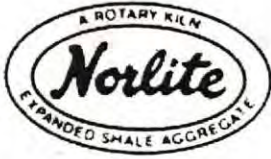


2003.09.30 Operator Training Plan



Norlite Corporation Cohoes, New York



Operator Training and Certification Program Plan Pursuant to the HWC MACT Regulations

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1.0 INTRODUCTION

1.1 Program Overview and Objectives

On September 30, 1999 USEPA published the Hazardous Waste Combustor MACT final rule which contained a provision for establishing an Operator Training and Certification program (40 CFR 63.1206(c)). On July 10, 2000 a technical correction was published that provided additional clarification regarding the Operator Training and Certification requirements (Federal Register on July 10, 2000 Vol. 65 No. 132 pg. 42295). The purpose of this document is to comply with these requirements.

This document is intended to provide the following:

- Relevant regulation background;
- An identification of all job positions at the Norlite facility;
- The required level of training for each job position and a detailed description of each level of training;
- A description of the certification procedures; and
- A description for how the program is implemented and maintained, including necessary documentation.

1.2 Regulatory Requirements

As previously stated, the requirements for HWC facilities to have an operator training and certification program are stipulated at 40 CFR 63.1206(c)(6). A summary of the regulatory requirements is provided below.

40 CFR §63.1206(c)(6) Operator training and certification.

"6) Operator training and certification. (i) You must establish training programs for all categories of personnel whose activities may reasonably be expected to directly affect emissions of hazardous air pollutants from the source. Such persons include, but are not limited to, chief facility operators, control room operators, continuous monitoring system operators, persons that sample and analyze feedstreams, persons that manage and charge feedstreams to the combustor, persons that operate emission control devices, and ash and waste handlers. Each training program shall be of a technical level commensurate with the person's job duties specified in the training manual. Each commensurate training program shall require an examination to be administered by the instructor at the end of the training course. Passing of this test shall be deemed the "certification" for personnel, except

that, for control room operators, the training and certification program shall be as specified in paragraphs (c)(6)(iii) through (c)(6)(vi) of this section.

(ii) You must ensure that the source is operated and maintained at all times by persons who are trained and certified to perform these and any other duties that may affect emissions of hazardous air pollutants. A certified control room operator must be on duty at the site at all times the source is in operation.

(iii) Hazardous waste incinerator control room operators must:

(A) Be trained and certified under a site-specific, source-developed and implemented program that meets the requirements of paragraph (c)(6)(v) of this section; or

(B) Be trained under the requirements of, and certified under, the American Society of Mechanical Engineers Standard Number QHO-1-1994 and QHO-1a-1996 Addenda (incorporated by reference -- see § 63.14(e)). If you choose to use the ASME program:

(1) Control room operators must, prior to the compliance date, achieve provisional certification, and must submit an application to ASME and be scheduled for the full certification exam. Within one year of the compliance date, control room operators must achieve full certification;

(2) New operators and operators of new sources must, before assuming their duties, achieve provisional certification, and must submit an application to ASME, and be scheduled for the full certification exam. Within one year of assuming their duties, these operators must achieve full certification; or

(C) Be trained and certified under a State program.

(v) Site-specific, source developed and implemented training programs for control room operators must include the following elements:

(A) Training on the following subjects:

(1) Environmental concerns, including types of emissions;

(2) Basic combustion principles, including products of combustion;

(3) Operation of the specific type of combustor used by the operator, including proper startup, waste firing, and shutdown procedures;

(4) Combustion controls and continuous monitoring systems;

(5) Operation of air pollution control equipment and factors affecting performance;

(6) Inspection and maintenance of the combustor, continuous monitoring systems, and air pollution control devices;

(7) Actions to correct malfunctions or conditions that may lead to malfunction;

(8) Residue characteristics and handling procedures; and

-
- (9) *Applicable Federal, state, and local regulations, including Occupational Safety and Health Administration workplace standards; and*
- (B) *An examination designed and administered by the instructor; and*
- (C) *Written material covering the training course topics that may serve as reference material following completion of the course.*
- (vi) *To maintain control room operator qualification under a site-specific, source developed and implemented training program as provided by paragraph (c)(6)(v) of this section, control room operators must complete an annual review or refresher course covering, at a minimum, the following topics:*
- (A) *Update of regulations;*
- (B) *Combustor operation, including startup and shutdown procedures, waste firing, and residue handling;*
- (C) *Inspection and maintenance;*
- (D) *Responses to malfunctions or conditions that may lead to malfunction; and*
- (E) *Operating problems encountered by the operator.*
- (vii) *You must record the operator training and certification program in the operating record. "*

1.3 Who Must be Trained

While the term "operator" is used to preface the regulatory requirements in this provision of the HWC MACT regulations, the applicability of this section really extends to anyone related to the operation of the incinerator where they have "duties that may affect the emissions of hazardous air pollutants" 40 CFR §63.1206(c)(6)(ii). Thus, the training program is applicable operations, compliance, engineering and management staff who support the HWC, and dedicated maintenance personnel assigned specifically to that HWC. Therefore, ENSR would intend to include these job classifications in developing the HWC MACT Operator Training and Certification Program.

1.4 Program Approach

This section will define the overall training approach used for each job classification (for example, classroom training may be used for administrative support staff whereas operator training would likely be a more hands-on approach). This section also defines the general "knowledge verification" (e.g., testing) and certification techniques that will be employed for the program.

2.0 JOB CLASSIFICATIONS SUBJECT TO HWC MACT TRAINING REQUIREMENTS

Norlite has evaluated all jobs related to the operations and maintenance of the hazardous waste incinerator at the Cohoes, NY facility. As part of this, an assessment of whether a particular job classification has the potential to affect emissions of Hazardous Air Pollutants (HAPs) based upon the nature and duties required to be performed. Finally, for job classifications that have been determined to be subject to the training requirements under the HWC MACT regulations, Norlite has categorized their training into one of three levels – A, B or C. This information is summarized in Table 2-1, below.

Table 2-1 Job Analysis Summary

| Job Title (# of personnel) | Basic Duties | Affect emissions of HAPs? | Level of HWC MACT Training |
|---------------------------------|--|---------------------------|----------------------------|
| Plant Management | | | |
| Senior Management | Manages Norlite operations | No | A |
| Environmental Compliance Staff | Provide compliance support | No | A |
| Safety/Industrial Hygiene Staff | Provide compliance support | No | A |
| Aggregate Production Manager | Manages aggregate production operations | No | Exempt |
| Administration | | | |
| Payroll | Responsible for payroll functions | No | Exempt |
| Accounting | Responsible for invoicing, accounts payable, receivable | No | Exempt |
| Human Resources | Responsible for compensation, benefits and employment issues | No | Exempt |
| Aggregate Sales | Responsible for aggregate product sales | No | Exempt |
| Fuel Sales | Responsible for waste fuel services and sales | No | Exempt |
| Dispatch | Coordinates dispatching trucks | No | Exempt |
| Shipping/Receiving | Responsible for shipping and receiving | No | Exempt |
| Stock room | Coordinates spare parts and supply inventory | No | Exempt |
| Administrative Assistants | Provide support for office and technical staff | No | Exempt |
| Receptionists | Responsible for switchboards | No | Exempt |
| Security | Staffs plant security positions | No | Exempt |

| | | | |
|--|--|-----|--------|
| Customer Service | Responsible customer support | No | Exempt |
| Operations | | | |
| Shift Supervisors | Manages kiln operations for each shift | Yes | A |
| Kiln operating staff | Operate kiln burners, kiln operations and air pollution equipment | Yes | A |
| Waste Fuel drivers | Transport vehicles hauling waste fuels | No | Exempt |
| Fuel Farm Operators | Coordinate transfers and blending of waste fuels into and out of the Tank Farm | Yes | A |
| Maintenance and Support | | | |
| Plant mechanics | Multi-craft trades people who perform plant maintenance and repairs | Yes | B |
| Laboratory technicians | Responsible for waste fuel sampling and analysis | Yes | B |
| Instrument/electrical technicians | Responsible for instrumentation, controls and electrical systems | Yes | B |
| Quarry and Aggregate Production | | | |
| Quarry loader | Responsible for delivering shale to the kilns | No | Exempt |
| Laborers | ??? | No | Exempt |
| Finish Plant Operators | Operates finished aggregate product | No | Exempt |
| Aggregate Shipping | Responsible for aggregate product shipping | No | Exempt |

3.0 TRAINING PROGRAM

The HWC MACT regulations require that personnel in each applicable position complete “a training program commensurate with the level of responsibility for the particular position”. This program has been designed with that in mind and consists of three levels of training, each tailored to address the needs for specific segments of Norlite’s staff. Table 3-1 provides a summary of what training is provided for each level of training.

3.1 Training Levels

3.1.1 Level A Training – Operators and Line Supervisors

This level of training is necessary for staff who are directly involved with the operation of the waste fuels tank farm, kilns and associated air pollution control equipment. This is the most detailed level of training because the duties of personnel in job classifications that require this level of training have the most significant impact on the facility’s performance.

Managers, Operators, Production Supervisors and Engineers working in the waste fuels farm and kilns all make daily decisions, that may directly affect HAP emissions. The duties of these positions include operating, monitoring and adjusting the tank farm, kilns and related air pollution control equipment. They are also required to monitor analyzers and adjust operations according to recommended operating parameters. In addition, they monitor alarms, AWFCO’s and regulatory operating conditions and make the necessary adjustments are made to maintain safe and regulatory compliant operations. Therefore, they require a training program that is the most comprehensive.

3.1.2 Level B Training

This training category applies to specialized jobs, such as analytical and skilled trades, that support the operation of the combustion facility. Each of these types of jobs has its job specific training program, and, except for job specific HWC MACT related activities within each job, this training functions independently from the HWC MACT training program. The job types covered by this include:

- Electrical trades,
- Mechanical trades,
- Instrument and computerized systems specialists, and
- Analytical personnel

Beyond specific job and skill-related training, this group of employees receive general environmental and RCRA training. In addition, electrical, instrument and computer related jobs will receive training on

the CMS and AWFCO programs, while sampling and analytical staff will receive training on the Feedstream Analysis Plan required under the HWC MACT regulations.

3.1.3 Level C Training

This is an awareness level of training that provides the trainees with basic information relative to the operation of the combustion facility, the waste streams and emissions related to it and relevant environmental regulations. In addition, area/senior supervision will received training on the HWC MACT O & M and SSM Plans to assure they understand the regulatory and compliance requirements associated with each.

3.2 First Time MACT Training for Existing Staff

Norlite plans to hold training sessions in September 2003. This training will focus on areas required under the HWC MACT regulations that employees have not had training on. This will primarily focus on new regulatory provisions established in either the General Provisions of 40 CFR 63 or in Subpart EEE. The specific agenda for this training is provided in Table 3-2, below.

3.3 Training for New Employees at the Facility

Training for new employees will be conducted differently for each of the three levels of HWC MACT training discussed in this document. This is discussed below.

3.3.1 Level A

New operators are assigned to work under the supervision of experienced operators for a several week period. During this "break-in" period, new operators learn the job specific skills and tasks relying on established procedures developed for the combustion facility and the knowledge of the experienced operator. Once the operator has developed sufficient proficiency and passed the required testing, they are "certified" operators under Norlite's program and can perform their job independently.

All employees in this category will receive all safety related training prior to working in the and will receive all regulatory type training within one month of beginning their job in the waste fuels farm or at the kilns.

3.3.2 Level B

Level B staff that work in incinerator related jobs will go through classroom and/or on-the-job-training on job specific tasks or skills prior to working unsupervised in either the waste fuels farm or kiln areas. For waste sampling personnel, this would include specific training on sampling techniques and procedures. For instrument or computer technicians, this would include working under the supervision

of an experienced technician to learn about the specific operating, maintenance audit and calibration requirements for waste feed and combustion related instruments and control systems.

3.3.3 Level C

Training for this category of staff will be provided within one month of beginning their job.

3.4 Refresher Training

Refresher training under this program will include the following topics and will be provided to Level A employees only. This refresher training will be provided annually and will include:

- An update of regulations or new permit conditions;
- Review of waste feed, kiln and air pollution control equipment operations, including startup and shutdown procedures, waste firing, and residue handling;
- Inspection and maintenance procedures;
- Responses to malfunctions or conditions that may lead to malfunction; and
- Operating problems that have been encountered.

3.5 Training Topics

3.5.1 Safety Training

Safety training for waste fuel farm and kiln operations staff at the Norlite facility is a combination of externally and internally provided training. This includes initial and annual HAZWOPER Training as stipulated by 29 CFR 1910.120 for staff subject to these requirements. Initial HAZWOPER training is typically provided through offsite, externally provided programs that provide certification. In addition, as part of Norlite's internal safety program, incinerator operations staff participate in ongoing safety training that on a monthly basis that includes topics such as: safe work procedures, personal protective equipment, emergency response procedures, hazard communication, etc.

3.5.2 Basic Science

This is a basic training course to introduce operations staff to basic science related to the operations of a chemical plant. Starting with basic chemistry the students are introduced to atoms, elements, compounds, molecules and the Periodic Table. Measurements in temperature, pressure, mass and volume are also covered.

3.5.3 Combustion and Aggregate Production Chemistry

This training course covers basic elements of combustion and aggregate production chemistry. This will include the basics of thermal oxidation chemistry, combustion products related to the thermal conversion of halogens, organics and metals and significant products of incomplete combustion. In addition, students will also critical chemistry issues related to the production of quality light weight aggregate and what components in Norlite's waste fuels could potentially affect that quality.

3.5.4 Environmental Regulations

This course covers various federal and state environmental laws and regulations that relate to the operation of the facility. This will include an emphasis on Norlite's responsibilities to maintain compliance with RCRA, CAA (e.g., MACT) and CWA regulations. In addition, Norlite environmental policies and guidelines are reviewed, including who at the site level are available as resources to assist with regulatory or compliance related issues. The students are also exposed to how we conduct comprehensive performance tests and how limits are determined.

3.5.5 Feedstream Analysis Plan (FAP)

Waste characterization and analysis procedures are discussed and the rationale behind why they are conducted and how they are reported.

3.5.6 Operations and Maintenance (O&M) and Start-up, Shutdown and Malfunction (SSM) Plans

The key elements of Norlite's O&M and SSM Plans are reviewed in this training course. This will include the regulatory provisions that form the basis for requiring these plans. This course will also review the key topics of each plan and their general organization. In particular, the regulatory significance of the SSMP will be discussed with special emphasis on the need for documentation. During this course, the basic start-up and shutdown procedures of the combustion portion of the facility are reviewed. In addition, details on specific malfunctions and shutdowns (e.g., emergency shutdowns) that may require additional follow-up, such as agency notification, documentation, corrective action and revisions to the Plans themselves.

3.5.7 Basic Equipment

This training introduces the operations staff to the basic equipment in use at Norlite and how that equipment is operated. Equipment covered includes:

- Waste tanks and transfer equipment (including various types of pumps),

- Waste feed systems,
- Burners and burner management,
- Rotary Kiln operations,
- Air pollution control devices,
- Ash and residue handling, and
- Blowers.

Details of specific operations and maintenance activities are covered in "Standard Operating Procedures" or "SOPs". These SOPs are updated as needed. New operators being trained at Norlite are assigned to experienced operators and the contents of each SOP is reviewed during the training.

3.5.8 Instrumentation and Control System (Continuous Monitoring System)

This course trains operations personnel on instrumentation, process controls and control system technology that remotely monitor and control the various operations at the plant through the aid of computers. Students will be instructed on the various instrumentation which monitors the facility along with the various levels of controls such as motor control systems, analog controls, Loop controls, Programmable Logic Controls and digital control systems. In addition, this includes information on how those instruments are used to collect and store data and how they are maintained

3.5.9 CEM's

Operations staff participating in this course are trained on Continuous Emission Monitors (CEMS) and Continuous Monitoring Systems (CMS). CEMS consist of oxygen and carbon monoxide instruments that monitor the combustion gases from the facility.

3.5.10 Automatic Waste Feed Cut-Off System

The students are taught how the AWFCO System functions to maintain and document compliance with the HWC MACT regulations. In addition, this course will discuss how process information from the CMS and related control system is used to control AWFCO's. Information is also presented regarding the differences between regulatory limits, AWFCO trip points and alarm set points. This course will also cover the regulatory reporting requirements and related follow-up.

Table 3-1 Summary of Training Program content by Training Level

| Training Description | Level A | Level B | Level C |
|--|----------------|----------------|----------------|
| Safety Training | X | X | X |
| Basic Science | X | | |
| Combustion Chemistry | X | | |
| Environmental Regulations | X | X | X |
| Feedstream Analysis Plan | X | X ¹ | X ² |
| O & M and SSM Plans | X | | X ² |
| Instrumentation and Control (CMS System) | X | X ³ | |
| CEMs | X | X ³ | |
| AWFCO system | X | X ³ | |

¹ For sampling and analytical personnel only

² For area/senior supervision only

³ For instrument, electrical and computer personnel only

Table 3-2 Initial HWC MACT Training

| Thursday, September 25th. | | Friday, September 26th. |
|---------------------------|--------------------------------|--|
| | Attendees: Shifts A and C. | Attendees: Lab, Fuel Farm, I&E |
| 10:00 AM | Environmental Regulations | Basic Science |
| | Feed Stream Analysis | Combustion/Aggregate Chemistry |
| | <i>Break</i> | <i>Break</i> |
| 11:00 AM | O&M, SSMP | Environmental Regulations |
| | | Feed Stream Analysis |
| 12:00 PM | <i>LUNCH</i> | <i>LUNCH</i> |
| 1:00 PM | Basic Science | O&M, SSMP |
| | Combustion/Aggregate Chemistry | |
| | <i>Break</i> | <i>Break</i> |
| 2:00 PM | I&E (CMS) and CEM's | I&E (CMS) and CEM's |
| | AWFCO System | AWFCO System |
| Monday, September 29th. | | Requirements: Kiln Supervisors, Operators and Fuel Farm employees need to attend all 7 sessions. Lab personnel need to attend the Environmental Regulations and the Feed Stream Analysis sessions. Plant Mechanics need to attend Environmental Regulations and O&M, SSMP sessions. I&E personnel need to attend Environmental Regulations, O&M, SSMP, CMS, CEM and AWFCO sessions. |
| | Attendees: Shifts B and D. | |
| 10:00 AM | Basic Science | |
| | Combustion/Aggregate Chemistry | |
| | <i>Break</i> | |
| 11:00 AM | Environmental Regulations | |
| | Feed Stream Analysis | |
| 12:00 PM | <i>LUNCH</i> | |
| 1:00 PM | O&M, SSMP | |
| | <i>Break</i> | |
| 2:00 PM | I&E (CMS) and CEM's | |
| | AWFCO System | |
| 3:00 PM | | |

4.0 CERTIFICATION REQUIREMENTS

4.1 Overview

The Norlite HWC MACT Training Program includes appropriate knowledge verification to assure that trained personnel know the required information and/or can perform the relevant tasks. This is accomplished via several mechanisms, depending on the job type, level of training required and the type of training that is being provided. Written tests are generally administered to verify knowledge obtained from classroom training. A combination of written testing and hands-on skill or task demonstration is used to verify knowledge of operations and maintenance specific jobs. This is discussed in more detail for each of the three levels of training.

4.2 Level A

Since this level of training applies to operators and other staff directly involved with operation of the incinerator, certification of training is administered through oral, written and hands on operations. Once these employees are trained, they must be tested and certified before they can perform their jobs unsupervised.

4.3 Level B

Under the HWC MACT program, no formal certification is required for these types of jobs. Skilled trades certification is handled outside of the HWC MACT program. For jobs in this category that require specific skills or knowledge (i.e., sampling and instrument technicians), these will be tested through a combination of a written test and hands-on demonstration that required work tasks can be properly performed.

4.4 Level C

Under the HWC MACT program, no formal certification is required for these types of jobs.

5.0 PROGRAM DOCUMENTATION

This section documents the recordkeeping requirements for this program. There are three primary forms of documentation that are relevant to the HWC MACT Training Program:

- Plant procedures (i.e., SOPs) and written plans (i.e., the SSMP);
- HWC MACT specific training and reference material; and
- Employee training records.

The document control and management procedures are discussed below.

5.1 Plant Procedures and Written Plans

Responsibility for maintaining these types of procedures and plans lies jointly with the Operations and Environmental Staff.

Current copies of internal Norlite SOPs will be maintained as described above and obsolete revisions will be discarded. The HWC MACT regulations require all revision versions of the O and M and SSM Plans to be kept on record and made available for inspection upon request for a period of 5 years.

5.2 HWC MACT Training Documents

Responsibility for maintaining the HWC MACT training and reference material lies with the Operations and Environmental Staff. The training program will be updated as needed to reflect any changes in the regulations or permit requirements. A training program that is kept current needs to be maintained as part of the Operating Record for the life of the facility.

5.3 Employee Training Records

Training records documenting both initial HWC MACT Training and the required Refresher Training must be maintained for each affected employee as part of the Operating Record for as long as that employee works in his/her hazardous waste fuel or combustion related job. These records will be kept in onsite document storage. Records documenting HWC MACT training for employees that leave their incinerator related job must be maintained for five years after the employee leaves, consistent with the provisions of the CAA Title V permit program.