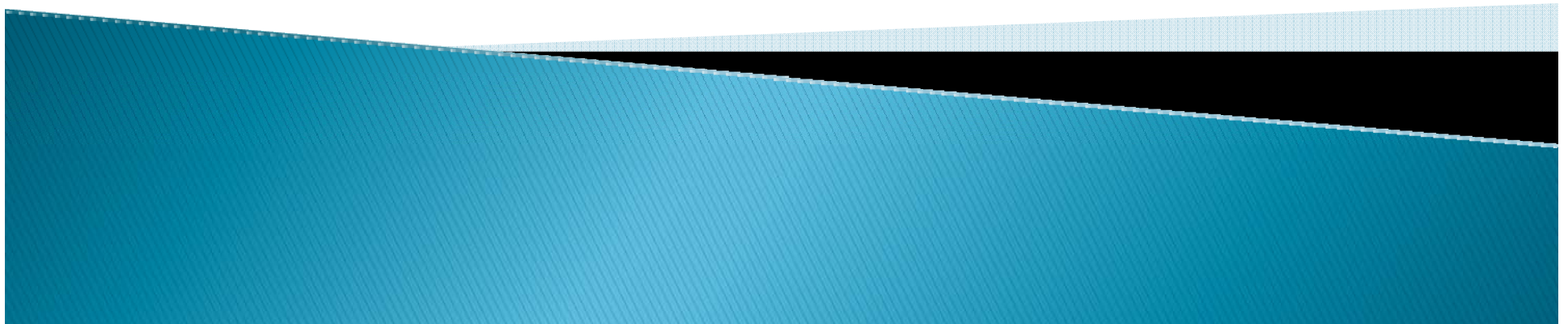


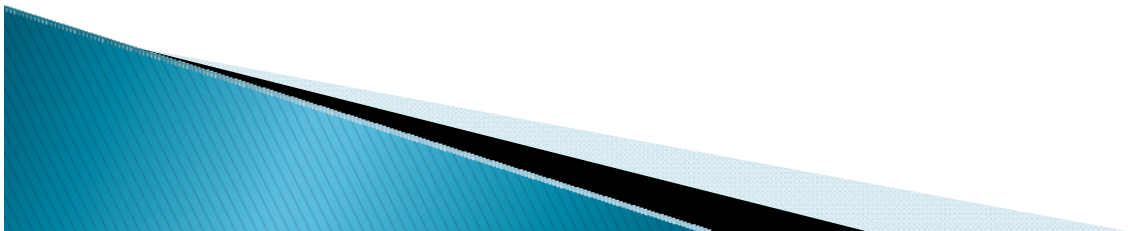
Nine Metal Fabrication and Finishing Source Categories 40 CFR Part 63 Subpart XXXXXX (6X)

*Area Source NESHAP
Welding Tier 2 and Tier 3 Requirements*
Iowa Waste Reduction Center
University of Northern Iowa
Iowa Department of Natural Resources
Air Quality Bureau



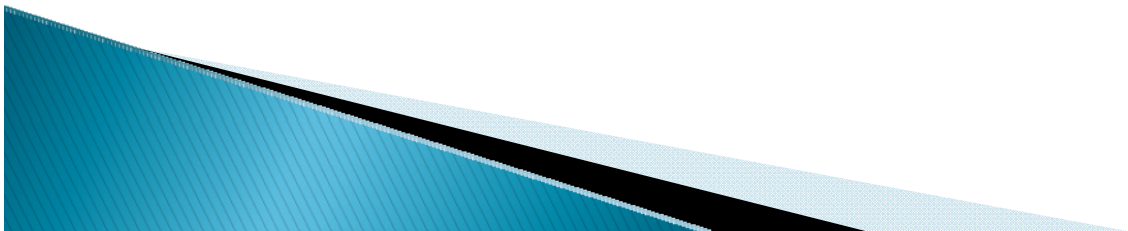
Tier 2 / Tier 3 Monitoring

- ▶ Go to:
<http://www.iwrc.org/default/index.cfm/services/iaeap/metal-fabrication-and-finishing-neshap-6x/> for information on 6X regulation
- ▶ Additional monitoring required by Subpart 6X for facilities that meet all the following conditions:
 - Facility is subject to 6X
 - Welding operations are covered by 6X and must comply with Standards and Management Practices
 - Facility uses 2000 lbs/year or more of welding rod or wire containing an MFHAP
 - Visible emissions from welding were detected during more than one observation period in any consecutive 12 month period using EPA Method 22
- ▶ If all these conditions are not met, Tier 2/Tier 3 monitoring will not apply



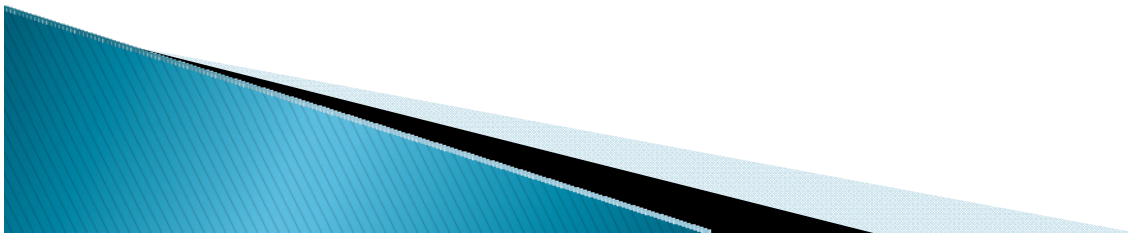
6X Graduated Monitoring – Overview

- ▶ Only applies to welding operations
- ▶ Tier 1 – visible emissions monitoring using EPA Method 22
 - 15 minute observation period
 - Observer is not required to be certified
 - Determine if visible emissions are “present” or not
 - Visible emissions are considered to “present” when visible more than 6 minutes in any 15 minute observation period
- ▶ Tier 2 – visible emissions monitoring using EPA Method 9
 - 30 minute observation period



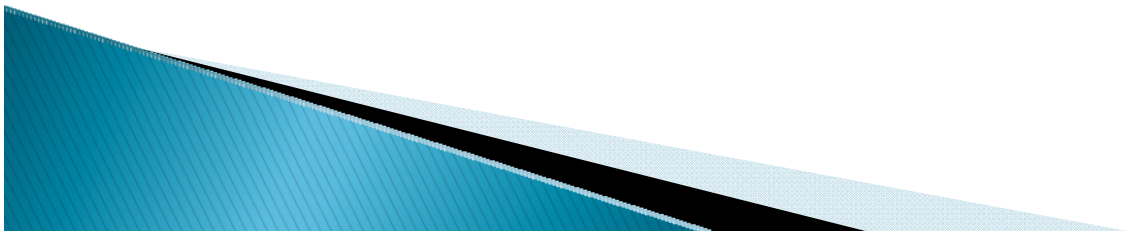
6X Graduated Monitoring – Continued

- Observer is required to be certified
- Determine emissions opacity (smoke density)
- If the opacity ever exceeds 20% as a 6-minute average, must follow Tier 3 monitoring
- ▶ Tier 3 – continue to use EPA method 9
 - Prepare and follow a Site-Specific Welding Emissions Management Plan (SWMP)
 - Purpose of SWMP is to ensure that there are no future exceedances of VE standards



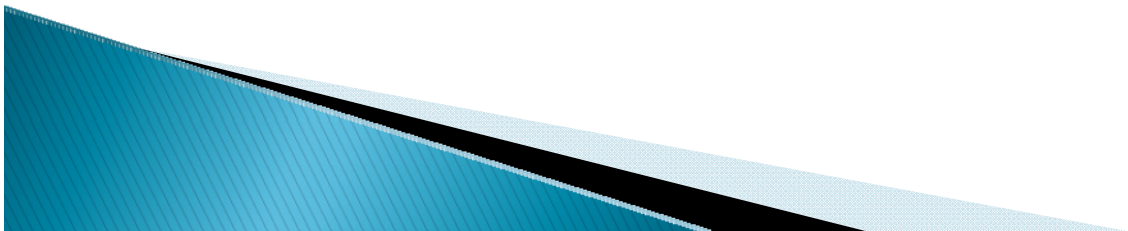
Tier 2 Monitoring

- ▶ EPA Method 9 must be used to determine opacity
 - <http://www.epa.gov/ttn/emc/methods/method9.html>
 - Observer must be certified; certification required to be renewed every 6 months
 - Contact IWRC or IDNR about becoming a “certified” observer
 - Perform first Method 9 observation within 24 hours of second failed Method 22 observation
 - Due to severe time constraint, it may be necessary to have a certified employee at facility
 - Observe primary vent, stack, exit or opening of building that houses welding operations

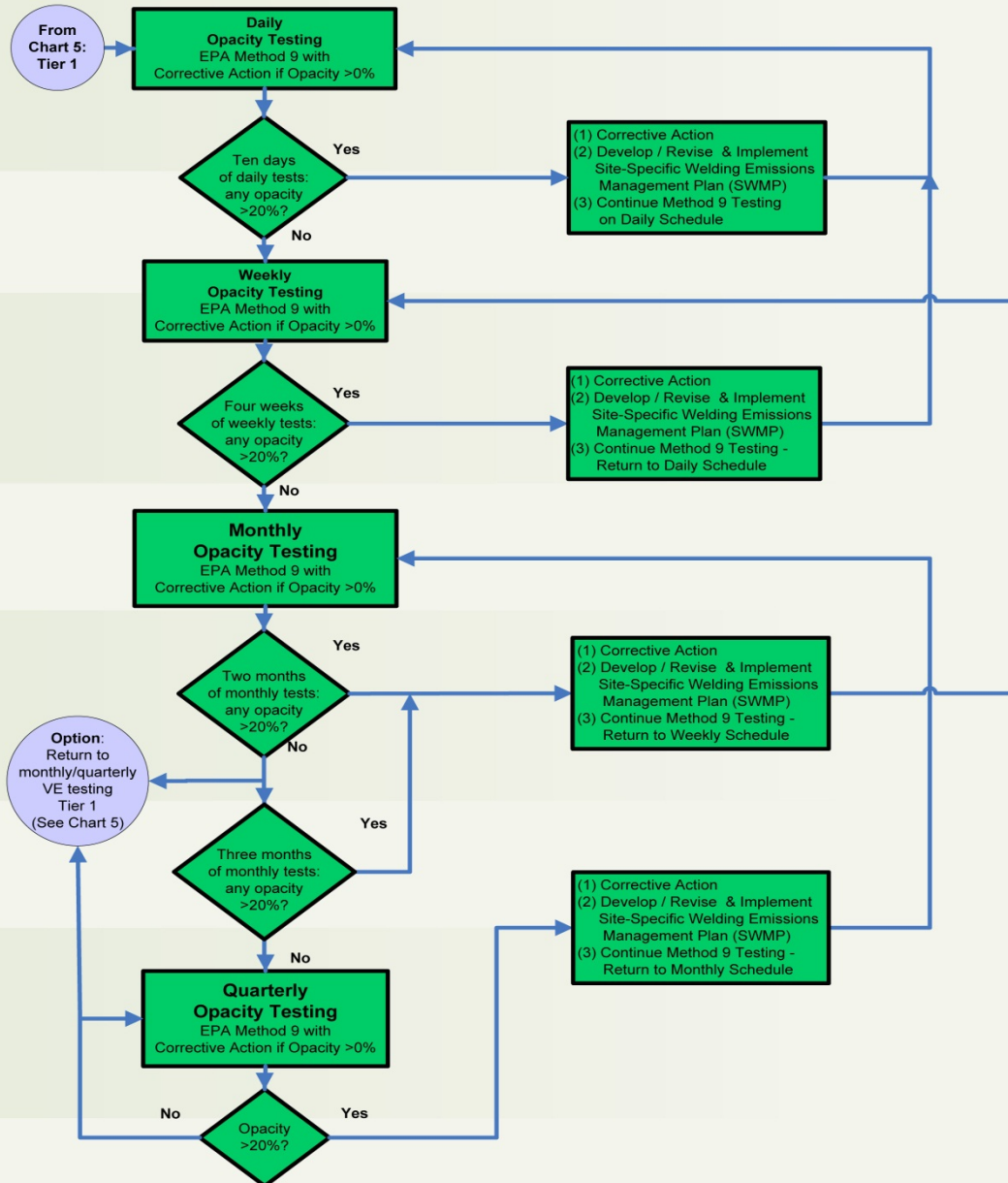


Tier 2 Monitoring – Continued

- Record opacity every 15 seconds
- At the end of the 30 minute observation period, determine the average opacity for 6 minute periods
 - Average the 24 opacity readings in a 6 minute period
- ▶ Monitoring frequency according to the following graduated schedule:
 - Daily: monitor once/day each day welding is operating
 - If no opacity > 20% for 10 days, go to weekly monitoring
 - Weekly: monitor once per 5 days of welding operation
 - If no opacity > 20% for 4 weeks, go to monthly monitoring
 - If opacity > 20%, return to daily monitoring and develop SWMP
 - Monthly: monitor once per 21 days of welding operation
 - If no opacity > 20% for 3 months, go to quarterly monitoring
 - If opacity > 20%, return to weekly monitoring and develop SWMP

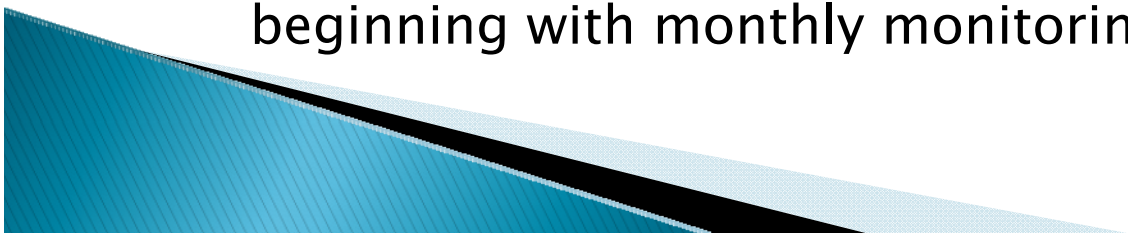


**Flow Charts For Determining Your Requirements For The
 Nine Metal Fabrication And Finishing Area Source NESHP^(a)
 CHART 6 – EMISSIONS MONITORING AT WELDING SOURCES: TIERS 2 AND 3**



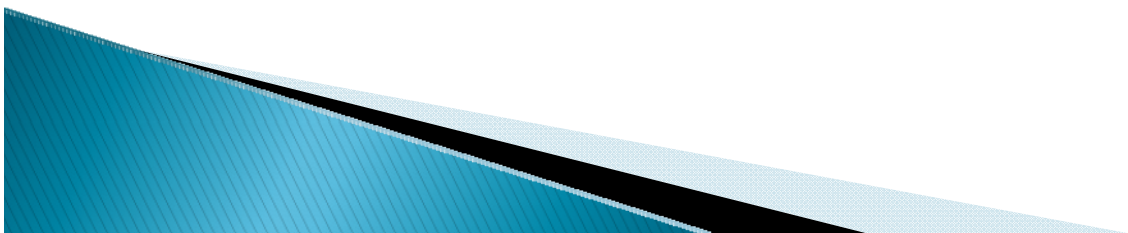
Tier 2 Monitoring – Continued

- Quarterly: monitor once per 60 days of welding operation
 - If no opacity $> 20\%$, continue quarterly monitoring
 - If opacity $> 20\%$, return to monthly monitoring and develop SWMP
- ▶ If no VE $> 20\%$, continue corrective action, employing welding practices/control equipment to reduce emissions
- ▶ Facilities that have no readings $> 20\%$ after two monthly tests may return back to Tier 1 monitoring or can continue with the Tier 2 monitoring
 - Tier 1 monitoring does not require certified observer
 - If return to Tier 1, follow Tier 1 graduated schedule beginning with monthly monitoring



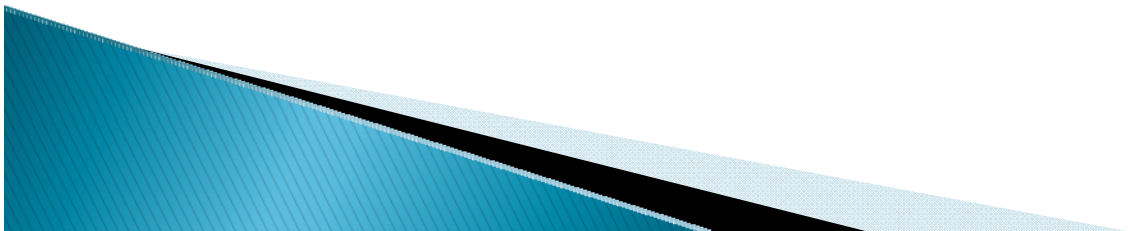
Tier 2 Monitoring – Continued

- ▶ Record keeping requirements:
 - Date of each Method 9 observation
 - The results of each observation
 - Results reported as 6 minute averages
 - Any corrective action taken
- ▶ Reports required (include with annual certification and compliance report):
 - Date of each Method 9 observation
 - The results of each observation
 - Results reported as 6 minute averages
 - Any corrective action taken

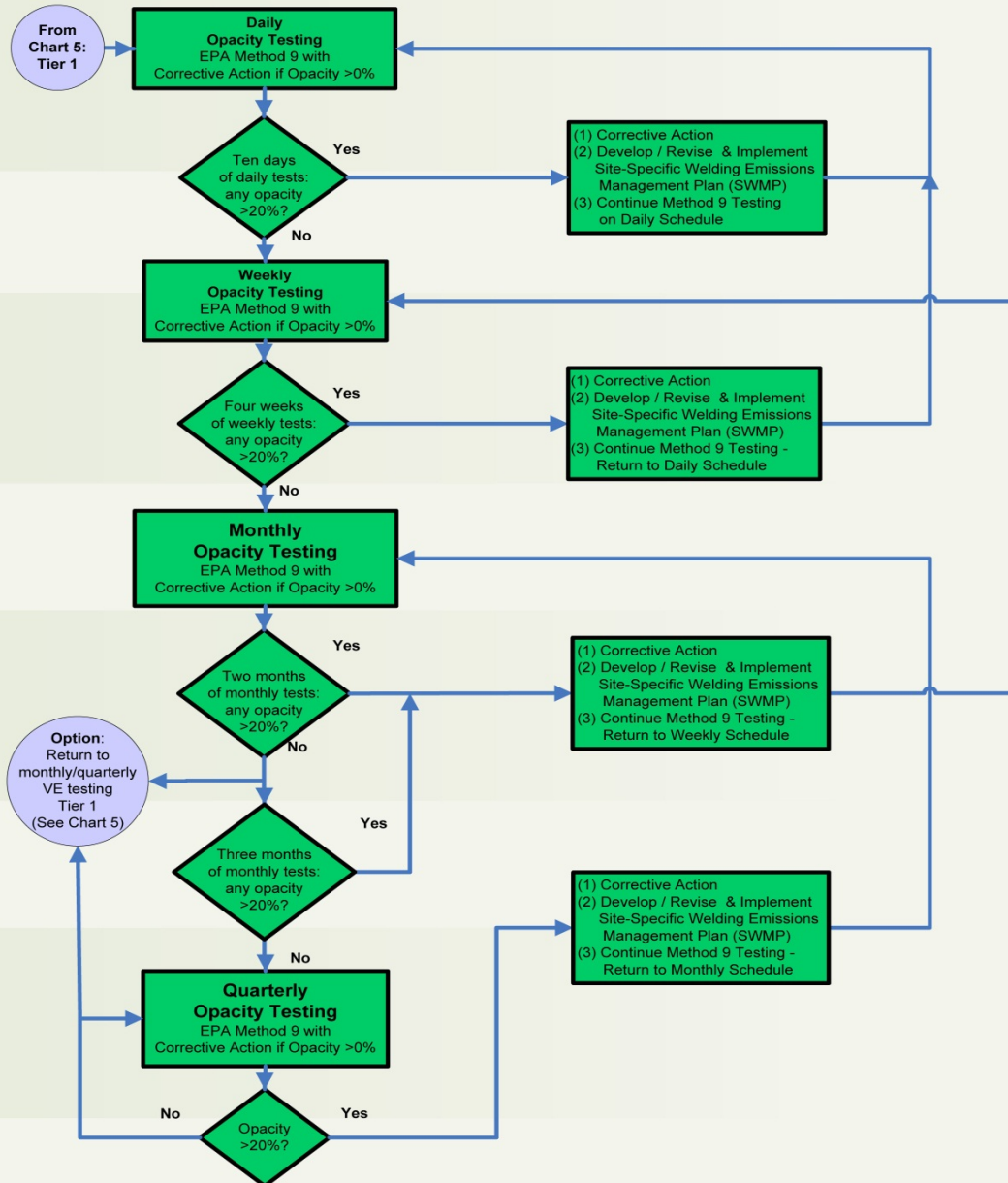


Tier 3 Monitoring

- ▶ Required if any one Method 9 VE observation ever exceeds 20% opacity (6 minute average)
- ▶ Within 30 days of exceeding 20% opacity, develop and implement Site-Specific Welding Emissions Management Plan (SWMP)
- ▶ During development of plan, perform Method 9 observations daily
 - These observations must be recorded and reported
- ▶ Once plan is developed, continue to follow Tier 2 graduated monitoring schedule



**Flow Charts For Determining Your Requirements For The
Nine Metal Fabrication And Finishing Area Source NESHP^(a)
CHART 6 – EMISSIONS MONITORING AT WELDING SOURCES: TIERS 2 AND 3**



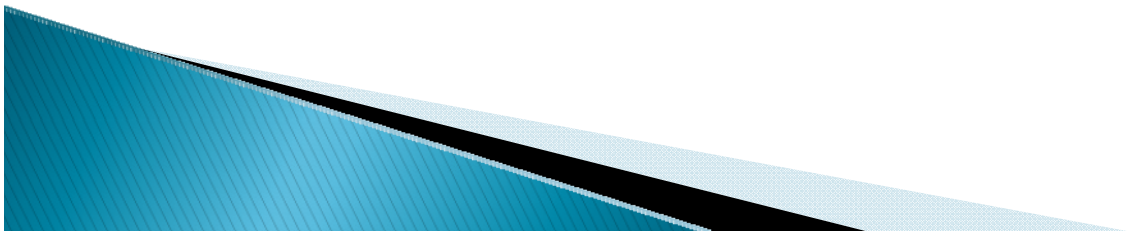
Tier 3 Monitoring – Continued

- ▶ Site-Specific Welding Emissions Management Plan must contain:
 - Facility name and address
 - A list and description of all welding operations covered by 6X
 - Description of management practices and/or control equipment in operation at time of exceedance of 20% limit
 - Description of management practices and/or control equipment currently employed
 - Description of additional management practices and/or control equipment to be added and the projected date of implementation
 - Updates and revisions to plan if necessary
 - Revision required if continue to exceed 20% limit
- ▶ **Update Plan annually**



Tier 3 Monitoring – Continued

- ▶ Record keeping requirements:
 - A copy of the current SWMP must be maintained on-site and be available for inspector's review
 - Date of each Method 9 observation
 - The results of each observation
 - Results reported as 6 minute averages
 - Any corrective action taken
- ▶ Reports required (include with annual certification and compliance report):
 - Copy of current SWMP
 - The date and results of each observation
 - Results reported as 6 minute averages



Tier 2 / Tier 3 Monitoring

- ▶ Avoid by ensuring that there are no visible emissions by good welding practices or control equipment
- ▶ 20% opacity is the limit: every exceedance requires an evaluation of whether control measures are adequate
- ▶ Recordkeeping and reporting increases as facility moves from Tier 1 → Tier 3
- ▶ Rule “rewards” good control by reducing frequency in monitoring



For Additional Assistance

- ▶ Iowa Department of Natural Resources – NESHAP contacts
 - John Curtin– DNR Air Quality Bureau (Permitting)
john.curtin@dnr.iowa.gov or 515–281– 8012
or 1–877–AIR–IOWA (hotline)
- ▶ Technical air assistance for small businesses
 - Dan Nickey – UNI Iowa Waste Reduction Center
daniel.nickey@uni.edu or 319–273–8905
 - Brian Gedlinske – IWRC Environmental Specialist
brian.gedlinske@uni.edu or 319–273–6581

