

**SCAPCA ORDER  
ISSUED IN ACCORDANCE WITH :**

**RCW 70.94.141 - RCW 70.94.170 AND SCAPCA REGULATION I, SECTION  
2.01, 2.02, AND 2.05**

**ORDER #96-03**

**ORDER TO ESTABLISH VOLUNTARY EMISSIONS LIMITS FOR KAISER ALUMINUM &  
CHEMICAL CORPORATION'S REMELT FURNACES PURSUANT TO WAC 173-400-091.**

**DATE:** April 24, 1996  
**DATE MODIFIED:** October 4, 2000 (Reduction in Emission Limit, Addition of  
Condition G, & Revision to Report Due Date)

**ISSUED TO:** Kaiser Aluminum & Chemical Corporation

**SITE LOCATION:** Trentwood Works  
15000 E Euclid Avenue  
Spokane, WA

**FACILITY CONTACT:** Pat Blau  
(509)927-6350

**MAILING ADDRESS:** P.O. Box 15108  
Spokane, WA 99215-5108

**SOURCE:** 10 Remelt Melter Furnaces: RM(M)-1, RM(M)-2E, RM(M)-2W,  
RM(M)-3, RM(M)-4, RM(M)-5, RM(M)-6, RM(M)-7, RM(M)-8E,  
RM(M)-8W  
Secondary Aluminum Production Facility

Kaiser Aluminum & Chemical Corporation (Kaiser) operates a secondary aluminum production facility at 15000 E. Euclid Avenue, Spokane, WA.

Kaiser's remelt melter furnaces (furnaces) collectively have the potential to emit 428 tons of particulate matter (PM) per year as calculated assuming maximum allowable emissions of 0.1 grains per dry standard cubic foot. As part of the attainment demonstration in the State Implementation Plan (SIP) emissions were modeled, including those from Kaiser's remelt melter furnaces. The remelt melter furnace's assumed emissions for this modeling were much higher than actual emissions but much lower than the furnaces' potential to emit. In an effort to maintain the validity of the SIP attainment demonstration, Kaiser has voluntarily requested that PM10 emissions from the remelt melter furnaces be limited to a level such that Kaiser's potential to emit will be equal to or less than the levels used for the SIP modeling. As allowed in WAC 173-400-091, Kaiser has requested, in Raymond J.

Milchovich's letter, dated August 8, 1995, voluntary emission limits on the remelt furnaces' potential to emit. Revisions to the order have been made as requested in Patrick Blau's letter, dated March 10, 1999.

Kaiser has done extensive testing to establish an alternate opacity limit for the remelt melter furnaces. This testing yielded a correlation between opacity and grainloading, as detailed in Equations 1-3 below. The alternate opacity limit, set forth in SCAPCA Order 91-01, correlates to a grainloading of 0.068 which corresponds to daily PM emissions of 1590 pounds. This order originally limited melter emissions to this level. In order to further offset emissions from Kaiser's other emission units, Kaiser's letter, dated March 10, 1999, requests a more stringent emission limitation on the melters.

Kaiser's original request and revision request have been reviewed by SCAPCA. The following potential to emit limitation shall be met by the facility as required in F. below:

1. PM10 emissions from all remelt melter furnaces; RM(M)-1, RM(M)-2E, RM(M)-2W, RM(M)-3, RM(M)-4, RM(M)-5, RM(M)-6, RM(M)-7, RM(M)-8E, RM(M)-8W, combined shall not exceed 1200 pounds per day.

To ensure that the above emission limit is met, the facility shall meet the following:

A. Compliance with the daily PM10 limit shall be determined using each furnace's opacity monitor in the following manner. For each furnace, a day (24 hour period beginning at midnight at ending at the following midnight) will be broken into six (6) consecutive four (4) hour time blocks to represent theoretical furnace cycles. For each furnace,  $i$ , each four (4) hour block,  $j$ , shall be processed to obtain the maximum average opacity for any one hour interval during that four hour period,  $OP_{ij}$ . This value shall then be used in Equation 1 to calculate that furnace's PM grainloading for that four (4) hour block,  $GL_{ij}$ :

Equation 1

$$GL_{ij} = 0.003694 * OP_{ij} + 0.004699$$

where  $GL_{ij}$  = PM grainloading in grains per dry standard cubic foot for the  $i^{\text{th}}$  furnace for the  $j^{\text{th}}$  four (4) hour block

$OP_{ij}$  = highest 60 minute average opacity for the  $i^{\text{th}}$  furnace for the  $j^{\text{th}}$  four (4) hour block

Equation 2 shall be used to calculate PM emissions in pounds,  $PM_{ij}$ , from the  $i^{\text{th}}$  furnace, for the  $j^{\text{th}}$  four (4) hour period during each day. The airflow for each furnace,  $AF_{ij}$ , shall be based on furnace design flow rates, taking into account operating conditions and other factors affecting flow, and shall be in terms of dry standard cubic feet per minute.

Equation 2

$$PM_{ij} = \frac{GL_{ij} * AF_i * 60 * 4}{7000}$$

Equation 3 shall be used to calculate daily PM emissions in pounds for all furnaces combined, PM.

Equation 3

$$PM = \sum_{i=1}^{10} \sum_{j=1}^6 PM_{ij}$$

PM10 emissions shall be assumed to equal PM emissions unless Kaiser provides appropriate technical documentation to establish otherwise as allowed in E. below.

If opacity monitor data are not available for an operating furnace,  $OP_i$  for the furnace shall be estimated using any of the following methods:

- a. the average  $OP_i$  during that period, measured by opacity monitors on operating furnaces that are charging similar materials;
- b. the highest  $OP_i$  measured by the other opacity monitors on operating furnace for that period; or
- c. if circumstances suggest that the methods in i. and ii. above are inappropriate (e.g., if a number of monitors are down and high opacity readings from an operating monitor result in emission calculations that are biased high), Kaiser may calculate emissions for the furnace using an alternate procedure, based on process parameters which are indicative of the emissions from the furnace (e.g., type of charge, activities occurring in the furnace, any EPA Reference Method tests performed, historic COM data, etc...), provided that the alternate method is approved in advance by the SCAPCA Control Officer.

B. By the 25<sup>th</sup> day of each month, Kaiser shall submit to SCAPCA a report listing the previous month's daily PM and PM10 emissions for all remelt melter furnaces combined and total PM and PM10 emissions for that month.

C. Kaiser shall maintain all records for a period of two years.

D. SCAPCA may require testing to verify compliance with the PM10 emission limit in Condition 1 of this order. Testing shall be done in accordance with EPA reference methods as found in 40 CFR Parts 51 and 60 (1995). Emissions shall be determined from the

average of three valid test runs, each representing one furnace cycle, and shall include front and back half particulate matter.

E. Upon submittal of appropriate technical documentation, SCAPCA may revise the method used to calculate PM and PM10 emissions from the remelt melter furnaces.

F. This order shall take effect upon completion of the following:

a. EPA approval of SCAPCA Order 91-01 as part of the Washington State Implementation Plan; and

b. completion of the following:

i. submission to and approval by the Control Officer of a report demonstrating that the opacity monitor(s) installed on the furnace(s) meets the performance specifications set forth in 40 CFR Part 60, Appendix B, Performance Specification 1 (1990);

ii. approval by the Control Officer of a quality assurance plan for the opacity monitor(s); and

iii. commencement of continuous operation of the monitor(s).

The above may be demonstrated separately for each furnace.

G. Daily allowable emissions from the remelt melter furnaces; RM(M)-1, RM(M)-2E, RM(M)-2W, RM(M)-3, RM(M)-4, RM(M)-5, RM(M)-6, RM(M)-7, RM(M)-8E, RM(M)-8W, may be increased above the levels allowed in this order if such increases are approved under SCAPCA's new source review program as being in compliance with WAC 173-400-112 and WAC 173-400-113. Any such approval, issued under SCAPCA's new source review program, shall include new daily allowable emissions levels which supersede the levels established in this order.

Any proposed deviation from this order shall require revision or revocation of this order. The revision or revocation shall occur prior to the deviation.

This order does not relieve the proponent of the obligation to comply with all other applicable federal, state and local regulations and requirements.

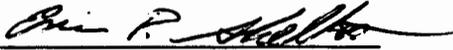
The provisions of this authorization are severable and, if any provision of this order, or the application of any provision of this order to any circumstance, is held invalid, the application of such provision to other circumstances, and the remainder of this order shall not be affected thereby.

This order may be appealed to:

Pollution Control Hearings Board  
c/o Environmental Hearings Office  
PO Box 40903  
4224 6th Avenue SE, Building #2, Rowe Six  
Lacey, WA 98504-0903

Appeals must be filed within 30 days after receipt of this order. Concurrently a copy of the appeal must be sent to the Spokane County Air Pollution Control Authority, West 1101 College Avenue, Room 403, Spokane, WA 99201.

ORDERED BY:



ERIC P. SKELTON  
DIRECTOR