Title: RICE MACT Maintenance

Revision: 05

Effective Date: 2018/02/01

Status: Issued Driver: Regulatory



() TransCanada

NOTE

Ownership for this document has been accepted by the appropriate TransCanada department. The document contact has been identified to provide clarity for field personnel. The responsible TOP Owner/Management Approval contact will be updated during the next review cycle.

Document Owner: Chris Waltman

1.0 **PURPOSE**

The purpose of this task package is to describe maintenance practices for certain reciprocating engines identified below to meet the requirements for Reciprocating Internal Combustion Engine (RICE) Maximum Achievable Control Technology (MACT) National Emission Standard for Hazardous Air Pollutants (NESHAP), Subpart ZZZZ of 40 CFR part 63.

2.0 SCOPE

This Task Package applies to all U. S. Storage and Natural Gas Transmission assets which are wholly owned and operated by TransCanada as well as all partially owned entities and/or joint ventures where TransCanada has operational control for the facilities as follows:

- 1. Natural gas or diesel fired reciprocating Emergency Engines (e.g., APUs and Fire Water Pumps) listed in <u>Appendix A</u>.
- 2. Janesville Compressor Units 1 and 2.
- 3. TransOK, all non-emergency reciprocating compressor units.
- 4. Custer Compressor Station Units 1-6
- 5. Wadsworth non-emergency reciprocating compressor unit.

3.0 FREQUENCY(S)

RICE MACT requires maintenance be conducted on an M12 basis or by hours run, whichever comes first. The hours run is a not to exceed basis (subject to the emergency note 1) and the M12 basis is every 12 months not to exceed 13 months from the previous maintenance activity. For hours run on Natural Gas and Diesel Fired Emergency Engines the Preventative Maintenance Program will be Condition Directed to avoid misalignment with APU Maintenance M36, all others will be by hours or M12, whichever comes first.

3.1 Standard Frequency Direction Sections

The Standard Frequencies for performing the tasks outlined in this Task Package are as follows:



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Description	<u>Oil Change/</u> <u>Analysis</u>	<u>Inspect Spark</u> <u>Plugs</u>	Inspect Belts and Hoses	<u>Inspect Air</u> <u>Cleaner</u>
Natural Gas Fired Emergency Engines ¹	H0.5K (CD)/M12	H0.5K (CD)/M12 ²	H0.5K (CD)/M12	NA
Diesel Fired Emergency Engines ¹	H0.5K (CD)/M12	N/A	H0.5K (CD)/M12	H1K (CD)/M12
Janesville Compressor Units 1 & 2 ³	4,320 run hours/annually Schedule at H4K/M12	4,320 run hours/annually Schedule at H4K/M12	4,320 run hours/annually Schedule at H4K/M12	NA
TransOK ³ Custer Units 1-6 ³ Wadsworth ³	2,160 run hours/annually Schedule at H2K/M12	2,160 run hours/annually Schedule at H2K/M12	2,160 run hours/annually Schedule at H2K/M12	NA

Notes:

- 1. Intervals may be adjusted based on nonstandard local requirements by following the Technical and Physical Change Procedure and upon receiving proper approval.
- 2. If it is not possible to perform the management practice requirements on the schedule required due to an emergency situation, the management practice can be delayed until the emergency is over. The management practice should be performed as soon as practicable after the emergency has ended. Notify the Air Quality Specialists within Health Safety and Environment as soon as practical.
- The regulatory requirement is to check the spark plugs once every 1000 hours of operation or 3. annually whichever comes first. However, TransCanada has decided it is prudent from a compliance assurance standpoint to make the periodicity the same as for oil changes/checks and belts and hoses checks.
- 4. The regulatory requirement is a "not to exceed" scheduling requirement. To meet this requirement and to accommodate limitations in the scheduling program, slightly lower run time limits have been selected.
- 5. Annually/M12 means every 12 months not to exceed 13 months from the previous maintenance activity.
- 6. Conditionally Directed (CD) by hours run means, if in the rare occurrence the APU approaches not to exceed basis (subject to the emergency note 1). Operations is to inform Regional/Area Planner and Environmental Personnel to create a WO from the CD Preventative Maintenance Program.

Standard Frequency	Regulatory / Best Practice	Potential Deviation Parameters
H0.5 K	Regulatory	No Deviation Permitted
H1K	Regulatory	No Deviation Permitted
H2K	Regulatory	No Deviation Permitted
H4K	Regulatory	No Deviation Permitted

3.1.1 **Potential Deviation Parameters**

Prior to use, validate paper copies against the official version (Doc ID 008029868) in FileNet.

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Standard 1	Frequency	Regulatory	Regulatory / Best Practice Potentia			viation Parameters
M12 Regula			ulatory		No Devi	ation Permitted

Note: Please note above potential deviation parameters should be requested via Master Data (MD) notification for future work, and should NOT be used as a schedule reference for current work.

3.2 Conditionally Directed Section

The conditionally directed frequencies are incorporated in the Table in Section 3.1 and Note 6.

4.0 WORK INSTRUCTIONS

<u>4.1</u>	Oil Change/Analysis
<u>4.2</u>	Inspect Spark Plugs
<u>4.3</u>	Inspect Belts and Hoses
<u>4.4</u>	Inspect Air Cleaner
<u>4.5</u>	Diesel-Fired Engine Oil Analysis Program
<u>4.6</u>	Natural Gas-Fired Engine Oil Analysis Program
<u>5.0</u>	Documentation/Reporting Requirements
<u>6.0</u>	Acronyms/Definitions

Notes:

- 1. Each Activity should be performed after reviewing the appropriate TOP Procedures (Example Safety, Environmental, Health Hygiene etc.).
- Every effort should be made to schedule in conjunction with <u>APU Engine Maintenance</u> (M36) to avoid repetitive sampling. One sample will meet requirements in both procedures. If APU Engine Maintenance (M36) triggers sampling earlier in the calendar year than this work order, the RICE MACT Maintenance oil sampling should be repeated so that the "not to exceed" 13-month requirement is met in future years.

Hazards: The Document Owner has presently not identified any hazards for stakeholders with respect to this document.

Qualification Requirement(s): Qualified Technician.

Special Resources: The Document Owner has presently not identified any special resources for stakeholders with respect to this document.

References:

- OEM Maintenance Service Manual(s)
- All TOP documents can be accessed from the TOPs database using this link <u>TOPs</u>.
 Note: TOP documents referenced in this document will have their titles underlined and can be opened up by using the hyperlink below or going to the TOPs database using the above TOPs link.

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• <u>Technical and Physical Change Procedure (Cdn-US-Mex)</u> (EDMS No. 007728761)

- <u>RICE MACT Maintenance Record Sheet</u> (EDMS No. 008834053)
- <u>Oil Sampling Preventive Maintenance Program</u> (EDMS No. 003832580)
- <u>Reciprocating Engine Spark Plug Replacement</u> (EDMS No. 004496494)
- <u>APU Engine Maintenance</u> (EDMS No. 003834681)

4.1 Oil Change/Analysis

- 1. If conducting an engine oil analysis, run the engine for at least 1 hour prior to drawing a sample. If the engine is an emergency engine (i.e., APU) conduct this in conjunction with the monthly runtime check.
- Change the oil per manufacturer's instructions or conduct an engine oil analysis per <u>Oil Sampling</u> <u>Preventive Maintenance Program</u> prior to exceeding the run time or calendar limit specified in <u>Section 3.0.</u>

Note: The oil change and analysis requirement is interchangeable. Only one needs to be accomplished (unless the analysis fails, then an oil change is required).

- a. Follow manufacturer's instructions for oil changes.
- b. See <u>APU Engine Maintenance</u> for guidance on oil types to use.
- c. Record the engine oil type and oil manufacturer on the chain of custody submitted to FluidLife.
- 3. Upon receipt of the engine oil analysis, if taken, TransCanada Laboratory Services shall:
 - a. Verify the Baseline readings in the Fluid Life database.

Note: At a minimum, the baseline must have the following three parameters: Total Acid/Base Number, viscosity, and percent water content. If any of these parameters are missing, it is not a valid baseline. A new baseline should be requested immediately.

- b. Verify the parameters are within the requirements of <u>Section 4.5</u> or <u>Section 4.6</u> as applicable.
- 4. If the engine oil analysis fails:
 - a. TransCanada Laboratory Services will create a notification recording any relevant information (work required, observations, deficiencies, anomalies) in your Computerized Maintenance Management System (CMMS), with a 24 hour priority and notify via email key operations personnel (including but not limited to Field Work Planner and the Area Manager) and Environmental Field Specialist upon receipt of the condemned analysis.
 - b. The Field Work Planner will schedule an engine oil replacement.
 - c. Operational personnel will change the oil per manufacturer's instructions within the periodicity specified in <u>Section 4.5</u> or <u>Section 4.6</u> as applicable.

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4.2 Inspect Spark Plugs

- 1. Inspect the spark plugs by ensuring all cylinders are igniting appropriately.
- 2. If the inspection fails:
 - a. Create a corrective Work Order recording any relevant information (work required, observations, deficiencies, anomalies) in your CMMS.

Replace per Reciprocating Engine Spark Plug Replacement.

4.3 Inspect Belts and Hoses

- 1. Inspect belts and hoses for signs of frets, wear, leaks or other signs of abnormal or excessive wear.
- 2. If the belts or hoses fail the visual inspection:
 - a. Create a corrective Work Order recording any relevant information (work required, observations, deficiencies, anomalies) in your CMMS.
 Replace per manufacturer's instructions.

4.4 Inspect Air Cleaner

- 1. Inspect the air cleaner for cleanliness and integrity.
- 2. If the Air Cleaner fails the visual inspection:
 - a. Create a corrective Work Order recording any relevant information (work required, observations, deficiencies, anomalies) in your CMMS.
 Replace per manufacturer's instructions.

4.5 Diesel-Fired Engine Oil Analysis Program

Note: The analysis program must at a minimum analyze the following three parameters: Total Base Number, viscosity, and percent water content. The condemning limits imposed by the USEPA for these parameters are as follows:

- 1. Total Base Number is less than 30 percent of the Total Base Number of the oil when new;
- 2. Viscosity of the oil has changed by more than 20 percent from the viscosity of the oil when new (measured at 100 degrees F); or
- 3. Percent water content (by volume) is greater than 0.5.

Note: If none of these condemning limits are exceeded, an oil change is not required. If any of the limits are exceeded, the oil change must occur as follows:

- 1. Engine in Operation
 - a. Within 2 days of receiving the results of the analysis

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- 2. Engine not in Operation:
 - a. Within 2 days of receiving the results of the analysis, or
 - b. Before commencing operation, whichever is later?

Note: If the engine operates in response to an emergency power failure, and the engine oil is not changed within the two business days of receipt of a condemned analysis, contact the Field Environmental Specialist and the Houston Air Group Representative as soon as practical.

4.6 Natural Gas-Fired Engine Oil Analysis Program

Note: The analysis program must at a minimum analyze the following three parameters: Total Acid Number, viscosity, and percent water content. The condemning limits imposed by the United States Environmental Protection Agency (USEPA) for these parameters are as follows:

- 1. Total Acid Number increases by more than 3.0 milligrams of potassium hydroxide (KOH) per gram from Total Acid Number of the oil when new;
- 2. Viscosity of the oil has changed by more than 20 percent from the viscosity of the oil when new (measured at 100 degrees F); or
- 3. Percent water content (by volume) is less than 0.5.

Note: If none of these condemning limits are exceeded, an oil change is not required. If any of the limits are exceeded, the oil change must occur as follows:

- 4. Engine in Operation
 - a. Within 2 business days of receiving the results of the analysis
- 5. Engine not in Operation:
 - a. Within 2 business days of receiving the results of the analysis, or
 - Before commencing operation, whichever is later?

Note: If the engine operates in response to an emergency power failure, and the engine oil is not changed within the two business days of receipt of a condemned analysis, contact the Field Environmental Specialist and the Houston Air Group Representative as soon as practical.

5.0 DOCUMENTATION/REPORTING REQUIREMENTS

- 1. Ensure that Computerized Maintenance Management System (CMMS) equipment/entity/device information is current. Record relevant observations, deficiencies, anomalies, and repairs for each system inspected in CMMS and schedule any additional maintenance to be completed in a timely manner. Record discrepancies in CMMS.
- 2. Complete the <u>RICE MACT Maintenance Record Sheet</u> and attach it to the relevant work order in the CMMS.
- 3. Documentation must be retained for at least 5 years.
- 4. Engine Oil Analysis results shall be retained in the oil analysis (FluidLife) database.

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6.0 ACRONYMS/DEFINITIONS

Acronym	Description
APU	Auxiliary Power Unit
CMMS	Computerized Maintenance Management System
СҮ	Calendar Year
МАСТ	Maximum Achievable Control Technology
NESHAP	National Emission Standard for Hazardous Air Pollutants
NSPS	New Source Performance Standard
RICE	Reciprocating Internal Combustion Engine
USEPA	United States Environmental Protection Agency
Term	Definition

7.0 LATEST REVISION

Description of Changes:	Revision 04:
	1. Document Owner has been updated from Alena Polk to Ruth Jensen
	2. Document has been formatted to the current TOPs Task Package template.
	3. References and hyperlinks have been updated throughout the document.
	4. The North Hamilton Compressor Rental Unit has been removed from the Scope of this document.
	5. Section 3.0:
	a. This section has been formatted to the current TOPs Task Package template.
	 b. Note 5 has been updated from "Annually/M12 means once per calendar year. However, the tasks should be scheduled 9-15 months apart when feasible." To what is shown in revision 04.
	c. Note 6 has been added.
	6. As a result of formatting, the Hazards section has been added to Section 4.0.
	 Note 2 in Section 4.0 has been updated from "Schedule in conjunction with <u>Oil</u> <u>Sampling Preventive Maintenance Program</u> to avoid repetitive sampling. One sample will meet requirements in both procedures." To what is shown in revision 04.
	8. Section 4.1:
	a. Step 3 has been updated from the Station Technician to TransCanada Laboratory Services.
	b. Step 3i has been updated from "Verify the Baseline readings are included on the analysis." to what is shown in revision 04.

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	ret. 10. Sec	ained in the oil ction 6.0 has be	5.0 has been analysis (Fl en updated	Step 3i. updated to indi uidLife) Databa to align with the gency Engines	se. e current revi	sion.		nall be	
	Pipeline	Station		ufacturer	Model	Unit Typ e	Fuel Type	Rated HP	
	ANR	Brownsville	WAU	JKESHA	L36GLD	APU	NG	75	
	ANR	Celestine	CAT	ERPILLAR	3412	APU	NG	69	
	ANR	Central Charlt	on WAU	JKESHA	F3521GSI	J APU	NG	51	
	ANR	Cold Springs	12 WAU	JKESHA	VHP510	APU	NG	58	
	ANR	Cold Springs	12 WAU	JKESHA	VHP5108C	G APU	NG	58	
	ANR	Cottage Grove	e WAU	JKESHA	VGF36GL	APU	NG	88	
	ANR	Defiance	WAU	JKESHA	P48GL	APU	NG	109	
	ANR	Delhi	WAU	JKESHA	DSG1201E	OV APU	NG	75	
	GLGT	Deward	Ford		LR6 425I 6005A	APU	NG		
	ANR	Eaton Rapids	WAU	JKESHA	F2895-GSI	U APU	NG	60	
	ANR	Edgar G Hill	CAT	ERPILLAR	G3516B LI	E APU	NG	181	
	ANR	Eunice	Wau	keshaw	F2895G	APU	NG	42	
	ANR	Excelsior	CAT (OOS	ERPILLAR S)	399SI	APU	NG	49	
	ANR	Goodwell	WAU	JKESHA	H24CL HC	CR APU	NG	58	
	ANR	Grand Chenier	r WAU	JKESHA	3412	Fire	Diesel	22	
	ANR	Greenville	CUM	IMINS INC	GTA 28	APU	NG	73	
	ANR	Jena	CAT	ERPILLAR	3412	APU	NG	62	
	ANR	Lagrange	WAU	JKESHA	L1616gs10	APU	NG	70	
	ANR	Madisonville	WAI	KASHAW	H24GL	APU	NG	58	
	ANR	Moorland	Wau	kesha	VGF36GL	APU	NG	77	
	ANR	Patterson		JKESHA	VHP29000		NG	63	
	ANR	Patterson Terr		JKESHA	L36GL	APU	NG	82	
	ANR	Patterson Terr		ERPILLAR		Fire	Diesel	27	
	ANR	Portland		ERPILLAR	3406	APU	NG	69	
	ANR	Rapid River 3		JKESHA - OOS	F2895GU	APU	NG	30	
	ANR	Saint John	WAU	JKESHA	UNK	APU	NG	82	
	ANR	Sandwich			VGF-24-G		NG	61	
	ANR	Sardis		JKESHA	L36GL	APU	NG	76	
	ANR	Shelbyville	CAT	ERPILLAR	G3512	APU	NG	81	
	ANR	Stanfield							
	ANR	Winfield				APU		-	
		Woolfolk		JKESHA	VGF36GL	APU	NG	88	

Next Review Date: 2020/03/01

 w Date:
 2020/03/01
 Approval Date:
 2017/01/19

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	GLGT	Saint Vincent	CATERPILLAR	G3516	APU	NG	1085
	GTN	Wallula	CAT ELECTRONICS	G398	APU	NG	450
	GTN	Wallula	ONAN		APU		
	ANR	Sulphur Springs	CATERPILLAR	3412 SI	APU	NG	675
	12. The	following Impacted	l Emergency Engines v	vere added to Ap	ppendix	A:	
	Pipeline	Station	Manufacturer	Model	Unit Typ e	Fuel Type	Rated HP
	GTN	Athol	CATERPILLAR	G3412 TA	APU	NG	690
	GTN	Malin MS	CUMMINGS/ONAN	RS45000- 42GGFE	APU	NG	
	NBPL	LaMoille	CATERPILLAR	3306	APU	Diesel	329
	NBPL	Lone Tree	CATERPILLAR	3306	APU	Diesel	329
	NBPL	Aberdeen MS	5012379		APU	NG	NBPL
	NBPL	Monchy MS	5012006		APU	NG	NBPL
	NBPL	Ventura MS	5012329		APU	NG	NBPL
	13. App	endix A:	·				
	a.		umber column has bee	n added.			
	b.	Sault Ste. Marie M	IS was moved to the G	LGT section.			
	с.		ard Pipeline from ANR		noved it	to the GL	.GT
	d.	The following Line Revision 04:	e items were changed f	rom the followi	ng to wł	nat is shov	vn in
	Pipeline	Station	Manufacturer	Model	Unit Typ e	Fuel Type	Rated HP
	ANR	Deward	E-nd				
	71110	Domaid	Ford	LR6-425I- 6005A	APU	NG	
	NBPL	CHANNAHON FUTURE CS 19	5012452		APU NG	NG NBPL	
		CHANNAHON		6005A			
	NBPL	CHANNAHON FUTURE CS 19	5012452	6005A APU	NG	NBPL	
	NBPL NBPL	CHANNAHON FUTURE CS 19 FUTURE CS 15 LAMOILLE	5012452	6005A APU APU	NG NG	NBPL NBPL	
	NBPL NBPL NBPL NBPL	CHANNAHON FUTURE CS 19 FUTURE CS 15 LAMOILLE (COM) LONE TREE (COM)	5012452 5012362 5012435 5012379	6005A APU APU APU APU	NG NG NG NG	NBPL NBPL NBPL NBPL	
	NBPL NBPL NBPL 14. All 15. Reg	CHANNAHON FUTURE CS 19 FUTURE CS 15 LAMOILLE (COM) LONE TREE (COM) pending change requ	5012452 5012362 5012435	6005A APU APU APU APU re addressed in	NG NG NG this revi	NBPL NBPL NBPL NBPL sion.	
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	NBPL NBPL NBPL 14. All 15. Reg outo 16. No 17. No	CHANNAHON FUTURE CS 19 FUTURE CS 15 LAMOILLE (COM) LONE TREE (COM) pending change requ ulatory section of th lated items.	5012452 5012362 5012435 5012379 uests and feedbacks we the TOPs database was to exist with respect to this permits or certificates,	6005A APU APU APU re addressed in eviewed for acc s document.	NG NG NG NG this revi suracy ar	NBPL NBPL NBPL sion. nd any new	
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	NBPL NBPL NBPL 14. All 15. Reg outo 16. No 17. No 18. Lino 19. Rev Bru Gra Tro	CHANNAHON FUTURE CS 19 FUTURE CS 15 LAMOILLE (COM) LONE TREE (COM) pending change required ulatory section of the lated items. IITs or SAP issued of external or internal p es of Business are active iewers included Rom ce Bendes, Chase Ly dy, Dan Maguire, B y Aud and Chris Me	5012452 5012362 5012435 5012435 5012379 uests and feedbacks we te TOPs database was to exist with respect to this permits or certificates, scurate. nald White, Robert Lul yles, Robert Rushman, rad Stermer, Sara Brig,	6005A APU APU APU re addressed in eviewed for acc s document. etc. required for tens, Mark Cant Terry Andersor	NG NG NG this revi uracy an this doc	NBPL NBPL NBPL sion. and any new cument. arvin Hou	w or
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		Note: Refer to the Document Modification form for further i revision of the document.			information regarding this	
has determined rather than once			hat maintenance sl per calendar year.	1 2	e	

rather than once per calendar year. The list of facilities applicable to this regulation is
incorrect. Major HAP sources that have emergency generators greater than 500 HP are not
subject to the maintenance requirements and are being deleted from Appendix A.
Elimination of these sources will result in a decrease in costs. Certain facilities were
incorrectly deleted from the list the last time this TOP was updated. Updates have been
made to correctly describe the TransCanada organization responsible for certain
requirements. By not making these changes, TransCanada risks being out of compliance
with RICE MACT requirements.

8.0 APPROVAL

	Name – Position – Department	Signature – Date
Document Owner	Ruth Jensen Air Quality Specialist US Environmental Services	
Management Approver	Troy Aud Manager US Environmental Services	



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APPENDIX A – IMPACTED EMERGENCY ENGINES AS FOLLOWS

Pipeline	Station	Manufacturer	Model	Unit Type	Fuel Type	Rated HP	SAP Equipment Number
ANR	Alden	INGERSOLL RAND	PVG8	APU	NG	370	10069221
ANR	Birmingham	INGERSOLL RAND	PVG8	APU	NG	370	10069253
ANR	Birmingham	INGERSOLL RAND	PVG8	APU	NG	370	10069254
ANR	Capac	CATERPILLAR	3406DI	APU	Diesel	300	10070291
ANR	Custer	WAUKESHA	VGF-36GL	APU	NG	880	10069257
ANR	Enterprise	INGERSOLL RAND	PVG8	APU	NG	370	10069226
ANR	Enterprise	INGERSOLL RAND	PVG8	APU	NG	370	10069227
ANR	Excelsior	CATERPILLAR	G399	APU	NG	490	10073088
ANR	Gageby Creek	CATERPILLAR	G3412	APU	NG	571	10069223
ANR	Grand Chenier	WAUKESHA	F3521 GSIU	APU	NG	695	10073229
ANR	Greensburg	INGERSOLL RAND	PVG6	APU	NG	275	10069228
ANR	Greensburg	INGERSOLL RAND	PVG6	APU	NG	275	10069229
ANR	Hamilton	INGERSOLL RAND	PVG-8	APU	NG	370	10073090
ANR	Hamilton	INGERSOLL RAND	PVG-8	APU	NG	370	10073091
ANR	Havensville	INGERSOLL RAND	PVG8	APU	NG	370	10069224
ANR	Havensville	INGERSOLL RAND	PVG8	APU	NG	370	10069225
ANR	Joliet		F-1905-GRU	APU	NG	318	10069230
ANR	Kewaskum	Waukesha	0B400W-GW63	APU	NG	593	10073104
ANR	Lincoln	CATERPILLAR	G379	APU	NG	330	10073089
ANR	Lineville	INGERSOLL RAND	PVG-8	APU	NG	370	10069219
ANR	Lineville	INGERSOLL RAND	PVG-8	APU	NG	370	10069220
ANR	Maitland	INGERSOLL RAND	PVG8	APU	NG	370	10069248
ANR	Maitland	INGERSOLL RAND	PVG8	APU	NG	370	10069249
ANR	Marshfield	WAUKESHA	VGF36GL	APU	NG	439	10073261
ANR	Meade	INGERSOLL RAND	PVG8	APU	NG	370	10069255
ANR	Meade	INGERSOLL RAND	PVG8	APU	NG	370	10069256
ANR	Mountain	WAUKESHA	UNK	APU	NG	370	10073248
ANR	Muttonville	WAUKESHA	UNK	APU	NG	402	10073092
ANR	New Windsor	INGERSOLL RAND	PVG8	APU	NG	370	10069250
ANR	New Windsor	INGERSOLL RAND	PVG8	APU	NG	370	10069251
ANR	Rapid River 35	WAUKESHA	F2895GU	APU	NG	302	10069273
ANR	Reed City	WAUKESHA	L1616GSIU	APU	NG	475	10073078
ANR	Reed City	CATERPILLAR	G379	APU	NG	355	10073079
ANR	South Chester	WAUKESHA	F289GU	APU	NG	526	10073085

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Pipeline	Station	Manufacturer	Model	Unit Type	Fuel Type	Rated HP	SAP Equipment Number
ANR	Weyauwega	WAUKESHA	24GL	APU	NG	497	10073246
ANR	Woodstock	CATERPILLAR	G398	APU	NG	370	10069245
ANR	Woodstock	INGERSOLL RAND	PVG8	APU	NG	500	10069246
ANR	Woolfolk	INGERSOLL RAND	PVG	APU	NG	370	10069274
ANR	Woolfolk	INGERSOLL RAND	PVG	APU	NG	370	10069275
GLGT	Boyne Falls	KOHLER	GV12-525IPG	APU	NG	408	10070345
GLGT	Brevort	KOHLER	3306	APU	NG	168	10070353
GLGT	Cloquet	CATERPILLAR	SR4	APU	NG	600	10070349
GLGT	Crystal Falls	CATERPILLAR	SP-4	APU	NG	962	10070355
GLGT	Deer River	WAUKESHA	L36GL	APU	NG	899	10070339
GLGT	Deward	Ford	LR6-4251-6005A	APU	NG	26.8	10070344
GLGT	Iron River	CATERPILLAR	G3512	APU	NG	790	10070343
GLGT	Naubinway	WAUKESHA	F11976	APU	NG	201	10070354
GLGT	Otisville	CATERPILLAR	G3512	APU	NG	815	10070347
GLGT	Rapid River (GL)	KOHLER	170R72	APU	NG	201	10070356
GLGT	Shevlin	CATERPILLAR	G3412	APU	NG	563	10070338
GLGT	Sault Ste. Marie MS	CUMMINGS	20GGMA	APU	NG		10070350
GLGT	Thief River Falls	WAUKESHA	F1197G	APU	NG	250	10070351
GLGT	Wakefield	WAUKESHA	F1197G	APU	NG	250	10070348
GTN	Athol	CATERPILLAR	G3412 TA	APU	NG	690	10073626
GTN	Bend	CATERPILLAR	G3516-130LE	APU	NG	1462	10073736
GTN	Bonanza	CATERPILLAR	3412	APU	NG	690	10073631
GTN	Chemult	CATERPILLAR	G398	APU	NG	500	10073630
GTN	Eastport	CATERPILLAR	G3412 TA	APU	NG	690	10073624
GTN	Ione	CATERPILLAR	G353 Series D	APU	NG	275	10073629
GTN	Kent	CATERPILLAR	3516	APU	NG	1462	10073737
GTN	Madras	WAUKESHA	H-2475	APU	NG	335	10073738
GTN	Malin MS	CUMMINGS/ONAN	RS45000- 42GGFE	APU	NG		10073761
GTN	Rosalia	CATERPILLAR	G3516-130LE	APU	NG	1462	10073627
GTN	Sandpoint	CATERPILLAR	G3516-130LE	APU	NG	1462	10073625
GTN	Starbuck	CATERPILLAR	G3412	APU	NG	690	10073628
GTN	Wallula	CAT ELECTRONICS	G3516-130LE	APU	NG	1462	10073741
NBPL	Arnegard	CATERPILLAR	G398	APU	NG	500	10071655
NBPL	Clark	WAUKESHA	H24GL	APU	NG	532	10071645



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NBPL	Culbertson	WAUKESHA	F18GL	APU	NG	350	10071647
NBPL	Eldridge	WAUKESHA	F18GL	APU	NG	350	10071644
NBPL	Estelline	WAUKESHA	F18GL	APU	NG	350	10071650
NBPL	Garvin	WAUKESHA	F18GL	APU	NG	350	10071646
NBPL	Glasgow	WAUKESHA	F18GL	APU	NG	350	10071643
NBPL	Glen Ullin	CATERPILLAR	G3412SITA	APU	NG	600	10071656
NBPL	Grundy Center	WAUKESHA	F18GL	APU	NG	350	10071653
NBPL	Manning	WAUKESHA	F18GL	APU	NG	350	10071651
NBPL	Saint Anthony	WAUKESHA	F18GL	APU	NG	350	10071649
NBPL	Trimont	CATERPILLAR	G3412SITA	APU	NG	496	10071654
NBPL	Wetonka	CATERPILLAR	G3412SITA	APU	NG	496	10071658
NBPL	Wolf Point	CATERPILLAR	G3412SITA	APU	NG	496	10071659
NBPL	Zeeland	WAUKESHA	L-3711	APU	NG	550	10071657
NBPL	Channahon Future CS 19	KOHLER		APU	NG		10071692
NBPL	Future CS 15	KOHLER		APU	NG		10071685
NBPL	LaMoille	CATERPILLAR	3306	APU	Diesel	329	10071648
NBPL	LaMoille (COM)	KOHLER		APU	NG		10071690
NBPL	Lone Tree	CATERPILLAR	3306	APU	Diesel	329	10071652
NBPL	Lone Tree (COM)	KOHLER		APU	NG		10071687
NBPL	Aberdeen MS	KOHLER		APU	NG		10071677
NBPL	Monchy MS	KOHLER		APU	NG		10071660
NBPL	Ventura MS	KOHLER		APU	NG		10071682
North Baja	Ehrenberg	CATERPILLAR	G3516-130LE	APU	NG	1462	10073735