

# ANR Storage Company – Excelsior

## Preventive Maintenance / Malfunction Abatement Plan

### 1.0 Introduction

The ANR Excelsior Station is located at 4963 State Road Northeast, Kalkaska, MI 49649. The station maintains pressure (recompression) in pipelines supporting natural gas to and from storage facilities located in Michigan, to industrial customers or to local distribution companies. This plan provides preventative maintenance and malfunction abatement measures for two (2) compressor engines at the ANR Excelsior Station.

### 1.1 Contact Person

Any questions in regard to this PM/MAP should be directed to Chris Waltman:

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### Supervisory Personnel

Station Technicians are responsible for inspection and maintenance.

### 2.0 Compressor Engines

Excelsior has two Ingersoll Rand Model 410-KVR-TE four-cycle, lean burn, spark ignition, natural gas-fired reciprocating internal combustion engines rated at 3,750 horsepower each.

Engine ID	Manufacturer	Model	Engine Type	Add-On Control	Air to Fuel Ratio Controller
EUEXCOMP-A	Ingersoll-Rand	410-KVR-TE	4 cycle Lean Burn	None	Bristol 3335 - Engines HMI Panel
EUEXCOMP-B	Ingersoll-Rand	410-KVR-TE	4 cycle Lean Burn	None	Bristol 3335 - Engines HMI Panel

### 2.1 Engine Maintenance Log

PREVENTATIVE MAINTENANCE TASK	FREQUENCY	PM Task Code
Engine Balancing	Not to exceed 500 Engine Hours	A
Replace Spark Plugs	Not to exceed 2500 Engine Hours	B
Replace Oil Filters	Annually or as required	C
Replace Air Intake Filters	As required	D
Control Panel Calibrations	Annually	E
Engine Fuel Meter Calibration	Annually	F
Mechanical Inspection	Not to exceed 16,500 Engine Hours	G
Adjust AFRC Timing	As required	n/a
Calibrate Fuel Pressure Transmitters	Annually	n/a
Calibrate Air Manifold Pressure Transmitter	Annually	n/a

**5.0 Major Parts Inventory and Replacement**

Major Parts are ordered as needed through the vendors and not kept on site.

**6.0 Responsible Person for Inspection, Maintenance and Repair of Add-On Equipment**

N/A – no add-on equipment

**7.0 Retention of Records**

All Records shall be retained for 5 years.

**8.0 Updates of PM/MAP**

The PM/MAP will be reviewed annually, and any updates shall be submitted to the AQD District Supervisor for approval.