QUESTION:

Please provide the stacking order for thermal generation – two separate lists:

a) for 2023-24

b) for 2024-25

ANSWER:

(a) and (b)

The generation stacking order changes based on available information at the time of generation, including demand, available resources, system stability requirements, etc.

The following shows the approximate stacking order of thermal units. The stacking order for the 2024/25 winter will be revisited closer to the winter of 2024/25 based on available resources, system stability and condition of thermal units.

The stacking order is subject to (a) total thermal operation at each site not exceeding air emissions permit under normal operation conditions and (b) where feasible, maintain each rental operational hours under 500 hrs/28 days allowance as per contract. It is also important to note that the thermal units are only run when it is required if the other resource options are not adequate to meet the demand on the system.

Type/ Location	**Units**	**Notes**
YEC LNG	WG1, WG2 and WG3	
Whitehorse rentals		
Faro rentals		
Mayo rentals		
YEC Whitehorse diesel	WD4, WD5, WD6, WD7	
YEC Callison diesel	New units	Two 3.25 units potentially available for 2024/25 winter [or 2025/26 winter if delayed]

Type/ Location	Units	Notes
YEC Faro diesel	New units, FD7	Two 2.5 MW new diesel units added for 2024/25 winter
YEC Dawson diesel	DD4, DD3, DD2, DD1	DD2 and DD5 to be retired in 2024
YEC Mayo diesel	MD1, MD2, MD3	

Revised Response based on YUB Order 2023-25, Appendix B

Board Order 2023-25, section 2(b), finds as follows:

> In respect of IR NY-YEC-1-04, and having considered the submissions summarized in the table in Appendix B, the Board finds that Mr. Yee's request to put the relevant capacity limits with the stacking order will provide information useful to the Board. Therefore, the Board directs YEC to reproduce the stacking order with the relevant capacity limits for each of the units referenced.

(a) and (b)

The generation stacking order changes based on available information at the time of generation, including demand, available resources, system stability requirements, etc.

The following shows the approximate stacking order of thermal units at the time of preparation of the response. The stacking order for the remainder of the 2023/24 winter will be reviewed on an on-going basis and adjusted as considered necessary. The stacking order for the 2024/25 winter will be revisited closer to the winter of 2024/25 based on available resources, system stability and condition of thermal units, and will be adjusted on an on-going basis, as considered necessary.

The stacking order is subject to (a) total thermal operation at each site not exceeding air emissions permit under normal operation conditions and (b) where feasible, maintain each rental operational hours under 500 hrs/ season allowance as per contract. It is also important to note that the thermal units are only run when it is required if the other resource options are not adequate to meet the demand on the system.

Type/ Location	Units	Notes
YEC LNG	WG1, WG2 and WG3	Total dependable capacity of 12.6 MW (4.2 MW each unit). See Note 1.
Whitehorse rentals	9 units 1.8 MW each, excluding one spare unit	Total dependable capacity of 16.2 MW. See Notes 1 and 2.
Faro rentals	7 units 1.8 MW each	Total dependable capacity of 12.6 MW. See Notes 1 and 2.
Mayo rentals	4 units 1.8 MW each, excluding one spare unit	Total dependable capacity of 7.2 MW. See Notes 1 and 2.
YEC Whitehorse diesel	WD4 (2.5 MW dependable capacity), WD5 (2.5 MW dependable capacity), WD6 (2.5 MW dependable capacity), WD7 (3 MW dependable capacity)	Total dependable capacity of 10.5 MW. See Note 1.
YEC Callison diesel	New units (two 3.25 MW units = 6.5 MW)	Two 3.25 units potentially available for 2024/25 winter [2023/24 GRA assumes delay to 2025/26 winter]. See Note 1.
YEC Faro diesel	New units (two 2.5 MW units = 5 MW), FD7 (3 MW dependable capacity)	Two 2.5 MW new diesel units added for 2024/25 winter. See Note 1.
YEC Dawson diesel	DD4 (1.440 MW dependable capacity), DD3 (1.030 MW dependable capacity), DD2 (1 MW dependable capacity), DD1 (0.850 MW dependable capacity)	DD2 and DD5 to be retired in 2024. See Note 1.
YEC Mayo diesel	MD1 (1 MW dependable capacity), MD2 (1 MW dependable capacity), MD3 (0.950 MW dependable capacity)	See Note 1.

Notes:

1. Total thermal operation at each site not exceeding air emissions permit under normal operation conditions (total is 13.2 MW for Whitehorse LNG, 16.15 MW for Whitehorse diesel, 15.5 MW for Faro diesel, 7.1 MW for Dawson diesel, 15.5 MW for Callison diesel pending completion of permitting, and 7.9 MW for Mayo diesel including 4.9 MW new permit and 3 MW for Mayo town).
2. Where feasible, maintain each rental operational hours under 500 hrs/ season allowance as per contract.

The generation stacking order is subject to changes based on available information at the time of generation, including demand, available resources, system stability requirements, etc. The Operations personnel can change the stacking order to respond to the demand on the system and available resources [for example, the staff can elect to run FD7 unit ahead of WD4, WD5 and WD6 units depending on the load on the grid, etc.].

REFERENCE: Faro diesel replacement, modifications to the FGS

QUESTION:

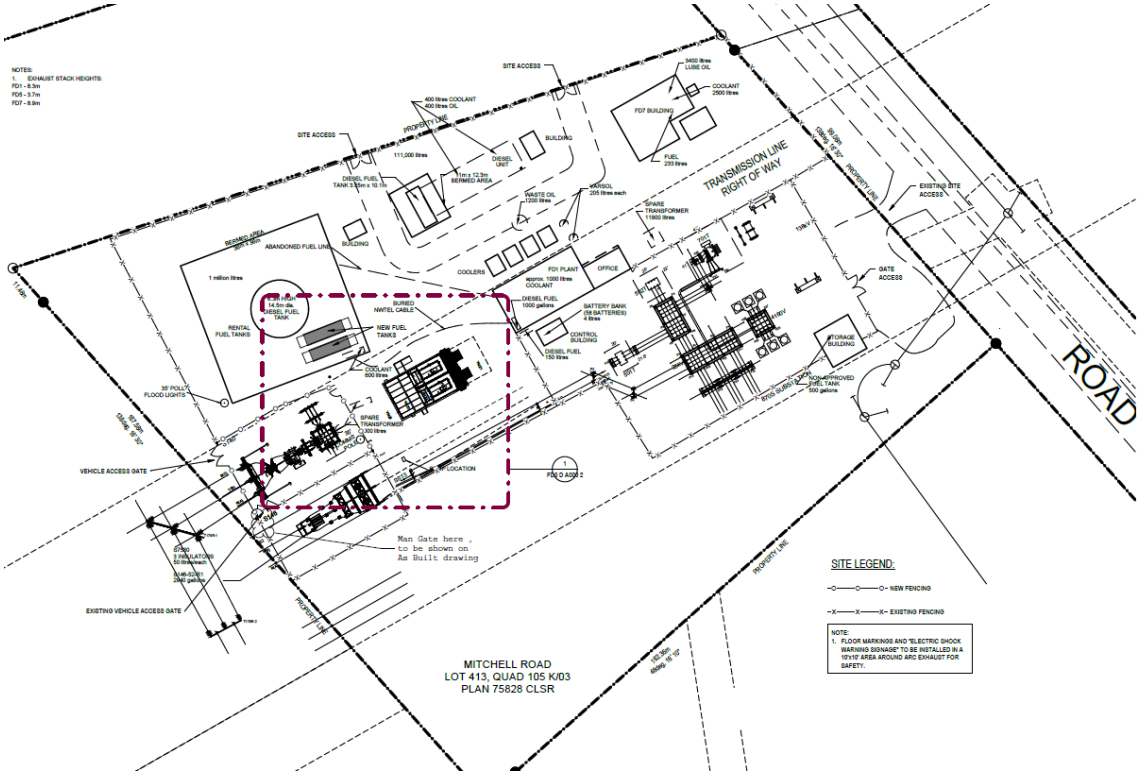
a) Please provide all plans, layouts, specifications, studies (noise, emissions, etc) and all other documentation relating to the modifications (2023 and 2024) to the FGS. This would also include plans, requirements and instructions given to contractors and subcontractors. Also please provide a list of contractors and subcontractors and RFPs.

b) Please provide all correspondence between YEC and the Department of Environment concerning the 2023 and 2024 modifications to the FGS.

ANSWER:

(a)

YEC is installing two Tier 4 engines of 2.5MW each. The layout of the site is as follows:



Contractors and subcontractors include:

- General Contractor (general construction, supervision, mechanical install, civil construction) – Wildstone Construction Group;
- Major Equipment Supplier and Commissioning Agent – Finning;
- Electrical Subcontractor – Westpark;
- Tank and mechanical material supplier – Keller;
- Formwork and reinforcing steel subcontractor – A&T;
- Concrete supplier – General Enterprises;
- Concrete finishing subcontractor – JLB;
- Containment subcontractor – Albarrie;
- Fencing subcontractor – Olson Fencing.

Revised Response for "a" based on YUB Order 2023-25, Appendix B

Board Order 2023-25, section (d), finds as follows in respect of IR NY-YEC-1-14(a), and having considered the submissions in the table in Appendix B:

> The Board finds that Mr. Yee's request is reasonable, and the information requested may be of assistance to the Board. The Board therefore directs YEC to produce a higher resolution copy of the site layout as requested by Mr. Yee. Further, if YEC has the information on the specifications and model number of the generators to the FGS, it shall provide that response to Mr. Yee. If YEC does not have the specifications and model numbers, then it shall confirm that fact.

(a)

The additional information required from YEC for the two Tier 4 engines of 2.5 MW each that YEC is installing at the FGS is provided below.

Please see NY-YEC-1-14(a) REVISED Attachment 1 for a copy of Cat C175-16 Tier 4 Final Product Specifications brochure applicable for these two engines. Please note that the power output of the CATs is 2.5 MW each at a Continuous Rating.

Please see NY-YEC-1-14(a) REVISED Attachment 2 for a copy of the following Faro site layouts:

1. A higher resolution copy of the site layout originally filed, as directed by Appendix B to Order 2023-25; and

2. A site layout showing the location of all generators, including seven diesel rental units (four on top, one next to the fuel tank, and two next to the location for the two new engines FD8 and FD9), requested by Mr. Yee's January 5, 2024 correspondence to the Board following YEC's January 4, 2024 filings on NY-YEC-1-14 REVISED.

(b)

The 2023 email thread between T. Ritchie (YEC) and Elizabeth Barker (Yukon Government) regarding the FGS is included as NY-YEC-1-14(b) Attachment 1. The 2023 email thread between T. Ritchie (YEC) and Emily Sessford (Yukon Government) is included as NY-YEC-1-14(b) Attachment 2.

Cat® C175-16

Diesel Generator Sets

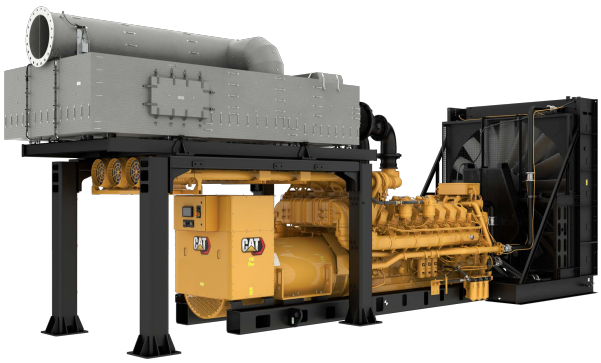


Image shown may not reflect actual configuration

Bore – mm (in)	175 (6.89)
Stroke – mm (in)	220 (8.66)
Displacement – L (in^3)	84.7 (5167)
Compression Ratio	16.7:1
Aspiration	TA
Fuel System	EUI
Governor Type	ADEM™ A4

Standby 60 Hz ekW (kVA)	Mission Critical 60 Hz ekW (kVA)	Prime 60 Hz ekW (kVA)	Continuous 60 Hz ekW (kVA)	Emissions Performance
3000 (3750)	3000 (3750)	2725 (3406)	2500 (3125)	U.S. EPA Tier 4 Final

Features

Cat® Diesel Engine
- Meets U.S. EPA Tier 4 Final emission standards
- Reliable performance proven in thousands of applications worldwide
- Certified alternative fuels including Hydrotreated Vegetable Oil (HVO), Renewable Diesel (RD) and Hydrotreated Renewable Diesel (HRD) which meet EN 15940 or ASTM D975 can be used or blended with EN 590 diesel

Generator Set Package
- Accepts 100% block load in one step and meets NFPA 110 loading requirements
- Conforms to ISO 8528-5 G3 load acceptance requirements
- Reliability verified through torsional vibration, fuel consumption, oil consumption, transient performance, and endurance testing

Alternators
- Superior motor starting capability minimizes need for oversizing generator
- Designed to match performance and output characteristics of Cat diesel engines

Cooling System
- Cooling systems available to operate in ambient temperatures up to 50°C (122°F)
- Tested to ensure proper generator set cooling

Clean Emissions Module
- Diesel oxidation catalyst for particulate matter (PM) and hydrocarbon (HC) control
- Selective catalytic reduction (SCR) for nitrogen oxides (NOx) control
- Integrated electronics for monitoring, protection, and closed loop NOx control

Cat Energy Control System (ECS)
- User-friendly interface and navigation
- Scalable system to meet a wide range of installation requirements
- Expansion modules and site specific programming for specific customer requirements
- Graphical touchscreen display
- Easily upgradeable

Warranty
- 24 months/1000-hour warranty for standby and mission critical ratings
- 12 months/unlimited hour warranty for prime and continuous ratings
- Extended service protection is available to provide extended coverage options

Worldwide Product Support
- Cat dealers have over 1,800 dealer branch stores operating in 200 countries
- Your local Cat dealer provides extensive post-sale support, including maintenance and repair agreements

Financing
- Caterpillar offers an array of financial products to help you succeed through financial service excellence
- Options include loans, finance lease, operating lease, working capital, and revolving line of credit
- Contact your local Cat dealer for availability in your region

C175-16 Diesel Generator Sets
Electric Power

Standard and Optional Equipment

Engine

Air Cleaner
- ❑ Single element
- ❑ Dual element

Starting
- ❑ Standard batteries
- ❑ Oversized batteries
- ❑ Standard electric starter(s)
- ❑ Dual electric starter(s)
- ❑ Air starter(s)
- ❑ Jacket water heater

Alternator

Output voltage
- ❑ 480V
- ❑ 600V
- ❑ 4160V
- ❑ 6300V
- ❑ 6600V
- ❑ 6900V
- ❑ 12470V
- ❑ 13200V
- ❑ 13800V

Temperature Rise (over 40°C ambient)
- ❑ 150°C
- ❑ 125°C/130°C
- ❑ 105°C
- ❑ 80°C

Winding type
- ❑ Form wound

Excitation
- ❑ Permanent magnet (PM)

Attachments
- ❑ Anti-condensation heater
- ❑ Stator and bearing temperature monitoring and protection

Power Termination

Type
- ❑ Bus bar
- ❑ Circuit breaker
- ❑ 4000A
- ❑ 5000A
- ❑ UL
- ❑ IEC
- ❑ 3-pole
- ❑ Electrically operated

Trip Unit
- ❑ LSI
- ❑ LSI-G
- ❑ LSIG-P

Control System

Controller
- ❑ Cat ECS 100
- ❑ EMCP 4.4

Attachments
- ❑ Local annunciator module
- ❑ Remote annunciator module
- ❑ Expansion I/O module
- ❑ Remote monitoring software

Charging

- ❑ Battery charger – 20A
- ❑ Battery charger – 35A
- ❑ Battery charger – 50A

Vibration Isolators

- ❑ Rubber
- ❑ Spring
- ❑ Seismic rated

Cat Connect

Connectivity
- ❑ Ethernet
- ❑ Cellular

Extended Service Options

Terms
- ❑ 2 year (prime)
- ❑ 3 year
- ❑ 5 year
- ❑ 10 year

Coverage
- ❑ Silver
- ❑ Gold
- ❑ Platinum
- ❑ Platinum Plus

Ancillary Equipment

- ❑ Automatic transfer switch (ATS)
- ❑ Paralleling switchgear
- ❑ Paralleling controls

Certifications

- ❑ IBC seismic certification
- ❑ OSHPD pre-approval

Note: *Some options may not be available on all models. Certifications may not be available with all model configurations. Consult factory for availability.*

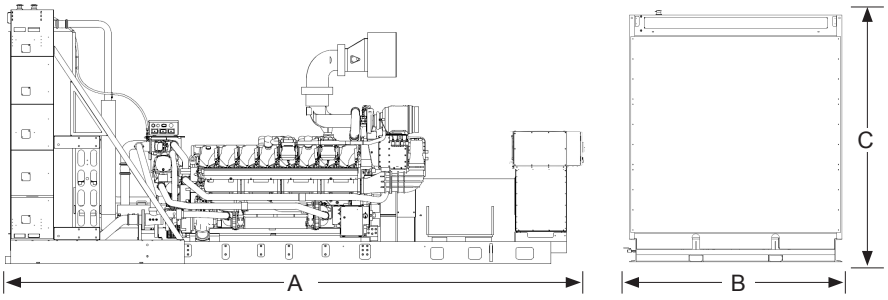
C175-16 Diesel Generator Sets
Electric Power

Package Performance

Performance	Standby		Mission Critical		Prime		Continuous	
Frequency	60 Hz		60 Hz		60 Hz		60 Hz	
Gen set power rating with fan	3000 ekW		3000 ekW		2725 ekW		2500 ekW	
Gen set power rating with fan @ 0.8 power factor	3750 kVA		3750 kVA		3406 kVA		3125 kVA	
Emissions	Tier 4 Final		Tier 4 Final		Tier 4 Final		Tier 4 Final	
Performance number	DM8955-05		EM0315-04		DM8956-04		DM8957-05	
Fuel Consumption								
100% load with fan – L/hr (gal/hr)	765.1	(202.1)	765.1	(202.1)	705.0	(186.2)	637.8	(168.5)
75% load with fan – L/hr (gal/hr)	596.7	(157.6)	596.7	(157.6)	558.9	(147.6)	518.0	(136.9)
50% load with fan – L/hr (gal/hr)	451.1	(119.2)	451.1	(119.2)	429.5	(113.5)	396.8	(104.8)
25% load with fan – L/hr (gal/hr)	282.7	(74.7)	282.7	(74.7)	271.2	(71.6)	251.6	(66.5)
Diesel Exhaust Fluid (DEF) Consumption								
100% load with fan – L/hr (gal/hr)	50.7	(13.4)	50.7	(13.4)	45.6	(12.0)	39.2	(10.3)
75% load with fan – L/hr (gal/hr)	30.4	(8.0)	30.4	(8.0)	25.5	(6.7)	22.1	(5.7)
50% load with fan – L/hr (gal/hr)	15.7	(4.1)	15.7	(4.1)	13.8	(3.6)	12.6	(3.2)
25% load with fan – L/hr (gal/hr)	7.4	(2.0)	7.4	(2.0)	6.9	(1.8)	6.5	(1.6)
Cooling System								
Radiator air flow restriction (system) – kPa (in. water)	0.12	(0.48)	0.12	(0.48)	0.12	(0.48)	0.12	(0.48)
Radiator air flow – m^3/min (cfm)	3188	(112583)	3188	(112583)	3188	(112583)	3188	(112583)
Engine coolant capacity – L (gal)	303.5	(80.2)	303.5	(80.2)	303.5	(80.2)	303.5	(80.2)
Radiator coolant capacity – L (gal)	685.2	(181.0)	685.2	(181.0)	685.2	(181.0)	685.2	(181.0)
Total coolant capacity – L (gal)	988.7	(261.2)	988.7	(261.2)	988.7	(261.2)	988.7	(261.2)
Inlet Air								
Combustion air inlet flow rate – m^3/min (cfm)	259.3	(9155.0)	259.3	(9155.0)	242.7	(8570.0)	230.5	(8138.0)
Exhaust System								
Exhaust stack gas temperature – °C (°F)	472.3	(882.2)	472.3	(882.2)	460.0	(860.0)	452.7	(846.9)
Exhaust gas flow rate – m^3/min (cfm)	667.2	(23557.7)	667.2	(23557.7)	610.0	(21540.9)	570.4	(20139.6)
Exhaust system backpressure (maximum allowable) – kPa (in. water)	6.7	(27.0)	6.7	(27.0)	6.7	(27.0)	6.7	(27.0)
CEM outlet temperature – °C (°F)	465.5	(869.9)	465.5	(869.9)	451.1	(844.0)	444.0	(831.2)
Heat Rejection								
Heat rejection to jacket water – kW (Btu/min)	1373	(78075)	1373	(78075)	1229	(69901)	1125	(63972)
Heat rejection to exhaust (total) – kW (Btu/min)	3112	(176964)	3112	(176964)	2796	(159003)	2587	(147112)
Heat rejection to aftercooler – kW (Btu/min)	379	(21574)	379	(21574)	329	(18728)	296	(16810)
Heat rejection to atmosphere from engine – kW (Btu/min)	175	(9978)	175	(9978)	167	(9498)	162	(9237)
Heat rejection to atmosphere from CEM – kW (Btu/min)	53	(3026)	53	(3026)	48	(2756)	45	(2534)
Heat rejection from alternator – kW (Btu/min)	112	(6369)	112	(6369)	99	(5619)	91	(5158)

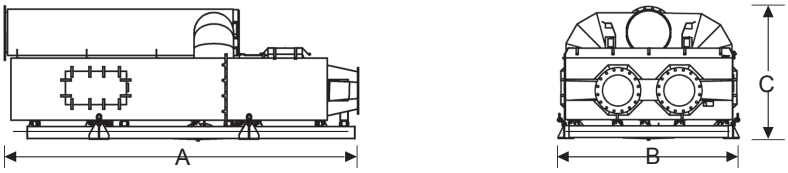
C175-16 Diesel Generator Sets
Electric Power

Weights and Dimensions



Dim "A" mm (in)	Dim "B" mm (in)	Dim "C" mm (in)	Dry Weight kg (lb)
8127 (320.0)	3118 (122.8)	3614 (142.3)	20 463 (45,114)

Note: *For reference only. Do not use for installation design. Contact your local Cat dealer for precise weights and dimensions.*



Dim "A" mm (in)	Dim "B" mm (in)	Dim "C" mm (in)	Dry Weight kg (lb)
4579 (180.3)	2361 (92.9)	1735 (68.3)	2900 (6393)

Ratings Definitions

Standby
Output available with varying load for the duration of the interruption of the normal source power. Average power output is 70% of the standby rated ekW. Typical operation is 200 hours per year, with maximum expected usage of 500 hours per year.

Mission Critical
Output available with varying load for the duration of the interruption of the normal source power. Average power output is 85% of the mission critical rated ekW. Typical peak demand up to 100% of rated ekW for up to 5% of the operating time. Typical operation is 200 hours per year, with maximum expected usage of 500 hours per year.

Prime
Output available with varying load for an unlimited time. Average power output is 70% of the prime rated ekW. Typical peak demand is 100% of prime rated ekW with 10% overload capability for emergency use for a maximum of 1 hour in 12. Overload operation cannot exceed 25 hours per year.

Continuous
Output available with non-varying load for an unlimited time. Average power output is 70-100% of the continuous rated ekW. Typical peak demand is 100% of continuous rated ekW for 100% of the operating hours.

Applicable Codes and Standards
AS 1359, UL 489, UL 869A, IBC, IEC 60034-1, ISO 3046, ISO 8528, NEMA MG1-22, NEMA MG1-33, 2014/35/EU, 2006/42/EC, 2014/30/EU and facilitates compliance to NFPA 37, NFPA 70, NFPA 99, NFPA 110.

Note: Codes may not be available in all model configurations. Please consult your local Cat dealer for availability.

Data Center Applications
- All ratings Tier III/Tier IV compliant per Uptime Institute requirements.
- All ratings ANSI/TIA-942 compliant for Rated-1 through Rated-4 data centers.

Fuel Rates
Fuel consumption reported in accordance with ISO 3046-1, based on fuel oil of 35º API [16°C (60ºF)] gravity having an LHV of 42,780 kJ/kg (18,390 Btu/lb) when used at 15ºC (59ºF) and weighing 850 g/liter (7.0936 lbs/U.S. gal.) All fuel consumption values refer to rated engine power.

www.cat.com/electricpower

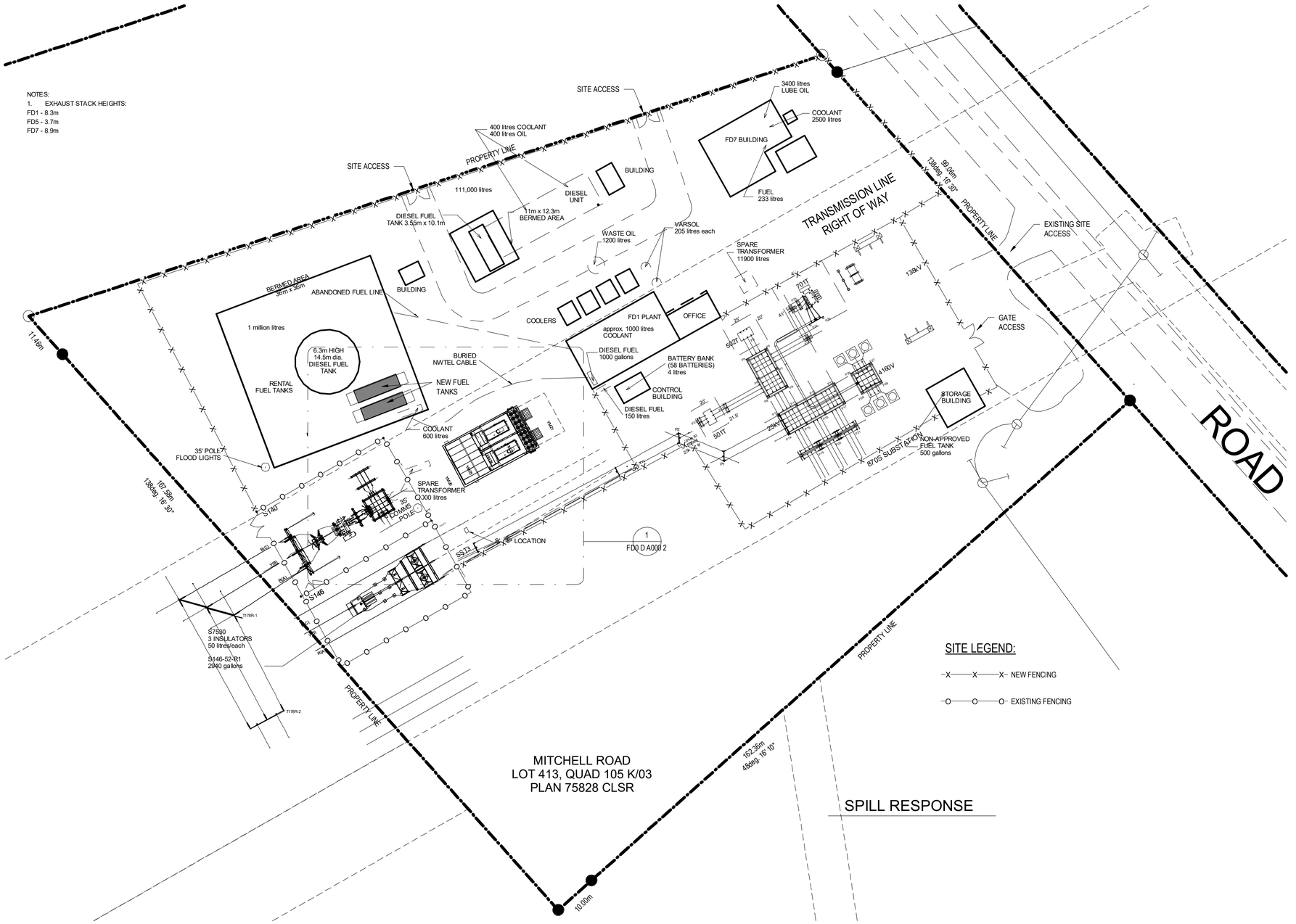
C175 PGBL
LEHE1808-09 (09/23)

FARO DIESEL SITE PLAN #1

PROJECT DATA SUMMARY

LEGAL DESCRIPTION	LOT: 413 FARO TOWNSITE YUKON TERRITORY
CIVIC ADDRESS	FARO TOWNSITE, YUKON
ZONING	--
LOT AREA	24 377.6 sq.m.

NOTES:
1. EXHAUST STACK HEIGHTS:
FD1 - 8.3m
FD5 - 3.7m
FD7 - 8.9m



REFERENCE DRAWINGS

DWG. NO.	DRAWING TITLE

MAZURICK ARCHITECTURE

MAZURICK ARCHITECTURE INC 108-10123 112 STREET NW, EDMONTON, AB. Phone 780 718 2750

ISSUED FOR CONSTRUCTION

REV.	DATE	DESCRIPTION	BY	DES.	APP.
A	2023.02.08	ISSUED FOR BUILDING PERMIT	JGW		

COMPANY PERMIT

ENGINEERS STAMP

DAVID P. MAZURICK REGISTERED ARCHITECT ALBERTA

YUKON ENERGY CORPORATION

YUKON ENERGY CORPORATION - FARO SITE - GENSET

PROJECT NUMBER	23004
CHECKED BY	DpM
DATE	2023.01.27
DRAWN BY	JGW
SCALE	As indicated A1

SITE PLAN

FD0 D A000 1 REV. A

15/02/2023 7:40:44 PM

FARO DIESEL SITE PLAN #2

NOTES:
1. EXHAUST STACK HEIGHTS:
   FD1 - 8.3m
   FD7 - 8.9m

UEE SWITCHGEAR
FD7 BUILDING
BUILDING
DIESEL FUEL TANK 3.55m x 10.1m
11m x 12.3m BERMED AREA
BERMED AREA 36m x 36m
ABANDONED FUEL LINE
BUILDING
COOLERS
FD1 PLANT
OFFICE
6.3m HIGH 14.5m dia. DIESEL FUEL TANK
RENTAL FUEL TANKS
BURIED NWTEL CABLE
CONTROL BUILDING
STORAGE BUILDING
138kV
25kV
4160V
870S SUBSTATION
FD8 AND FD9 CONCRETE PAD LOCATION
35' POLE FLOOD LIGHTS
35' COMMS POLE
SUMP LOCATION
ROAD
MITCHELL ROAD
LOT 413, QUAD 105 K/03
PLAN 75828 CLSR

METERS
50 25 0

REFERENCE DRAWINGS

DWG. NO.	DRAWING TITLE

REV.	DATE	DESCRIPTION	BY	DES.	APP.
A	NOV 15 2023	-	CM	EO	

COMPANY PERMIT

ENGINEERS STAMP

YUKON ENERGY CORPORATION

C23601 - RENTAL DIESELS

CHECKED BY E.OGEMUNO
DATE NOVEMBER 2023
DRAWN BY C.McGILLIVRAY
SCALE A1

FARO DIESEL & SUBSTATION
SITE PLAN
LOT 413, FARO - YUKON

farositeplan.dgn

REV. A

From: Elizabeth.Barker
To: Travis Ritchie
Subject: RE: [EXT] RE: Faro Station Modifications
Date: February 20, 2023 9:17:11 AM
Attachments: image002.png
image003.png
image004.png
image005.png
image006.png
image007.png

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?

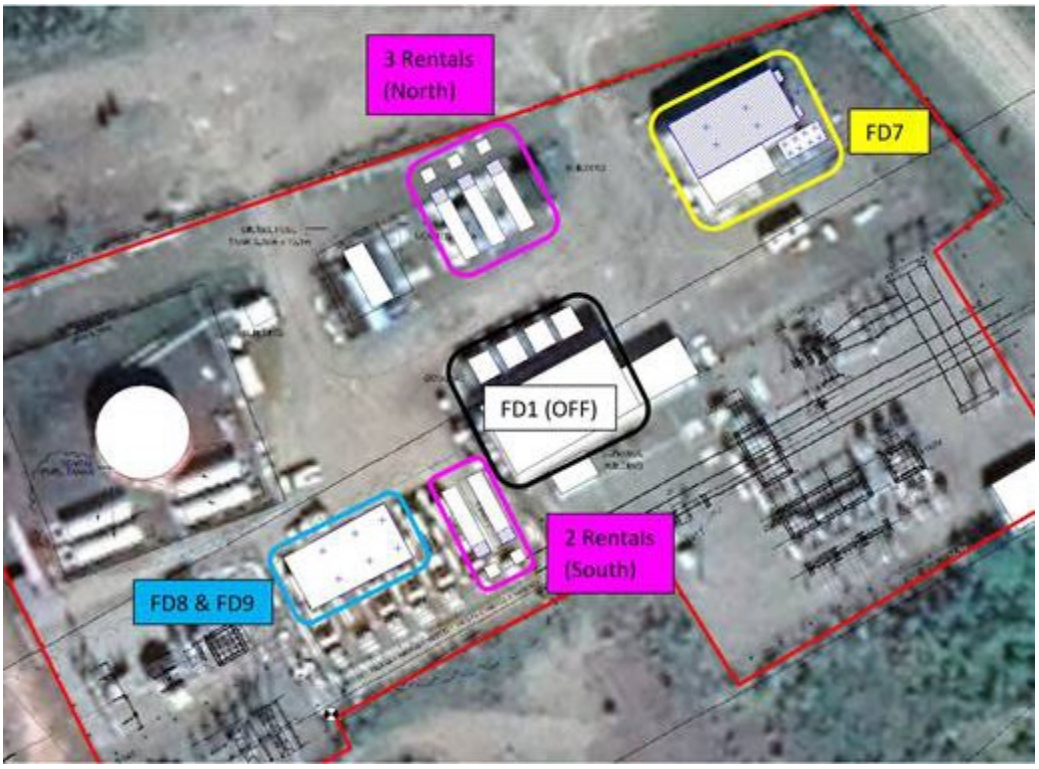
RESPONSE: FD1 is now end of life and we are planning to replace that permitted capacity with 2 x ~2.5 MW EPA Tier 4 and CARB certified diesel generators. This represents an investment by YEC in 'best available technology' and will result in reduced noise and criteria air contaminant (CAC) emissions from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

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

From:	Travis Ritchie
To:	Emily.Sessford; Elizabeth.Barker
Cc:	Gary Jones; Attilla Heipel; Shannon Mallory (shannon.mallory@yec.yk.ca); Cody Hoy
Subject:	RE: 2023-038-Inspection-Report
Date:	May 31, 2023 4:54:00 PM
Attachments:	image001.png 20230510-Inspection-report-es.pdf 60-010-01 FARO (2022-2031) - signed.pdf image002.png image003.png image004.png image005.png image006.png

Hello Emily and Elizabeth,

Thank you for the inspection report (re. AEP 60-010-01 - Faro Generating Station).

Pursuant to the corrective/follow up actions outlined in the report, I offer the following information for your consideration:

YG Corrective Action 1:

Permittee is requested to follow-up regarding site changes, this includes decommissioning of generator FD-1, and the change in location of generators YM26-T1, YM25-T1, YM24-T1 and YM22-T1, as well as any other anticipated development or changes that may be occurring as required by permit.

YEC Response CA1:

Yukon Energy will provide a schedule and description of activities related to the decommissioning of FD1 for approval prior to removal of this source from the FGS property. We hope that since this source is being removed and will no longer be making emissions to air that the requisite approval can be reasonably provided under the existing YESAA Decision Document for the facility.

As regards any changes in the location of emissions sources, we ask for your consideration that such an approval is not required when such activities are occurring within the site boundary of a permitted thermal generating station. Part 2, Clause 5(b) of the current FGS air emissions permit appears to be an inadvertent holdover from previous versions of the authorization when all of Yukon Energy's thermal generating stations were authorized under a single (or blanket) air emissions permit. Yukon Energy has always had periodic operational requirements to move mobile generators from one facility to another and it was in this context, and that of a blanket permit, that necessitated the need for such a clause in past permits. An operational need for YEC to make minor adjustments to the location of generators within an individual facility boundary would not be reasonably expected to materially vary the character of the pollutant emissions from the site in a negative way and therefore we request that, in interpreting the permit, such activities not be subject to prior approval from the Regulator. YEC will certainly continue to request approval for changes in the location of sources *between* generating stations.

YG Corrective Action 2:

Permittee is requested to brief and make operators aware of the full complaint

management system in place.

YEC Response CA2:
The approved Complaint Management System for the FGS includes facility-based signage and website information for the public to phone, email, or submit online complaints to the Corporation. The receipt and management of such correspondence is made by YEC's External Affairs Department and is triaged as required to satisfy the requirements of the plan and interests of our stakeholders. The inspection findings have, however, made us more aware that as members of the community our facility operators may receive complaints via direct engagement with complainants and it would be useful for them to be able to relay details of how to effectively share such complaints with the Corporation (i.e., to verbally share the information about how to register a complaint via phone, email, or online).

As such, on or before June 30, 2023, Yukon Energy Environment Department staff will provide an orientation to relevant members of its Operations Team as to the scope and function of the Complaint Management System in place for the Faro Generating Station (FGS). We will also make such awareness training a mandatory part of orientations for new/temporary plant operators at the FGS.

If you have any follow up questions, comments, or concerns with these responses to the required corrective actions please let me know.

Thank you.

Regards,

Travis

Travis Ritchie
Director, Risk & Compliance
Telephone: 867-393-5350 | Mobile: 867-333-0300

SustainableElectricityCompany™

From: Emily.Sessford <Emily.Sessford@yukon.ca>
Sent: May 16, 2023 1:21 PM
To: Travis Ritchie <Travis.Ritchie@yec.yk.ca>
Cc: Elizabeth.Barker <Elizabeth.Barker@yukon.ca>; Gary Jones <Gary.Jones@yec.yk.ca>; Attilla Heipel <Attilla.Heipel@yec.yk.ca>
Subject: 2023-038-Inspection-Report

Good afternoon Travis,

Please find attached Inspection Report 2023-038 for Yukon Energy Corporation's Air Emissions Permit No: 60-010-01 at Faro. Please note the corrective actions and associated deadlines.

Sincerely,

Emily Sessford
Environmental Compliance Officer
Environment | Environmental Compliance & Inspections
T 867-667-5398 | C 867-332-2945 | Yukon.ca