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NCBC GULFPORT  
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TRANSMITTAL LETTER FOR PROCEDURES GOING TO BE USED BY NAVY TO  
INTRODUCE THE POHC INTO THE ENSCO MWP 2000 ROTARY KILN NCBC GULFPORT  
MS  
5/6/1987  
TYNDALL AIR FORCE BASE



DEPARTMENT OF THE AIR FORCE  
HEADQUARTERS AIR FORCE ENGINEERING AND SERVICES CENTER  
TYNDALL AIR FORCE BASE, FL 32403

6 May 87

Reply to attn of: RDVW (Maj Stoddart)

Subj: Alternate plan for feeding POHC's

TO: Ms Caron Falconer  
U.S. EPA, Region 4  
345 Courtland St.  
Atlanta, Georgia, 30365

Please find enclosed a copy of the procedures we will use to introduce the POHC's into the ENSCO MWP 2000 rotary-kiln. The premeasured POHC's will be added directly tho the feed auger at 2 minute intervals.

I have discussed the proposed plan with Betty Willis and she concurred with the Air Force approach. If Region 4 accepts the new approach, please so indicate approval by letter.

Should you have any questions on this subject, please contact me at the NCBC field office; TELE. 601-864-4139. I would like to thank you and the Region 4 staff for assisting the Air Force and our contractors in resolving this problem.

*T L Stoddart*

Terry L Stoddart, Maj, USAF, BSC  
CH, Environmental Restoration R&D

cc  
Ms B. Willis ✓

## PROPOSED MODIFICATION IN POHC ADDITION AT NCBC FULL-SCALE

### Introduction

The batch mixing operation that was presented in Section III-G of the NCBC Trial Burn Plan has been tried as a "dry-run" at NCBC, and is found to be less than ideal. For reasons that can not be confirmed at this time, reliable correlations between the bulk recipe and analytically determined POHC concentrations are not possible. Initial trial mixes have varied up to 75% between recipe and analysis.

Several mechanisms have been considered as contributing to such a mass loss, with ambient release during the vigorous mixing stage and/or stratification or incomplete mixing suspected for the apparent loss of feedstock concentration. Because the source of this discrepancy cannot be conclusively identified and might involve an unquantified air release, the Trial Burn was postponed by the USAF until either the source of the apparent loss was confirmed or an alternative method was developed.

The purpose of this document is to propose an alternative preparation method, as was suggested by EPA Region VI staff on May 5, 1987. This proposal incorporates the preparation and introduction of discrete (1 lb.) POHC filled containers throughout each test run on a specific time interval (every 2 minutes.)

The various aspects of this alternative method are summarized below.

### Preparation

A uniform volume (e.g. one pint) of each POHC would be placed in a suitable container, and will be checked against the minimum acceptable weight for that volume (e.g. one lb). This will be accomplished by placing each container on a beam balance (preset to the target weight) and insuring that the filled container "tips the balance." In addition to this check at the time of preparation, 10 % of the containers will be randomly weighed to confirm an average mass and a variance for all containers.

### Addition to the Kiln

The containers will be placed in the elevated feed hopper which includes the feed auger assembly. The containers will be cast into the feed hopper on a regular time interval (e.g. every two minutes), so that the calculated ratio of POHC to feed material is 3000 - 4000 ppm. The containers would be introduced through a small access port in the cover shroud on the feed hopper, and directed toward the feed auger. The feed auger hydraulic drive possesses ample power to fracture the containers as they enter the kiln, thus releasing the POHC to the sand matrix as it drops to the kiln bed.

With each container containing one pound of POHC being cast into the incinerator every two (2) minutes, the following feedrate concentrations would be realized:

<u>Feedrate</u>	<u>Feed Concentration</u>
4 tons/hour	3750 ppm
5 tons/hour	3000 ppm

These concentrations will be sufficient to demonstrate DRE values of 99.9999% or greater, based on analytical detection limits for the MM5 stack train and three (3) hour run durations.

The sand feedrate will be maintained at the target feedrate throughout each run. Because level "A" safety protection will be unnecessary for the soil handling crew, greater control and communication will be possible in this previously high risk area.

#### Reporting

The POHC addition activity will be monitored by a remote observer, and any unavoidable anomalies will be included in the trial burn report. The total POHC mass introduced during each test will be presented as the product of the unit mass per container and the number of containers processed. In addition, a time averaged feedstock concentration will be calculated using the 5 minute sand feedrate, as calculated by the Data Acquisition System (DAS).

The auger speed will be continuously recorded on a strip chart device, as previously discussed with EPA Region VI staff.

MEMORANDUM

Date: May 4, 1987  
To: Dan Haley, EG&G Idaho, Inc.  
From: Darrell B. Derrington, Jr.   
Subject: Recommendation for ashdrag sampling during the upcoming  
NCBC dioxin surrogate burn

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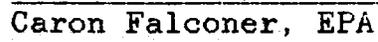
The present EPA approved sampling plan requires that the ashdrag solids stream be sampled every 15 minutes. Because the feedstock solids stream will be spiked by adding the POHC's directly at the mouth of the kiln, discrete feedstock samples will not be required. Each ashdrag sample was to consist of filling three 16 ounce jars with solids which will be obtained from the ashdrag conveyor. I recommended this sampling scenario based on an actual stack sampling time of one hour. As per EPA's request, we extended the stack sampling time to two hours and after reviewing SW-846 protocol we decided to sample for three hours. As you know, in order to obtain three hours of actual stack gas sampling, this will require on the order of 4 1/2 to 5 hours to perform each test.

As the length of stack gas sampling increased we did not adjust any of the other sampling frequencies or amounts of samples being obtained. Therefore, I am recommending that we maintain the same sampling frequency (i.e., sampling every 15 minutes) but take one sixteen ounce jar of ashdrag solid rather than three. For a nominal test duration of 4 1/2 hours, a total of 18 sixteen ounce jars would be obtained and homogenized to produce the two sixteen ounce jars of solid sample for each test episode. Homogenizing 18 jars (a total of 288 ounces) will be easier than homogenizing 48 jars (the number of jars we would obtain if we took 3 jars during each grab sample) of sample.

Because this is a change from the EPA approved trial burn plan, I am requesting that the following signatures be obtained for records purposes.

  
\_\_\_\_\_  
Dan Haley, EG&G

  
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Maj. Terry Stoddart,  
USAF/ESC

  
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Caron Falconer, EPA  
Region IV