



## **DISTRICT OF HUDSON'S HOPE SPECIAL COUNCIL MEETING AGENDA**

### **AGENDA ADDITION**

Council Chambers

Monday, October 27, 2014 at 5:00 PM

#### **Staff Reports**

SR4	Street Lamps	Page 1
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SR7	Water Treatment Plant and Pump House Back-up Generator	Page 19



## REQUEST FOR DECISION

RFD#: <u>8SR 4</u>	Date: October 27, 2014
Meeting#: CM102714	Originator: Tom Matus, CAO
RFD TITLE: Street Lamps	

### BACKGROUND:

Administration has determined that there are a large number of street lamps that are out. We are determining which the BCH's are, and which are the District of Hudson's Hope's. we are also looking to replace these lamps with LED lighting.

### DISCUSSION:

I requested assistance from Bob Gammer of BCH to replace their lights with LED lighting, I have included his reply for your perusal:

"Thanks for your note. I am surprised to read that there are so many street lights not working in the Hudson's Hope area. Please get the pole tag numbers for each pole, or if tag is missing, the nearest street address. This information needs to be entered into SLIM. Each entry generates a work order for our Distribution line crew to go and repair the light. We try to look after these within 10 business days, but may not hit that target. However, due to the volume of lights out, I will be giving the line manager a heads-up to expect a large number of work orders soon.

Regarding LED lights, I understand that most of the street lights in the Hudson's Hope area are on BC Hydro poles, which is an indication that they are owned by BC Hydro and are 1701 rate class. **If you have ornamental lights – on stand-alone metal poles, no overhead power lines attached, then those are owned by the District and area in the 1702 rate class. For 1702 rate class lights, the municipality may replace those lights with LED lamps, but the new LED product must be selected from an approved list that BC Hydro holds. I have asked to get a copy of the list, but first you will need to determine if you have any 1702 rate class lights.**

BC Hydro is also working toward a new rate class for LED lights so that BC Hydro-owned street lights may be converted over in a large scale across the province. This process may be another two years, or more from completion. Bob

Administration has entered the pole locations into BCH SLIM.

Administration is requesting that we go ahead and change our street lights with LED lighting and thus is asking approval for this expense. We would like to have these lamps converted to LED and installed a.s.a.p.

### BUDGET:

Yet to be determined though an amount of \$20,000.00 charged to the Public works Department is requested, initially.

**RECOMMENDATION / RESOLUTION:**

That Council:

Approve an amount of \$20,000.00 to be charged to the Public Works Department for the replacement and conversion to LED lighting of all District of Hudson's Hope owned burnt out street lamps.



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Tom Matus, CAO

## REQUEST FOR DECISION

RFD#: 8SR 5	Date: October 27, 2014
Meeting#: CM102714	Originator: Tom Matus, CAO
RFD TITLE: GW Solutions	

### BACKGROUND:

The Mayor had investigated water quality issues at of Lynx and Brenot Creeks. A test report was received from Dave Brough/ Leigh Summer in regard to water quality test results taken on August 14<sup>th</sup> and submitted to ALS Labs in Fort St John; which results test results were received on or about August 21<sup>st</sup>. This prompted further testing by GW Solutions which was solicited by the District of Hudson's Hope to perform.

### DISCUSSION:

Test results prompted a health warning (issued by the Ministry of Environment) not to drink the water or use it for irrigation. Northern Health, the Ministry of FLNRO and the Ministry of Environment were all involved in this investigation.

Being that the District of Hudson's Hope commissioned the testing it is responsible for the subsequent invoice, in the total amount of \$10,730.07, which included in-kind contribution from GWS amounting to \$9,000.00 such as though not limited to travel and accommodations expenses. This being a protective service issue within the District of Hudson's Hope Administration recommends charging this expense to the Protective Services Department. Administration also recommends soliciting all governing and government bodies associated with the protection of environment and public health to share in the cost and payment of the GW Solutions invoice dated September 30, 2014.

### BUDGET:

\$10,730.07 charged to Protective Services Dept.

### RECOMMENDATION / RESOLUTION:

That Council:

Approve the payment of the GW Solutions invoice #GWS 14-26-1 Lynx and Brenot Creeks Assessment in the amount of \$10,730.07, charged to Protective Services Dept.



Tom Matus, CAO



**GW Solutions Inc.**  
Unit 201 – 5180 Dublin Way  
Nanaimo, BC, V9T 0H2  
phone: (250) 756-4538  
cel: (250) 713-4538  
[gw@gwsolutions.ca](mailto:gw@gwsolutions.ca)

## INVOICE

District of Hudson's Hope  
Box 330, 9904 Dudley Drive  
Hudson's Hope, BC V0C 1V0  
(via email)

Attention: Mayor Gwen Johansson,

Date: September 30, 2014

Invoice No: GWS 14-26-1 – Lynx & Brenot Creeks Assessment

For hydrogeological services rendered through September, 2014

- Preliminary review of information (Aug 15, 2014 chemical results) and drafting of Water advisory
- Design of September 16 water sampling program
- September 16 sampling event
- Preliminary reporting
- Project management and communication

**Fees:**

35.5 hrs @ \$ 205/hr and 57 hrs @ \$ 125/hr	\$ 14,402.50
(In-kind contribution, at GW Solutions' discretion)	(\$ 9,000.00)
GST @ 5%	\$ 270.13

**Disbursements:**

Water Analyses (ALS)	\$ 2,609.62
Administration, reporting, and communication (8% of fees) - waived	\$ 0.00
Travel, meals, accommodation, and small equipment	\$ 2,206.99
GST @ 5%	<u>\$ 240.83</u>

Total	\$ 10,730.07
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Thank you,

Interest at 1.5% per month will be charged on all amounts outstanding over 60 days  
GST Number: 83643 2344 RT0001

## REQUEST FOR DECISION

<b>RFD#:</b> <u>GSR 6</u>	<b>Date:</b> October 27, 2014
<b>Meeting#:</b> CM102714	<b>Originator:</b> Tom Matus, CAO
<b>RFD TITLE:</b> Mobile Generator	

### BACKGROUND:

A Mobile Generator with light stand has been identified in the 2014 Five Year Capital Plan.

### DISCUSSION:

Staff has identified an 11000 watt Honda Genset for purchase at \$6,751.00 plus taxes and freight – regularly priced at \$8,434.00. This generator is to be used to mitigate any lift station failures in the future so as to put our pumps back online a.s.a.p. due to a BCH power failure. A portable light stand can be purchased at a later date as this Honda is priced very reasonably.

Other prices staff obtained are as follows, (specifications for each are attached):

#### Hanco/Perkins

Model HDPK-12 KW	\$11,800.80 plus taxes and freight
Model HDPK-11 KW	\$11,242.80 plus taxes and freight

#### Yamaha

Efi2000de	\$ 7,725.00 plus taxes and freight
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#### Kubota

GL7000	\$ 7,590.00 plus taxes and freight
GL12000	\$ 9,545.00 plus taxes and freight

### BUDGET:

General Capital Reserve - \$6,751.31 plus taxes and freight.

### RECOMMENDATION / RESOLUTION:

That:

Council approve the purchase of the Honda Mobile generator at a cost of \$6,751.31 plus taxes and freight.



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Tom Matus, CAO



\*\*\* Q U O T E \*\*\*

GEAR-O-RAMA SUPPLY CHET LTD  
NAPA ASSOCIATE  
BOX 448  
CHETWYND, BC V0C 1J0

ACCT # 12800 DISTRICT OF HUDSONS HOPE  
BOX 330  
SR # HUDSON HOPE, BC V0C 1V0  
2  
DATE 10/22/2014 TIME 14:22  
STORE # EMP #  
050002865 33 BLACKIE

PART NUMBER	LN	DESCRIPTION	QUANTITY	LIST	PRICE	TOTAL
Yamaha EF12000de Genset +freight & taxes	MIS ef12000de		1.00		7725.0000	7,725.00
MIS g17000			1.00		7590.0000	7,590.00
Kubota GL7000 Genset + freight & taxes	MIS GL 11000		1.00		9545.0000	9,545.00

24,860.00

TOTAL ----->

\*\*\* Plus Applicable Taxes. \*\*\*  
\*\*\* Prices Subject to Change Without Notice. \*\*\*

\*\*\* THIS IS NOT AN INVOICE \*\*\*



## Yamaha EF12000DE



<b>MSRP*</b>	\$4,399 - -
<b>Type</b>	Brush, AVR AC Generator
<b>Maximum AC Output</b>	12,000 watts
<b>Rated AC Output</b>	9500 watts
<b>Rated / Maximum AC Current</b>	79.2 / 100.0 amps @ 120V - 39.6 / 50.0 amps @ 240V
<b>Engine</b>	OHV, air-cooled, twin cylinder, 4-stroke
<b>Displacement</b>	653cc
<b>L x W x H</b>	33.3 x 29.6 x 33.3 in
<b>Dry Weight</b>	327.8 lb
<b>Fuel Tank Capacity</b>	11.4 gal
<b>Continuous Operation at Rated Load</b>	8.9 hr
<b>Noise Level</b>	80.0 dBA
<b>Warranty</b>	3 Years Limited Warranty

\*Prices and specifications subject to change without notice. Please read your Owner's Manual and all labels for safe operation.

©2012 Yamaha Motor Corporation, U.S.A.

# Kubota

## KUBOTA GL SERIES DIESEL ENGINE GENERATORS



*Quiet, Low Body Design*

*2-Pole & Single Phase*

*Output: 7kW~11kW*



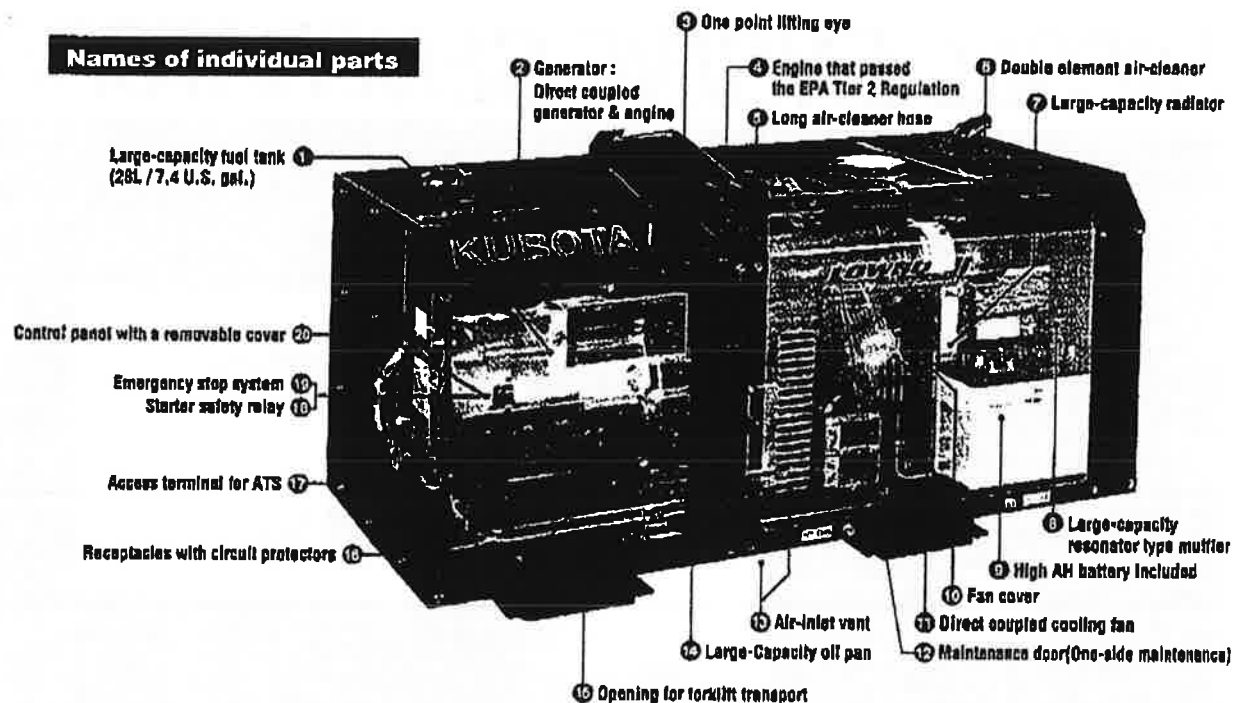
All GL models are CSA certified



ISO 9001 Certified KUBOTA ENGINE PLANTS - SAKAI/TSUKUBA/SAKAI-RINKAI-

# An Improved, New Generation of LOWBOY

Kubota took its standard 2-pole diesel generator and enhanced it. Unlike the previous LOWBOY, which was powered by a horizontal diesel engine; two vertical type SUPER MINI diesel engines, Z482 and D722, are at the heart of the new LOWBOY II Series. This new series kept the same compact size, low body design, and low noise levels of the previous series, while enhancing its environment friendly features with two diesel engines that are USA EPA emission certified.



## Outstanding Features

### Compact Design ..... ① ⑬

The design of the LOWBOY II Series is based on the previous compact two-pole horizontal type diesel engine generator. Even though this series is powered by vertical type diesel engines, the height is kept as low as the previous LOWBOY by direct coupling the engine crankshaft with the cooling fan. Kubota also changed the location of the package's air inlet vents to reduce the height of the internal sound absorption duct.



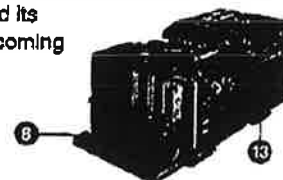
### Cleaner Emission ..... ④

The diesel engines (Z482 and D722) selected to power the LOWBOY II Series produce far less soot, HC and CO emissions thanks to KUBOTA's original E-TVCS combustion system. Both Z482 and D722 are USA EPA Emission certified.



### Lower Noise Levels ..... ⑤ ⑥ ⑪ ⑬

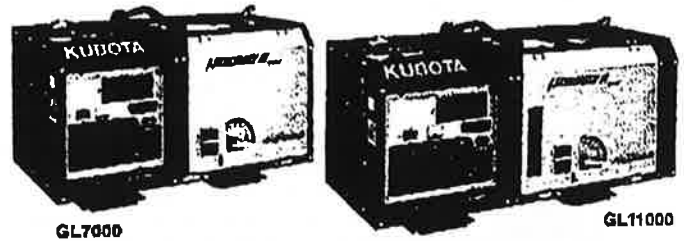
Four separate improvements help reduce the overall noise levels. First, the large capacity radiator successfully reduces fan related noise by direct coupling its crankshaft with the slower-speed fan. Second, the large capacity, built-in muffler helps reduce exhaust related noise. Third, the longer air cleaner hose reduces air suction related noise. Fourth, the ideally placed inlet vent and its improved design reduce noise coming from the enclosure's opening.



### Access Terminals for ATS make Wiring Easy

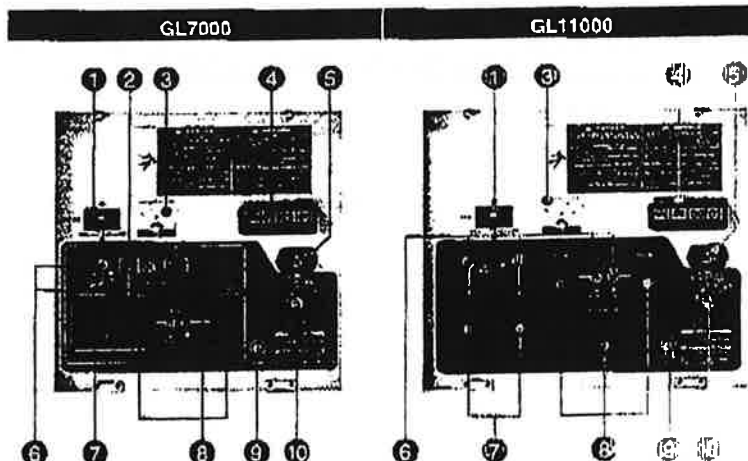
Access terminals for Automatic Transfer Switches (ATS) is located behind the control panel.





Item	No	Description
Improved reliability	2	Generator and engine are direct-coupled to ensure a more reliable power supply with minimum power loss.
	1	Large capacity fuel tank (20L/7.4US gal) enables longer continuous operation on a single tank.
		The waveform distortion is kept to a minimum by the skewed rotor, while the damper winding protects the generator during short circuits, regulates voltage fluctuations during condensive loads, and withstands load fluctuations during condensive and non-linear loads. (GL11000 only)
Easy maintenance	12	One-side maintenance realized, reducing the operator's workload. (Maintenance check on oil, fuel, battery and cooling water level.)
	13	Larger capacity oil pan employed to stretch the oil change intervals up to 200 operating hours. Reduced the running cost for the generator owner.
	2	Generator and engine are direct-coupled. Eliminated the cog-belt, therefore, no need to replace or adjust it any more.
Safety measures	16	Double circuit protectors. In addition to the overall circuit protector, each receptacle also has a circuit protector that will shut the engine down to prevent it from overcurrent damages.
	210	Protective covers on all moving parts (for the engine's cooling fan and the generator.)
	19	Automatically shuts the engine down in case the water temperature rises excessively or the oil pressure drops below a safe level.
	18	Equipped with a starter safety relay to prevent the starter from engaging again after the engine starts up. (A safety feature)
Wide application	6	Double element air cleaners are standard equipment. Ideal for heavy-duty applications in dusty environments.
	17	An access terminal to connect to the ATS (Automatic Transfer Switches) is standard equipment. Applicable for stationary use as well.
	315	Transportability is enhanced with special forklift openings on the base of the machine, and the one-point lifting eye.
Options		GL7000: Full power switch is standard equipment. Two sockets (30A + 30A) to take out the full 120V power.
		GL11000: 50A receptacle, widely used in the North American market, is standard equipment. Can provide up to 42A from a single socket, and 83A in total from multiple sockets.
		Two-wheel remote controller

## Control Panel



### Control Panel

- ① Supplementary Protector
- ② Voltage Selection Switch
- ③ Volt Meter
- ④ Easy Checker (Battery charge, Glow lamp, Oil pressure, Radiator temperature)
- ⑤ Hour Meter
- ⑥ Appliance component protectors
- ⑦ AC Receptacle (GFCI)
- ⑧ AC Receptacle
- ⑨ External Ground Terminal
- ⑩ Start, Stop Key Switch

## MODEL

Model	Volt	GL7000	GL11000
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## GENERATOR

Type	-	Rotating field single-phase AC generator	
Frequency	Hz	60	
Standby Output	kVA (kW)	7.0 (7.0)	11.0 (11.0)
Prime Output	kVA (kW)	6.5 (6.5)	10.0 (10.0)
Voltage - Single Phase	V	120/240	
Armature Connection	-	Series	
Phase / Wire	-	1 / 4	1 / 3
Power Factor	-	1.0	
No. of Poles	-	2	
Insulation	Class	Rotor coil: class F, Stator coil: class B	
Type of Coupling	-	Direct coupled	

## AMPS

Single Phase 120V	A	54.2	83.3
Single Phase 240V	A	27.1	41.7

## NO. OF RECEPTACLE

5-20RA (GFCI)	-	1	2
L5-30R	-	2	1
L6-30R	-	1	1
14-60R	-	0	1

## DIESEL ENGINE

Type	-	Vertical, liquid-cooled, 4-cycle diesel engine	
Model	-	Z482	D722
No. of Cylinders	-	2	3
Bore x Stroke	mm (in.)	67.0 x 68.0 (2.6 x 2.7)	67.0 x 68.0 (2.6 x 2.7)
Displacement	L (cu. in.)	0.479 (29.2)	0.719 (43.9)
Engine Speed	rpm	3600	
Continuous Rated Output	kW (HP)	8.1 (10.9)	12.2 (16.3)
Lubricant (API classification)	-	above CD grade	
Oil Capacity	L (qts.)	2.2 (0.58)	3.4 (0.9)
Coolant Capacity	L (qts.)	3.7 (0.98)	4.1 (1.1)
Starting System	-	Electric - 12 volt DC	

## SET

Fuel	-		Diesel fuel No.2 (ASTM D975)	
Fuel Consumption	at Full Load	L/h (gal./h)	2.6 (0.69)	4.1 (1.09)
	at 3/4 Load	L/h (gal./h)	2.1 (0.55)	3.3 (0.86)
	at 1/2 Load	L/h (gal./h)	1.7 (0.45)	2.7 (0.71)
	at 1/4 Load	L/h (gal./h)	1.4 (0.38)	2.2 (0.59)
Fuel Tank Capacity	L (gal.)		28.0 (7.4)	28.0 (7.4)
Continuous Operation Hours	at Full Load	h	10.0	7.0
	at 3/4 Load	h	13.3	8.6
	at 1/2 Load	h	16.5	10.4
	at 1/4 Load	h	20.0	12.7
Battery (Ah/5h)	-		38B20R (12V x 28Ah)	55B24R (12V x 36Ah)
Dimensions L x W x H	mm (in.)	1066 x 618 x 698 (42.0 x 24.3 x 27.5)		1281 x 618 x 698 (50.4 x 24.3 x 27.5)
Approx. Net Weight	kg (lbs.)	262 (577.6)		318 (701.0)
Sound Level (Full Load at 23 ft. (7m))	dB (A)	66		68
Emergency Stop System	-		In case of abnormal: Oil pressure, water temperature	

\*Specifications and dimensions are subject to change without prior notice.

# Kubota

**Kubota Canada Ltd.**

Engine Division:  
5600 14th Avenue, Markham, Ontario L3S 4K4, Canada  
Phone: 905-294-7477 Fax: 905-294-1554

<http://www.kubota.ca>

<http://generator.kubota.jp>

Cal. No. 8293-01-CA '06.11.STD.



**PRO-HARDWARE**  
10321 GETTING STREET  
PO BOX 389  
HUDSON'S HOPE, BC  
VOC 1V0

TEL: (250)783-5507  
FAX: (250)783-5531  
hardware@pris.ca

October 23, 2014

District of Hudson's Hope, Public Works - Ed Reschke

Quote for Generator

Please find information attached for VP series generators. These are Perkins liquid cooled, low rpm diesel engine powered.

Units include an autostart panel with safety shutdowns for low oil and high coolant temperature, plus main circuit breaker.

Units are 12 volt start, battery is not included, fuel tank is not included.

Generator is single phase, 115 / 230 volt. Three phase is optional.

Model HDPK-12 12 KW \$ 11800.80

Model HDPK-10 10KW \$ 11242.80

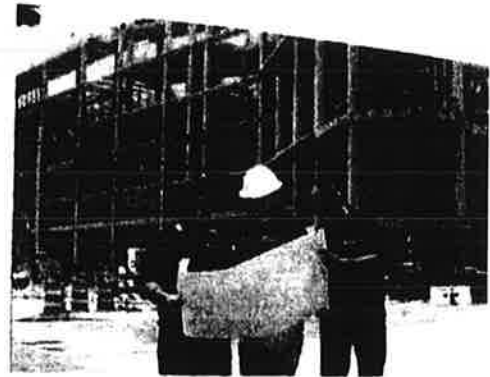
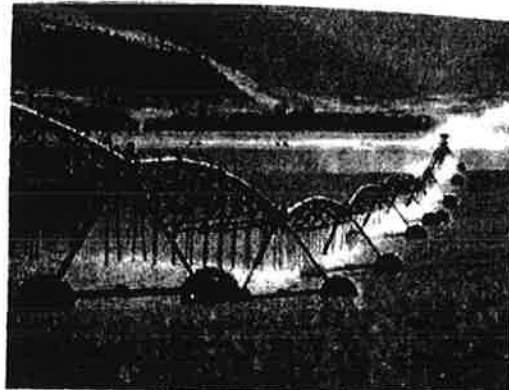
+ applicable sales taxes and freight  
2-3 weeks delivery.

A handwritten signature in black ink, appearing to be "J. Reschke", is located in the lower right area of the page.

# HANCO Generating System

8kw-30kw diesel generators

VP series



## Reliable Power

## Affordable Price

Stand-by • Off-Grid • Solar Back-Up

**HANCO**  
A Southwest Products Brand



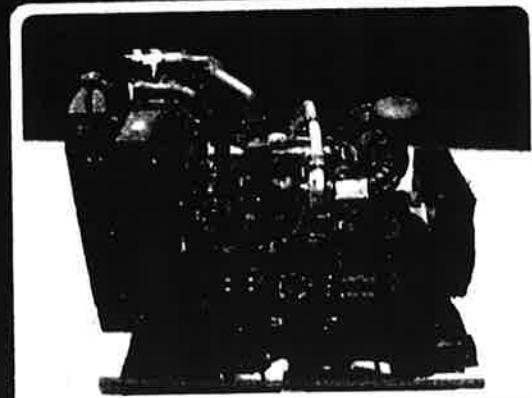
# HANCO GENERATING SYSTEMS

## VPseries

### STANDARD SPECIFICATIONS

Heavy Duty Aluminum Radiator  
Solid State Voltage Regulator  
Heavy Duty 2 Stage Air Cleaner  
Dependable Perkins Diesel Engine

Vibration Isolators  
Circuit Breaker  
12V Electrical System  
2 Wire Start  
Single Phase



Value plus Diesel Generators 8KW-30KW

#### ENGINE FEATURES

- Single side service
- 3-5% governor
- 12V starter/alternator
- 12V run/shutdown fuel control solenoid
- 12V starting aid
- High ambient radiator
- Pusher-fan
- Fan guard
- Dry type air filter
- Fuel lift pump
- EPA-Tier 4a compliant
- 2-year 2000 hour engine warranty on 400 series

#### GENERATOR FEATURES

- Superior motor-starting capability
- 2/3 pitch windings
- Radio interference suppression
- Single-bearing balanced rotor
- Fully brushless, self excited, & electronically regulated
- Class H insulation
- Full tropicalized windings

#### STANDARD FEATURES

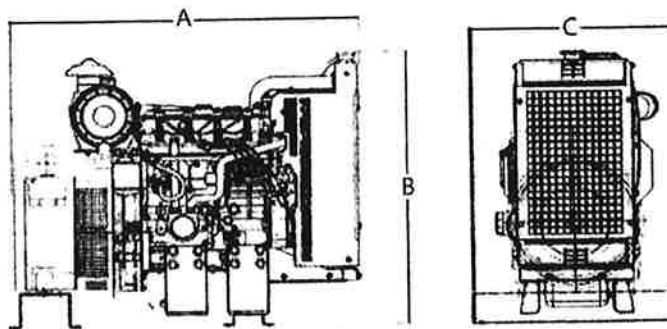
- DynaGen control panel safety features; high water temp., low oil pressure, over speed, with manual or auto start
- Operator's manual
- Wiring diagrams
- Unit load tested

#### OPTIONAL FEATURES

- Formed sheet metal skid
- Fuel tank sub base
- Enclosure package
- Sound attenuation
- Battery
- Muffler
- 3 phase configuration
- Mobile Trailer

Powered by:

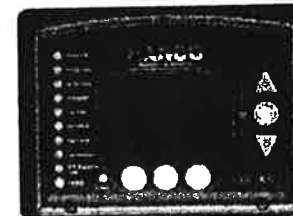
**Perkins**



	8KW	10KW	12KW	15KW	20KW	25KW	30KW
A	37.25	38	40	44.75	45.5	47	50
B	32.75	32.75	34.25	36	35.125	41.125	41.5
C	25.25	25.25	25.25	25.25	25.25	25.25	29.5
Weight lbs.	588	606	758	884	928	1014	1080

### HANCO INTEGRATED PANEL

Run Time Meter and Light  
Low Oil Pressure Shutdown  
High Coolant Temp Shutdown  
2 Wire & Manual Start/Stop



**User  
Friendly  
Controls**

**HANCO**  
Generating Systems  
Maintained by Scullard Perkins Corp.





Hover over the image to zoom in

In Our Catalogue

[View Catalogue Page 3187 \(PDF\)](#)

[View other products from page 3187](#)

To Tom  
From Ed.  
Will speak to you  
tomorrow morning.

#### **SURGE MASTER**

### **GENERATOR 11000W 20HP HONDA GX**

Product # EMBSM11000LHE

Manufacturer # EMBSM11000LHE

UNSPSC # 28111804

YOUR PRICE

**\$6,751.31 /EA**

CATALOGUE PRICE

~~\$4,424.44 /EA~~

FREE SHIPPING!

#### Portable Generators

Wattage (11000 max./10,000 watts continuous). Honda 20hp v-twin has a 40 L capacity steel fuel tank, 10 hr max. run time. Electric start (battery extra). 120/240 voltage. 100amps at 120V and 50 amps at 240 volts. GFCI Receptacles. Assembled. Entele certified. Made in Canada. Three year Warranty.

For Availability, Call Serving

**St John Branch**

8910 - 100 Street

(250) 765-8195

Chenoweth Branch

#### Product Specifications

Unit of Measure	EA
Brand Name	SURGE MASTER
Amps @ 120/240V	64/42.0
Engine Brand	Honda GX
Engine HP	20
Fuel Tank Capacity	40.0 L
Fuel Type	Gas
Height	29"
Height (in.)	29
Length	32"
Length (in.)	32
Rated Watts	10,000
Starter Type	Electric
Surge Watts	11,000
Type	LH Commercial Series
Width	22"
Width (in.)	22

Other Popular Terms for this Product

Generators (184) | Power (427)



# REQUEST FOR DECISION

RFD#: <u>8'SR 7</u>	Date: October 27, 2014
Meeting#: <b>CM102714</b>	Originator: <b>Tom Matus, CAO</b>
RFD TITLE: <b>Water Treatment Plant and Pump House Back-up Generator</b>	

## **BACKGROUND:**

A Water Treatment Plant and Pump House Back-up Generator is identified as a 2<sup>nd</sup> priority in the draft 2014 Five Year Capital Plan.

## **DISCUSSION:**

Administration has received a turnkey quote (attached) from Wynker Electric and Controls Limited of Chilliwack, BC of \$184,237.00. Wynker is quite familiar with the operations of our WTP and has effected many repairs on this plant. Due to the fact of Wynker's intimate familiarity with our water infrastructure and readiness to effect the installation of the generator Administration strongly recommends we invoke section 1.i.vi of the District of Hudson's Hope's Purchasing Policy which reads:

**For the purpose of ensuring efficiency and effectiveness, the following exceptions to the normal procedure are authorized and the quotation and tender provisions of the Purchasing Policy do not apply when:**

- i. Services and supplies are provided by utility companies on a monopoly basis;
- ii. Professional services may be obtained through proposal calls or other methods determined by District Council;
- iii. Cooperative purchasing agreements are made with other agencies or levels of government i.e. School District, Regional District, etc.;
- iv. Due to an emergency, a situation exists which could adversely affect the life, health or safety of citizens;
- v. Services are provided on a rotational basis where regular quotations or tenders are not feasible e.g. catering
- vi. **District Council by resolution authorizes a direct purchase in circumstances they consider appropriate.**

Administration has requested quotes and have found in two instances the supplier could not provide this product, let alone the installing of cables and miscellaneous requirements for the pump house.

## **BUDGET:**

Charge \$184,237.00 to Water Capital M&E Reserve.

**RECOMMENDATION / RESOLUTION:**

That Council:

Approve the purchase from Wynker Electric and Controls Limited in the amount of \$184,237.00 to supply and install a new backup genset system complete with outdoor weather proof sound attenuated enclosure, diesel tank and miscellaneous equipment for the Water Treatment Plant and pump house.

A handwritten signature in black ink, appearing to read 'Tom Matus', is written over a horizontal line.

Tom Matus, CAO

# Wynker Electric & Controls Ltd



#12-45831 Hocking Ave, Chilliwack, BC  
Ph. 604-392-5568  
Fax 604-792-5505  
wynker@hotmail.com

## FAX Cover

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ATTN: Ed - Public Works

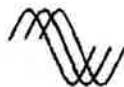
Fax#: 250 783-5741

RE: Quote for supply & installation of a NEW genset at the Water Treatment Plant for backup power to the WTP and the River Pumphouse

# of pages: 4 including cover

4

**Wynker Electric & Controls Ltd**  
 45831 Hocking, Ave, Chilliwack, BC  
**Electrical-Controls-Troubleshooting-Automation**



**Estimate**

Date: Estimate  
 July 21, 2014 101949revA  
 Project: WTP Backup Genset

Customer: District of Hudson Hope  
 Mike Carter  
 Ph: 250 783-9901  
 Fx: 250 783-5741  
 e-mail: [mike@hudsonshope.ca](mailto:mike@hudsonshope.ca)

Gst# 84821 2551 RT0001  
 Contact: Steve Wynker  
 Phone: 604-703-5340  
 Email: [swynker@hotmail.com](mailto:swynker@hotmail.com)

**Description:** Supply and install a NEW backup genset system complete withoutdoor weatherproof sound attenuated enclosure, diesel tank, and misc equipment.

Material:	Description	QTY	Per	Price	Total
	NEW 230kw/287kva 600volt diesel genset: MTU Detroit Diesel 6cyl engine 413hp rated Marathon Alternator end, 600volt 277amp standby rated 5 year manufacturers warranty 265US gal sub-base fuel tank Sound Attenuated enclosure Automatic genset control panel with relay outputs, discrete inputs, etc 2 x 6volt deep cycle batteries battery charger 6amp 12vdc output, 120vac input 2500watt circulating engine coolant heater (black heater) Control Wiring junction box for easy termination of control wiring New 300amp trip 400amp frame enclosed circuit breaker New enclosed outfeed breakers for WTP & Pumphouse outfeeds New fuel and oil filters, new engine oil, new air cleaner 4hour 100% load test and report performed in shop Onsite installation and startup	1 lot	\$	86,162.00	\$ 86,162.00
	Delivery, Installation & Commissioning onsite	1 lot	\$	21,875.00	\$ 21,875.00
	Engineered Concrete Foundation Includes design by professional engineer	1 lot	\$	17,500.00	\$ 17,500.00
	Trenching and cabling to River Pumphouse Includes 200amp power cable & fiberoptic communications cable	1 lot	\$	15,000.00	\$ 15,000.00
	River Pumphouse Modifications Supply and installation of 200amp Automatic transfer switch Fiber optic control wiring from River pumphouse to Water treatment plant Copper control wiring from new transfer switch to Generator Programming Transfer switch Status & Alarm points to Existing SCADAPack Control Panel	1 lot	\$	18,300.00	\$ 18,300.00



<b>Water Treatment Plant Modifications</b>	<b>1 lot</b>	<b>\$ 25,400.00</b>	<b>\$ 25,400.00</b>
Supply and installation of 400amp Automatic transfer switch			
Supply & installation of 75kva 600-120/208v transformer			
Copper control wiring from new transfer switch to Generator			
Programming Transfer switch Status & Alarm points to Existing SCADAPack Control Panel			
Programming Generator Status & Alarm points to existing SCADAPack Control Panel			
Install Autodialer expansion card & Program with new alarm callouts			
Modification to Existing HMI screens to show Transfer Switch and Genset Status & Alarms			

<b>Total:</b>	<b>\$ 184,237.00</b>
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**Notes:**      **GST not included**  
**Terms: NET30**

**Thank you for your business!**

# DIESEL ENGINE-GENERATOR SET AIR CHARGE-AIR COOLING

230 kW / 60 Hz / Standby  
208 - 600V

(Reference DP210DS for Prime Rating Technical Data)



## SYSTEM RATINGS

Standby	DS230D6SPA	DS230D6SJA	DS230D6SVA	DS230D6SWA	DS230D6SRA	DS230D6SNA
Phase	3	3	3	3	3	3
PF	0.8	0.8	0.8	0.8	0.8	0.8
Hz	60	60	60	60	60	60
kW	230	230	230	230	230	230
kVA	287	287	287	287	287	287
AMPS	798	692	437	377	346	277
skVA@30%						
Voltage Dip	608	608	430	580	809	510
Generator Model	432CSL6210	432CSL6210	432CSL6210	432CSL6210	432CSL6210	431PSL6243
Temp Rise	130 °C/40 °C	130 °C/40 °C	130 °C/40 °C	130 °C/40 °C	130 °C/40 °C	130 °C/40 °C
Connection	12 LEAD LOW WYE	12 LEAD HI DELTA	12 LEAD HI WYE	12 LEAD HI WYE	12 LEAD HI WYE	4 LEAD WYE

\*\* UL 2200 Offered

## CERTIFICATIONS AND STANDARDS

// Emissions - EPA Tier 3 Certified

// Engine-generator set is designed and manufactured in facilities certified to standards ISO 9001:2008 and ISO 14001:2004

// UL 2200 / CSA - Optional

- UL 2200 Listed
- CSA Certified

// Performance Assurance Certification (PAC)

- Engine-Generator Set Tested to ISO 8528-5 for Transient Response
- Verified product design, quality and performance integrity
- All engine systems are prototype and factory tested

// Power Rating

- Accepts Rated Load in One Step Per NFPA 110
- Permissible average power output during 24 hours of operation is approved up to 85%.

## STANDARD FEATURES<sup>\*</sup>

- // MTU Onsite Energy is a single source supplier
- // Global Product Support
- // 2 Year Standard Warranty
- // 6R1600 Diesel Engine
  - 10.5 Liter Displacement
  - Common Rail Fuel Injection
  - 4-Cycle
- // Engine-generator resilient mounted
- // Complete Range of Accessories

- // Generator
  - Brushless, Rotating Field Generator
  - 2/3 Pitch Windings
  - 300% Short Circuit Capability with Optional PMG
- // Digital Control Panel(s)
  - UL Recognized, CSA Certified, NFPA 110
  - Complete System Metering
  - LCD Display
- // Cooling System
  - Integral Set-Mounted
  - Engine Driven Fan

## STANDARD EQUIPMENT<sup>\*</sup>

### // Engine

**Air Cleaner**  
**Oil Pump**  
**Oil Drain Extension & S/O Valve**  
**Full Flow Oil Filters**  
**Closed Crankcase Ventilation**  
**Jacket Water Pump**  
**Thermostats**  
**Blower Fan & Fan Drive**  
**Radiator - Unit Mounted**  
**Electric Starting Motor - 24V**  
**Governor - Electronic Isochronous**  
**Base - Formed Steel**  
**SAE Flywheel & Bell Housing**  
**Charging Alternator - 24V**  
**Battery Box & Cables**  
**Flexible Fuel Connectors**  
**Flexible Exhaust Connection**  
**EPA Certified Engine**

### // Generator

**NEMA MG1, IEEE and ANSI standards compliance for temperature rise and motor starting**  
**Sustained short circuit current of up to 300% of the rated current for up to 10 seconds**  
**Self-Ventilated and Drip-Proof**  
**Superior Voltage Waveform**  
**Digital, Solid State, Volts-per-Hertz Regulator**  
**No Load to Full Load Regulation**

### Brushless Alternator with Brushless Pilot Exciter

**4 Pole, Rotating Field**  
**130 °C Maximum Standby Temperature Rise**  
**1 Bearing, Sealed**  
**Flexible Coupling**  
**Full Amortisseur Windings**  
**125% Rotor Balancing**  
**3-Phase Voltage Sensing**  
**±1% Voltage Regulation**  
**100% of Rated Load - One Step**  
**3% Maximum Harmonic Content**

### // Digital Control Panel(s)

**Digital Metering**  
**Engine Parameters**  
**Generator Protection Functions**  
**Engine Protection**  
**CAN Bus ECU Communications**  
**Windows-Based Software**  
**Multilingual Capability**  
**Remote Communications to RDP-110 Remote Annunciator**  
**16 Programmable Contact Inputs**  
**Up to 11 Contact Outputs**  
**UL Recognized, CSA Certified, CE Approved**  
**Event Recording**  
**IP 54 Front Panel Rating with Integrated Gasket**  
**NFPA 110 Compatible**

<sup>\*</sup> Represents standard product only. Consult Factory/MTU Onsite Energy Distributor for additional configurations.

## APPLICATION DATA

### // Engine

Manufacturer	MTU
Model	6R1600G70S
Type	4-Cycle
Arrangement	6-Inline
Displacement: L (Cu In)	10.5 (641)
Bore: cm (in)	12.2 (4.8)
Stroke: cm (in)	15 (5.91)
Compression Ratio	17.5:1
Rated RPM	1,800
Engine Governor	ECU &
Max Power: kWm (bhp)	312 (418)
Speed Regulation	±0.25%
Air Cleaner	Dry

### // Liquid Capacity (Lubrication)

Total Oil System: L (gal)	46 (12.2)
Engine Jacket Water Capacity: L (gal)	45 (11.9)
System Coolant Capacity: L (gal)	82 (21.7)

### // Electrical

Electric Volts DC	24
Cold Cranking Amps Under -17.8 °C (0 °F)	950

### // Fuel System

Fuel Supply Connection Size	#10 JIC 37° Female
	M20 x 1.5 Male Adapter Provided
Fuel Return Connection Size	#6 JIC 37° Female
	M14 x 1.5 Male Adapter Provided
Maximum Fuel Lift: m (ft)	5 (16)
Recommended Fuel	Diesel #2
Total Fuel Flow: L/hr (gal/hr)	198 (60.4)

### // Fuel Consumption

	STANDBY
At 100% of Power Rating: L/hr (gal/hr)	66 (17.5)
At 75% of Power Rating: L/hr (gal/hr)	54 (14.2)
At 50% of Power Rating: L/hr (gal/hr)	39 (10.2)

### // Cooling - Radiator System

	STANDBY
Ambient Capacity of Radiator: °C (°F)	50 (122)
Max. Restriction of Cooling Air, Intake, and Discharge Side of Rad.: kPa (in. H <sub>2</sub> O)	0.2 (0.8)
Water Pump Capacity: L/min (gpm)	277 (73.1)
Heat Rejection to Coolant: kW (BTUM)	143 (8,132)
Heat Rejection to After Cooler: kW (BTUM)	84 (4,777)
Heat Radiated to Ambient: kW (BTUM)	27.5 (1,564)

### // Air Requirements

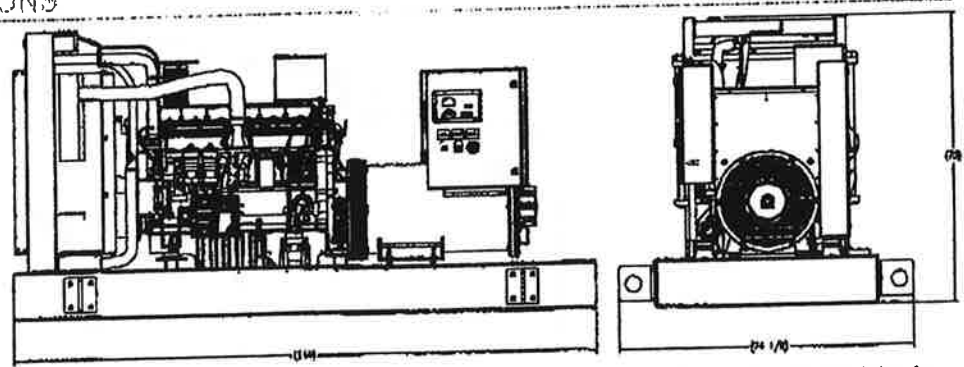
	STANDBY
Aspirating: *m <sup>3</sup> /min (SCFM)	30 (1,059)
Air Flow Required for Rad.	
Cooled Unit: *m <sup>3</sup> /min (SCFM)	396 (13,986)
Remote Cooled Applications;	
Air Flow Required for Dissipation of Radiated Gen-set Heat for a	
Max of 25 °F Rise: *m <sup>3</sup> /min (SCFM)	99.9 (3,527)

\* Air density = 1.184 kg/m<sup>3</sup> (0.0739 lbm/ft<sup>3</sup>)

### // Exhaust System

	STANDBY
Gas Temp. (Stack): °C (°F)	430 (806)
Gas Volume at Stack	
Temp: m <sup>3</sup> /min (CFM)	72 (2,542)
Maximum Allowable	
Back Pressure: kPa (in. H <sub>2</sub> O)	15 (60.2)

## WEIGHTS AND DIMENSIONS



Drawing above for illustration purposes only, based on standard open power 480 volt engine-generator set. Lengths may vary with other voltages. Do not use for installation design. See website for unit specific template drawings.

**Open Power Unit (OPU)**

**Dimensions (mm)**  
3,658 x 1,883 x 1,855 mm (144 x 74.13 x 73 in)

**Weight (kg)**  
3,078 kg (6,785 lb)

Weights and dimensions are based on open power units and are estimates only. Consult the factory for accurate weights and dimensions for your specific engine-generator set.

## SOUND DATA

**Level 0: Open Power Unit (dBA)**

**86.3**

Sound data is provided at 7 m (23 ft). Engine-generator set tested in accordance with ISO 9528-10 and with infinite exhaust.

## EMISSIONS DATA

**CO<sub>2</sub> (g/kWh)**  
4.71

**NO<sub>x</sub> (g/kWh)**  
0.61

**PM<sub>10</sub> (g/kWh)**  
0.06

**All units are in g/hp-hr and at 100% load.**  
Emission levels of the engine may vary as a function of ambient temperature, barometric pressure, humidity, fuel type and quality, installation parameters, measuring instrumentation, etc. The data provided are laboratory results from one engine representing this rating. The data was obtained under controlled environmental conditions with calibrated instrumentation traceable to the United States National Bureau of Standards and in compliance with US EPA regulations found within 40 CFR Part 89. The weighted cycle value (not shown) from each engine is guaranteed to be below the US EPA Standards at the US EPA defined conditions.

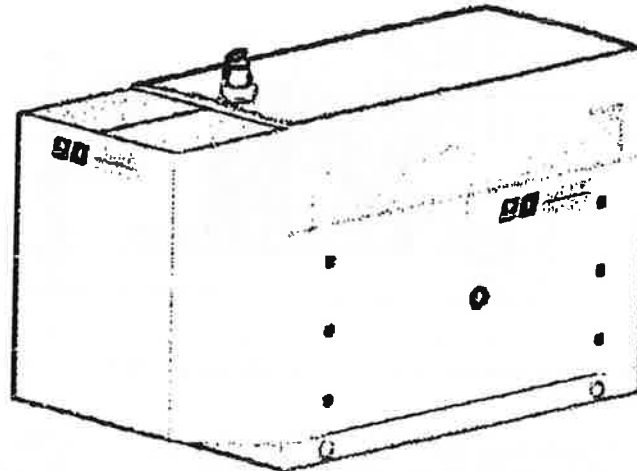
## RATING DEFINITIONS AND CONDITIONS

- // Standby ratings apply to installations served by a reliable utility source. The standby rating is applicable to varying loads for the duration of a power outage. No overload capability for this rating. Ratings are in accordance with ISO 8528-1, ISO 3046-1, BS 5514, AS 2789, and DIN 6271.
- // Deration Factor:  
**Altitude:** Consult your local MTU Onsite Energy Power Generation Distributor for altitude derations.  
**Temperature:** Consult your local MTU Onsite Energy Power Generation Distributor for temperature derations.

Materials and specifications subject to change without notice.  
G/F = Consult Factory/MTU Onsite Energy Distributor

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## ENCLOSURE AND SOUND DATA SHEET - DIESEL 30-300 kW Standby / 27-275 kW Prime



### ENCLOSURE LEVEL IDENTIFICATION

#### Level 1:

Skid-mounted weather proof enclosure constructed of heavy gauge steel or aluminum with fixed storm proof panels designed for 100 mph wind load rating (150 mph rating on 30-200 kW). Enclosure consists of a bolted and welded construction with unit-mounted internal muffler. Hinged, lockable double-door access on both sides of the enclosure.

#### Level 2:

Level 1 enclosure with UL 94 HF-1 compliant, 1.5" thick sound attenuated foam insulation installed inside enclosure walls.

#### Level 3\*:

Level 2 enclosure with air exhaust scoop with UL 94 HF-1 compliant, 1.5" thick sound attenuated foam insulation installed in scoops where applicable.\*

#### Level 3 w/Exhaust Scoop Sound Attenuation Kit \*\*:

Level 3 enclosure with 1.5" thick sound attenuated foam insulation installed in scoop (60-100 kW only).\*\*

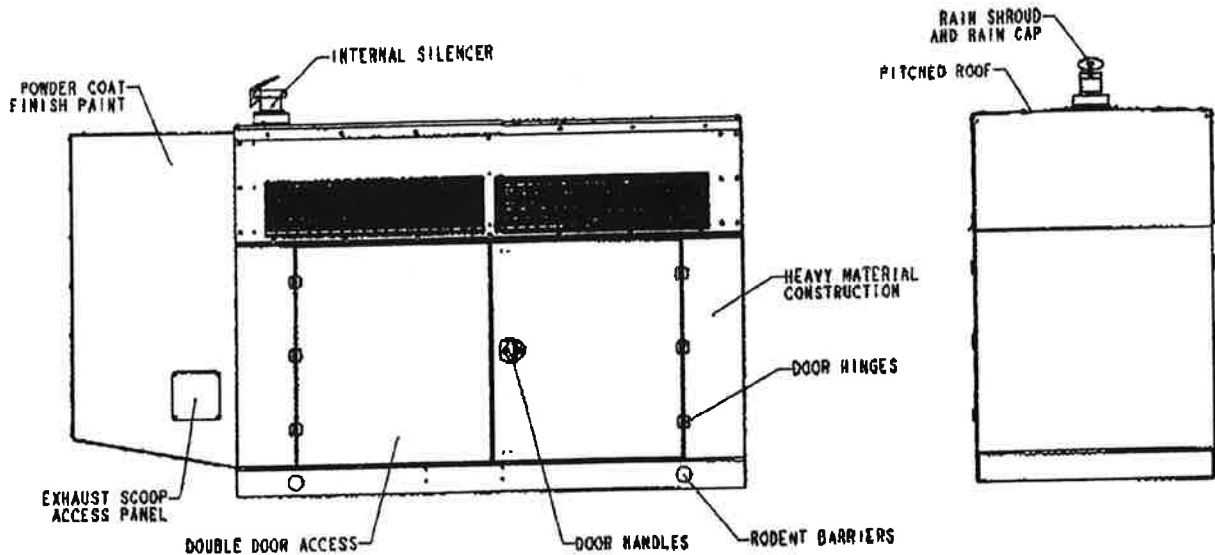
### CERTIFICATIONS AND STANDARDS

- UL 2200
- CSA
- ISO 9001:2008
- IBC / OSHPD

### STANDARD FEATURES FOR ALL LEVELS

- Heavy material construction
  - Steel Enclosure: 14 gauge or greater
  - Aluminum Enclosure: 0.09" thick or greater
- 150 mph wind rating 30-200 kW
- 100 mph wind rating 230-300 kW
- Serviceability access
  - Double door access gives ease of serviceability to all components
- Pitched roof
- Rain shroud and rain cap
- Rodent barriers
- Exhaust scoop access panel and drain
- Hardware
  - Powder coated hinges with stainless steel pins
  - Key-lockable and pad-lockable powder coated door handles
- Powder Coat Finish Paint: ANSI 61 Grey standard
  - Refer to *Enclosures and Generator Set Color Options* data sheet
- Internal silencer (Critical grade or better)
  - Insulated or wrapped mufflers and exhaust pipes
  - Stainless steel flexible exhaust connections (where applicable)

# ENCLOSURE AND SOUND DATA SHEET - DIESEL 30-300 kW Standby / 27-275 kW Prime



## OPTIONAL FEATURES

- Door restraints
- AC or DC light package
- Motorized / gravity louvers (where available)
- 150 mph wind rating 230-300 kW
- For other custom options, please consult factory.

## SOUND RATINGS dB(A) AT 7 METERS

Application	Model	Level 1	Level 2	Level 3*	Level 3 w/ Exhaust Scoop Sound Attenuation Kit**
Standby	DS30D6S	68.2	64.4	60.6	N/A
	DS35D6S	73.7	70.8	65.5	N/A
	DS40D6S	73.7	70.8	65.5	N/A
	DS50D6S	73.7	70.8	65.5	N/A
	DS60D6S	75.3	72.3	64.6	61.6
	DS80D6S	78.9	75.2	70.9	66.7
	DS100D6S	78.9	75.2	70.9	66.7
	DS125D6S	82.8	81.7	72	N/A
	DS150D6S	84.5	83	73.4	N/A
	DS180D6S	85.1	83	73.9	N/A
	DS200D6S	85.1	83	73.7	N/A
	DS230D6S	80.3	78.8	69.1	N/A
	DS250D6S	80.5	78.5	69.2	N/A
	DS275D6S	80.9	78.4	69.3	N/A
	DS300D6S	81	78.6	69.2	N/A

