Prepared Feeds Manufacturing

Area Source NESHAP

Jan King
Regulatory Development and Policy Analysis Group
Outreach and Information Division
919-541-5665; king.jan@epa.gov
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Introduction

- NAICS 311119
  - Prepared animal feeds manufacturing (except dog and cat)

- Listed for regulation under section 112(k)
  - HAP: chromium compounds and manganese compounds

Background

- Approximately 1,800 facilities
- Most of these are considered small businesses
  - Small business definition is <500 employees
  - 98% have <100 employees
  - 43% have <10

Emissions Prior to Regulation

- PM: 11,000 tons/year
- PM2.5 11,000 tons/year
- Manganese compounds: 200 tons/year
- Chromium compounds: 8 tons/year

Final Rule - Applicability

- Rule applies to:
  - Facilities that are area sources of HAP.
  - Facilities that use a material (premix/additive) containing chromium (Cr) or a material containing manganese (Mn).

Final Rule - Applicability

- The rule does not apply to:
  - Research and development facilities as defined in section 112(c)(7) of the Clean Air Act.
  - Feed production processes at facilities whose primary business is raising or feeding animals,
  - Facilities engaged in the growing of crops that are used in the manufacture of feed.

Final Rule - Applicability

- The affected source is a prepared feeds manufacturing facility where "animal feed" makes up at least half of the facility's annual production (by mass) of all products.
  - "Animal feed" includes traditional feed products as well as feed ingredients, premixes, additives, concentrates, etc.
  - "Animal feed" does not include dog and cat feed.

Final Rule – Title V Permits

- Prepared Feed Manufacturing Facilities that are subject to the rule are not required to obtain Title V permits.
  - This rule does not preclude facilities that are already required to obtain Title V permits from that requirement

Final Rule – Compliance Dates

- Existing Sources: by January 5, 2012
- New Sources: At startup
  - Facilities that started up between July 27, 2009 and January 5, 2010, were required to comply by January 5, 2010.

Final Rule – General Standards

- Perform housekeeping to minimize dust in areas of the facility where materials containing Cr and Mn are stored, used, or handled.
  - Use either industrial vacuum system or manual sweeping to reduce the amount of dust;
  - Remove dust from walls, ledges, and equipment using low pressure air or other means, then sweep the area at least once per month;
  - Keep doors shut except during normal ingress and egress.

- Maintain and operate all process equipment that stores, processes, or contains materials containing Cr or Mn in accordance with manufacturers' specifications and in a manner to minimize dust creation.

Final Rule – Standards for Specific Process Areas

- Storage Areas: all raw materials containing Cr or Mn must be stored in closed containers.
- Mixing Operations: materials containing Cr or Mn must be added to the mixer in a manner to reduce emissions, and the mixer must be covered at all times when mixing is occurring, except when materials are being added.
- Bulk Loading Processes: Where prepared feeds products containing any Cr or Mn are loaded into trucks or railcars, a device must be used at the loadout end of each bulk loader to lessen fugitive emissions by reducing the distance between the loading arm and the truck or railcar.

Final Rule – Standards for Pelleting/Pellet Cooling

- For facilities with an average daily feed production exceeding 50 tons per day:
  - Install and operate a cyclone to reduce emissions from pelleting and pellet cooling operations.
  - Average daily feed production level is the average amount produced each day over an annual period.
    - Initial level is based on production between January 5, 2011 to January 5, 2012 for existing sources and the design rate for new sources.
    - Subsequent levels are determined annually based actual production and number of days of operation.

Final Rule – Standards for Pelleting/Pellet Cooling

- The cyclone controlling emissions from pelleting and pellet cooling must be designed to achieve 95 percent or greater reduction in particulate matter.
- There are three options to demonstrate the cyclone is designed to achieve a 95 percent reduction in PM:
  - Manufacturer's specifications,
  - Certification by a professional engineer or responsible official,
  - A Method 5 performance test.

Final Rule – Standards for Pelleting/Pellet Cooling

- For each cyclone, must establish a parameter range that indicates that cyclone is operating properly. This parameter can be:
  - Inlet flow rate,
  - Inlet velocity,
  - Pressure drop, or
  - Fan amperage

Final Rule – Monitoring and Compliance Requirements

- Cyclones must be inspected quarterly for corrosion, erosion or any other damage that could result in air in-leakage.
- Must monitor the selected cyclone operating parameter (inlet flow rate, inlet velocity, pressure drop, or fan amperage) and record the results daily to ensure cyclone is being operated properly.
- Devices required at the loadout end of a bulk loader must be inspected monthly.

Final Rule – Required Notifications

- Initial Notification: Submit no later than May 5, 2010, or 120 days after becoming subject to the rule, whichever is later.
- Notification of Compliance Status:
  - Existing affected sources must submit on or before May 4, 2012.
  - **New affected sources must submit within 120 days of initial startup, or by May 4, 2012, whichever is later.**
  - Sources that start using materials containing Cr or Mn after the applicable compliance date must submit NOCS report within 120 days of the date these materials are used initially.

Final Rule – Required Notifications

- Annual Compliance Certification: Submit every year by March 1 for the previous calendar year.

- If a source no longer uses materials that contain Mn or Cr after January 5, 2010, submit a Notification to that affect and are no longer subject to the rule.

Final Rule - Recordkeeping

- Keep copy of each Initial Notification and Notification of Compliance Status, and all supporting documents.
- Keep copy of each Annual Compliance Certification.
- For each cyclone used to comply with this rule, keep records demonstrating that the cyclone is designed to reduce emission of particulate matter by 95 percent or greater.
- For each cyclone used to comply with this rule, keep records of the daily inlet flow rate, pressure drop, or fan amperage, and any action that was taken to restore cyclone to proper operation if a problem was indicated.

Final Rule - Recordkeeping

- Affected sources that are not required to install and operate a cyclone because average daily feed production level is ≤ 50 tons per day must maintain feed production records to enable determination of the average daily feed production level.
- Records must be in a form suitable and readily available for expeditious review.
- Records must be kept for 5 years following the date of each recorded action.
- Records must be kept onsite for at least 2 years after the date of each recorded action, and may be kept offsite for the remaining 3 years.

Major Changes From Proposal

- Clarification that applicability of rule is entirely consistent with definition of NAICS code 311119 (which includes feed additives, premixes, ingredients, etc).
- Bulk loadout standard changed from specific requirement for “drop filter socks” to requirement for devices that reduce the distance between the loading arm and the truck or railcar.
- Allowed parameters other than pressure drop to be monitored to demonstrate that cyclone is operating properly.

Estimated Emissions Reductions from Rule

- From installation of cyclones
  - PM: 1,100 tons/yr
  - PM2.5: 100 tons/yr
  - Chromium and manganese: 20 tons/yr

Estimated Costs of Rule

- Management practices
  - Believe all facilities already implement basic management practices.
  - No additional costs anticipated
- Installation of cyclone at large facilities
  - Nationwide capital costs: $2.5 million
  - Nationwide annual costs: $3 million/year

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