



ARIZONA DEPARTMENT OF ENVIRONMENTAL QUALITY

AIR QUALITY CLASS II PERMIT

COMPANY: *Total Resource Recycling, Inc.*
FACILITY: *Total Resource Recycling, Inc.*
PERMIT #: *47460*
DATE ISSUED: *Draft*
EXPIRY DATE:

SUMMARY

This Class II Air Quality Operating Permit is issued to Total Resource Recycling, Inc., to construct and operate an aluminum recycling furnace near Salome, Arizona, designed to melt aluminum into ingots for the recycled aluminum market.

Total Resource Recycling, Inc., does not have a potential to emit (PTE), without controls or operating limitations specified in this permit, criteria pollutant emissions in excess of the major source thresholds. According to Arizona Administrative Code (A.A.C.) R18-2-302.B.2.a.ii, a Class II permit is required as the facility is subject to NESHAPS (National Emission Standards for Hazardous Air Pollutants) which are air quality standards under Section 112 of the Clean Air Act. The source is subject to 40 Code of Federal Regulations (CFR) 63, Subpart RRR (National Emission Standards for Hazardous Air Pollutants for Secondary Aluminum Production).

This permit is issued in accordance with Title 49, Chapter 3 of the Arizona Revised Statutes (A.R.S.). All definitions, terms, and conditions used in this permit conform to those in the Arizona Administrative Code (A.A.C.) R18-2-101 et. seq., and Title 40, Code of Federal Regulations (CFR), except as otherwise defined in this permit.

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ATTACHMENT "A": GENERAL PROVISIONS

Air Quality Control Permit No. 47460 for *Total Resource Recycling, Inc.*

- I. PERMIT EXPIRATION AND RENEWAL** [ARS § 49-426.F, A.A.C. R18-2-304.C.2, and -306.A.1]
- A.** This permit is valid for a period of five years from the date of issuance.
- B.** The Permittee shall submit an application for renewal of this permit at least 6 months, but not more than 18 months, prior to the date of permit expiration.
- II. COMPLIANCE WITH PERMIT CONDITIONS** [A.A.C. R18-2-306.A.8.a and b]
- A.** The Permittee shall comply with all conditions of this permit including all applicable requirements of the Arizona air quality statutes and air quality rules. Any permit noncompliance constitutes a violation of the Arizona Revised Statutes and is grounds for enforcement action; for permit termination, revocation and reissuance, or revision; or for denial of a permit renewal application. In addition, noncompliance with any federally enforceable requirement constitutes a violation of the Clean Air Act.
- B.** It shall not be a defense for a Permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit.
- III. PERMIT REVISION, REOPENING, REVOCATION AND REISSUANCE, OR TERMINATION FOR CAUSE** [A.A.C. R18-2-306.A.8.c, -321.A.1.c-d, and -321.A.2]
- A.** The permit may be revised, reopened, revoked and reissued, or terminated for cause. The filing of a request by the Permittee for a permit revision, revocation and reissuance, termination, or of a notification of planned changes or anticipated noncompliance does not stay any permit condition.
- B.** The permit shall be reopened and revised under any of the following circumstances
- 1.** The Director or the Administrator determines that the permit contains a material mistake or that inaccurate statements were made in establishing the emissions standards or other terms or conditions of the permit.
 - 2.** The Director or the Administrator determines that the permit needs to be revised or revoked to assure compliance with the applicable requirements.
- C.** Proceedings to reopen and reissue a permit, including appeal of any final action relating to a permit reopening, shall follow the same procedures as apply to initial permit issuance and shall affect only those parts of the permit for which cause to reopen exists. Such reopenings shall be made as expeditiously as practicable. Permit reopenings shall not result in a resetting of the five-year permit term.
- IV. POSTING OF PERMIT** [A.A.C. R18-2-315]
- A.** The Permittee shall post this permit or a certificate of permit issuance where the facility is located in such a manner as to be clearly visible and accessible. All equipment covered by this permit shall be clearly marked with one of the following:
- 1.** Current permit number; or

2. Serial number or other equipment ID number that is also listed in the permit to identify that piece of equipment.

B. A copy of the complete permit shall be kept on site.

V. FEE PAYMENT

[A.A.C. R18-2-306.A.9 and -326]

The Permittee shall pay fees to the Director pursuant to ARS § 49-426(E) and A.A.C. R18-2-326.

VI. ANNUAL EMISSION INVENTORY QUESTIONNAIRE

[A.A.C. R18-2-327.A and B]

- A.** The Permittee shall complete and submit to the Director an annual emissions inventory questionnaire. The questionnaire is due by March 31st or ninety days after the Director makes the inventory form available each year, whichever occurs later, and shall include emission information for the previous calendar year.
- B.** The questionnaire shall be on a form provided by the Director and shall include the information required by A.A.C. R18-2-327.

VII. COMPLIANCE CERTIFICATION

[A.A.C. R18-2-309.2.a, -309.2.c-d, and -309.5.d]

- A.** The Permittee shall submit a compliance certification to the Director semiannually, which describes the compliance status of the source with respect to each permit condition. The first certification shall be submitted no later than May 15th, and shall report the compliance status of the source during the period between October 1st of the previous year and March 31st of the current year. The second certification shall be submitted no later than November 15th, and shall report the compliance status of the source during the period between April 1st and September 30th of the current year.
- B.** The compliance certifications shall include the following:
 1. Identification of each term or condition of the permit that is the basis of the certification;
 2. The Identification of the methods or other means used by the Permittee for determining the compliance status with each term and condition during the certification period;
 3. The status of compliance with the terms and conditions of the permit for the period covered by the certification, including whether compliance during the period was continuous or intermittent. The certification shall be based on the methods or means designated in Condition VII.A.2 above. The certifications shall identify each deviation and take it into account for consideration in the compliance certification;
 4. All instances of deviations from permit requirements reported pursuant to Condition XII.B of this Attachment; and
 5. Other facts the Director may require determining the compliance status of the source.
- C.** A progress report on all outstanding compliance schedules shall be submitted every six months beginning with six months after permit issuance.

VIII. CERTIFICATION OF TRUTH, ACCURACY AND COMPLETENESS

[A.A.C. R18-2-304.H]

Any document required to be submitted by this permit, including reports, shall contain a certification by a responsible official of truth, accuracy, and completeness. This certification shall state that, based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate, and complete.

IX. INSPECTION AND ENTRY

[A.A.C. R18-2-309.4]

Upon presentation of proper credentials, the Permittee shall allow the Director or the authorized representative of the Director to:

- A. Enter upon the Permittee's premises where a source is located, emissions-related activity is conducted, or where records are required to be kept under the conditions of the permit;
- B. Have access to and copy, at reasonable times, any records that are required to be kept under the conditions of the permit;
- C. Inspect, at reasonable times, any facilities, equipment (including monitoring and air pollution control equipment), practices, or operations regulated or required under the permit;
- D. Sample or monitor, at reasonable times, substances or parameters for the purpose of assuring compliance with the permit or other applicable requirements; and
- E. Record any inspection by use of written, electronic, magnetic and photographic media.

X. PERMIT REVISION PURSUANT TO FEDERAL HAZARDOUS AIR POLLUTANT STANDARD

[A.A.C. R18-2-304.C]

If this source becomes subject to a standard promulgated by the Administrator pursuant to Section 112(d) of the Act, then the Permittee shall, within twelve months of the date on which the standard is promulgated, submit an application for a permit revision demonstrating how the source will comply with the standard.

XI. ACCIDENTAL RELEASE PROGRAM

[40 CFR Part 68]

If this source becomes subject to the provisions of 40 CFR Part 68, then the Permittee shall comply with these provisions according to the time line specified in 40 CFR Part 68.

XII. EXCESS EMISSIONS, PERMIT DEVIATIONS, AND EMERGENCY REPORTING

- A. Excess Emissions Reporting [A.A.C. R18-2-310.01.A and -310.01.B]

1. Excess emissions shall be reported as follows:

- a. The Permittee shall report to the Director any emissions in excess of the limits established by this permit. Such report shall be in two parts as specified below:

- (1) Notification by telephone or facsimile within 24 hours of the time when the Permittee first learned of the occurrence of excess emissions including all available information from Condition XII.A.1.b below.
- (2) Detailed written notification by submission of an excess emissions report within 72 hours of the notification pursuant to Condition XII.A.1.a.(1) above.

- b. The report shall contain the following information:

- (1) Identity of each stack or other emission point where the excess emissions occurred;

- (2) Magnitude of the excess emissions expressed in the units of the applicable emission limitation and the operating data and calculations used in determining the magnitude of the excess emissions;
- (3) Date, time and duration, or expected duration, of the excess emissions;
- (4) Identity of the equipment from which the excess emissions emanated;
- (5) Nature and cause of such emissions;
- (6) If the excess emissions were the result of a malfunction, steps taken to remedy the malfunction and the steps taken or planned to prevent the recurrence of such malfunctions; and
- (7) Steps taken to limit the excess emissions. If the excess emissions resulted from start-up or malfunction, the report shall contain a list of the steps taken to comply with the permit procedures.

2. In the case of continuous or recurring excess emissions, the notification requirements of this section shall be satisfied if the source provides the required notification after excess emissions are first detected and includes in such notification an estimate of the time the excess emissions will continue. Excess emissions occurring after the estimated time period, or changes in the nature of the emissions as originally reported, shall require additional notification pursuant to Condition XII.A.1 above.

[A.A.C. R18-2-310.01.C]

B. Permit Deviations Reporting

[A.A.C. R18-2-306.A.5.b]

The Permittee shall promptly report deviations from permit requirements, including those attributable to upset conditions as defined in the permit, the probable cause of such deviations, and any corrective actions or preventive measures taken. Prompt reporting shall mean that the report was submitted to the Director by certified mail, facsimile, or hand delivery within two working days of the time when emission limitations were exceeded due to an emergency or within two working days of the time when the owner or operator first learned of the occurrence of a deviation from a permit requirement.

C. Emergency Provision

[A.A.C. R18-2-306.E]

1. An “emergency” means any situation arising from sudden and reasonable unforeseeable events beyond the control of the source, including acts of God, that require immediate corrective action to restore normal operation, and that causes the source to exceed a technology-based emission limitation under the permit, due to unavoidable increases in emissions attributable to the emergency. An emergency shall not include noncompliance to the extent caused by improperly designed equipment, lack of preventative maintenance, careless or improper operation, or operator error.
2. An emergency constitutes an affirmative defense to an action brought for noncompliance with such technology-based emission limitations if Condition XII.C.3 is met.
3. The affirmative defense of emergency shall be demonstrated through properly signed, contemporaneous operating logs, or other relevant evidence that:
 - a. An emergency occurred and that the Permittee can identify the cause(s) of the emergency;
 - b. The permitted facility was being properly operated at the time;

- c. During the period of the emergency, the Permittee took all reasonable steps to minimize levels of emissions that exceeded the emissions standards or other requirements in the permit; and
 - d. The Permittee submitted notice of the emergency to the Director by certified mail, facsimile, or hand delivery within two working days of the time when emission limitations were exceeded due to the emergency. This notice shall contain a description of the emergency, any steps taken to mitigate emissions, and corrective action taken.
4. In any enforcement proceeding, the Permittee seeking to establish the occurrence of an emergency has the burden of proof.
 5. This provision is in addition to any emergency or upset provision contained in any applicable requirement.

D. Compliance Schedule

[ARS § 49-426.1.5]

For any excess emission or permit deviation that cannot be corrected within 72 hours, the Permittee is required to submit a compliance schedule to the Director within 21 days of such occurrence. The compliance schedule shall include a schedule of remedial measures, including an enforceable sequence of actions with milestones, leading to compliance with the permit terms or conditions that have been violated.

E. Affirmative Defenses for Excess Emissions Due to Malfunctions, Startup, and Shutdown

[A.A.C. R18-2-310]

1. Applicability

This rule establishes affirmative defenses for certain emissions in excess of an emission standard or limitation and applies to all emission standards or limitations except for standards or limitations:

- a. Promulgated pursuant to Sections 111 or 112 of the Act;
- b. Promulgated pursuant to Titles IV or VI of the Clean Air Act;
- c. Contained in any Prevention of Significant Deterioration (PSD) or New Source Review (NSR) permit issued by the U.S. EPA;
- d. Contained in A.A.C. R18-2-715.F; or
- e. Included in a permit to meet the requirements of A.A.C. R18-2-406.A.5.

2. Affirmative Defense for Malfunctions

Emissions in excess of an applicable emission limitation due to malfunction shall constitute a violation. When emissions in excess of an applicable emission limitation are due to a malfunction, the Permittee has an affirmative defense to a civil or administrative enforcement proceeding based on that violation, other than a judicial action seeking injunctive relief, if the Permittee has complied with the reporting requirements of A.A.C. R18-2-310.01 and has demonstrated all of the following:

- a. The excess emissions resulted from a sudden and unavoidable breakdown of process equipment or air pollution control equipment beyond the reasonable control of the Permittee;
 - b. The air pollution control equipment, process equipment, or processes were at all times maintained and operated in a manner consistent with good practice for minimizing emissions;
 - c. If repairs were required, the repairs were made in an expeditious fashion when the applicable emission limitations were being exceeded. Off-shift labor and overtime were utilized where practicable to ensure that the repairs were made as expeditiously as possible. If off-shift labor and overtime were not utilized, the Permittee satisfactorily demonstrated that the measures were impracticable;
 - d. The amount and duration of the excess emissions (including any bypass operation) were minimized to the maximum extent practicable during periods of such emissions;
 - e. All reasonable steps were taken to minimize the impact of the excess emissions on ambient air quality;
 - f. The excess emissions were not part of a recurring pattern indicative of inadequate design, operation, or maintenance;
 - g. During the period of excess emissions there were no exceedances of the relevant ambient air quality standards established in Title 18, Chapter 2, Article 2 of the Arizona Administrative Code that could be attributed to the emitting source;
 - h. The excess emissions did not stem from any activity or event that could have been foreseen and avoided, or planned, and could not have been avoided by better operations and maintenance practices;
 - i. All emissions monitoring systems were kept in operation if at all practicable; and
 - j. The Permittee's actions in response to the excess emissions were documented by contemporaneous records
3. Affirmative Defense for Startup and Shutdown

- a. Except as provided in Condition XII.E.3.b below, and unless otherwise provided for in the applicable requirement, emissions in excess of an applicable emission limitation due to startup and shutdown shall constitute a violation. When emissions in excess of an applicable emission limitation are due to startup and shutdown, the Permittee has an affirmative defense to a civil or administrative enforcement proceeding based on that violation, other than a judicial action seeking injunctive relief, if the Permittee has complied with the reporting requirements of A.A.C. R18-2-310.01 and has demonstrated all of the following:
 - (1) The excess emissions could not have been prevented through careful and prudent planning and design;
 - (2) If the excess emissions were the result of a bypass of control equipment, the bypass was unavoidable to prevent loss of life, personal injury, or severe damage to air pollution control equipment, production equipment, or other property;

- (3) The air pollution control equipment, process equipment, or processes were at all times maintained and operated in a manner consistent with good practice for minimizing emissions;
 - (4) The amount and duration of the excess emissions (including any bypass operation) were minimized to the maximum extent practicable during periods of such emissions;
 - (5) All reasonable steps were taken to minimize the impact of the excess emissions on ambient air quality;
 - (6) During the period of excess emissions there were no exceedances of the relevant ambient air quality standards established in Title 18, Chapter 2, Article 2 of the Arizona Administrative Code that could be attributed to the emitting source;
 - (7) All emissions monitoring systems were kept in operation if at all practicable; and
 - (8) Contemporaneous records documented the Permittee's actions in response to the excess emissions.
- b. If excess emissions occur due to a malfunction during routine startup and shutdown, then those instances shall be treated as other malfunctions subject to Condition XII.E.2 above.

4. Affirmative Defense for Malfunctions During Scheduled Maintenance

If excess emissions occur due to a malfunction during scheduled maintenance, then those instances will be treated as other malfunctions subject to Condition XII.E.2 above.

5. Demonstration of Reasonable and Practicable Measures

For an affirmative defense under Condition XII.E.2 or XII.E.3 above, the Permittee shall demonstrate, through submission of the data and information required by Condition XII.E and A.A.C. R18-2-310.01, that all reasonable and practicable measures within the Permittee's control were implemented to prevent the occurrence of the excess emissions.

XIII. RECORD KEEPING REQUIREMENTS

[A.A.C. R18-2-306.A.4]

- A. The Permittee shall keep records of all required monitoring information including, but not limited to, the following:
1. The date, place as defined in the permit, and time of sampling or measurements;
 2. The date(s) analyses were performed;
 3. The name of the company or entity that performed the analyses;
 4. A description of the analytical techniques or methods used;
 5. The results of such analyses; and
 6. The operating conditions as existing at the time of sampling or measurement.

- B. The Permittee shall retain records of all required monitoring data and support information for a period of at least 5 years from the date of the monitoring sample, measurement, report, or application. Support information includes all calibration and maintenance records and all original strip-chart recordings or other data recordings for continuous monitoring instrumentation, and copies of all reports required by the permit.
- C. All required records shall be maintained either in an unchangeable electronic format or in a handwritten logbook utilizing indelible ink.

XIV. REPORTING REQUIREMENTS

[A.A.C. R18-2-306.A.5.a]

The Permittee shall submit the following reports:

- A. Compliance certifications in accordance with Section VII of Attachment "A".
- B. Excess emission; permit deviation, and emergency reports in accordance with Section XII of Attachment "A".
- C. Other reports required by any condition of Attachment "B".

XV. DUTY TO PROVIDE INFORMATION

[A.A.C. R18-2-304.G and -306.A.8.e]

- A. The Permittee shall furnish to the Director, within a reasonable time, any information that the Director may request in writing to determine whether cause exists for revising, revoking and reissuing, or terminating the permit, or to determine compliance with the permit. Upon request, the Permittee shall also furnish to the Director copies of records required to be kept by the permit. For information claimed to be confidential, the Permittee shall furnish an additional copy of such records directly to the Administrator along with a claim of confidentiality.
- B. If the Permittee has failed to submit any relevant facts or has submitted incorrect information in the permit application, the Permittee shall, upon becoming aware of such failure or incorrect submittal, promptly submit such supplementary facts or corrected information.

XVI. PERMIT AMENDMENT OR REVISION

[A.A.C. R18-2-317.01, -318, -319, and -320]

The Permittee shall apply for a permit amendment or revision for changes to the facility which do not qualify for a facility change without revision under Section XVII, as follows:

- A. Facility Changes that Require a Permit Revision - Class II (A.A.C. R18-2-317.01);
- B. Administrative Permit Amendment (A.A.C. R18-2-318);
- C. Minor Permit Revision (A.A.C. R18-2-319); and
- D. Significant Permit Revision (A.A.C. R18-2-320)

The applicability and requirements for such action are defined in the above referenced regulations.

XVII. FACILITY CHANGE WITHOUT A PERMIT REVISION

[A.A.C. R18-2-306.A.4 and -317.02]

- A. Except for a physical change or change in the method of operation at a Class II source requiring a permit revision under A.A.C. R18-2-317.01, or a change subject to logging or notice requirements in Conditions XVII.B and XVII.C below, a change at a Class II source shall not be subject to revision, notice, or logging requirements under this Section.

B. Except as otherwise provided in the conditions applicable to an emissions cap created under A.A.C. R18-2-306.02, the following changes may be made if the source keeps on site records of the changes according to Appendix 3 of the Arizona Administrative Code:

1. Implementing an alternative operating scenario, including raw materials changes;
2. Changing process equipment, operating procedures, or making any other physical change if the permit requires the change to be logged;
3. Engaging in any new insignificant activity listed in A.A.C. R18-2-101.57.a through A.A.C. R18-2-101.57.i but not listed in the permit;
4. Replacing an item of air pollution control equipment listed in the permit with an identical (same model, different serial number) item. The Director may require verification of efficiency of the new equipment by performance tests; and
5. A change that results in a decrease in actual emissions if the source wants to claim credit for the decrease in determining whether the source has a net emissions increase for any purpose. The logged information shall include a description of the change that will produce the decrease in actual emissions. A decrease that has not been logged is creditable only if the decrease is quantifiable, enforceable, and otherwise qualifies as a creditable decrease.

C. Except as provided in the conditions applicable to an emissions cap created under A.A.C. R18-2-306.02, the following changes may be made if the source provides written notice to the Department in advance of the change as provided below:

1. Replacing an item of air pollution control equipment listed in the permit with one that is not identical but that is substantially similar and has the same or better pollutant removal efficiency: 7 days. The Director may require verification of efficiency of the new equipment by performance tests;
2. A physical change or change in the method of operation that increases actual emissions more than 10% of the major source threshold for any conventional pollutant but does not require a permit revision: 7 days;
3. Replacing an item of air pollution control equipment listed in the permit with one that is not substantially similar but that has the same or better efficiency: 30 days. The Director may require verification of efficiency of the new equipment by performance tests;
4. A change that would trigger an applicable requirement that already exists in the permit: 30 days unless otherwise required by the applicable requirement;
5. A change that amounts to reconstruction of the source or an affected facility: 7 days. For the purposes of this subsection, reconstruction of a source or an affected facility shall be presumed if the fixed capital cost of the new components exceeds 50% of the fixed capital cost of a comparable entirely new source or affected facility and the changes to the components have occurred over the 12 consecutive months beginning with commencement of construction; and
6. A change that will result in the emissions of a new regulated air pollutant above an applicable regulatory threshold but that does not trigger a new applicable requirement for that source category: 30 days. For purposes of this requirement, an applicable regulatory threshold for a conventional air pollutant shall be 10% of the applicable major source threshold for that pollutant.

- D.** For each change under Condition XVII.C above, the written notice shall be by certified mail or hand delivery and shall be received by the Director the minimum amount of time in advance of the change. Notifications of changes associated with emergency conditions, such as malfunctions necessitating the replacement of equipment, may be provided with less than required notice, but must be provided as far in advance of the change, or if advance notification is not practicable, as soon after the change as possible. The written notice shall include:
1. When the proposed change will occur;
 2. A description of the change;
 3. Any change in emissions of regulated air pollutants; and
 4. Any permit term or condition that is no longer applicable as a result of the change.
- E.** A source may implement any change in Condition XVII.C above without the required notice by applying for a minor permit revision under A.A.C. R18-2-319 and complying with subsection A.A.C. R18-2-319.D.2 and A.A.C. R18-2-319.G.
- F.** The permit shield described in A.A.C. R18-2-325 shall not apply to any change made under this Section, other than implementation of an alternate operating scenario under Condition XVII.B.1.
- G.** Notwithstanding any other part of this Section, the Director may require a permit to be revised for any change that, when considered together with any other changes submitted by the same source under this Section over the term of the permit, constitutes a change under subsection A.A.C. R18-2-317.01.A.
- H.** If a source change is described under both Conditions XVII.B and XVII.C above, the source shall comply with Condition XVII.C above. If a source change is described under both Condition XVII.C above and A.A.C. R18-2-317.01.B, the source shall comply with A.A.C. R18-2-317.01.B.
- I.** A copy of all logs required under Condition XVII.B shall be filed with the Director within 30 days after each anniversary of the permit issuance date. If no changes were made at the source requiring logging, a statement to that effect shall be filed instead.
- J.** Logging Requirements [A.A.C. R18-2-306.A.4]
1. Each log entry required by a change under Condition XVII.B shall include at least the following information:
 - a. A description of the change, including:
 - (1) A description of any process change;
 - (2) A description of any equipment change, including both old and new equipment descriptions, model numbers, and serial numbers, or any other unique equipment ID number; and
 - (3) A description of any process material change.
 - b. The date and time that the change occurred.
 - c. The provision of A.A.C. R18-2-317.02.B that authorizes the change to be made with logging.

- d. The date the entry was made and the first and last name of the person making the entry.
2. Logs shall be kept for 5 years from the date created. Logging shall be performed in indelible ink in a bound log book with sequentially number pages, or in any other form, including electronic format, approved by the Director.

XVIII. TESTING REQUIREMENTS

[A.A.C. R18-2-312]

A. The Permittee shall conduct performance tests as specified in the permit and at such other times as may be required by the Director.

B. Operational Conditions During Testing

Tests shall be conducted during operation at the maximum possible capacity of each unit under representative operational conditions unless other conditions are required by the applicable test method or in this permit. With prior written approval from the Director, testing may be performed at a lower rate. Operations during periods of start-up, shutdown, and malfunction (as defined in A.A.C. R18-2-101) shall not constitute representative operational conditions unless otherwise specified in the applicable standard.

C. Tests shall be conducted and data reduced in accordance with the test methods and procedures contained in the Arizona Testing Manual unless modified by the Director pursuant to A.A.C. R18-2-312.B.

D. Test Plan

At least 14 calendar days prior to performing a test, the Permittee shall submit a test plan to the Director in accordance with A.A.C. R18-2-312.B and the Arizona Testing Manual. This test plan must include the following:

1. Test duration;
2. Test location(s);
3. Test method(s); and
4. Source operation and other parameters that may affect test results.

E. Stack Sampling Facilities

The Permittee shall provide, or cause to be provided, performance testing facilities as follows:

1. Sampling ports adequate for test methods applicable to the facility;
2. Safe sampling platform(s);
3. Safe access to sampling platform(s); and
4. Utilities for sampling and testing equipment.

F. Interpretation of Final Results

Each performance test shall consist of three separate runs using the applicable test method. Each run shall be conducted for the time and under the conditions specified in the applicable standard. For the purpose of determining compliance with an applicable standard, the arithmetic mean of

the results of the three runs shall apply. In the event that a sample is accidentally lost or conditions occur in which one of the three runs is required to be discontinued because of forced shutdown, failure of an irreplaceable portion of the sample train, extreme meteorological conditions, or other circumstances beyond the Permittee's control, compliance may, upon the Director's approval, be determined using the arithmetic mean of the results of the other two runs. If the Director or the Director's designee is present, tests may only be stopped with the Director's or such designee's approval. If the Director or the Director's designee is not present, tests may only be stopped for good cause. Good cause includes: forced shutdown, failure of an irreplaceable portion of the sample train, extreme meteorological conditions, or other circumstances beyond the Permittee's control. Termination of any test without good cause after the first run is commenced shall constitute a failure of the test. Supporting documentation, which demonstrates good cause, must be submitted.

G. Report of Final Test Results

A written report of the results of all performance tests shall be submitted to the Director within 30 days after the test is performed. The report shall be submitted in accordance with the Arizona Testing Manual and A.A.C. R18-2-312.A.

XIX. PROPERTY RIGHTS

[A.A.C. R18-2-306.A.8.d]

This permit does not convey any property rights of any sort, or any exclusive privilege.

XX. SEVERABILITY CLAUSE

[A.A.C. R18-2-306.A.7]

The provisions of this permit are severable. In the event of a challenge to any portion of this permit, or if any portion of this permit is held invalid, the remaining permit conditions remain valid and in force.

XXI. PERMIT SHIELD

[A.A.C. R18-2-325]

Compliance with the conditions of this permit shall be deemed compliance with all applicable requirements identified in the portions of this permit subtitled "Permit Shield". The permit shield shall not apply to any minor revisions pursuant to Condition XVI.C of this Attachment and any facility changes without a permit revision pursuant to Section XVII of this Attachment.

ATTACHMENT "B": SPECIFIC CONDITIONS

Air Quality Control Permit No. 47460 for *Total Resource Recycling, Inc.*

I. RELATIONSHIP OF PERMIT TO APPLICABLE STATE IMPLEMENTATION PLAN

[ARS § 49-404.c and -426]

This permit is issued pursuant to the provisions of the Arizona Revised Statutes (ARS) and constitutes an Installation Permit for the purpose of the applicable State Implementation Plan.

II. FACILITY WIDE REQUIREMENTS

A. Operational Limitations

1. The Permittee shall operate and maintain the equipment identified in Attachment "C" in accordance with the manufacturer's specifications. [A.A.C. R18-2-306.A.2]
2. All equipment shall be operated and maintained in accordance with the Operation and Maintenance Plan in Attachment "D". [A.A.C. R18-2-306.A.2]
3. Within 90 days of start-up, the Permittee shall have on site or on call a person certified in EPA Reference Method 9. [A.A.C. R18-2-306.A.3.c]

B. Monitoring, Record Keeping and Reporting Requirements

[A.A.C. R18-2-306.A.3.b, A.3.c, A.5 & A.4]

1. The Permittee shall maintain, on-site, records of the manufacturer supplied operations and maintenance instructions or Operation and Maintenance Plan for minimizing emissions for all equipment identified in Attachment "C". [A.A.C. R18-2-306.A.4]
2. All records, analyses, and reports, shall be retained for a minimum of five years from the date of generation. The most recent two years of data shall be kept on-site. [A.A.C. R18-2-306.A.4]
3. The Permittee shall maintain records of the occurrence and duration of any start-up, shutdown or malfunction in the operation of the facility and any malfunction of the air pollution control equipment. [A.A.C. R18-2-306.A.3.c]
4. The Permittee shall maintain a file of all measurements, including performance test measurements, recorded in a permanent form suitable for inspection. [A.A.C. R18-2-306.A.3.c]
5. At the time the compliance certifications required by Section VII of Attachment "A" are submitted, the Permittee shall submit reports of all monitoring activities required by this Attachment performed in the same period as applies to the compliance certification period. [A.A.C. R18-2-306.A.5]
6. Within 180 days of the start of on-site construction, the Permittee shall provide an updated equipment list to the Director. [A.A.C. R18-2-306.A.5]

III. ALUMINUM RECYCLING FURNACE REQUIREMENTS

A. Applicability

This Section is applicable to the sweat furnace located at a secondary aluminum production facility.

B. Operating Limitations

1. Permitted Fuels [A.A.C. R18-2-306.A.2]

- a. The Permittee shall only fire “on-specification” used oil or propane fuel in the recycling furnace.
- b. The Permittee is authorized to burn “on specification” used oil in the recycling furnace, only under the following conditions.
 - i. The used oil fuel must be analyzed and certified by the marketer (oil supplier) to be "on specification" according to the definition in A.R.S. §49-801;
 - ii. For the “on specification” used oil, the contaminants must not exceed the following levels (in parts per million by weight): [40 CFR 279.11]

Contaminant	Concentration (ppm by weight)
Arsenic	5.0 maximum
Cadmium	2.0 maximum
Chromium	10.0 maximum
Lead	100.0 maximum
Halogens	4000.0 maximum
Flash Point	100 °F minimum
PCBs	2.0 maximum

c. The Permittee shall not co-fire fuels in the recycling furnace. [40 CFR 279.11]

2. *At all times, the Permittee shall route air emissions from the furnace to the afterburner.*
 [A.A.C. R18-2-306.A.2 and R18-2-331.A.3.a]
 [Material Permit Condition is indicated by underline and italics]

3. *The Permittee shall not feed more than 24 tons per day metal scrap in the aluminum recycling furnace.*
 [A.A.C. R18-2-306.01.A and A.A.C. R18-2-331.A.3.a]
 [Material Permit Condition is indicated by underline and italics]

4. Record Keeping Requirements [A.A.C. R18-2-306.A.3.c]

a. On Specification" Used Oil

The Permittee, burning “on specification” used oil, shall maintain, on site, copies of the fuel analysis supplied by the marketer for each batch of "on specification" used oil fuel, and shall be responsible for ensuring that the results of the analyses confirm that the contaminant levels specified in Condition III.B.1.b.ii above are not exceeded.

- b. The Permittee shall keep daily, monthly, and annual records of the amount of scrap metal fed into the recycling furnace. The Permittee shall calculate the annual records based on rolling 12 month totals. [A.A.C. R18-2-306.A.3.c]

5. Testing Requirements [A.A.C. R18-2-306.A.3, -312.A, and -312.B]

The Permittee shall burn "on specification" used oil fuel in the recycling furnace during all performance tests.

C. Particulate Matter Requirements

1. Emission Limitations / Standards

a. Emission Limits and Standards

- i. The Permittee shall not allow or permit the emission of particulate matter into the atmosphere in any one hour from the recycling furnace in total quantities in excess of the amount calculated by the following equations:

- (a) For process sources having a process weight rate of 30 tons per hour or less, the maximum allowable emissions shall be determined by the following equation:

$$E = 4.1 P^{0.67}$$

Where:

E = the maximum allowable particulate emissions rate in pounds-mass per hour

P = the process weight rate in tons-mass per hour

- (b) For process sources having a process weight rate greater than of 30 tons per hour, the maximum allowable emissions shall be determined by the following equation:

$$E = 55.0 P^{0.11} - 40$$

Where:

E = the maximum allowable particulate emissions rate in pounds-mass per hour

P = the process weight rate in tons-mass per hour

[A.A.C. R18-2-730.A.1]

- ii. For purposes of this Section, the total process weight from all similar units employing a similar type process shall be used in determining the maximum allowable emission of particulate matter. [A.A.C. R18-2-730.B]

c. Monitoring, Reporting, and Recordkeeping [A.A.C. R18-2-306.A.3.c]

The Permittee shall keep records of fuel supplier certifications. The certification shall contain information regarding the name of fuel supplier and heating value of the fuel. These records shall be made available to ADEQ upon request.

- d. Permit Shield [A.A.C. R18-2-325]

Compliance with this Part shall be deemed compliance with A.A.C. R18-2-730.A.1.

C. Opacity Requirements

1. Emission Limitation / Standard

- a. The Permittee shall not cause to be discharged into the atmosphere from the recycling furnace any gases which exhibit greater than 20% opacity, measured in accordance with EPA Reference Method 9. [A.A.C. R18-2-702.B]
- b. If the presence of uncombined water is the only reason for an exceedance of any visible emissions requirement, the exceedance shall not constitute a violation of the applicable opacity limit. [A.A.C. R18-2-702.C]

2. Monitoring, record Keeping and Reporting Requirements

A certified EPA Reference Method 9 observer shall conduct a monthly survey of visible emissions emanating from the furnace. If the opacity of the emissions observed appears to exceed the standard, the observer shall conduct a certified EPA Reference Method 9 observation. The Permittee shall keep records of the initial survey and any EPA Reference Method 9 observations performed. These records shall include the emission point observed, location of observer, name of observer, date and time of observation, and the results of the observation. If the observation results in an exceedance of the opacity limit contained in Condition.III.C.1.a above, the Permittee shall take corrective action and log all such actions. Such exceedance shall be reported as excess emissions in accordance with Section XII of Attachment "A". [A.A.C. R18-2-306.A.3.c]

3. Permit Shield

Compliance with the conditions of this Part shall be deemed compliance with A.A.C. R18-2-702.B and -702.C. [A.A.C. R18-2-325]

D. Gaseous Emissions

1. Emission Limitations/Standards

- a. The Permittee shall not cause or permit the emission of gaseous or odorous materials from equipment and operations associated with the aluminum recycling process in such quantities or concentrations as to cause air pollution. [A.A.C. R18-2-730.D]
- b. Materials including solvents or other volatile compounds, acids and alkalis utilized in the aluminum recycling process shall be processed, stored, used and transported in such a manner and by such means that they will not evaporate, leak, escape or be otherwise discharged into the ambient air so as to cause or contribute to air pollution. Where means are available to reduce effectively the contribution to air pollution from evaporation, leakage or discharge, the installation and use of such control methods, devices or other equipment shall be mandatory. [A.A.C. R18-2-730.F]
- c. Where a stack, vent or other outlet is at such a level that fumes, gas mist, odor, smoke, vapor or any combination thereof constituting air pollution is discharged

to adjoining property, the Director may require the installation of abatement equipment or the alteration of such stack, vent or other outlet by the Permittee to a degree that will adequately dilute, reduce or eliminate the discharge of air pollution to adjoining property. [A.A.C. R18-2-730.G]

2. Air Pollution Control Requirement

At all times when the furnace is in operation, including periods of startup, shutdown, and malfunction, the Permittee shall, to the extent practicable, maintain and operate the afterburner in a manner consistent with manufacturer equipment operating guidelines and good air pollution control practices for minimizing emissions.

[A.A.C. R18-2-306.A.2, -306.01.A, and -331.A.3.d and e]
[Material Permit Conditions are indicated with underline and italics]

3. Permit Shield [A.A.C. R18-2-325]

Compliance with this Part shall be deemed compliance with A.A.C. R18-2-730.D, -730.F, and -730.G.

E. Sulfur Dioxide

1. Emissions Limitations and Standards [A.A.C. R18-2-730.A.2]

The Permittee shall not cause or allow the emission of sulfur dioxide from aluminum recycling process, at an emission rate greater than 600 parts per million.

2. Permit Shield [A.A.C. R18-2-325]

Compliance with this Part shall be deemed compliance with A.A.C. R18-2-730.A.2.

F. Nitrogen Dioxide

1. Emissions Limitations and Standards [A.A.C. R18-2-730.A.3]

The Permittee shall not cause or allow the emission of nitrogen oxides from aluminum recycling process, at an emission rate greater than 500 parts per million.

2. Permit Shield [A.A.C. R18-2-325]

Compliance with this Part shall be deemed compliance with A.A.C. R18-2-730.A.3.

G. Carbon Monoxide

1. Emissions Limitations and Standards [A.A.C. R18-2-730.I]

The Permittee shall not cause, allow or permit discharge from aluminum recycling process carbon monoxide emissions without complete combustion in the afterburner.

2. Permit Shield [A.A.C. R18-2-325]

Compliance with this Part shall be deemed compliance with A.A.C. R18-2-730.I.

H. Hazardous Air Pollutants (HAPs)

1. General Requirements

These requirements, in addition to specific requirements in this Attachment, shall be applicable to the aluminum recycling furnace.

- a. The Permittee shall comply with the following general provisions of 40 CFR 63, Appendix "A" that are applicable to Subpart RRR – National Emission Standards for Hazardous Air Pollutants for Secondary Aluminum Production: §63.1 excluding (a)(5), (a)(9), (c)(3), (d), §63.1(b), §63.2, §63.3, §63.4 excluding (a)(4), §63.5 excluding (b)(2) and (c), §63.6 excluding (b)(6), (c)(3)-(4), (d) (g), and (i)(15), §63.7, § 63.8 excluding (a)(3), (f)(1)-(5), and (g)(2), §63.9 excluding (h)(4), § 63.10 excluding (c)(2)-(4) and (c)(9), and § 63.12-63.15. [40 CFR 63.1518]
- b. The Permittee shall always operate and maintain the affected source, including air pollution control equipment, in a manner consistent with good air pollution control practices for minimizing emissions at least to the levels required by this permit. [40 CFR 63.1506(a)]

2. Operating Requirements

- a. The Permittee shall maintain the 3-hour block average operating temperature of the afterburner at or above 1600 °F. [40 CFR 63.1506.h.1.ii]
- b. The Permittee shall operate the afterburner in accordance with the Operations, Maintenance, and Monitoring (OM&M) plan in Attachment "D". [40 CFR 63.1506.h.2]
- c. The Permittee shall operate and maintain an afterburner with a design residence time of 0.8 seconds or greater and an operating temperature of 1600 °F or greater. [40 CFR 63.1505.f.1]

3. Emission Standards

- a. The Permittee shall not discharge or cause to be discharged to the atmosphere emissions in excess of 0.80 nanogram (ng) of dioxin/furan toxic equivalents (D/F TEQ) per dscm (3.5×10^{-10} gr per dscf) at 11 percent oxygen (O₂). [40 CFR 63.1505.f.2]
- b. *The Permittee shall not cause to be discharged into the atmosphere from the furnace stack, including emissions generated during start-ups and shutdowns, emissions of any single hazardous air pollutant in excess of 2.05 pounds per ton.* [A.A.C. R18-2-306.A.2, -306.01, and -331.A.3.a]
[Material Permit Conditions are indicated with underline and italics]
- c. *The Permittee shall not cause to be discharged into the atmosphere from the furnace stack, including emissions generated during start-ups and shutdowns, emissions of combined hazardous air pollutants in excess of 5.14 pounds per ton.* [A.A.C. R18-2-306.A.2, -306.01, and -331.A.3.a]
[Material Permit Conditions are indicated with underline and italics]

4. Monitoring Requirements

- a. The Permittee shall implement the operation, maintenance, and monitoring (OM&M) plan contained in Attachment "D". The Permittee shall comply with all of the provisions of the OM&M plan as in Attachment "D", unless and until the plan is revised in accordance with the following procedures. If the Director determines at any time after receipt of the OM&M plan that any revisions of the plan are necessary to satisfy the requirements of this Section or 40 CFR 63, Subpart RRR, the Permittee shall promptly make all necessary revisions and resubmit the revised plan. If the Permittee determines that any other revisions of the OM&M plan are necessary, such revisions will not become effective until the Permittee submits a description of the changes and a revised plan incorporating them to the Director. Each plan must contain the following information:

[40 CFR 63.1510.b]

- i. Process and control device parameters to be monitored to determine compliance, along with established operating levels or ranges, as applicable, for each process and control device. [40 CFR 63.1510.b.1]

- ii. A monitoring schedule for the sweat furnace. [40 CFR 63.1510.b.2]

- iii. Procedures for the proper operation and maintenance of the sweat furnace and the afterburner used to meet the emission limits or standards in Condition III.H.3. [40 CFR 63.1510.b.3]

- iv. Procedures for the proper operation and maintenance of monitoring devices or systems used to determine compliance, including:

[40 CFR 63.1510.b.4]

- (a) Calibration and certification of accuracy of each monitoring device, at least once every 6 months, according to the manufacturer's instructions; and

- (b) Procedures for the quality control and quality assurance of continuous emission or opacity monitoring systems as required by the general provisions in Subpart A of this part.

- v. Procedures for monitoring process and control device parameters, including procedures for annual inspections of afterburners.

[40 CFR 63.1510.b.5]

- vi. Corrective actions to be taken when process or operating parameters or add-on control device parameters deviate from the value or range established in Condition III.H.4.a.i of this Section, including:

[40 CFR 63.1510.b.6]

- (a) Procedures to determine and record the cause of any deviation or excursion, and the time the deviation or excursion began and ended; and

- (b) Procedures for recording the corrective action taken, the time corrective action was initiated, and the time/date corrective action was completed.

- vii. A maintenance schedule for the sweat furnace and the afterburner that is consistent with the manufacturer's instructions and recommendations for routine and long-term maintenance. [40 CFR 63.1510.b.7]

- b. The Permittee shall install, calibrate, maintain a device to continuously monitor and record the operating temperature of the afterburner. [40 CFR 63.1510.g.1, A.A.C. R18-2-306.01, - 331.A.3.c]
[Material permit conditions are indicated by underline and italics]

- c. The temperature monitoring device shall meet each of these performance and equipment specifications: [40 CFR 63.1510.g.2]
 - i. The temperature monitoring device shall be installed at the exit of the combustion zone of each afterburner.
 - ii. The monitoring system shall record the temperature in 15-minute block averages and determine and record the average temperature for each 3-hour block period.
 - iii. The recorder response range shall include zero and 1.5 times 1600 degrees F.
 - iv. The reference method shall be a National Institute of Standards and Technology calibrated reference thermocouple-potentiometer system or alternate reference, subject to approval by the Director.

- d. The Permittee shall conduct an inspection of each afterburner at least once a year and record the results. At a minimum, an inspection must include: [40 CFR 63.1510.g.3]
 - i. Inspection of all burners, pilot assemblies, and pilot sensing devices for proper operation and clean pilot sensor;
 - ii. Inspection for proper adjustment of combustion air;
 - iii. Inspection of internal structures (e.g., baffles) to ensure structural integrity;
 - iv. Inspection of dampers, fans, and blowers for proper operation;
 - v. Inspection for proper sealing;
 - vi. Inspection of motors for proper operation;
 - vii. Inspection of combustion chamber refractory lining and clean and replace lining as necessary;
 - viii. Inspection of afterburner shell for corrosion and/or hot spots;
 - ix. Documentation, for the burn cycle that follows the inspection, that the afterburner is operating properly and any necessary adjustments have been made; and

- x. Verification that the equipment is maintained in good operating condition.
 - xi. Following an equipment inspection, all necessary repairs must be completed in accordance with the requirements of the OM&M plan.
- e. Alternative monitoring method: If the Permittee wishes to use an alternative monitoring method to demonstrate compliance with any emission standard in 40 CFR 63, Subpart RRR, the Permittee may submit an application to the Director. Any such application will be processed according to the criteria and procedures set forth in Conditions III.H.4.e.i through vi of this Section: [40 CFR 63.1510.w]
- i. The Director will not approve averaging periods other than those specified in this Section.
 - ii. The Permittee shall continue to use the original monitoring requirement until necessary data are submitted and approval is received to use another monitoring procedure.
 - iii. The Permittee shall submit the application for approval of alternate monitoring methods. The application shall contain the information specified in Conditions III.H.4.e.iii.(a) through (c) of this Section:
 - (a) Data or information justifying the request, such as the technical or economic infeasibility, or the impracticality of using the required approach;
 - (b) A description of the proposed alternative monitoring requirements, including the operating parameters to be monitored, the monitoring approach and technique, and how the limit is to be calculated; and
 - (c) Data and information documenting that the alternative monitoring requirement(s) would provide equivalent or better assurance of compliance with the relevant emission standard(s).
 - iv. The Director will not approve an alternate monitoring application unless it would provide equivalent or better assurance of compliance with the relevant emission standard(s). Before disapproving any alternate monitoring application, the Director will provide:
 - (a) Notice of the information and findings upon which the intended disapproval is based; and
 - (b) Notice of opportunity for the Permittee to present additional supporting information before final action is taken on the application. This notice will specify how much additional time is allowed for the Permittee to provide additional supporting information.
 - v. The Permittee is responsible for submitting any supporting information in a timely manner to enable the Director to consider the application prior to the performance test. Neither submittal of an application nor the Director's failure to approve or disapprove the application relieves the

Permittee of the responsibility to comply with any provisions of 40 CFR 63, Subpart RRR.

- vi. The Director may decide at any time, on a case-by-case basis, that additional or alternative operating limits, or alternative approaches to establishing operating limits, are necessary to demonstrate compliance with the emission standards of 40 CFR 63, Subpart RRR.

5. Testing requirements

- a. Within 180 days after startup, the Permittee shall conduct an initial performance test for speciated and total hazardous air pollutant emissions from the furnace stack. Hazardous air pollutants shall include the following:
 - i. All metal HAPs detected by EPA Reference Method 29;
 - ii. Inorganic HAPs including hydrogen chloride and chlorine;
 - iii. Organic HAPs including acetaldehyde, acrolein, benzene, formaldehyde, and toluene;
 - iv. All other HAPs that will be detected by the EPA Reference Methods used in Conditions III.H.5.a.i through III.H.5.a.iii.
- b. Subsequent performance tests for hazardous air pollutant emissions being emitted from the furnace stack shall be conducted as required by the Director.
- c. All performance testing for hazardous air pollutants shall be conducted in accordance with the following:
 - i. Metal HAPs - EPA Reference Method 29;
 - ii. All other HAPs – Methods as approved by the Director in the Test Plan required by Condition XVIII.D of Attachment “A”.

6. Notifications Requirements

[40 CFR 63.1515]

- a. The Permittee shall provide notification of any special compliance obligations as required by 40 CFR 63.9(d). [40 CFR 63.1515.a.5]
- b. The Permittee shall submit a notification of compliance status report within 90 days after startup. The notification shall be signed by the responsible official who must certify its accuracy. A complete notification of compliance status report must include the information specified below. If the Permittee submits the information specified in this Section at different times or in different submittals, later submittals may refer to earlier submittals instead of duplicating and resubmitting the information previously submitted. A complete notification of compliance status report must include: [40 CFR 63.1515.b]
 - i. The afterburner operating temperature value or range established for each affected source or emission unit with supporting documentation and a description of the procedure used to establish the afterburner operating temperature. [40 CFR 63.1515.b.4]

- ii. Manufacturer's specification or analysis documenting the design residence time of no less than 0.8 seconds and design operating temperature of no less than 1,600 °F for the afterburner used to control emissions from the sweat furnace. [40 CFR 63.1515.b.8]
- iii. The OM & M plan. [40 CFR 63.1515.b.9]
- iv. Startup, shutdown, and malfunction plan, with revisions. [40 CFR 63.1515.b.10]

7. Reporting Requirements

- a. The Permittee shall develop a written plan as described in 40 CFR 63.6(e)(3) that contains specific procedures to be followed for operating and maintaining the source during periods of startup, shutdown, and malfunction, and a program of corrective action for malfunctioning process and air pollution control equipment used to comply with the standard. The Permittee shall also keep records of each event as required by 40 CFR 63.10(b) and record and report if an action taken during a startup, shutdown, or malfunction is not consistent with the procedures in the plan as described in 40 CFR 63.6(e)(3). In addition to the information required in 40 CFR 63.6(e)(3), the plan must include: [40 CFR 63.1516.a]
 - i. Procedures to determine and record the cause of the malfunction and the time the malfunction began and ended; and [40 CFR 63.1516.a.1]
 - ii. Corrective actions to be taken in the event of a malfunction of a process or control device, including procedures for recording the actions taken to correct the malfunction or minimize emissions. [40 CFR 63.1516.a.2]
- b. The Permittee shall submit semiannual reports according to the requirements in 40 CFR 63.10(e)(3) in accordance with Condition VII in Attachment "A". When no deviations of parameters have occurred, the Permittee shall submit a report stating that no excess emissions occurred during the reporting period. [40 CFR 63.1516.b]
 - i. A report must be submitted if any of these conditions occur during a 6-month reporting period: [40 CFR 63.1516.b.1]
 - (a) An excursion of an operating parameter such as the afterburner operating temperature. [40 CFR 63.1516.b.1.iv]
 - (b) An action taken during a startup, shutdown, or malfunction was not consistent with the procedures in the plan as described in 40 CFR 63.6(e)(3). [40 CFR 63.1516.b.1.v]
 - (c) An affected source was not operated according to the requirements of 40 CFR 63, Subpart RRR. [40 CFR 63.1516.b.1.vi]
- c. Annual compliance certifications: The Permittee must certify continuing compliance based upon, but not limited to, the following conditions: [40 CFR 63.1516.c]

- i. Any period of excess emissions, as defined in Condition III.H.7.b.i of this Section, that occurred during the year were reported as required by this Section; and
 - ii. All monitoring, recordkeeping, and reporting requirements were met during the year.
- d. Upon completion of the initial performance test required in Condition III.H.5.a, the Permittee shall submit speciated calculations of the hazardous air pollutant emissions from the furnace, based on the results of the performance test.
[A.A.C. R18-2-306.A.5]

8. Recordkeeping Requirements

- a. The Permittee shall maintain files of all information (including all reports and notifications) required by this Section.
 - i. The Permittee shall retain each record for at least 5 years following the date of each occurrence, measurement, maintenance, corrective action, report, or record. The most recent 2 years of records shall be retained at the facility. The remaining 3 years of records may be retained off site.
[40 CFR 63.1517.a.1]
 - ii. The Permittee may retain records on microfilm, computer disks, magnetic tape, or microfiche; and
[40 CFR 63.1517.a.2]
 - iii. The Permittee may report required information on paper or on a labeled computer disk using commonly available and EPA-compatible computer software.
[40 CFR 63.1517.a.3]
- b. In addition to the general records required by 40 CFR 63.10(b), the Permittee shall maintain records of:
 - i. 15-minute block average afterburner operating temperature, including any period when the average temperature in any 3-hour block period falls below the compliant operating parameter value with a brief explanation of the cause of the excursion and the corrective action taken; and
[40 CFR 63.1517.b.2.i]
 - ii. Annual afterburner inspections.
[40 CFR 63.1517.b.2.ii]
- c. Current copy of all required plans, including any revisions, with records documenting conformance with the applicable plan, including: [40 CFR 63.1517.b.16]
 - i. Startup, shutdown, and malfunction plan; [40 CFR 63.1517.b.16.i]
 - ii. OM&M plan. [40 CFR 63.1517.b.16.ii]

IV. FUGITIVE DUST REQUIREMENTS

A. Applicability

This Section applies to any source of fugitive dust in the facility.

B. Particulate Matter and Opacity

1. Open Areas, Roadways & Streets, Storage Piles, and Material Handling

a. Emission Limitations/Standards

- i. Opacity of emissions from any fugitive dust non-point source shall not be greater than 40% measured in accordance with the Arizona Testing Manual, Reference Method 9. [A.A.C. R18-2-614]
- ii. The Permittee shall not cause, allow or permit visible emissions from any fugitive dust point source, in excess of 20 percent opacity. [A.A.C-R18-2-702.B]
- iii. The Permittee shall employ the following reasonable precautions to prevent excessive amounts of particulate matter from becoming airborne:
 - (a) Keep dust and other types of air contaminants to a minimum in an open area where construction operations, repair operations, demolition activities, clearing operations, leveling operations, or any earth moving or excavating activities are taking place, by good modern practices such as using an approved dust suppressant or adhesive soil stabilizer, paving, covering, landscaping, continuous wetting, detouring, barring access, or other acceptable means; [A.A.C. R18-2-604.A]
 - (b) Keep dust to a minimum from driveways, parking areas, and vacant lots where motor vehicular activity occurs by using an approved dust suppressant, or adhesive soil stabilizer, or by paving, or by barring access to the property, or by other acceptable means; [A.A.C. R18-2-604.B]
 - (c) Keep dust and other particulates to a minimum by employing dust suppressants, temporary paving, detouring, wetting down or by other reasonable means when a roadway is repaired, constructed, or reconstructed; [A.A.C. R18-2-605.A]
 - (d) Take reasonable precautions, such as wetting, applying dust suppressants, or covering the load when transporting material likely to give rise to airborne dust; [A.A.C. R18-2-605.B]
 - (e) Take reasonable precautions, such as the use of spray bars, wetting agents, dust suppressants, covering the load, and hoods when crushing, handling, or conveying material likely to give rise to airborne dust; [A.A.C. R18-2-606]

- (f) Take reasonable precautions such as chemical stabilization, wetting, or covering when organic or inorganic dust producing material is being stacked, piled, or otherwise stored; [A.A.C. R18-2-607.A]
- (g) Operate stacking and reclaiming machinery utilized at storage piles at all times with a minimum fall of material, or with the use of spray bars and wetting agents; [A.A.C. R18-2-607.B]
- (h) Any other method as proposed by the Permittee and approved by the Director. [A.A.C. R18-2-306.A.3.c]

b. Monitoring and Recordkeeping Requirements

- i. The Permittee shall maintain records of the dates on which any of the activities listed in Conditions IV.B.1.a.iii.(a) through IV.B.1.a.iii.(h) above were performed and the control measures that were adopted. [A.A.C. R18-2-306.A.3.c]

- ii. Opacity Monitoring Requirements

- (a) A certified Method 9 observer shall conduct a monthly visual survey of visible emissions from the fugitive dust sources. The Permittee shall keep a record of the name of the observer, the date and location on which the observation was made, and the results of the observation.
- (b) If the observer sees a visible emission from a fugitive dust source that on an instantaneous basis appears to exceed applicable opacity standard, then the observer shall, if practicable, take a six-minute Method 9 observation of the visible emission.
 - (1) If the six-minute opacity of the visible emission is less than or equal to applicable opacity standard, the observer shall make a record of the following:
 - a) Location, date, and time of the observation; and
 - b) The results of the Method 9 observation.
 - (2) If the six-minute opacity of the visible emission exceeds applicable opacity standard, then the Permittee shall do the following:
 - a) Adjust or repair the controls or equipment to reduce opacity to below the applicable standard; and
 - b) Report it as an excess emission under Section XII.A of Attachment "A". [A.A.C. R18-2-306.A.3.c]

c. Permit Shield

Compliance with the conditions of this Part shall be deemed compliance with A.A.C. R18-2-604.A, A.A.C. R18-2-604.B, A.A.C. R18-2-605, A.A.C. R18-2-606, A.A.C. R18-2-607, and A.A.C. R18-2-614.

[A.A.C. R18-2-325]

2. Open Burning

a. Emission Limitation/Standard

Except as provided in A.A.C. R18-2-602.C.1, C.2, C.3, and C.4, and except when permitted to do so by either ADEQ or the local officer delegated the authority for issuance of open burning permits, the Permittee shall not conduct open burning.

[A.A.C. R18-2-602]

b. Monitoring and Recordkeeping Requirement

Compliance with the requirements of Condition IV.B.2.a above may be demonstrated by maintaining copies of all open burning permits on file.

[A.A.C. R18-2-306.A.3.c]

c. Permit Shield

Compliance with the conditions of this Part shall be deemed compliance with A.A.C. R18-2-602.

[A.A.C. R18-2-325]

V. MOBILE SOURCE REQUIREMENTS

A. Applicability

The requirements of this Section are applicable to mobile sources which either move while emitting air contaminants or are frequently moved during the course of their utilization but are not classified as motor vehicles, agricultural vehicles, or agricultural equipment used in normal farm operations. Mobile sources shall not include portable sources as defined in A.A.C. R18-2-101.90.

[A.A.C.R18-2-801.A]

B. Particulate Matter and Opacity

1. Emission Limitations/Standards

a. Off-Road Machinery

The Permittee shall not cause, allow, or permit to be emitted into the atmosphere from any off-road machinery, smoke for any period greater than ten consecutive seconds, the opacity of which exceeds 40%. Visible emissions when starting cold equipment shall be exempt from this requirement for the first ten minutes. Off-road machinery shall include trucks, graders, scrapers, rollers, and other construction and mining machinery not normally driven on a completed public roadway.

[A.A.C.R18-2-802.A and -802.B]

- b. Roadway and Site Cleaning Machinery
 - i. The Permittee shall not cause, allow or permit to be emitted into the atmosphere from any roadway and site cleaning machinery smoke or dust for any period greater than ten consecutive seconds, the opacity of which exceeds 40%. Visible emissions when starting cold equipment shall be exempt from this requirement for the first ten minutes. [A.A.C.R18-2-804.A]
 - ii. The Permittee shall take reasonable precautions, such as the use of dust suppressants, before the cleaning of a site, roadway, or alley. Earth or other material shall be removed from paved streets onto which earth or other material has been transported by trucking or earth moving equipment, erosion by water or by other means. [A.A.C. R18-2-804.B]
- c. Unless otherwise specified, no mobile source shall emit smoke or dust the opacity of which exceeds 40%. [A.A.C.R18-2-801.B]

2. Recordkeeping Requirement

The Permittee shall keep a record of all emissions related maintenance activities performed on the Permittee's mobile sources stationed at the facility as per manufacturer's specifications. [A.A.C.R18-2-306.A.5.a]

3. Permit Shield

Compliance with this Section shall be deemed compliance with A.A.C. R18-2-801, A.A.C. R18-2-802.A, A.A.C. R18-2-804.A and A.A.C. R18-2-804.B. [A.A.C.R18-2-325]

VI. OTHER PERIODIC ACTIVITY REQUIREMENTS

A. Abrasive Blasting

Particulate Matter and Opacity

1. Emission Limitations/Standards

- a. The Permittee shall not cause or allow sandblasting or other abrasive blasting without minimizing dust emissions to the atmosphere through the use of good modern practices. Good modern practices include:
 - i. wet blasting;
 - ii. effective enclosures with necessary dust collecting equipment; or
 - iii. any other method approved by the Director.

[A.A.C. R18-2-726]

b. Opacity

The Permittee shall not cause, allow or permit visible emissions from sandblasting or other abrasive blasting operations in excess of 20% opacity, as measured by EPA Reference Method 9.

[A.A.C. R18-2-702.B]

2. Monitoring and Recordkeeping Requirement

Each time an abrasive blasting project is conducted, the Permittee shall log in ink or in an electronic format, a record of the following:

- a. The date the project was conducted;
- b. The duration of the project; and
- c. Type of control measures employed.

[A.A.C. R18-2-306.A.3.c]

3. Permit Shield

Compliance with this Part shall be deemed compliance with A.A.C. R18-2-726, A.A.C. R18-2-702.B.

[A.A.C.R18-2-325]

B. Use of Paints

1. Volatile Organic Compounds

a. Emission Limitations/Standards

While performing spray painting operations, the Permittee shall comply with the following requirements:

- i. The Permittee shall not conduct or cause to be conducted any spray painting operation without minimizing organic solvent emissions. Such operations, other than architectural coating and spot painting, shall be conducted in an enclosed area equipped with controls containing no less than 96 percent of the overspray.

[A.A.C.R18-2-727.A]

- ii. The Permittee or their designated contractor shall not either:

- (a) Employ, apply, evaporate, or dry any architectural coating containing photochemically reactive solvents for industrial or commercial purposes; or
- (b) Thin or dilute any architectural coating with a photochemically reactive solvent.

[A.A.C.R18-2-727.B]

- iii. For the purposes of Condition VI.B.1.a.ii, a photochemically reactive solvent shall be any solvent with an aggregate of more than 20 percent of its total volume composed of the chemical compounds classified in Conditions VI.B.1.a.iii(a) through VI.B.1.a.iii(c) below, or which exceeds any of the following percentage composition limitations, referred to the total volume of solvent:

- (a) A combination of the following types of compounds having an olefinic or cyclo-olefinic type of unsaturation-hydrocarbons, alcohols, aldehydes, esters, ethers, or ketones: 5 percent.

- (b) A combination of aromatic compounds with eight or more carbon atoms to the molecule except ethylbenzene: 8 percent.
- (c) A combination of ethylbenzene, ketones having branched hydrocarbon structures, trichloroethylene or toluene: 20 percent.
[A.A.C.R18-2-727.C]

iv. Whenever any organic solvent or any constituent of an organic solvent may be classified from its chemical structure into more than one of the groups of organic compounds described in Conditions VI.B.1.a.iii(a) through VI.B.1.a.iii(c) above, it shall be considered to be a member of the group having the least allowable percent of the total volume of solvents.

[A.A.C.R18-2-727.D]

b. Monitoring and Recordkeeping Requirements

i. Each time a spray painting project is conducted, the Permittee shall log in ink, or in an electronic format, a record of the following:

- (a) The date the project was conducted;
- (b) The duration of the project;
- (c) Type of control measures employed;
- (d) Material Safety Data Sheets for all paints and solvents used in the project; and
- (e) The amount of paint consumed during the project.

ii. Architectural coating and spot painting projects shall be exempt from the recordkeeping requirements of Condition VI.B.1.b.i above.

[A.A.C. R18-2-306.A.3.c]

c. Permit Shield

Compliance with this Part shall be deemed compliance with A.A.C.R18-2-727.

[A.A.C.R18-2-325]

2. Opacity

a. Emission Limitation/Standard

The Permittee shall not cause, allow or permit visible emissions from painting operations in excess of 20% opacity, as measured by EPA Reference Method 9.

[A.A.C. R18-2-702.B]

b. Permit Shield

Compliance with the conditions of this Part shall be deemed compliance with A.A.C.R18-2-702.B.

[A.A.C. R18-2-325]

C. Demolition/Renovation - Hazardous Air Pollutants

1. Emission Limitation/Standard

The Permittee shall comply with all of the requirements of 40 CFR 61 Subpart M (National Emissions Standards for Hazardous Air Pollutants - Asbestos).

[A.A.C. R18-2-1101.A.8]

2. Monitoring and Recordkeeping Requirement

The Permittee shall keep all required records in a file. The required records shall include the “NESHAP Notification for Renovation and Demolition Activities” form and all supporting documents.

[A.A.C. R18-2-306.A.3.c]

3. Permit Shield

Compliance with the conditions of this Part shall be deemed compliance with A.A.C. R18-2-1101.A.8.

[A.A.C. R18-2-325]

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ATTACHMENT "C": EQUIPMENT LIST

Air Quality Control Permit No. 47460
for
Total Resource Recycling, Inc.

EQUIPMENT TYPE	MAX. CAPACITY	MAKE	MODEL	SERIAL NUMBER / EQUIPMENT ID NUMBER	DATE OF MFG.
Recycling Furnace	3.2 MMBtu / hr	Al. King	6000	None / AK1	TBD

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**ATTACHMENT “D”: OPERATION, MAINTENANCE AND MONITORING
PLAN AND START-UP, SHUTDOWN AND MALFUNCTION PLAN**

**Air Quality Control Permit No. 47460
for
Total Resource Recycling, Inc.**

This is the Operation, Maintenance and Monitoring Plan and Start-up, Shutdown, Malfunction Plan for Total Resource Recycling, Inc. which fulfills the requirements of 40 CFR Part 63 Subpart RRR.

Safety Requirements:

1. **Water** - Operators need to be aware of certain situations which may result in an unsafe working environment when melting aluminum. One of these situations is when water is introduced to molten metal. When this occurs, the water expands so fast that an explosion can result. Therefore, scrap metal should be dry and free of water and ice before introducing it to the smelter. In addition, there should be no water in the molds or in the molding unit. Pouring molten aluminum into a wet mold will result in an explosion!!
2. **Lead** - Lead is an unwanted contaminant. It will oxidize with the aluminum and may be carried up the stack, which may result in a health hazard.
3. **Magnesium** - This metal should never be placed in your furnace. It is extremely volatile. If it ignites, which it does with relative ease, it burns at very high temperatures and is impossible to quench. A magnesium fire will lead to furnace damage, aluminum oxidation and contamination. If magnesium should happen to get into the furnace and ignite, it must be raked out with the irony residue. Operators must be extremely careful not to come in contact with burning magnesium. Never put water on burning magnesium under any circumstances! Do not look at the burning metal as it creates an extremely bright light than can cause injury to the eyes. A simple test to check for magnesium is to apply vinegar to a broken or cut part of the metal. If it is magnesium, the vinegar will bubble. This reaction does not occur with aluminum. Another test is to cut the surface of the metal with a sharp knife. The aluminum will cut easily and form a curl of metal. Magnesium will be brittle and snap and pop off in small pieces. If you do the scratch test and the vinegar test you will be doubly safe.

**IF YOU ARE IN DOUBT AS TO WHETHER OR NOT THE METAL IS
MAGNESIUM, DO NOT CHARGE IT INTO THE FURNACE.**

Proper personal protection equipment (PPE) should be worn while melting aluminum. In addition to the above suggestions, many health and safety requirements can be found in state and federal Occupational Safety and Health Administration regulations (OSHA).

Operating/Start-up/Shutdown: Standard Operating Procedures

Start-up pre-start up checklist:

- Electrical supply status.
- Fuel supply off.
- Perform safety inspection of area — remove tripping hazards.
- Visually inspect furnace.
- Check fuel level in fuel tank(s).
- Ensure there is no standing water in unit, ingot holders, in or on scrap metal.
- Sort metal avoiding metal with magnesium, zinc, or lead, using only dry aluminum irony metal in the furnace.

Start-up:

- Turn power supply on
- Turn blower switch(s) “on” and ensure they are operating correctly
- Open fuel valves to primary/holding chamber(s) and afterburner
- Ignite primary burner, it will ignite the secondary or afterburner
- Operate the furnace for up to 1/2 hour before beginning melting operations, increasing temperature until full operating temperature (1650°F) is reached. This will bring all parts of the furnace up to operating temperatures to prevent thermal cracking and purge any moisture from the furnace.
- Ignite the afterburner before charging the furnace with scrap.
- After temperatures have stabilized, move charging table in place
- Deposit aluminum onto table.

Charging and Raking:

- Open charging door, watching out for flame flashback from burner
- Charge aluminum.
- Continue to charge until the furnace requires raking. Rake irony metal onto concrete pad, behind the furnace and below the Rake Out door.
- Repeat charging procedure if necessary.
- When an adequate volume of aluminum has been melted, pour the metal into ingot or sow molds.

Pouring Metal:

- Operator must don suitable gear prior to pouring molten metal.
- When chamber is full, prepare molds. Molds must be absolutely dry. Water exposed to molten metal will cause an explosion.
- Position empty mold beneath pour spout. Remove iron plug and allow molten aluminum to pour into ingot or sow mold. It using 40 lb ingot molds, move the “wagon wheel” as required.
- When mold(s) is(are) full reinsert into furnace and seat securely.
- Place new mold and repeat procedure as necessary

Shutdown:

- Make sure molten metal is drained and dross and iron waste has been raked out and insure that no metal is “bridged” across the inside of the furnace.
- When the final load is removed turn off the after burner first, then reduce fuel to the primary burner slowly, allowing it to cool. After a few minutes operating at minim gas input, close the primary gas input but leave blowers operating.
- It is extremely important to keep burner blowers on until the furnace has become cooled enough to avoid heat damage to the burners. Turn off blowers when the primary/holding chamber and afterburner temperature is less than 800°F.
- Turn off the main furnace power supply.
- For extended shutdown, cover and protect manual fuel valves.

Emergency Shutdown:

If an emergency shutdown is necessary such as in the loss of power, to the extent possible, remove all metal from the unit (molten as well as dross). Operate blowers if possible to prevent heat damage.

General Maintenance:

Refractory Repair — Think of the refractory on your furnace as the tiles on the Space Shuttle. Both accomplish the same goal, protecting the metal of their respective machines from extreme heat. To avoid a catastrophic failure of your furnace take care to check and repair refractory the materials often and carefully.

Due to the severe nature of the operation of the furnace, the refractory material is subject to both thermal and physical shocks, leading to the occasional need to repair the refractory ceramic in the afterburner, the refractory “plastic” or “mud” on the inside roof of the furnace and refractory bricks that make up the floor and sides of the furnace.

To extend refractory life, the interior of the furnace should be thoroughly raked and inspected before operation. If the unit is shutdown for an extended period it should be inspected occasionally. When cracks in the refractory materials appear to be severe from heat or physical shock, repairs should be made at once.

Repair Procedures

Patching - For cracks and small patch repairs, “plastic” (moldable) refractory “mud” can be used. All foreign material must be removed and old loose refractory material must be torn back to a sound material. Do not attempt to install frozen or dried-out moldable refractory material. Frozen plastic refractory must be thoroughly thawed out before use and after being installed must be protected from freezing until it has dried. Before applying moldable refractory clean the cracks or holes to be patched thoroughly. Next coat the surface of the old refractory with thinned firebrick mortar using a paintbrush. Now apply the plastic refractory by tamping in into the cavity. Proper compaction of the material is essential and a pneumatic hammer, equipped with heads sized and shaped proportionate to the job at hand, will work well. If work is stopped on a moldable installation, the exposed surface should be covered with plastic sheets or wet burlap to prevent the refractory material from drying out. On resumption a layer of the exposed surface should be

trimmed off to expose workable material, and then continue compacting the plastic refractory material into the cavity until the repaired surface is flush with the existing surface. Heat should be applied to temper the patch within 48 hours after installation.

Pouring castable refractory material - For larger repairs like the replacement of cast refractory sections the procedure to be used will be dictated by the type of castable. It is important to match the repair material with the original refractory material.

Refer to the refractory manufacturer's recommendations when mixing castables and install the material non-stop until job is complete. If anchors are involved in the repair, be sure they are properly installed before to beginning the pour. After completion of the job, follow the instructions for the recommended curing and dry-out procedures.

Scheduled Maintenance:

The following items are to be checked and maintained on a **regular basis**:

Combustion air blowers:

Blow dirt out of the fan wheels monthly. If dirt builds up on the fan blades, first scrape them clean, then blow them out with air.

Heat sensors:

Replace thermocouple annually.

Fuel Oil burners:

Check and clean burner nozzles every six months. If the system is equipped with a fuel filter, the filter cartridge should be replaced after the first two weeks of operations, and every six months following that. The internal components of the burner should be checked at the same time the nozzles are inspected. Check to see that the spark electrodes and wire connections are in good condition and are not corroded. Check for oil leaks at that time and clean the blower. If the oil pump on the burner is direct driven by the blower motor through a flexible coupling, the coupling is a vital part of the oil system, and should be periodically inspected for wear, damage and loose components. An annual burner inspection is required by the NESHAP for Secondary Aluminum Production.

Monitoring:

The parameter monitored to determine compliance is temperature. The temperature must be controlled so that it meets the required 1600°F average. Once the unit is in operation and stable, the temperature will be controlled between 1650° and 1750°F. The fuel flow control is like the accelerator on an automobile. A skilled operator will alter fuel flows to the burners so that the temperature variations will be relatively slight. However, opening the feed door is always an event that drops stack temperatures markedly so the operator must be prepared to hold the temperature to between 1650 and 1700°F during the feeding operation by controlling the fuel and air flow. The stack temperature must be at least 1650°F and recorded and monitored as steady before the first load of scrap is fed into the furnace.

At least once a week, during periods of operation, or once in each operating session, if the furnace

is to be operated for less than a week, the operator will log the time and temperature from the digital readout and compare that time and temperature to the data from the data logger at the same time to insure that the instruments are calibrated to each other. This activity will be logged into the operator's log and the comparison also noted in the log book.

The monitoring system consists of the following:

Omega Duel Temperature probes mounted at the stack tip.

Omega data logger (range includes zero and 1.5 times the average temperature).

The temperature monitoring device records the temperature in 1 minute increments.

The data in the Data logger is uploaded into the PC every day.

Calibration is to be accomplished as noted below by comparing the digital readout to the data logged at least once each week. The furnace will be run at 50°F above the required exit temperature of 1600°F. The Omega thermocouple measurements vary less than 1.5% of the measured heat. In addition, they either work or break, like an incandescent light. When they break they break catastrophically and read zero.

Standard Procedures to Take During Startup, Shutdown, Malfunction Events (SSM) :

1. Record event in the log sheet or in a logbook.
2. Determine what caused the malfunction and note.
3. Correct the malfunction and note
4. If malfunction or correction was not covered by the plan, submit required special reporting as mentioned below.
5. Report the event in compliance with the permit conditions.

Monitoring System Malfunctions:

1. Confirm equipment status.
2. Identify the part that has failed.
3. Repair or correct the malfunction such as replace defective parts and reinstall software.
4. If system cannot be repaired either monitor using a spare temperature meter or shut the unit down as soon as practicable. Do not operate until it has been repaired.
5. Record event information on malfunction sheet (Appendix 3).
6. Record what was done on the malfunction form or in a logbook. If the malfunction or correction was not covered by the plan, submit the required special reporting as mentioned above.
7. Report the event in compliance with the permit conditions.

Catastrophic Events: Fire, Lightning, Weather and Acts of God:

1. Contact appropriate emergency personnel, if necessary, usually the fire department.
2. After the emergency response is complete, ensure that the situation is safe and no longer hazardous.
3. Determine the status of system.
4. Correct or repair the malfunction.
5. Record information on malfunction sheet.
6. Report the event in compliance with the permit conditions.

Malfunctions That Require Special Reporting:

1. A malfunction not covered by the OMM/SSM plan or actions taken are not consistent with the Plan must be reported to the permitting agency by phone or fax within 2 working days. A written report must follow within 7 days and will be noted in the SSM report with in 30 days of the end of the calendar period in which it occurs.
2. If a temperature monitoring or data logging system malfunction is not covered by the OMM/SSM plan, it must be reported with in 24 hours by phone or fax after the malfunction and followed up with a letter within 14 days.
3. The Plan must be revised to include malfunctions originally not covered by the Plan as and if they occur. Changes to the Plan must be made within 45 days of the malfunction. The revised plan must be included with the semi-annual report.

Malfunctions – Troubleshooting:

Temperature too low

1. Too little fuel - adjust fuel flow.
2. Temperature control system is malfunctioning — determine cause, such as a temperature probe malfunction, and repair or replace. Do not operate the equipment with out being able to monitor and record the temperature.
3. Check Temperature monitoring system.

Loss of fuel

1. Check fuel level.
2. Check for line break.

Loss of power

1. Check breakers to see if it is a localized problem, if a repair is required correct the problem.
2. If it is not, initiate emergency shutdown of sweat furnace.

Opacity

1. Make sure the afterburner is on and functioning properly (see burner section).
2. Check and remove any material from the furnace that may be causing smoky emissions.

Glossary/Acronyms/abbreviations

Afterburner — means an air pollution control device that uses controlled flame combustion to convert combustible materials to noncombustible gases.

CO — Carbon Monoxide

Cast- Any object made by pouring molten metal into molds

CFR — Code of Federal Register. A book which lists Federal Regulations.

MACT — Maximum Achievable Control Technology. Used interchangeably for the National Emission Standards for Hazardous Air Pollutants. These are regulations created to reduce emissions of hazardous air pollutants through the use of control technology.

Malfunction — means any sudden, infrequent, and not reasonably preventable failure of air pollution control and monitoring equipment, process equipment or a process to operate in a normal or usual manner. Failures that are caused by poor maintenance or careless operation are not malfunctions.

Mold - A form of cavity onto which molten metal is poured to produce a desired shape OMM — operation, maintenance, and monitoring

Opacity — means the degree to which emissions reduce the transmission of light and obscure the view of an object in the background. In terms of smoke, the less you can see through smoke coming out of a stack the higher the opacity.

Owner or operator — mean any person who owns, leases, operates, controls or supervises a stationary source.

PC — personal computer

UV — ultraviolet. This has a wave length shorter than visible light. Scanners detect ultraviolet light in flames

Residence time — for an afterburner, the duration of time required for gases to pass through the afterburner combustion zone.

Responsible Official - A responsible official can be:

- * The president, vice president, secretary, or treasurer of the company that owns the plant
- * The owner of the plant
- * The plant engineer or supervisor
- * The government official if the plant is owned by the federal, state, city, or county government; or a ranking military official if the plant is located on a military base.

SSM — start-up, shutdown and malfunction

Sweat furnace — means a furnace that is used only to reclaim aluminum from scrap metal that contains aluminum and iron or other metals but not including lead or mercury. Sweat furnaces reclaim aluminum by applying heat to the scrap to melt the aluminum but not so much heat that the iron or other metals, such as copper, melt.

Forms of use in reporting

Annual Afterburner Inspection Checklist (submit semiannually)

- Inspected all burners, pilot assemblies and pilot sensing devices for proper operation and clean pilot sensor
- Cleaned pilot sensor (if present)
- Inspected the combustion air for proper adjustments

- Inspected baffles and other internal structures to ensure structural integrity
- Inspected dampers, fans, and blower for proper operation
- Inspected for proper sealing
- Inspected combustion chamber refractory lining; cleaned and replaced as necessary
- Inspected afterburner shell for corrosion and/or hot spots
- Afterburner is operating properly following this inspection and/or any adjustments resulting from this inspection

I verify that the equipment is in good operating condition and all the repairs were performed in accordance with the Operation, Maintenance and Monitoring plan.

Name Title

Signature Date

SSM sample log sheet SSM event reporting form

Sample Log Sheet:

Equipment Checked before operation: _____ (initial)

Date: _____ Operator: _____

Start Time: _____ Stop time _____ Hours:

_____ Tons of ingot/sow melted: _____

Equipment Checked after operation: _____ (initial)

Sample Event Reporting Form

Plant Name: ABC Metals Address: 31 Midcne St. Megalaiac, Maine

What Malfunctioned? *Thermocouple*

Describe abnormal start-up/shutdown and/or malfunction and what you did to correct it.

Stopped furnace and installed new duel thermocouple

Followed SSM Plan *yes* Initials *LPH*

Date *8/1/2003* Start time *8:00 AM* End Time *5:00pm* 9 hours

Start-up *x* Shutdown *x*

Equipment: *Thmp. monitoring system*

I CERTIFY THE INFORMATION ABOVE TO BE ACCURATE AND TRUE TO THE BEST OF MY KNOWLEDGE. ACTIONS TAKEN DURING SS&M EVENTS WERE CONSISTENT WITH THE SSM PLAN; Letters/forms explaining actions that were inconsistent with the plan are attached to this form. The plan has been revised to incorporate these events.

Name

Title

Signature

Date

Note: If start-up, shutdown or malfunction is not covered by the plan or what you did to fix the malfunction was different than your SSM plan you must fax or call to your local air permitting agency, or EPA within 2 days, following up with a letter detailing the matter within 7 days.

If the continuous temperature monitoring system malfunctioned and is not covered by your plan or what was done to fix it was not covered in your SSM plan, then you must fax or call your local air permitting agency with-in 24 hours following up with a letter within 14 days. The above SSM event report maybe be used as your semi-annual SSM report to be sent in accordance with Section VII of Attachment "A".

Form for reporting of procedures inconsistent with or malfunctions not covered by the Plan

Plant: _____ Address: _____

Malfunctioning device: _____ Date of Malfunction: _____

Time malfunction began (estimated): _____ Time malfunction ended: _____

Total duration of malfunction: *(in hours & minutes)* _____

Suspected cause of malfunction: _____

Corrective action(s) taken: _____

Were your actions during the malfunction consistent with the Plan? Y N

If your actions were not consistent with the Malfunction Plan during the malfunction, explain why you took other actions:

Do you believe that any excess emissions and/or parameter monitoring exceedances occurred during the malfunction? Y N

Which, if any, units were shut down because of malfunction: _____

Your name: _____ Your Title: _____

Signature of Responsible Official: _____ Title: _____

Note: Fax or call this information into your local air permitting agency within 2 working days of the event and sent a letter within 7 working days of the event If malfunction occurred on the temperature monitoring system then Fax or call this information in with-in 24 hours and follow-up with a letter with-in 14 days to your local permitting agency.

Maintenance Checklist

Monthly

- Blow dirt out of fan wheels with air hose
- Check fan blades, if dirty; scrape clean, then blow out with air
- Clean electronic safety with flame rod - replace if badly burned
- Clean UV scanner lens monthly (electronic safety)

Every 3 months

- Examine thermocouple protection tubes for erosion and pitting
- Replace tube before it burns out or if there is obvious damage

Every 6 months

- Check and clean oil burner nozzles
- Replace fuel filter cartridge
- Check burner internals; inspect spark electrodes and wires
- Clean internals and check for leaks
- Clean blower
- Inspect oil system coupling through a flexible coupling
- Lubricate fan motors
- Complete and mail reports to the DEP

Annually

- Replace thermocouple
- Date and initial for each maintenance activity