

# Starlite Pump Station

## General Site and Safety Considerations

Tuesday, December 01, 2015

### GENERAL SITE CONDITION/ACCESS

Vehicle Entrance and Exit to Site	From street
Parking	On street
Sight lighting Fixture	Street light on opposite side of street

### SAFETY CONSIDERATIONS

General Site Safety Issues	1) Heat lamp in building is too low. Burn head. 2) Parking and access to station is challenging if any traffic is present
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### SITE SECURITY

Facility Fenced	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	
Privacy Fence	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	
Fence Material	N/A	Height of Fence	N/A
Method of Securing Access Gates	N/A	Fence Topping	N/A
Adequate security for keeping public off site?	No		

Notes:



# General Site Photos

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General site photo



Station access hatches



Station access door

# Equipment Housing

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<b>Equipment Housing</b>	<input checked="" type="checkbox"/> Building	<input type="checkbox"/> Enclosure	<input type="checkbox"/> Other		
Condition	<input checked="" type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
Criticality	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input checked="" type="checkbox"/> 4	
Serviceability	<input checked="" type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	

Structural Materials	Concrete
Age	Unknown

Locking Doors	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No
Intrusion Alarm	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No

## Dimensions:

Length	~30	ft
Width	~15	ft

## HVAC:

Heat	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No
Cooling	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No
Humidity Control	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No
Fan	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No

## Notes:

Lighting is low level. Suggest increasing.



# Equipment Housing Photos

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Station access door and walkway



Station access hatches



Station access door



Station interior from doorway



Station electrical panels



Air release valve, believed to connect to suction piping



Pipe thrust restraints



Common system pressure gauges

# Flow Meter and Vault(s)

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<b>Flow Meter</b>	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No
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Condition	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input checked="" type="checkbox"/> 5
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Criticality	<input checked="" type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4
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Serviceability	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4
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Asset Nos.	
Location.	Unknown
Type/Manufacturer	Unknown
Age	Unknown

<b>Vault</b>	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A
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Description	Manhole
Structural Materials	Unknown
Dimensions	Unknown
Age	Unknown

Access Hatch Fall Protection	<input type="checkbox"/> Yes	<input type="checkbox"/> No
Access Hatch Lock	<input type="checkbox"/> Yes	<input type="checkbox"/> No
Intrusion Alarm	<input type="checkbox"/> Yes	<input type="checkbox"/> No

**Notes:**

Flow meter not inspected



# Flow Meter and Vault(s) Photos

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No photos

# STARLITE #1

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<b>Suction Zone</b>	1240	<b>Discharge Zone</b>	1430
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**Pumping System No.** 1

Condition  1  2  3  4  5

Criticality  1  2  3  4

Serviceability  1  2  3  4

Pump Type  Vert. Turb.  End Suction  Split case  In-line centrifugal

Mounting  Horizontal  Vertical

Pump from  Piping  Can  Basin/Clearwell

Pump to  Closed zone  Pressure tank  Reservoir

Asset no.	P-7-16-1
Manufacturer	Grundfos
Model	CR5
Serial #	A95-084 273-P10617248
Age	Installed 23-MAY-06

Rated Design Pt 30 gpm @ 315 feet TDH

Ability to Isolate Pump  Yes  No

How to Remove Pump Manual

## MOTOR

ODP  TEFC  TENV  TEBC  Diesel Engine  Other

Horsepower 5 Voltage Phase rpm 3480

Manufacturer	Grundfos
Model	Unknown
Serial #	Unknown
Age	Installed 23-MAY-06

Inverter duty rated?  Yes  No  Unknown

Motor Driver  VFD  Soft Starter  FVNR Starter  None

### Notes:

Currently offline due to pressure tank failure. Currently fvnr, but planning to switch to vfd. Discussed impact of inverter duty rating on motor.



# Valves and Gauges

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<b>Check/Control Valve</b>	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No
Reported/Exterior Condition	No issues noted.	
Asset Nos.	FCV-7-16-3-2	
Type/Manufacturer	Cla-Val	
Age	Unknown	

<b>Isolation Valve(s)</b>	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No
Reported/Exterior Condition	No issues noted.	
Asset Nos.	FV-7-16-1-1	
Type/Manufacturer	GV/Kennedy, 2" suction, 2" ball valve discharge	
Age	Unknown	

<b>Pressure Gauge(s)</b>	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No
Asset Nos.	PIT-7-16-2	
Type/Manufacturer	Pressure Transmitter/Dwyer - 0-200psi	
Age	Unknown	

Notes:

PRV-7-16-1-3 Starlite #1 Booster Pump Pressure Reducing Valve Singer 106-PR



# Piping

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## Common Suction Pipe

Reported/Exterior Condition	No issues noted.
Pipe size	4"
Pipe material	Ductile iron
Age	Unknown

## Pump Specific Suction Pipe

Reported/Exterior Condition	No issues noted.
Pipe size	2"
Pipe material	Steel
Age	Unknown

## Pump Specific Discharge Pipe

Reported/Exterior Condition	No issues noted.
Pipe size	2"
Pipe material	Steel
Age	Unknown

## Common Discharge Pipe

Reported/Exterior Condition	No issues noted.
Pipe size	4"
Pipe material	Ductile iron
Age	Unknown

Notes:



# Pump/Valve/Piping Photos

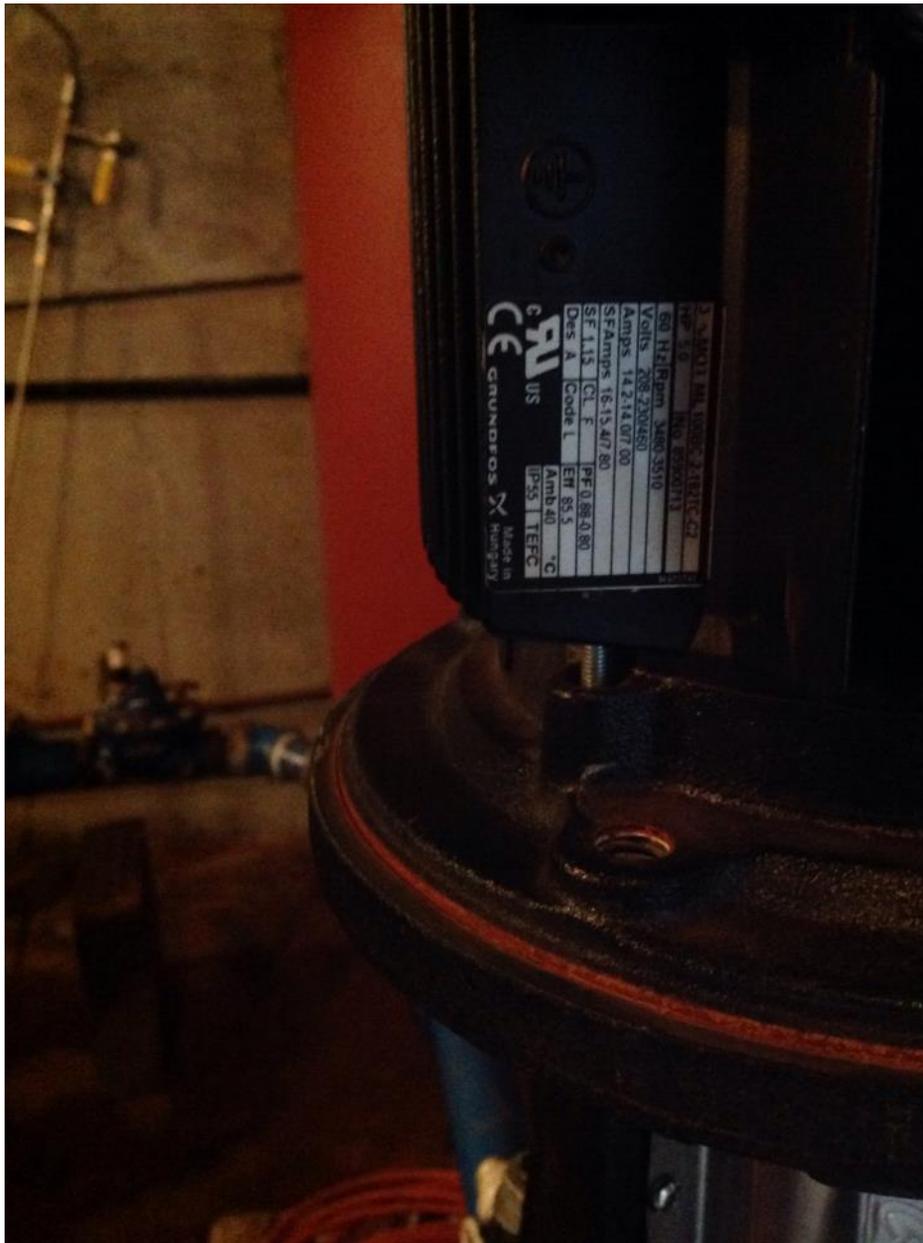
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Pumping System No. 1



Pumping System No. 1



Pumping System No. 1 motor nameplate



Pumping System No. 1 pump control valve

# STARLITE #2A

Tuesday, December 01, 2015

<b>Suction Zone</b>	1240	<b>Discharge Zone</b>	1430
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**Pumping System No.** 2a

Condition  1  2  3  4  5

Criticality  1  2  3  4

Serviceability  1  2  3  4

Pump Type  Vert. Turb.  End Suction  Split case  In-line centrifugal

Mounting  Horizontal  Vertical

Pump from  Piping  Can  Basin/Clearwell

Pump to  Closed zone  Pressure tank  Reservoir

Asset no.	P-7-16-2A
Manufacturer	Grundfos
Model	CR16
Serial #	A-91122775 P1 0235 US179
Age	Unknown

Rated Design Pt 84 gpm @ 208 feet TDH

Ability to Isolate Pump  Yes  No

How to Remove Pump Use offset hatches?

## MOTOR

ODP  TEFC  TENV  TEBC  Diesel Engine  Other

Horsepower 7.5 Voltage Phase rpm

Manufacturer	Unknown
Model	Unknown
Serial #	Unknown
Age	Unknown

Inverter duty rated?  Yes  No  Unknown

Motor Driver  VFD  Soft Starter  FVNR Starter  None

Notes:



# Valves and Gauges

Tuesday, December 01, 2015

<b>Check/Control Valve</b>	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No
Reported/Exterior Condition	No issues noted.	
Asset Nos.		
Type/Manufacturer	Globe / Hammond	
Age	Unknown	

<b>Isolation Valve(s)</b>	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No
Reported/Exterior Condition	No issues noted.	
Asset Nos.	FV-7-16-2A-1, FV-7-16-2A-3	
Type/Manufacturer	4" gate valve on suction and discharge	
Age	Unknown	

<b>Pressure Gauge(s)</b>	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No
Asset Nos.		
Type/Manufacturer		
Age		

Notes:



# Piping

Tuesday, December 01, 2015

## Common Suction Pipe

Reported/Exterior Condition	No issues noted.
Pipe size	4"
Pipe material	Ductile iron
Age	Unknown

## Pump Specific Suction Pipe

Reported/Exterior Condition	No issues noted.
Pipe size	4"
Pipe material	Ductile iron
Age	Unknown

## Pump Specific Discharge Pipe

Reported/Exterior Condition	No issues noted.
Pipe size	4"
Pipe material	Ductile iron
Age	Unknown

## Common Discharge Pipe

Reported/Exterior Condition	No issues noted.
Pipe size	4"
Pipe material	Ductile iron
Age	Unknown

Notes:



# Pump/Valve/Piping Photos

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Pumping System No. 2A



Pumping System No. 2A



Pumping System No. 2A



Pumping System No. 2A discharge globe check valve

# STARLITE #2B

Tuesday, December 01, 2015

<b>Suction Zone</b>	1240	<b>Discharge Zone</b>	1430
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**Pumping System No.** 2b

Condition  1  2  3  4  5

Criticality  1  2  3  4

Serviceability  1  2  3  4

Pump Type  Vert. Turb.  End Suction  Split case  In-line centrifugal

Mounting  Horizontal  Vertical

Pump from  Piping  Can  Basin/Clearwell

Pump to  Closed zone  Pressure tank  Reservoir

Asset no.	P-7-16-2B
Manufacturer	Grundfos
Model	CR16
Serial #	A-91122775 P1 0235 US 180
Age	Unknown

Rated Design Pt 84 gpm @ 208 feet TDH

Ability to Isolate Pump  Yes  No

How to Remove Pump Use offset hatches?

## MOTOR

ODP  TEFC  TENV  TEBC  Diesel Engine  Other

Horsepower 7.5 Voltage Phase rpm

Manufacturer	Unknown
Model	Unknown
Serial #	Unknown
Age	Unknown

Inverter duty rated?  Yes  No  Unknown

Motor Driver  VFD  Soft Starter  FVNR Starter  None

### Notes:

Frequent starts. Concern about motor wear. Estimate 20-30 per hour.



# Valves and Gauges

Tuesday, December 01, 2015

<b>Check/Control Valve</b>	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No
Reported/Exterior Condition	No issues noted.	
Asset Nos.		
Type/Manufacturer	Globe / Hammond	
Age	Unknown	

<b>Isolation Valve(s)</b>	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No
Reported/Exterior Condition	No issues noted.	
Asset Nos.	FV-7-16-2B-1, FV-7-16-2B-3	
Type/Manufacturer	4" gate valve on suction and discharge	
Age	Unknown	

<b>Pressure Gauge(s)</b>	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No
Asset Nos.		
Type/Manufacturer		
Age		

Notes:



# Piping

Tuesday, December 01, 2015

## Common Suction Pipe

Reported/Exterior Condition	No issues noted.
Pipe size	4"
Pipe material	Ductile iron
Age	Unknown

## Pump Specific Suction Pipe

Reported/Exterior Condition	No issues noted.
Pipe size	4"
Pipe material	Ductile iron
Age	Unknown

## Pump Specific Discharge Pipe

Reported/Exterior Condition	No issues noted.
Pipe size	4"
Pipe material	Ductile iron
Age	Unknown

## Common Discharge Pipe

Reported/Exterior Condition	No issues noted.
Pipe size	4"
Pipe material	Ductile iron
Age	Unknown

Notes:



# Pump/Valve/Piping Photos

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Pumping System No. 2B



Pumping System No. 2B



Pumping System No. 2B

# STARLITE #3

Tuesday, December 01, 2015

<b>Suction Zone</b>	1240	<b>Discharge Zone</b>	1430
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**Pumping System No.** 3

Condition  1  2  3  4  5

Criticality  1  2  3  4

Serviceability  1  2  3  4

Pump Type  Vert. Turb.  End Suction  Split case  In-line centrifugal

Mounting  Horizontal  Vertical

Pump from  Piping  Can  Basin/Clearwell

Pump to  Closed zone  Pressure tank  Reservoir

Asset no.	
Manufacturer	Unknown
Model	Unknown
Serial #	Unknown
Age	Unknown

Rated Design Pt 1050 gpm @ 185 feet TDH

Ability to Isolate Pump  Yes  No

How to Remove Pump Use offset hatches?

## MOTOR

ODP  TEFC  TENV  TEBC  Diesel Engine  Other

Horsepower 60 Voltage Phase rpm

Manufacturer	Unknown
Model	Unknown
Serial #	Unknown
Age	Unknown

Inverter duty rated?  Yes  No  Unknown

Motor Driver  VFD  Soft Starter  FVNR Starter  None

Notes:



# Valves and Gauges

Tuesday, December 01, 2015

<b>Check/Control Valve</b>	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No
Reported/Exterior Condition	No issues noted.	
Asset Nos.		
Type/Manufacturer	Globe valve	
Age	Unknown	

<b>Isolation Valve(s)</b>	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No
Reported/Exterior Condition	No issues noted.	
Asset Nos.		
Type/Manufacturer	Gate valve on suction and discharge	
Age	Unknown	

<b>Pressure Gauge(s)</b>	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No
Asset Nos.		
Type/Manufacturer		
Age		

Notes:



# Piping

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## Common Suction Pipe

Reported/Exterior Condition	No issues noted.
Pipe size	Unknown - buried
Pipe material	Ductile iron
Age	Unknown

## Pump Specific Suction Pipe

Reported/Exterior Condition	No issues noted.
Pipe size	6"
Pipe material	Ductile iron
Age	Unknown

## Pump Specific Discharge Pipe

Reported/Exterior Condition	No issues noted.
Pipe size	6"
Pipe material	Ductile iron
Age	Unknown

## Common Discharge Pipe

Reported/Exterior Condition	No issues noted.
Pipe size	Unknown - buried
Pipe material	Ductile iron
Age	Unknown

Notes:



# Pump/Valve/Piping Photos

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Pumping System No. 3



Pumping System No. 3 discharge check and isolation valves

# STARLITE #4

Tuesday, December 01, 2015

<b>Suction Zone</b>	1240	<b>Discharge Zone</b>	1430
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**Pumping System No.** 4

Condition  1  2  3  4  5

Criticality  1  2  3  4

Serviceability  1  2  3  4

Pump Type  Vert. Turb.  End Suction  Split case  In-line centrifugal

Mounting  Horizontal  Vertical

Pump from  Piping  Can  Basin/Clearwell

Pump to  Closed zone  Pressure tank  Reservoir

Asset no.	
Manufacturer	Unknown
Model	Unknown
Serial #	Unknown
Age	Unknown

Rated Design Pt 450 gpm @ 185 feet TDH

Ability to Isolate Pump  Yes  No

How to Remove Pump Use offset hatches?

## MOTOR

ODP  TEFC  TENV  TEBC  Diesel Engine  Other

Horsepower 30 Voltage Phase 3 rpm 1750

Manufacturer	US Electric Motors
Model	Unknown
Serial #	Unknown
Age	01-JAN-80

Inverter duty rated?  Yes  No  Unknown

Motor Driver  VFD  Soft Starter  FVNR Starter  None

### Notes:

Diesel engine backup not used.



# Valves and Gauges

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<b>Check/Control Valve</b>	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No
Reported/Exterior Condition	No issues noted.	
Asset Nos.	FCV-7-16-4-1	
Type/Manufacturer	Muesco, Model: 77077-3	
Age	Unknown	

<b>Isolation Valve(s)</b>	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No
Reported/Exterior Condition	No issues noted.	
Asset Nos.	FV-7-16-4-1, FV-7-16-4-3	
Type/Manufacturer	BV/Keystone 8"	
Age	Unknown	

<b>Pressure Gauge(s)</b>	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No
Asset Nos.		
Type/Manufacturer		
Age		

Notes:



# Piping

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## Common Suction Pipe

Reported/Exterior Condition	No issues noted.
Pipe size	Unknown - buried
Pipe material	Ductile iron
Age	Unknown

## Pump Specific Suction Pipe

Reported/Exterior Condition	No issues noted.
Pipe size	6"
Pipe material	Ductile iron
Age	Unknown

## Pump Specific Discharge Pipe

Reported/Exterior Condition	No issues noted.
Pipe size	4"
Pipe material	Ductile iron
Age	Unknown

## Common Discharge Pipe

Reported/Exterior Condition	No issues noted.
Pipe size	Unknown - buried
Pipe material	Ductile iron
Age	Unknown

Notes:



# Pump/Valve/Piping Photos

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Pumping System No. 4



Pumping System No. 4 diesel backup driver (not used/functional)





Pumping System No. 4 right angle drive

# Backup Power

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## BACKUP POWER

Source	<input checked="" type="checkbox"/> None	<input type="checkbox"/> Pig tail for portable	<input type="checkbox"/> On-site, permanent
Transfer Switch	<input type="checkbox"/> Yes	<input type="checkbox"/> No	
Type	<input type="checkbox"/> Manual	<input type="checkbox"/> Auto	

### Notes:

Not slated for adding backup power.

## STANDBY GENERATOR

Condition	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
Criticality	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	
Serviceability	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	
Asset No.					
Manufacturer					
Model					
Serial #					
Age(s)					
Location					
Electrical capacity	KW		Voltage		Phase(s)
Fuel type	<input type="checkbox"/> Diesel	<input type="checkbox"/> Nat. Gas	<input type="checkbox"/> Propane	<input type="checkbox"/> Gasoline	<input type="checkbox"/> Other
Full load fuel demand		gal/hr			
Fuel stored on-site		gal			

### Notes:

