OPERATION & MAINTENANCE PLAN

VOC Control System – Regenerative Thermal Oxidizer (RTO)

A. Process Parameters:

1. Source NEDS Number	**1030119, Regenerative Thermal Oxidizer**
2. Incinerator Manufacturer	**TANN Corporation, L&E America**
3. Model Name and Number	**Regenerative Thermal Oxidizer, Model TR3295**
4. Design Flow Rate	**32,000 SCFM**
5. Efficiency Rating	**98% VOC Destruction**
6. Typical Operating Temperature	
a. Inlet	**150 – 250°F**
b. Outlet	**250 – 500°F**
7. Stack Height	**40 feet**
9. Controlled Process	**Coating Line 1, Coating Line2, Mixing Room and QC Laboratory**

B. Time Table for Routine Maintenance:

- **Monthly – Lubricate bearings, flame rod, inter locks, flame guard, ductwork, damper controls, burner controls, Fan and Motor, Exhaust ductwork actuators, and operational sequencing.**
- **6-Month – Manufacturer recommendation: Poppet valve blades, poppet valve seats, blade-to-seat connection, manual gas valve, and air-gas ratio.**
- **Annual – Ignition cable and connector, thermocouple, gas piping, orifice plate and RTO motors.**

C. The following observations, checks and operations apply to this source and shall be conducted on the schedule specified:

Continuously record and monitor RTO combustion chamber temperature
Monthly:

- **Ductwork and dampers**
- **RTO**
- **Burner Controls**
- **Computer Data**
- **Fans and Motors**

D. Spare Parts List:

Item	Part Number	Description	Required	On Hand
1	974500	Timer,ATC, FM approved. ATC# 328D-200F-10XX	1	1
2	916078	Controller, high limit, FM approved, no alarm contact. Yokogawa#UT1506RN	1	1
3	991306	Duct, Flexible Silicone, CW-GS, 7.00 Diameter	1	1
4	983000	Transmitter, pressure, Dwyer, 0-10"wc, 4-20mA. 607.8	1	1
5	979230-1	Switch, pressure, AIF-0-SS-1-3	1	1
6	979230-2	A-447 Enclosure, Weatherproof	1	1
7	994350	Valve, solenoid, AAA SO8, 1" for 10" Bore Parker cylinder	1	1
8	906009	Rod Gland Kit for 10" bore (capture), 2A	1	1
9	906010	Piston Seal Kit, for 10" bore (capture), 2A	1	1
10	979323	Pressure switch (TANN "combustion blower" and "high negative"), 2-20"wc, N4, SPDT, ¼" NPT.KDI #46020-5.	2	2
11	979322	Pressure switch (TANN "Fan differential"), 0.4-4"wc, N4, SPDT, ¼" NPT.KDI #46020-3.	1	1
12	965022	Actuator, Motor, Honeywell, M7294Q1007, 300 in lbs, 4-20 mA, 60 sec, 90 deg.	1	1
13	912453	Scanner, UV, self-checking, Fireye	1	1
14	912458	Flame safeguard amplifier, Fireye	1	1
15	912459	Flame safeguard programmer, Fireye	1	1
16	966009	Valve Main Gas, w/overtravel, 2" NPT, Honeywell #V5055C-1000	1	1
17	994200	Valve, Solenoid, 2-wa, Normally closed (NC), ½" NPT, Asco #8214G20 (pilot gas), MN #A2-8214G20	1	1
18	965910	Actuator, Gas Valve, On-Off, Honeywell # V4055D-1035	1	1
19	979305	Switch, Pressure, High Gas, 40"-200"wc, Manual Reset, KDI# GMH-A2-4-8	1	1
20	979306	Switch, Pressure, Low Gas, 1"-20"wc, Manual Reset, KDI# GMH-A2-4-4	1	1
21	984224-P	Pyromation Duplex K type Thermocouple, SB 24" long ¼" diameter Inconnel sheath, Part #KK43U-024-00-8HN49	2	2

E. Records:

Records of inspections, maintenance, and performance parameters shall be retained for a minimum of five years and shall be made available to the Department or the Pinellas County Department of Environmental Management upon request. The attached form is used to document and record inspection and maintenance activities.

RTO Maintenance Log
Monthly Inspection

G = GOOD, F = FAIR, NR = NEEDS REPAIR, SD = SHUT DOWN AND REPAIR, CORR = FOUND TO BE IN NEED OF ATTENTION AND CORRECTED

Note: Tasks are to be performed according to established techniques, procedures, references, materials and equipment.

DUCTWORK and DAMPERS	
Description	**Condition**
Metal condition, i.e. rust free	
Condition of Stands and Mountings	
Mounting integrity of actuators	
Manual damper balance lockdown condition	
Automatic Linkage condition	

RTO	
Description	**Condition**
Lubricate Bearings	
Inspect Flame rod	
Test interlocks	
Check Ignition spark plug	
Check valve motors	
Test flame safeguard	
Clean or replace combustion air filter	
Poppet valve blade (every 6 months)	
Poppet valve seat (every 6 months)	
Blade to seat connection (every 6 months)	
Manual gas valve (every 6 months)	
Air-gas ratio (every 6 months)	
Pressure Switches (every 6 months)	
Ingnition cable and connector (annually)	
Gas Piping (annually)	
Orifice plate (annually)	
Motors (annually)	
Thermocouple (annually)	

BURNER CONTROLS	
Description	**Condition**
Integrity of Gas Train, check for leaks	
Gas Valve safeties	
Pilot Gas setting and pressure	
Flame out control shutdown	

COMPUTER DATA	
Description	**Condition**
RTO Burner Set point (1655°F)	
RTO Burner pressent value	
Main Blower Pressure set point (3.5" wc)	
System free from Alarms and warnings	

FANS and MOTORS	
Description	**Condition**
Condition of V-belts and Pulleys	
Motor and Fan mountings	
Pressure switches and sensors	
Bearing and shaft condition	
Lubrication	

NOTES

INSPECTOR/REPAIRMAN	START DATE	END DATE	COMMENTS