emission levels. As discussed earlier, NO_x control has not been demonstrated on MWI's. Therefore, MACT is also based on no control. However, because the Act requires the EPA to set a numerical emission limit for NO_x, the NO_x limit is proposed to be 210 ppmv, the highest uncontrolled NO_x level measured during the EPA test program. The EPA specifically solicits comments on the emission limit of 210 ppmv set for NO_x and whether this level accurately reflects uncontrolled emissions of NO_x at MWI's.

K. Selection of Fugitive Fly Ash/Bottom Ash Standards and Guidelines

Combusting medical waste in an incinerator creates noncombustible ash in the primary chamber of the incinerator. This "bottom" ash is removed from the primary chamber either periodically (intermittent and batch MWI's) or continuously (continuous MWI's). While removing ash, airborne fugitive emissions may be created.

Another potential source of fugitive emissions from MWI's is the collected fly ash that is removed from the exhaust gas stream by fabric filters. Facilities that use fabric filters as part of an air pollution control system must remove the collected fly ash periodically. Fugitive emissions of this fly ash can occur during the removal and disposal process.

While there is a potential for fugitive emissions from MWI's, precautions can be taken that virtually eliminate these emissions. The proposed 0 percent opacity limit can be achieved by employing measures such as wetting or covering the dry ash, providing covers for ash containers, and providing wind screens around outdoor sites. The following sections describe the different types of MWI operations that may release fugitive emissions.

1. Continuous MWI's. For an MWI to operate continuously, the combustor must be designed so that accumulated bottom ash can be removed while the unit operates. All designs incorporate a stepped, solid grate with internal ash rams or a moving hearth to move ash toward the discharge point at the end of the primary chamber opposite the waste charging door. At the discharge point, the ash falls off the hearth into a wet sump or a dry collection hopper. Because these units either quench the bottom ash (in a wet sump) or confine the ash in a close-fitting hopper (dry collection), there is virtually no potential for fugitive emissions during normal operation. With the wet sump arrangement, there are no fugitive emissions when the ash is conveyed to

the disposal container, usually a dumpster. With dry ash, the transfer from the collection hopper to the dumpster may be a source of fugitive emissions, but normal precautions such as covering the ash or wetting it down can effectively eliminate fugitive emissions.

2. Intermittent and Batch MWI's. Intermittent and batch MWI's are allowed to cool before the bottom ash is removed, usually on a daily basis. Few of these units use any automated mechanism to assist in the removal of bottom ash. The ash is simply shoveled or raked from the primary chamber manually through the ash door.

Some larger units have an ash ram that is used to push bottom ash toward the ash door. With this type of system, the ash may be allowed to fall from the primary chamber into a collection bin as the ram pushes it out of the unit. Mechanical rams are usually somewhat ineffective at removing the ash because the ram face is considerably narrower than the primary chamber. Ash that is not in the path of the ram must be raked or shoveled out manually.

Removing the bottom ash from these MWI's is a potential source of fugitive emissions. Applying a water spray to the ash as it is removed from the MWI, reducing the distance the ash falls or is conveyed, and providing wind screens for outdoor sites are ways in which fugitive emissions may be eliminated.

3. Collected Fly Ash from Control Devices. Facilities utilizing fabric filters as part of their air pollution control system must use precautions to avoid fugitive emissions resulting from the removal of collected fly ash from the fabric filter collection hopper. In most cases, the collection hopper discharges from the bottom directly into a disposal bin. By including a flexible "sleeve" to connect the collection hopper to the disposal bin (often a 55-gallon drum) and a close-fitting cover over the disposal bin, fugitive emissions can be eliminated. Likewise, a wind screen around this operation is helpful for outdoor installations. Once the disposal bin is filled, it should be sealed for transport to the ultimate disposal site. If the disposal bin is emptied onsite into a dumpster, the transfer must be performed in a manner to avoid creating fugitive emissions. Wetting the fly ash in the disposal bin prior to dumping it or performing the transfer in a covered enclosure are effective ways to eliminate fugitive emissions.

L. Operator Training and Qualification Requirements

Section 129 of the Act requires the EPA to develop and promote a model

program for the training and qualification of MWI operators. Section 129 specifies that "any person with control over processes affecting emissions from a unit * * *" must successfully complete an acceptable training program. For new MWI's, the proposed standards require that an affected facility be operated by a trained and qualified operator or by an individual under the direct supervision of a trained and qualified operator. For existing MWI's, the proposed emission guidelines would require that 1 year after approval of the State plan, designated facilities be operated by a trained and qualified operator or by an individual under the direct supervision of a trained and qualified operator. The 3-year option for complying with all other requirements of the emission guidelines is not provided for the training and qualification requirements. The accelerated compliance schedule proposed for the operator training and qualification requirements will assist in preparing the operators to properly operate the MWI and associated air pollution control equipment before the initial compliance test.

The proposed standards and guidelines also would require that each owner or operator of an MWI develop and update, on an annual basis, a sitespecific operating manual to be reviewed by all qualified operators annually. The standards and guidelines include minimum criteria for the training course, the qualification program, and the contents of the manual.

1. Training Requirements

The owner or operator of an MWI would be responsible for ensuring that one or more operators receive training by an instructor not employed by the owner or operator that provides, at a minimum, the following: (1) 24 hours of classroom instruction, (2) 4 hours of hands-on training, (3) an examination developed and administered by the course instructor, and (4) a handbook or other documentation covering the subjects presented during the course.

The classroom training would be required to cover, at a minimum, the following subjects:

1. Environmental concerns, including pathogen destruction and types of emissions;

2. Basic combustion principles, including products of combustion;

- 3. Types of incinerator designs and components of MWI's;
- 4. Incinerator operation, including startup and shutdown procedures;
- 5. Combustion controls and monitoring;