

- a. Btu/lb of the used oil;
- b. total halogen content;
- c. sulfur content;
- d. trace metals concentrations: arsenic, cadmium, chromium, and lead; and
- e. PCBs concentration.

The analyses shall be kept for a minimum of three (3) years and shall be made available to RAPCA and Ohio EPA on request.

17. Southdown shall sample each incoming load of LHWF and used oil. The sampling rate for LHWF and used oil must be as follows:

For LHWF, one (1) sample per tanker load. A 500 mL sample must be taken and retained for at least sixty (60) days.

For used oil, one (1) sample per container or tanker load. A 500 mL sample must be taken and retained for at least sixty (60) days.

18. RAPCA and Ohio EPA may require and/or may conduct, at Southdown's expense, periodic, detailed chemical analyses through an independent laboratory of any LHWF and used oil received at Southdown; of any sample retained, as required above; of any storage tanks at Southdown; and/or any sample that may be drawn at the kiln.
 19. Southdown shall submit to RAPCA a plan for random testing of the retained LHWF and used oil samples by an independent laboratory within thirty (30) days of the issuance of this permit. The independent laboratory shall analyze the random samples for the parameters listed in LHWF PREQUALIFICATIONS T&C #14 or #16 and the results (and the corresponding incoming LHWF and used oil manifest numbers) shall be submitted directly to RAPCA and Southdown by the independent laboratory.
 20. Southdown shall conduct a chemical analysis on all LHWF and used oil transferred to the burn tank prior to actual transfer. The analysis shall be performed in accordance with the test methods specified by OAC rule 3745-54-13 and 40 CFR Part 264.13 and, at a minimum, include:
 - a. Btu/lb of the LHWF;
 - b. chlorine content;
 - c. sulfur content;
 - d. trace metals concentrations: antimony, arsenic, barium, beryllium, cadmium, chromium, lead, mercury, nickel, silver, thallium, and zinc;
 - e. PCBs concentration;
 - f. pH; and
 - g. viscosity.
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The analyses shall be kept for a minimum of three (3) years and shall be made available to RAPCA and Ohio EPA on request.

21. Southdown shall install, operate and maintain a Radiation Alert Monitor 4 or another monitor approved by the Director. The facility shall analyze a sample from each incoming load of LHWF for radioactive materials. Southdown shall not burn any LHWF in which radioactivity levels detected are greater than background levels. The background radiation levels shall be determined in accordance with the Quality Control procedures listed in Southdown's Standard Operating Procedure for radioactivity screening.

The radioactivity screening analysis shall be kept for a minimum of three (3) years and shall be made available to RAPCA and Ohio EPA on request.

22. Southdown shall calculate the concentrations of chlorine, sulfur, metals (as listed in **T&C #20**), and the **Btu/lb** of the LHWF and used oil present in the burn tank subsequent to each transfer of LHWF and used oil to the burn tank. Under no circumstances shall the levels of the above analytes in the burn tank exceed the specifications listed in Attachment 1.
23. Southdown shall submit monthly written reports to **RAPCA** detailing LHWF and used oil receiving, analysis, and burning activities. The reports shall be submitted by the 15th of the following month and shall include:
- (A) Liquid Hazardous Waste Fuel (**LHWF**)
1. Volume of LHWF received
 2. Volume of LHWF injected into the kiln
 3. LHWF percentage of total Btu input
 4. All analyses from LHWF PREQUALIFICATIONS T&C #14
 5. All load information from T&C #15
 6. All analyses from LHWF AND USED OIL PREQUALIFICATIONS T&C #20
 7. All radioactivity analysis from LHWF PREQUALIFICATIONS T&C #21
 8. All concentrations from LHWF AND USED OIL PREQUALIFICATIONS T&C #22
- (B) Used Oil
1. Volume of used oil received
 2. Volume of used oil injected into the kiln
 3. Used oil percentage of total Btu input
 4. All analyses from USED OIL PREQUALIFICATIONS T&C #16
 5. All analyses from LHWF AND USED OIL PREQUALIFICATIONS T&C #20
 6. All concentrations from LHWF PREQUALIFICATIONS T&C #22
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- (C) Tire Derived Fuel (TDF)
1. Pounds of TDF injected into the kiln
 2. TDF percentage of total Btu input

LIQUID HAZARDOUS WASTE BLENDING OPERATIONS

24. Thirty (30) days prior to the blending of hazardous wastes into LHWF at the Southdown Quarry Plant, Southdown shall submit to **RAPCA** a plan for routine and random testing of the LHWF blending operation. At a minimum, the plan shall include a list of fuel parameters to be analyzed, a description of the Southdown laboratory where routine analyses will be performed, a description of the sampling protocol, the Southdown quality assurance and quality control (QA/QC) program, and specifications for both internal lab random checks of LHWF analyses as well as independent laboratory random testing of the LHWF. **RAPCA** and Ohio EPA shall review the plan to determine the suitability of Southdown analyzing their own blended LHWF products.

For the purposes of this permit, blending is defined as receiving hazardous wastes directly from generators (not blenders) and blending these streams into specification LHWF at the Southdown Quarry Plant.

KILN OPERATIONS

25. Supplemental fuels input to the Southdown kiln shall not exceed the following limitations:
- a. LHWF and used oil combined
 - 5573 pounds per hour
 - **48,819,480** pounds per year
 - **24,409.74** tons per year
 - b. TDF
 - 1306 pounds per hour
 - **11,440,560** pounds per year
 - 5720.28 tons per year
26. Liquid hazardous waste fuel (LHWF) or used oil fuel shall be injected only at the hot (clinker discharge) end of the kiln.

27. The mass input rate of each metal listed below (from LHWF and used oil) shall not exceed the specified allowable feed rates listed below:

	Allowable Feed Rate
	<u>lb(s)/hr</u>
Antimony	0.5
Arsenic	0.11
Barium	13.9
Beryllium	0.053
Cadmium	0.5
Chromium	7.8
Lead	11.7
Mercury	0.05
Nickel	3.3
Silver	1.1
Thallium	0.11
Zinc	16.7

28. The following parameters, at a minimum, shall be interlocked with a LHWF shutoff valve and a TDF injection stop such that any one of the following operational conditions shall stop injection of all supplemental fuels AUTOMATICALLY:
- a. loss of operational **CEMs/COMs** due to any electrical or mechanical failure that prevents the acquisition of data;
 - b. kiln gas outlet temperature **<1800°F** (5 min. rolling avg);
 - c. kiln gas outlet **O₂ < 2.5%** (hourly rolling avg);
 - d. kiln gas outlet **O₂ < 1.0%** (5 min. rolling avg);
 - e. bypass stack CO concentration, corrected to 7% oxygen, **> 88 ppmv** (hourly rolling avg);
 - f. bypass stack THC concentration, corrected to 7% oxygen, **> 10 ppmv (hourly rolling avg)**;
 - g. bypass stack THC concentration, corrected to 7% oxygen, **> 100 ppmv** (5 min. rolling avg);
 - h. COM Opacity in **bypass stack** **> 15%** (per 40 CFR Part 60.13); and
 - i. COM Opacity in main stack **> 15%** (per 40 CFR Part 60.13).
29. Supplemental fuels shall not be injected into the kiln during periods of start-up, shutdown, or other operational conditions as listed in T&C ~~#27.~~ **28.**
30. Southdown shall submit monthly reports to RAPCA listing any automatic waste feed cutoffs that occurred during the month, the reason(s) for the automatic cutoffs, and any corrective measures taken to address the reason(s) for the automatic cutoffs. These reports shall be due by the 15th of the calendar month, and shall cover the previous calendar month.
31. The following fuels are permitted for use in the kiln as primary fuels (up to 100% of total Btu input): coal, virgin no.2 fuel oil, petroleum coke, and coke breeze.

32. This facility shall collect representative grab samples of the primary solid fuels identified in KILN OPERATIONS T&C #31 burned in this source on a frequency of one (1) time per day. Each sample shall be collected from the burner pipe. The coal sampling shall be performed in accordance with ASTM method D2234, Collection of a Gross Sample of Coal. At the end of each week, all of the grab samples which were collected during that week shall be combined into one (1) composite sample.

This facility shall also record the total quantity of primary fuels burned in this source during each calendar day.

Each weekly composite sample of primary solid fuels shall be analyzed for ash content (percent), sulfur content (percent), and heat content (**Btu/lb** of fuel). The analytical methods for ash content, sulfur content, and heat content shall be ASTM method D3174, Ash in the Analysis of Coal and Coke, ASTM method D3177, Total Sulfur in the Analysis Sample of Coal and Coke, and ASTM method D2015, Gross Calorific Value of Solid Fuel by the Adiabatic Bomb Calorimeter, respectively.

Monthly reports of the analyses and quantities of the primary fuels burned in this source shall be submitted to **RAPCA**. These reports shall include the following information for the source for each calendar month:

- a. the total quantity of primary fuels burned (pounds);
- b. the mass-weighted average ash content (percent) of the primary fuels burned;
- c. the mass-weighted average sulfur content (percent) of the primary fuels burned; and
- d. the mass-weighted average heat content (**Btu/lb**) of the primary fuels burned.

These reports shall be submitted by the 15th of each month and shall cover the data obtained during the previous calendar month.

CONTINUOUS EMISSION MONITORING

33. This facility shall operate and maintain continuous opacity monitors (COM) to continuously monitor and record the opacity of the particulate emissions from this source. Such continuous monitoring and recording equipment shall comply with the requirements specified in 40 CFR Part 60.13 and 40 CFR Part 60, Appendix **B**.

34. This facility shall operate and maintain continuous emission monitors (**CEMs**) on the bypass stack to continuously monitor and record the concentrations of **O₂**, **CO**, and **THC** emitted from this source. Such continuous monitoring and recording equipment shall comply with the requirements specified in 40 CFR Part 266, Subpart H, Appendix IX.
35. Southdown shall operate and maintain equipment to continuously monitor and record oxygen (**O₂**) and temperature in the rotary kiln exhaust gas stream. Such records shall be maintained for at least three (**3**) years and shall be made available to officials of RAPCA and Ohio EPA upon request.
36. Southdown shall submit to RAPCA, within ninety (90) days of the issuance of this permit, a preventive maintenance (**PM**) plan and a quality assurance/quality control (**QA/QC**) plan for the **COMs/CEMs** installed at the Quarry Plant. At a minimum, these plans shall include spare parts lists, schedules for calibration, and **QA/QC** record keeping associated with the **COMs/CEMs**.
37. Southdown shall submit reports on a monthly basis to RAPCA documenting all instances of opacity values in excess of the limitations specified in OAC rule 3745-17-07 or any other opacity limitation specified in the terms and conditions of this permit. These monthly excess emission reports shall be submitted by the 15th of each month and shall address the data obtained during the previous calendar month.

DATA LOGGING AND TELEMETRY SYSTEM

38. Southdown shall install, maintain, operate, calibrate, and audit a data logging and telemetry system. This telemetry system shall display and log current values for kiln stack opacity, alkali bypass stack opacity, percent oxygen at the kiln gas exit, alkali bypass carbon monoxide concentration, and alkali bypass total hydrocarbon concentration.

Southdown shall provide, and pay for telephone access to its data logger so that RAPCA and the Ohio EPA, Central Office may monitor and record the parameters listed above to ensure proper LHWf operation in accordance with the terms and conditions of this permit. Southdown has provided the required access for RAPCA and shall provide the access to the Ohio EPA, Central Office within one year of the effective date of this permit.

CONTROL EQUIPMENT REQUIREMENTS

39. Except as provided by **OAC rule** 3745-15-06, any scheduled maintenance or malfunction necessitating the shutdown or bypassing of the air pollution control equipment shall be accompanied by the shutdown of this source.

40. In no event shall supplemental fuels be injected into the kiln during any scheduled maintenance or malfunction that includes the shutdown or bypassing of the air pollution control equipment.
41. Malfunctions as defined in OAC rule 3745-15-06 of this source or its associated air pollution control systems shall be reported immediately to RAPCA in accordance with OAC rule 3745-15-06.
42. This facility shall initiate an inspection and maintenance program designed to help ensure the air pollution control equipment is operating in accordance with the manufacturer's specifications. Such an I and M program shall outline the specific steps taken and/or the specific items checked on a routine basis to ensure optimum operation of the control equipment. The I and M program shall be in writing and shall be submitted to RAPCA within ninety (90) days of the issuance of this permit.

PERFORMANCE TESTING REQUIREMENTS

43. This facility shall conduct an annual (beginning in 1994) performance test for particulate matter emissions from both the bypass stack and the main stack while burning LHWF, TDF, and coal to demonstrate compliance with the particulate matter emission limits contained in T&C #5. Compliance shall be determined through U.S. EPA Reference Method 5 or another method approved by the Director.
 44. This facility shall conduct an annual (beginning in 1994) principle organic hazardous constituent (POHC) destruction and removal efficiency (DRE) demonstration test while burning LHWF, TDF, and coal to demonstrate compliance with the DRE requirements contained in T&C #8. Compliance shall be determined through SW846 Method 0030 or another method approved by the Director. A minimum of two (2) **POHCs** shall be selected for the test and shall be approved by RAPCA prior to testing.
 45. This facility shall conduct an annual (beginning in 1994) performance test for the sum of all tetra through **octa** dioxin and **furan congeners** in ng/dscm, from the main and bypass stacks combined, while burning LHWF, TDF, and coal to demonstrate compliance with T&C #6. Compliance shall be determined through U.S. EPA Reference Method 23 or another method approved by the Director.
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46. Within 6 months prior to the expiration of the Ohio EPA permit to operate for this source, identified as 0829700165 POO3, or other frequency as determined by RAPCA or the Ohio EPA, the permit holder shall conduct or have conducted performance testing while burning LHWF, TDF, and coal for the following:
- a. principal organic hazardous constituents (**POHCs**);
 - b. hydrogen chloride (**HCl**);
 - c. trace metals (listed in term and condition #27);
 - d. particulate matter;
 - e. sulfur dioxide (**SO₂**); and
 - f. chlorinated dioxins and chlorinated furans.
47. All performance testing on the air contaminant source(s) of this permit, shall be conducted in accordance with procedures approved by the Agency. A copy of the written report shall be submitted and signed by the person responsible for the test, describing the test procedures followed and the results of such tests. The Director or an Ohio EPA representative shall be allowed to witness the tests, examine testing equipment and require the acquisition or submission of data and information necessary to assure that the source operation and testing procedures provide a valid characterization of the emissions from the source and/or the performance of the control equipment.
- A. A completed Intent to Test (ITT) form shall be submitted to the appropriate Ohio EPA District Office or Local Air Pollution Control Agency where the original permit application was filed. This notice shall be made thirty (30) days in advance and shall specify the source operating parameters, the proposed test procedures and the time, date, place and person(s) conducting such tests.
 - B. A copy of the test results (excluding results of the sum of all tetra through **octa** dioxin and **furan** congeners testing) shall be submitted within thirty (30) days after the completion of the performance test.
- A copy of the test results of the sum of all tetra through **octa** dioxin and **furan** congeners shall be submitted within ninety (90) days after the completion of the performance test.

GENERAL

48. Unless otherwise specified, all reports, test results, notifications, etc. required by the above terms and conditions shall be submitted to or made to the Regional Air Pollution **Control** Agency, 451 W. Third Street, P.O. Box 972, Dayton, Ohio 45422.