Area Source Standards: Gasoline Dispensing Facilities (GDF) & Bulk Plants

40 CFR Part 63, Subpart 6B & 6C

http://www.iowadnr.gov/air/prof/NESHAP/

6C – NESHAP for Gasoline Dispensing Facilities

- Gasoline pumped into motor vehicle (fuel tank for engine)
- DNR has adopted standard into IAC
- Air permits are not required currently
- Applies to **any** facility where gasoline is dispensed (not just commercial stations)
- Requirements depend on the amount of actual gasoline throughput: gallons per month

6C – NESHAP for Gasoline Dispensing Facilities

- Requirements
  - "Small" GDF (<10,000 gal./month): Best management practices for gasoline vapor and spills
  - "Medium" GDF (≥10,000 gpm and <100,000 gpm): BMP and submerged fill on tanks
  - "Large" GDF (≥100,000 gpm):BMP, submerged fill, **&**
    - **Stage 1 vapor balance system**
    - Initial & periodic pressure and vapor tightness testing

6C NESHAP Standards for Gasoline Dispensing Facilities ≥ 100,000 gallons

Operate vapor balance system during storage tank loadings using the following management practices

- a) Equip vapor connections & lines with seal closures
- b) Vapor tight line from storage tank to cargo tank
- c) Cargo Tank pressure remains below specified settings
- d) Designed to prevent over tight/loose fittings
- e) Gauge well provided with submerged drop tube extending specified distance from tank bottom
- f) Use vapor tight caps for liquid fill connections
- g) Install pressure/vacuum vent valves on tank vent pipes at specified setting and test initially and every 3 years
- h) Vapor balance system must meet static pressure test initially and every 3 years
- i) Dual-point (no coaxial) vapor balance systems for new GDF or tanks, and
- reconstructed GDF; ***OR***
- Vapor balance system demonstrated to achieve a reduction of 95% or better.

- Keep record of initial and every three year pressure tests.
- Test notification 60 days before test and test results180 days after testing.

6C NESHAP Standards for Gasoline Cargo Tanks Unloading at GDF ≥ 100,000 gallons

A gasoline cargo tank must meet the following conditions during gasoline unloading

- i) All hoses in the vapor balance system are properly connected
- ii) The adapters and couplers that attach to the vapor line on the storage tank have closures that seal upon disconnect,
- iii) All vapor return hoses, couplers, and adapters used in the gasoline delivery are vapor-tight,
- iv) All tank truck vapor return equipment is compatible in size and forms a vapor-tight connection with the vapor balance equipment on the GDF storage tank; and
- v) All hatches on the tank truck are closed an securely fastened.

- vi) The filling or storage tanks at GDF shall be limited to unlading the vapor-tight gasoline cargo tanks. Documentation that the cargo tank has met specifications of EPA Method 27 shall be carried on the cargo tank.

6C – Steps to Compliance

- Be in compliance with the rule by **January 10, 2011**
- Employ BMP – all facilities
- Keep records on gasoline actual throughput
  - Either gasoline received or dispensed
- Submit notifications (large only)
  - Initial notification was due on May 9, 2008
  - Notification of Compliance Status by Jan. 10, 2011
- Retrofit for vapor balance and conduct initial test of vapor balance system (large only)

6C – Current & Potential Issues

- How to calculate monthly throughput to determine if $\geq$100,000 gallons/month
- Existing NESHAP language is not clear
- EPA proposed the following method in 12/09:
  - **Monthly throughput is calculated by summing the volume of gasoline loaded into, or dispensed from, all gasoline storage tanks at each GDF during the current day, plus the total volume of gasoline loaded into, or dispensed from, all gasoline storage tanks at each GDF during the previous 364 days, and then dividing that sum by 12.**

6C – Monthly Throughput (con't)

- DNR recommends that GDFs begin using this calculation **now.**
- Although complicated, EPA's throughput calculation allows averaging of high months, and is therefore advantageous to facilities.
- If facility is not $\geq$100,000 gallons per month prior to January 10, 2011, is not large GDF, and Stage 1 is not required.
- If exceed after 1/10/2011, considered large GDF from then on, but will have 3 years to comply.
- DNR will allow other throughput methods, such as fuel purchase records, for GDF that are clearly well below 100,000 gallons/month threshold.

6C – Current & Potential Issues (con't)

- Many facilities are not submitting installation & testing notifications to DNR
  - Required under NESHAP
  - Send in even if you already did testing
  - NESHAP Coordinator @ AQB (preferred) or UST
- Issues/questions with CARB testing methods
  - Poppet valve requirements. Working to resolve
- What if cannot comply by compliance date?
  - **Notify DNR Air Quality as soon as you know!**
  - DNR can grant extensions on a case-by-case basis
  - Need to propose a reasonable compliance schedule

Gasoline Bulk Facilities: 6B-affected sources

- Rule applies to the following area sources:
  - Gasoline Terminals ($\geq$ 20,000 gal/day potential throughput)
  - Gasoline Bulk Plant ($<$ 20,000 gal/day potential throughput)
  - Pipeline breakout station
  - Pipeline pumping station

- MANY BULK PLANTS MEET DEFINITION OF TERMINAL BASED ON THE RULE

6B – What is a bulk gasoline plant?

- Intermediate storage facilities of gasoline
- Have a limited gasoline throughput
- Often located in rural areas
- Est. 150–400 sites (no solid number)
- May also store and handle other petroleum products (i.e. oil)
- Do not distribute gasoline directly to motor vehicles
- May have collocated gas station (GDF)

6B – Source of emissions from bulk plants

- Tanker truck unloading into storage tanks (usually above ground)
  - Working loss
- Storage tanks
  - Breathing loss
- Loading of gasoline into tank wagons/cargo tanks at a loading rack
- Leaks
- Emissions are volatile organic compounds (VOCs) and hazardous air pollutants (HAPs)

6B – Compliance Dates

- New facilities (constructed after Nov. 9, 2006):
  - Compliance: January 10, 2008 or upon startup if startup occurs after January 10, 2008
- Existing facilities: (not a new facility)
  - Compliance: January 10, 2011

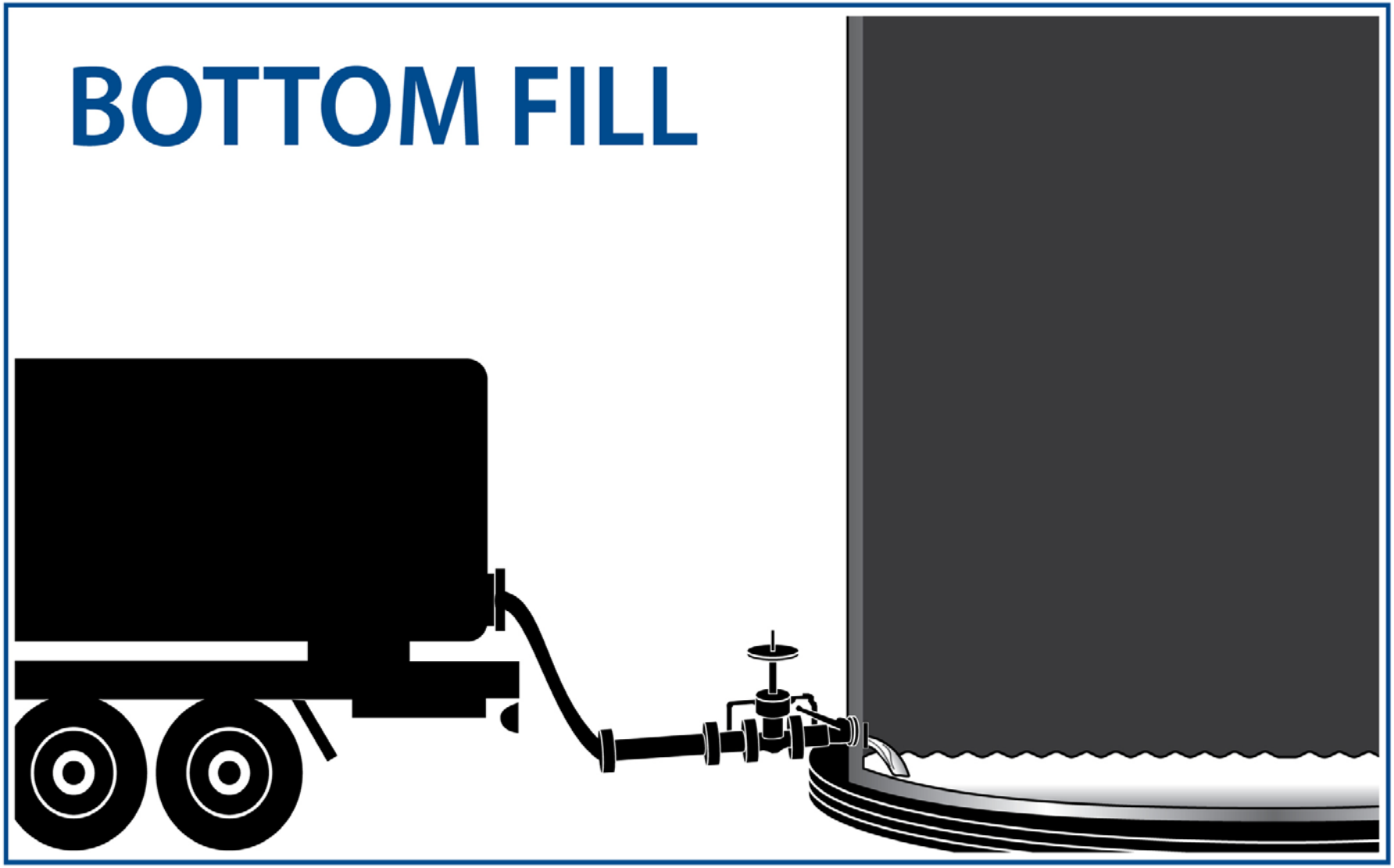
6B – Iowa's Compliance Strategy

- Develop permit template (i.e. general permit) to limit daily/monthly throughput of gasoline
  - Small bulk plant < 20,000 gallons/month
  - Large bulk plant < 20,000 gallons/ day
  - Permit template
    - Company fills out application
    - After application is reviewed and approved by AQB, it is returned to applicant as permit
- WITH PERMIT LIMIT BULK PLANTS ARE REGULATED AS BULK PLANTS AND NOT AS TERMINALS

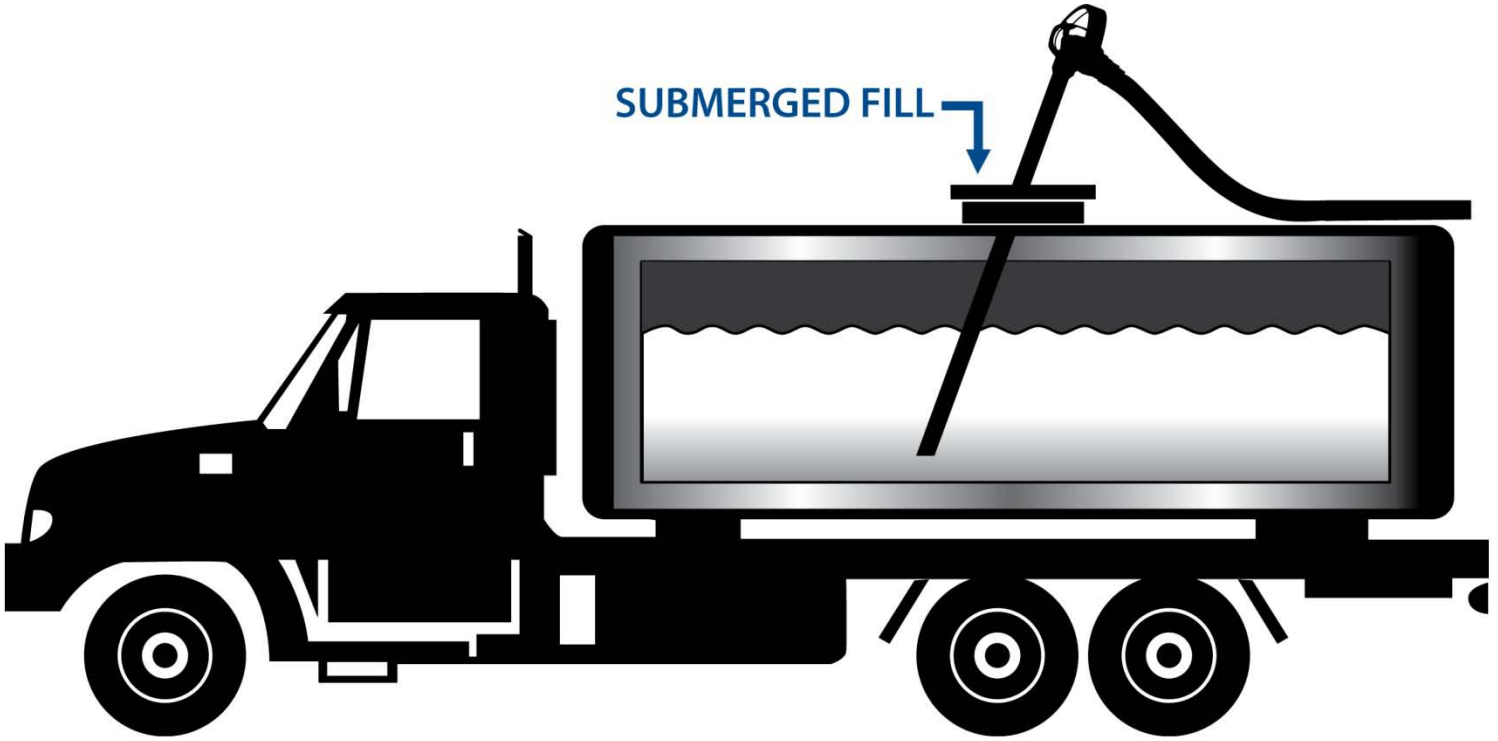
6B – Rule requirements

- Facilities must minimize vapor emissions of gasoline by best management practices.
- Submerged fill required for any gasoline tanks greater than or equal to 250 gallons
- Submerged fill required at any loading rack for gasoline
- Leak inspection program for all equipment in gasoline service
- NO VAPOR BALANCE SYSTEM REQUIRED

BOTTOM FILL



6B – Storage tank/submerged fill



6B – Leak Inspection Requirements

- Monthly inspection on all equipment in gasoline service.
  - Include pumps, valves, open-ended lines and connectors.
  - Detection methods using sight, sound and smell are acceptable
  - Analyzers can be used for leak detection.
- Leaks must be repaired as soon as practicable.
  - Initial attempt within 5 calendar days of detection
  - Repair completed within 15 calendar days of detection

Permit Template

- Permit will contain all requirements from 6B rule.
  - These requirements go into effect on January 10, 2011.
- Permit will also contain either monthly or daily gasoline throughput requirement.
  - These limits go into effect on permit issuance.
- Remember:
  - Records required by 6B must be retained 5 years with most recent 2 years on-site.
  - Throughput records must be for retained 2 years.

6B – Steps for compliance

1. Rule information and permit templates forms at:
   http://www.iowadnr.gov/air/prof/NESHAP/
2. Watch webinar from UNI at:
   http://www.iwrc.org/services/IAEAP/6BWorkshop.cfm
3. Complete application and initial notification form and submit to Iowa DNR, Air Quality Bureau
4. Obtain compliance calendar/logbook from UNI or website

6B – Potential Issues

- Facility not yet in compliance with 6B
  - Apply for permit and obtain permit prior to compliance date (01/10/11)
  - Notify DNR prior to compliance date and submit compliance plan
  - Work with DNR to get into compliance
- Future modifications
  - Keep list of loading arms/tanks
  - Small plant becomes large – obtain a new permit

6B & 6C– Potential Issues

- Gasoline Dispensing Facility (GDF) is collocated with bulk plant
  - GDF must comply with Subpart 6C
  - Bulk plant must comply with Subpart 6B
  - Bulk plant equipment must be covered by a permit
  - Common tanks?
    - 6B requirements apply if gasoline is pumped into tank wagon/cargo trucks
  - Separate record keeping on throughput

Compliance Calendar/Log Book

2010/2011

Compliance Calendar/Logbook for Bulk Gasoline Plants

(Less Than 20,000 gallons/month throughput)

Created by the Iowa Waste Reduction Center Iowa / University of Northern Iowa

Goals of Calendar/Log Book

- Reminder to complete:
  - Leak inspection
  - Throughput readings
- Education tool
  - SPCC Requirements
  - 6B Rule
- Record keeping tool (documentation)
  - Leak inspection
  - Leak detection
  - Throughput amounts
- Applicable contacts

General Contact Information

- NESHAP questions
  - **Christine Paulson – DNR Air Quality Bureau christine.paulson@dnr.iowa.gov or 515-242-5154**
  - **Diane Brockshus – DNR Air Quality Bureau (Compliance) diane.brockshus@dnr.iowa.gov or 515-281-4801**
- Permitting questions (not in Linn or Polk County)
  - **John Curtin- DNR, Air Quality Bureau john.curtin@dnr.iowa.gov or 515-281- 8012 or 1-877-AIR-IOWA (help line)**
- Technical air assistance for small businesses
  - **Dan Nickey – UNI, Iowa Waste Reduction Center daniel.nickey@uni.edu or 319-273-8905**

Thank You

Questions?

http://www.iowadnr.gov/air/prof/NESHAP/

http://www.iwrc.org/services/IAEAP/6BWorkshop.cfm