

Safety, Health and Environmental Quality Conference

National Grain and Feed Association
& Grain Journal

Feed Industry NESHAPS Rule
What you need to be doing now

Management Practices

(In Regulated Areas)

Management Practices - Housekeeping

- Manually remove dust by sweeping or by a vacuum system.
- Once per month, remove dust from walls, ledges, and equipment.
- Keep doors shut except for ingress and egress.
- Store Mn and Cr materials in closed containers.

Management Practices - Mixer

- Mixer must be covered at all times except when adding materials.
- Mn and Cr materials must be added to the mixer in a manner to minimize emissions.

Management Practices

Load-out (For Regulated Materials)

- Each load-out must have device to lessen fugitive emissions such as drop sock or telescopic spout.
 - Applies even to enclosed load-out systems
 - Cost is around \$250



Pelleting Operations

Applicable to 50 tpd annual production average

- Cooler cyclone must provide 95% particulate matter removal demonstrated by
 - Manufacturer's specifications
 - Certification by a Professional Engineer
 - Stack test
- Establish proper operation parameters for cyclone inlet flow or inlet velocity or pressure drop or fan amperage



Determine Pellet Cyclone Efficiency

■ Method 5 Stack Test

- Cost is \$10,000 to \$15,000 for single system
- Cost is \$15,000 to \$20,000 for two systems same location
- Include Particle Size Distribution (PSD).

■ Manufacture's Specification

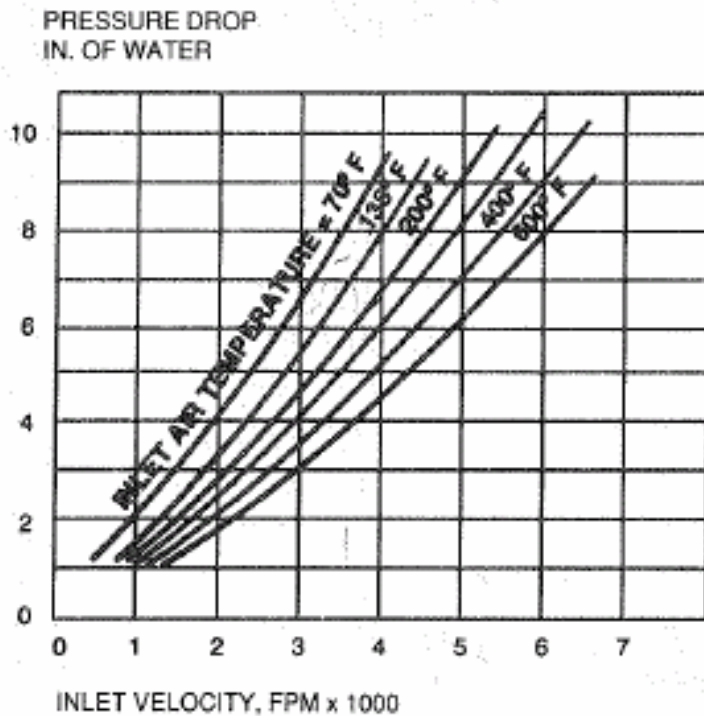
- Most will want a PSD to verify efficiency

■ Professional Engineer's Certification

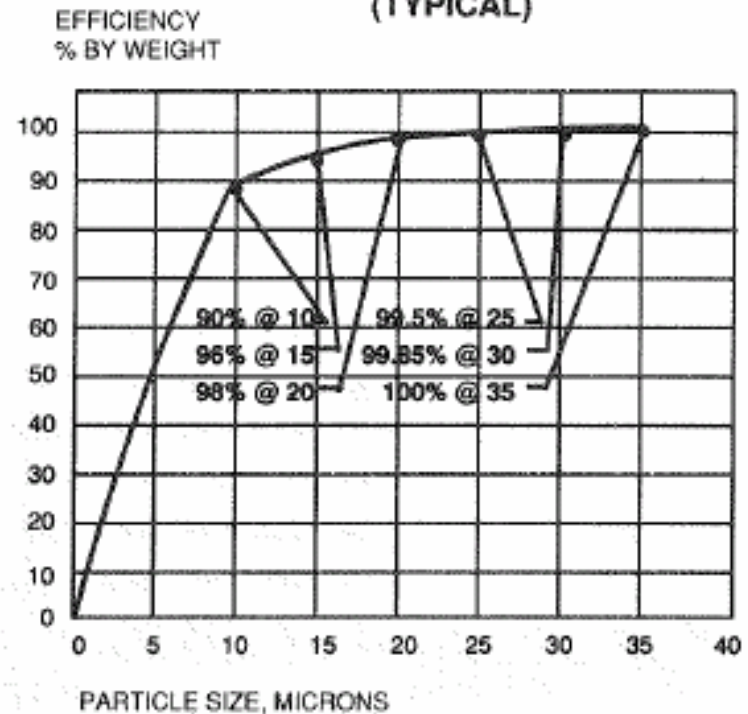
- Models available to determine efficiency
- Input of cyclone dimensions, PSD, particle density, air flow, and air temperature
 - 1D3D or 2D2D cyclones

Typical Cyclone Performance Curves

PRESSURE DROP CHART



EFFICIENCY CHART (TYPICAL)



THE EFFECTS OF INLET VELOCITY AND BARREL DIAMETER ON CYCLONE PERFORMANCE

Texas A&M University

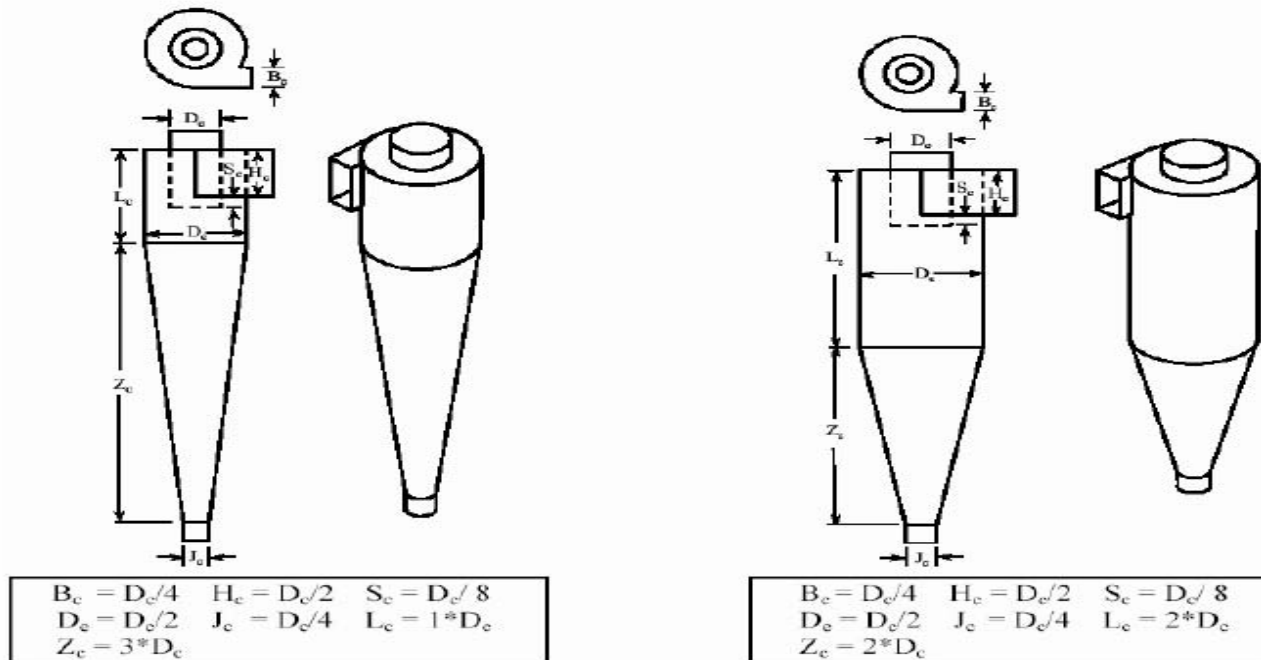


Figure 1. 1D3D and 2D2D cyclone layouts (Wang et al, 2003).

Some agencies require 1D3D or 2D2D cyclones

Time Line for Compliance

- New cyclone delivery 12 to 16 weeks
 - Costs?
 - Location dependant
 - \$25,000 to \$75,000
- Permit to install needed?
 - Some states will require construction permits some will not.
 - Permit preparation and approval can take up to six months.

Monitoring and Recordkeeping Requirements

- Quarterly cooler cyclone inspections for corrosion, erosion or other damage that could result in air leakage
 - Are your cyclones accessible?
- Daily monitor the flow, velocity, pressure drop or fan amp of the pellet cyclone.
 - What do you need to make this easy?



You will need access to your cyclones for inspection

Take Home Points on NESHAPS

- Most Feed Mills use Manganese at over 1%.
- Review your pelleting cyclones.
 - Are they 95% efficient?
 - How will you inspect them and monitor performance?
- Look at your doors / windows & loadout spout issues
- Compliance date is January 5, 2012.