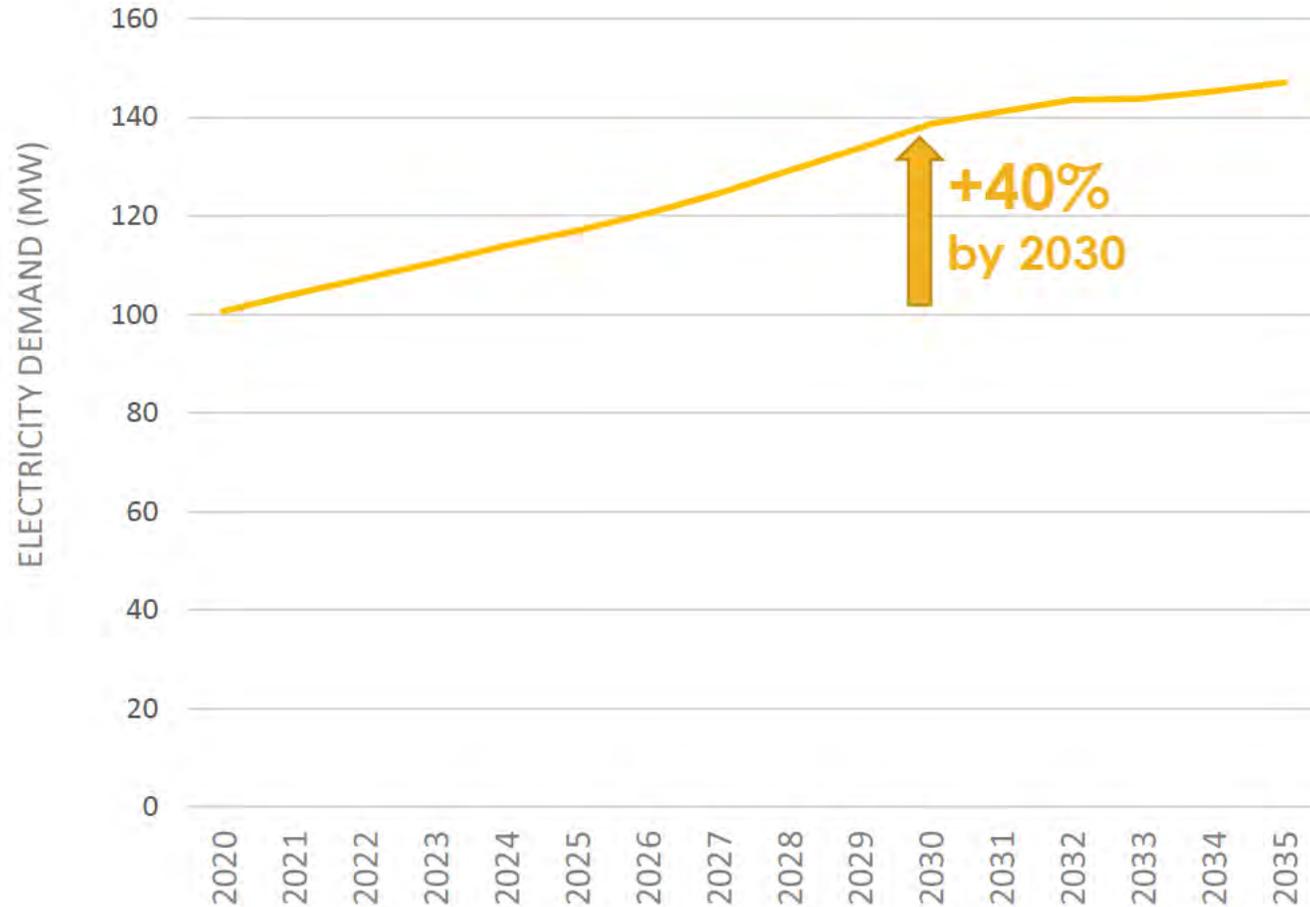
Monthly load consumption

March 2022 to March 2023





Demand for electricity is growing



Why?

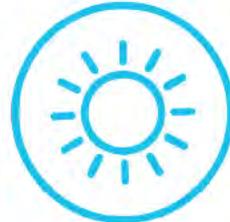
- Continued growth in population & electricity use
- Policy actions to address the climate change emergency



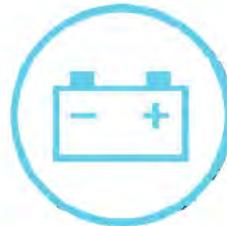
Current and future projects



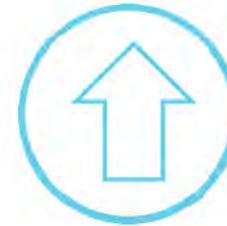
HYDRO
RELICENSING



MICRO-
GENERATION



BATTERY
STORAGE



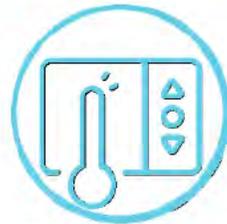
HYDRO
UPGRADES



INDEPENDENT
POWER
PRODUCERS



ATLIN HYDRO
EXPANSION



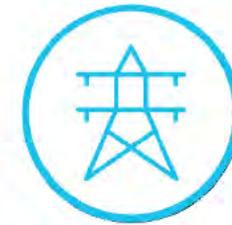
DEMAND-SIDE
MANAGEMENT



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





Our existing Whitehorse permit

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 existing permit *continued*

- Existing permit will expire December 31, 2024
- Renewal will extend the permit for another 10 years
- Not asking for anything new or different

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



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.



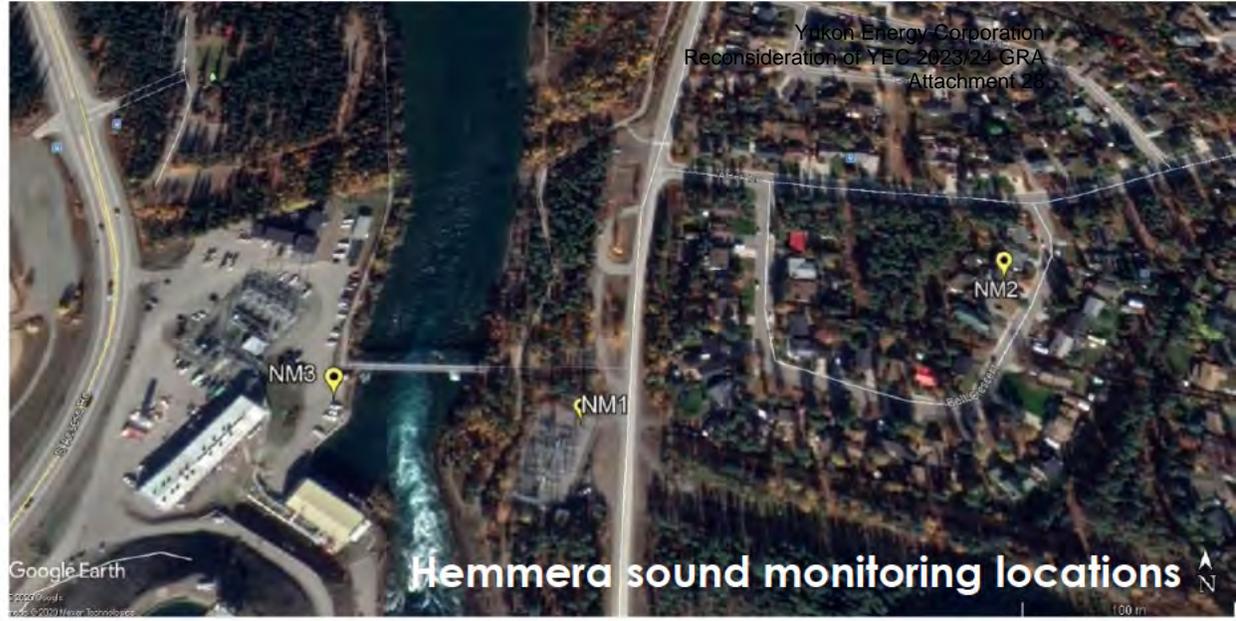
Air quality

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 rental diesel units in emergency conditions

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.
- Yukon Energy conducts regular sound monitoring at the substation on Nisutlin Drive.
- Hemmera conducted sound monitoring for Yukon Energy in Riverdale in 2020.





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



Sound monitoring results (Yukon Energy)

Monitored at substation

Date	Number of diesel generators running	Decibel level (daytime – 7:00 to 22:00)	Decibel level (nighttime – 22:00 to 7:00)	BC OGC Guidelines
XXX				61.0
XXX				61.0
XXX				61.0



Sound

potential mitigation

- New and existing 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
 - Replacing 5 MW of diesel capacity in Whitehorse with new, quieter diesel generators in summer 2024
 - Example

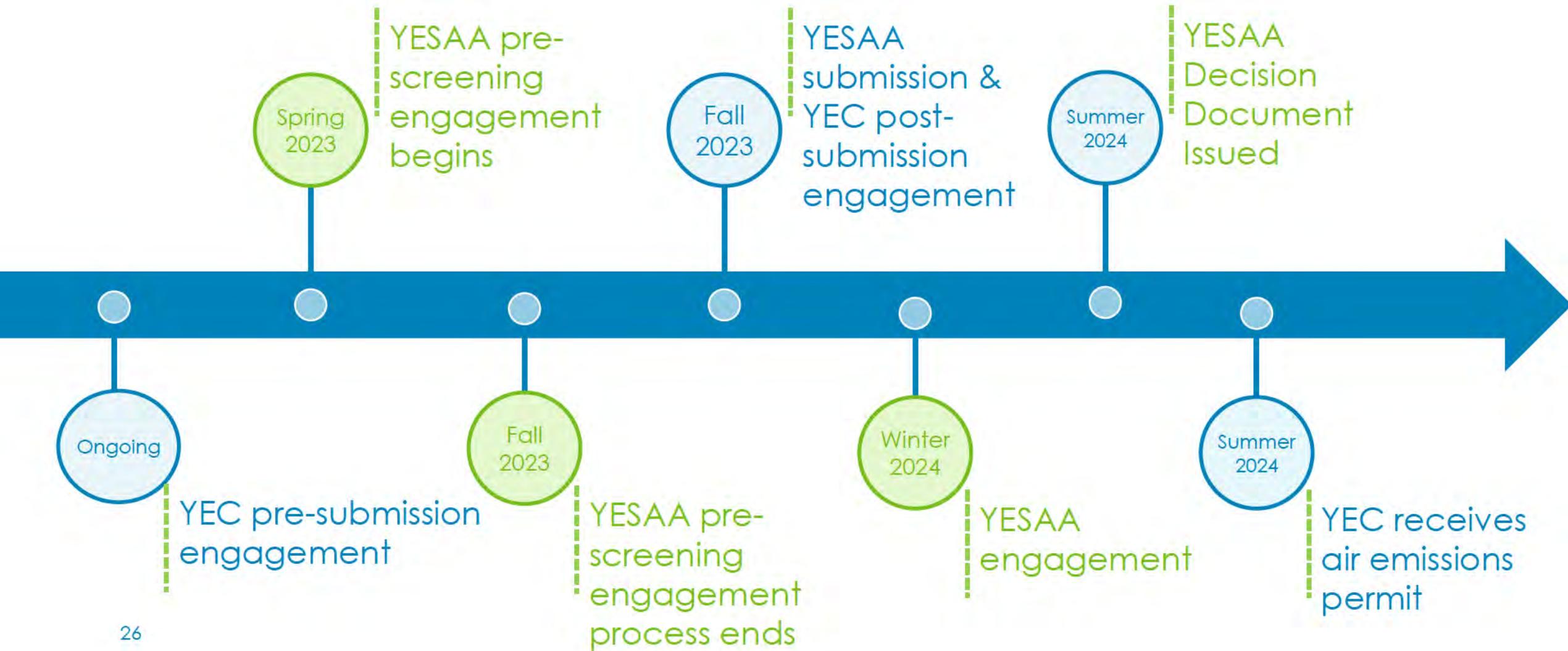


Next steps

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 online or paper 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



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

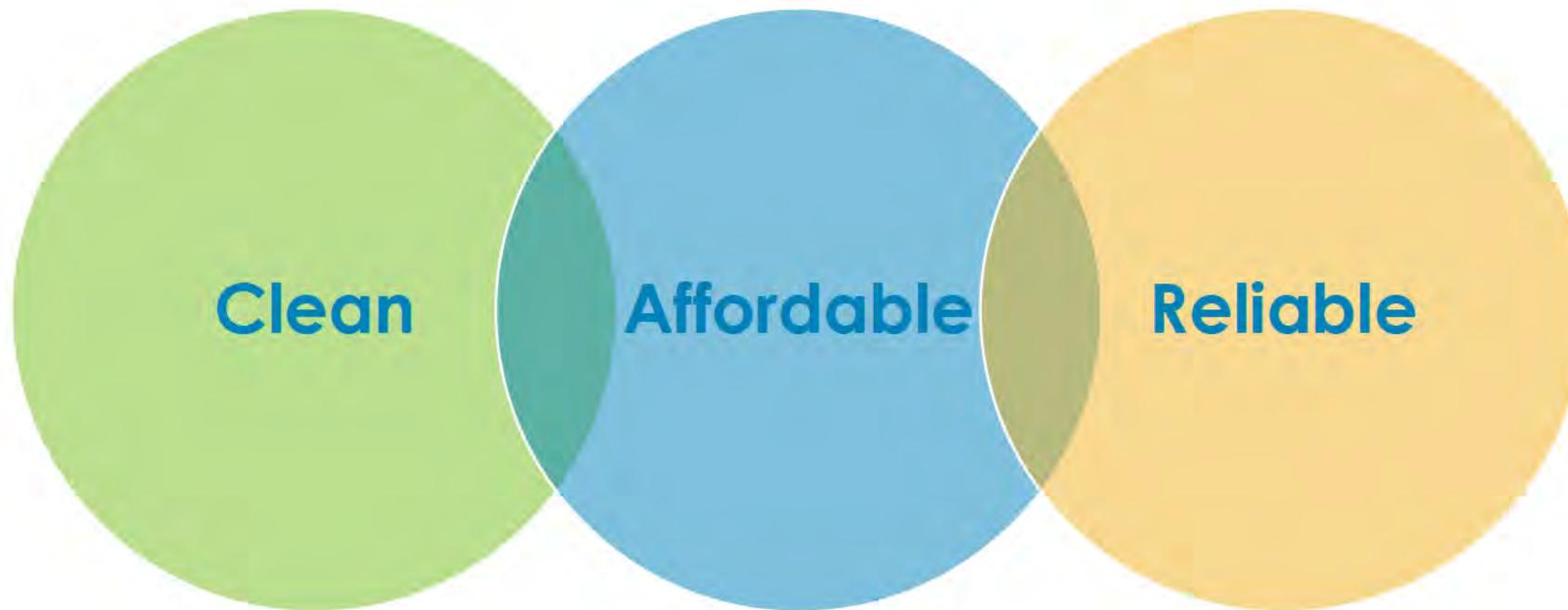
Yukon Energy

- 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

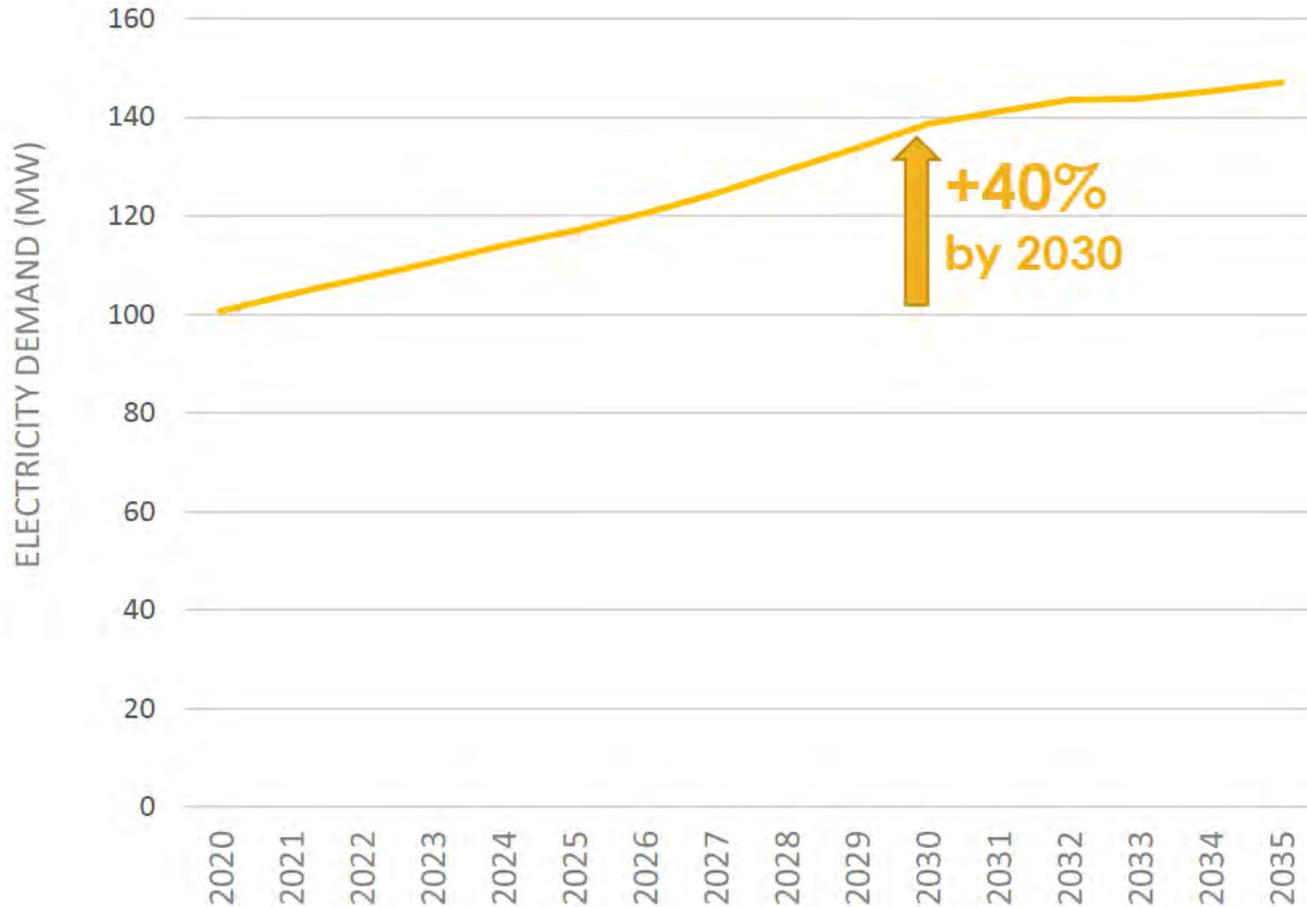
Yukon's electricity system

Our plans for the future

Our 2030 Vision



Demand for electricity is growing



Why?

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

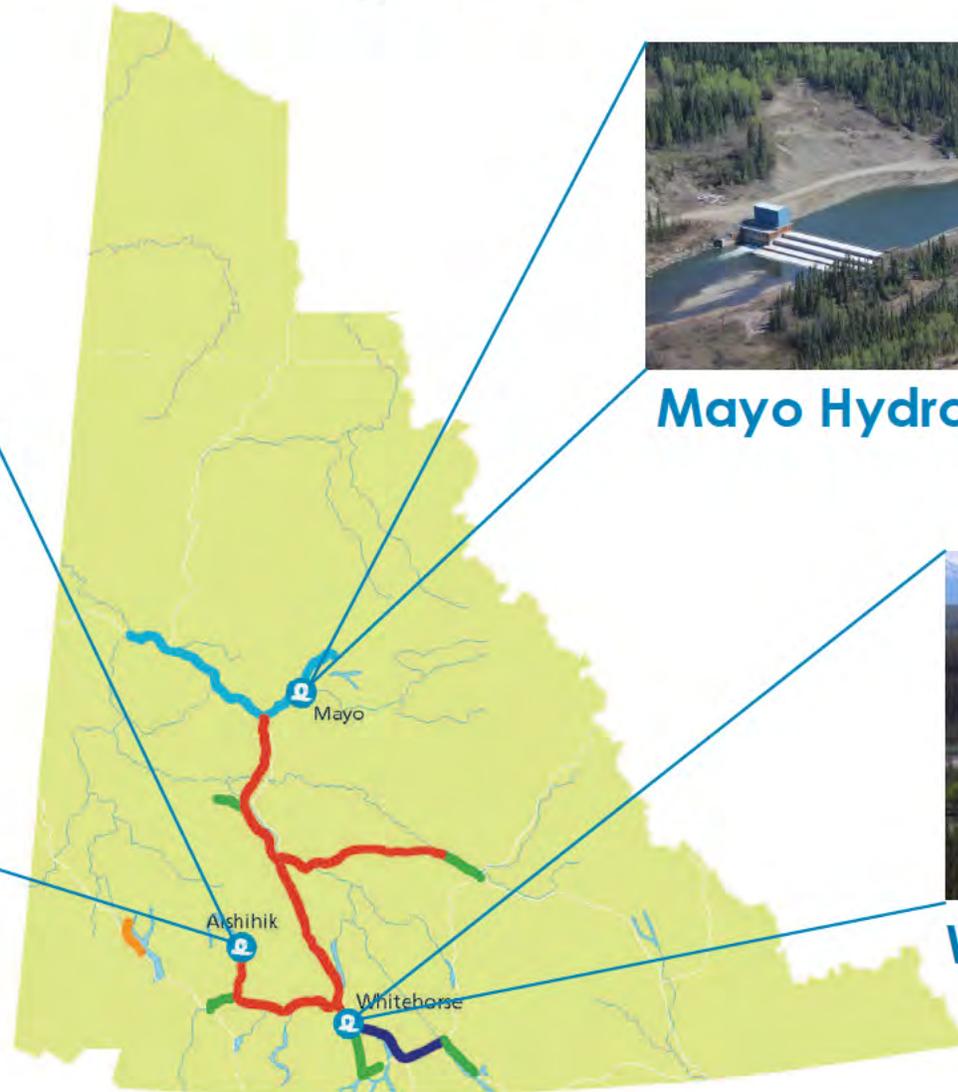
Our energy grid



Our assets – Hydro



**Aishihik
Hydro: 37 MW**

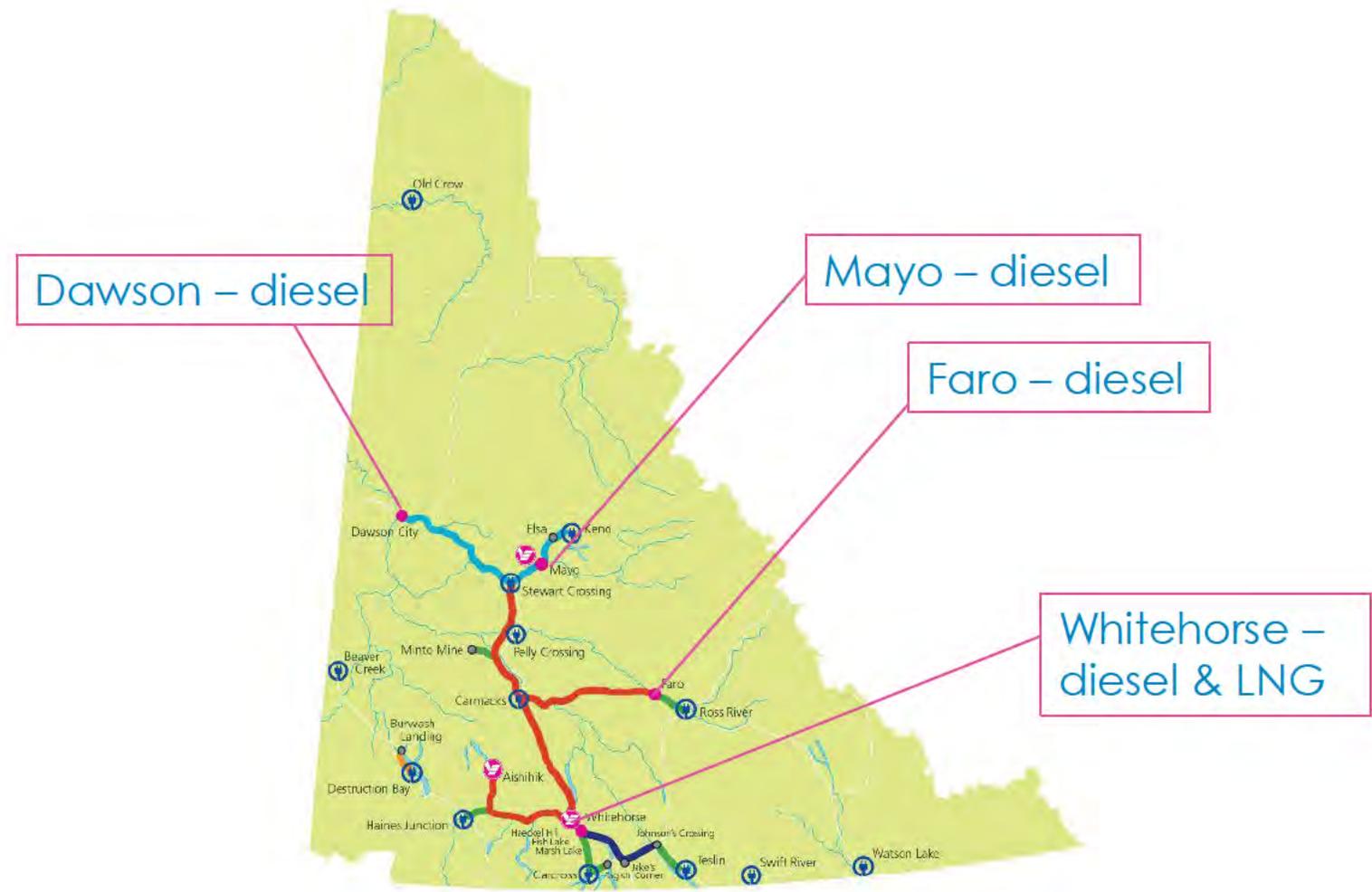


Mayo Hydro: 15 MW

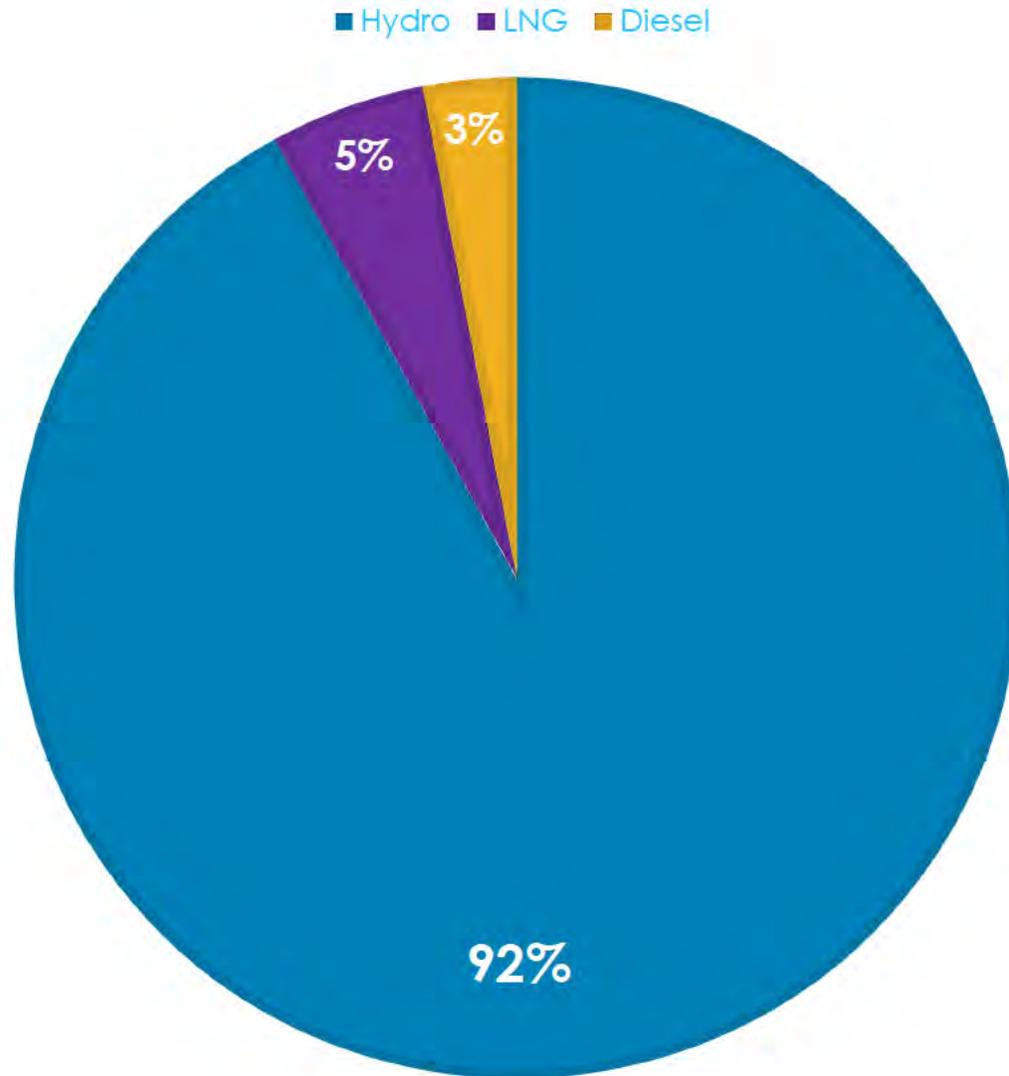


Whitehorse Hydro: 41 MW

Our assets – Thermal



Generation supply for 2022

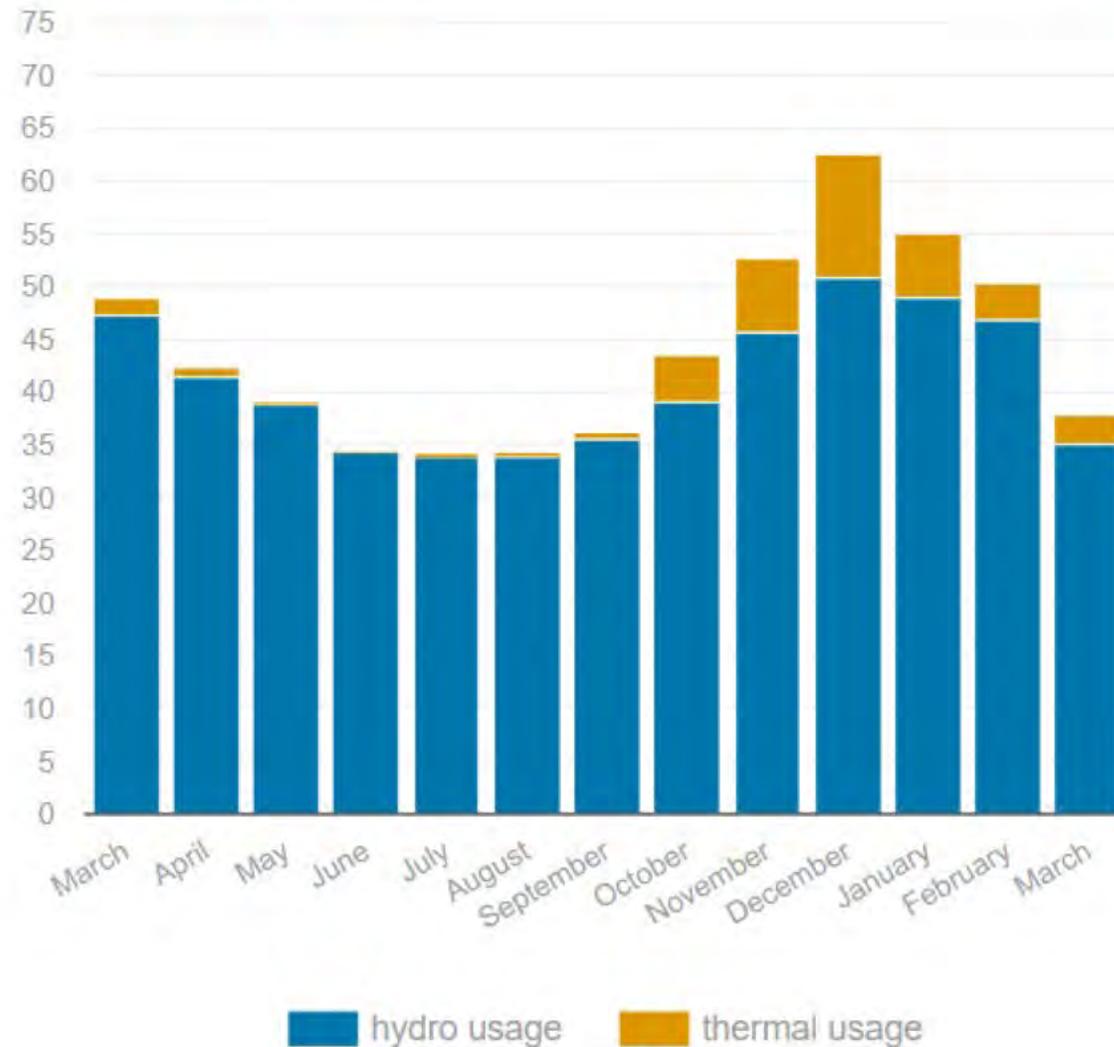


Today, over 90% of all Yukon's electricity is produced by existing hydro facilities.

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.

Meeting Winter Demand

Monthly consumption
 between March 2022 to
 March 2023 (GWh)



Thermal to Meet Emergencies

Yukon Energy is regulated to plan for N-1

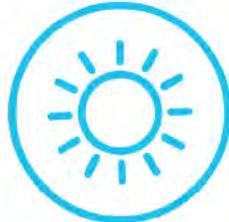
N-1 = Provide enough electricity to meet
Peak winter demand (coldest day of the year) – our
single largest source of supply (Aishihik)

So, available diesel capacity for unlikely events

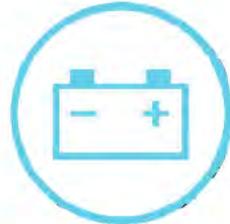
Current and future projects



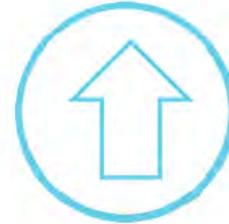
HYDRO
RELICENSING



MICRO-
GENERATION



BATTERY
STORAGE



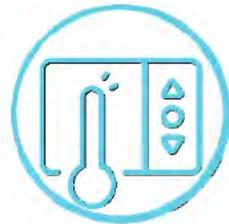
HYDRO
UPGRADES



INDEPENDENT
POWER
PRODUCERS



ATLIN HYDRO
EXPANSION



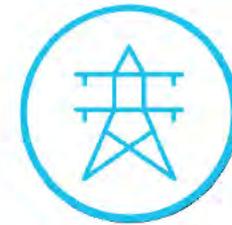
DEMAND-SIDE
MANAGEMENT



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

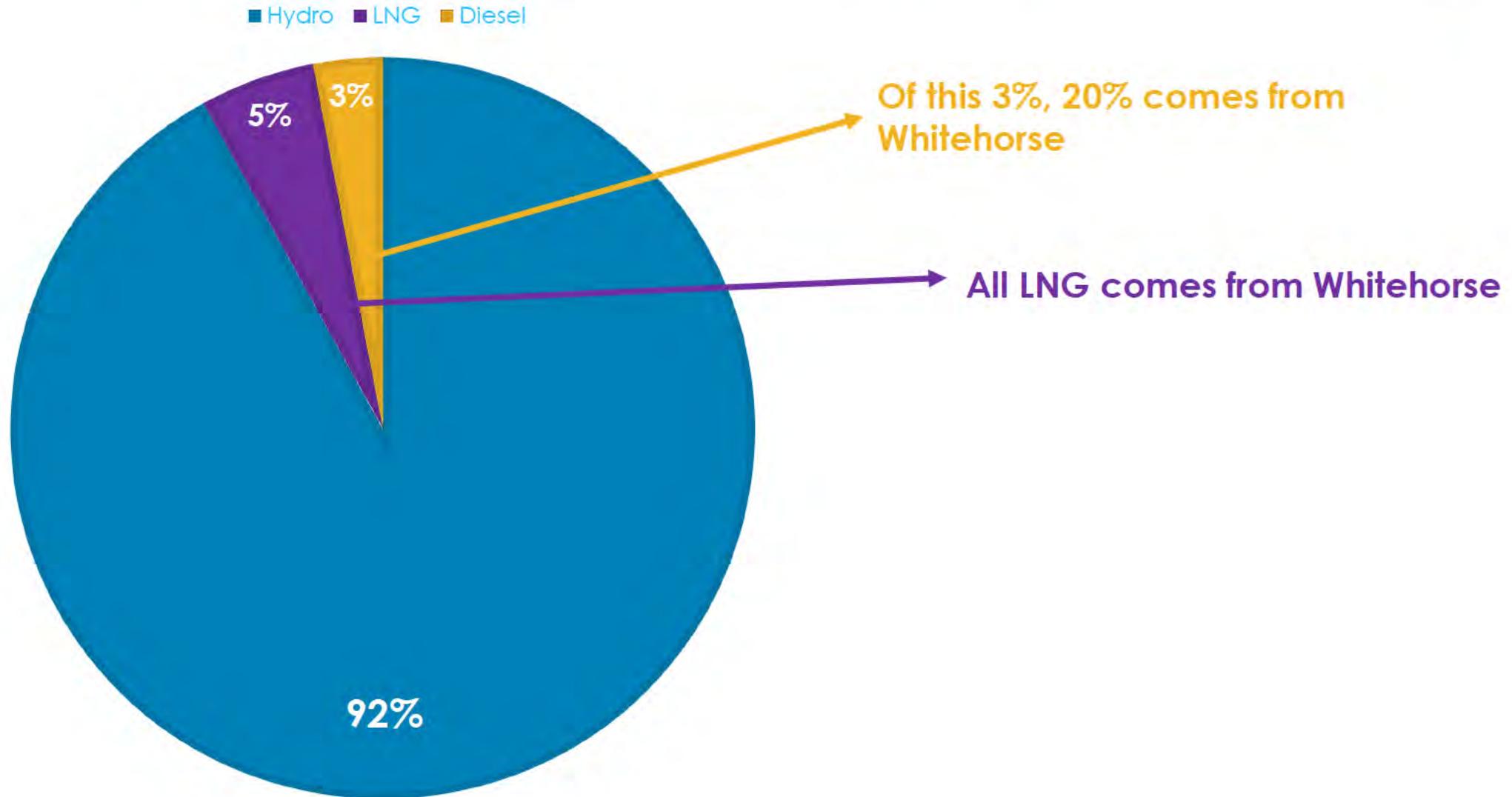


Peak demand



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

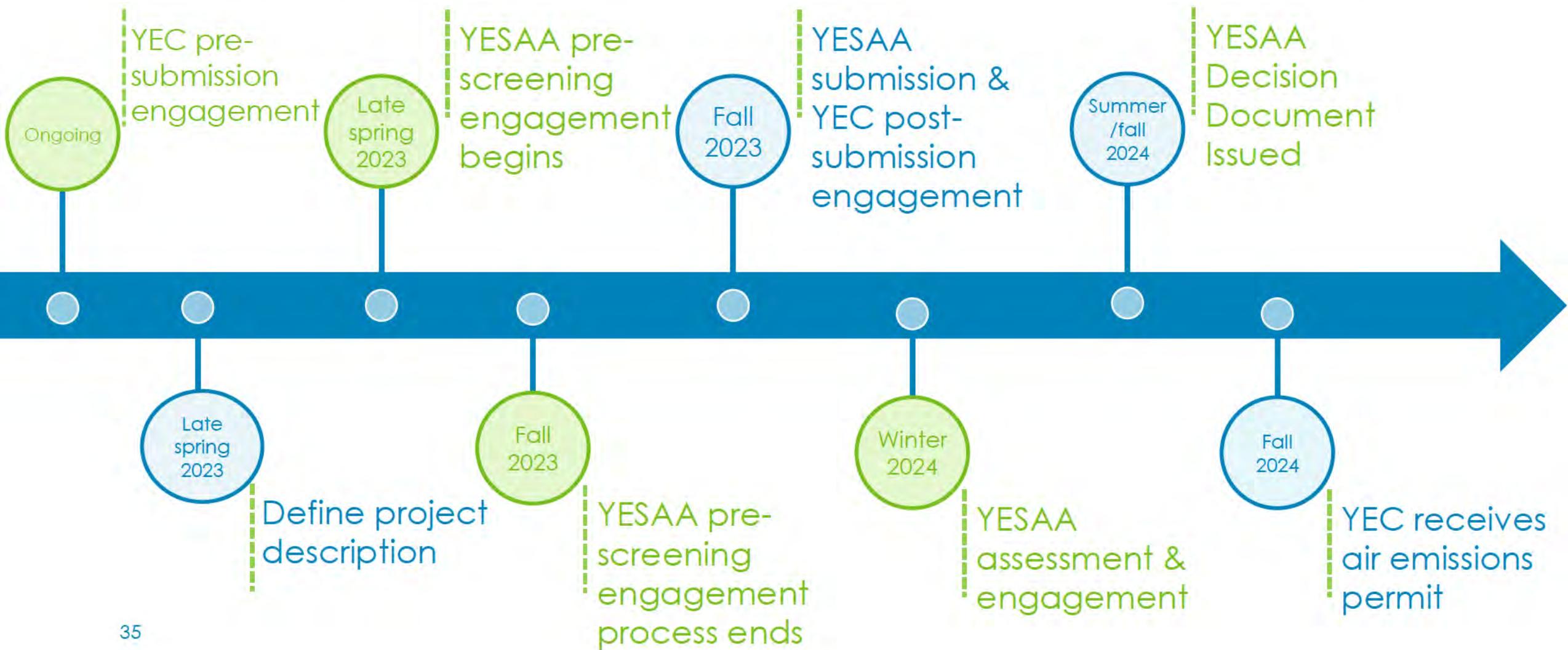
Sound potential mitigation

- 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