New Mexico Environment Department

Part 50 (1)

C&E Section Meeting

August 17, 2023

Get ready to dig into:

- General requirements
- Important timelines (for now)
- Control Devices / Closed Vent Systems
- Equipment Leaks / Fugitive Emissions
- Engines & Turbines (if time allows)

General Requirements

20.2.50.111 NMAC – Applicability

20.2.50.112 NMAC – General Provisions

General Requirements

Applicability

- All oil & gas facilities (up to the point of the "local distribution company custody transfer station"
- Exceptions:
  - Oil or gas transmission pipelines
  - Oil refineries
  - Saltwater disposal facilities
- Owners/operators must calculate PTE for each source & have it certified by an engineer
  - May not consider requirements of Part 50 in the calculations
  - Keep on file at least 5 years – available to NMED on request

Team Work

Company A drills a well and sends it to a tank battery owned and operated by Company B. Company B separates the products (oil, gas, water), sending the oil to the tanks for truck loading, sending the gas to a natural gas processing plant (owned by Company C) and sending the produced water to a saltwater disposal facility (owned by Company D). For which sections of the rule / sources should Company B do PTE calculations?

General Requirements

Section 112 – General Provisions

- Follow manufacturer specifications (or company specs – if by "qualified maintenance personnel" and based on engineering principles and field experience):
  - Emissions-related design
  - Maintenance practices & schedules

Section 112, continued

- Beginning Aug 5, 2024, implement a data system to capture all required monitoring, testing or inspection for each source:
  - Unique ID
  - Lat/long
  - Source type
  - Controlled VOC (and NOx if applicable)
  - Make, model, serial #
  - Link to specifications
- Data must be uploaded within 3 days of a monitoring event
- Maintain at least 5 years
- Generate a Compliance Database Report (CDR) by July 1 each year (starting 2024) – ONLY SUBMITTED IF NMED REQUESTS A COPY!

Important Timelines

What to focus on now (vs. later)

The problem with time

Part 50 has almost 50 different dates upon which compliance is based – depends on source and date of construction, mostly

- Effective as of August 5, 2022:
  - Flares & Enclosed Combustion Devices (ECDs) must complete a Method 22 observation quarterly AND any time visible emissions are observed
    - 15 minute observation period
    - Visible emissions allowed for a total of 30 seconds during the entire observation period

A few “hidden” timelines

November 3, 2022 (ED + 90)

- Existing well sites – complete determination of whether within 1,000 feet of an occupied structure
- New well sites – complete determination within 30 days of construction

January 1, 2023

- NG-fired spark ignition engines – complete a company-wide inventory and schedule for compliance per Section 113

More dates to be aware of

February 5, 2023 (ED + 180)

- Produced water management units:
  - Calculate monthly total VOC emissions (tons)
  - Should already have developed a protocol to calculate the VOC emissions

July 1, 2023

- Inventory of existing NG-fired combustion turbines, including schedule for compliance per Section 113
- Total pneumatic controller count (one for each applicable Table in Section 122)

Control Devices & Closed Vent Systems

20.2.50.115 NMAC

General Requirements

- Install, operate and maintain consistent with manufacturer specs and good engineering/maintenance practices
- Ensure device is sufficient design and capacity
  - Assessment certified by engineer within 3 years of effective date (by August 5, 2025) for existing control device/closed vent system.
  - For new CD/CVS, assessment must be completed within 90 days of startup.
- Inspect monthly (visual) to identify defects, leaks, releases and ensure proper operation.
- Must keep manufacturer specs on file.

Flares

- Combustion must be maintained at all times gas is sent to the flare.
- Flares must be equipped with a continuous pilot flame*, an operational auto-igniter, or require manual ignition and by August 5, 2023 (ED + 1 year)**:
  - Equip flares with continuous pilot flame or auto-igniter with a system to ensure flame is present whenever gas sent to the flare;
  - Manual ignition flares inspected to ensure flame for each flaring event.

*continuous pilot flame required if new or existing flare controls a continuous gas stream – by August 5, 2023

** Existing flares at a site with annual average daily production of 10 boe or 60,000 scf or less only need to equip the flares with auto-ignitor, continuous pilot or flare malfunction alarm if replaced or reconstructed after the effective date.

Flares, continued

- Operate flares with no visible emissions (30 seconds allowed in a given 15 minute period). (Quarterly Method 22 and anytime VE observed.)
- Continuously monitor the presence of a pilot flame for continuous pilot, or presence of flame during flaring if using an auto-igniter.
  - Thermocouple with continuous recorder and alarm. Alternatives must be approved by Department.
- Manual ignition flares must monitor presence of a flame using continuous visual observation during the flaring event.
- Monitoring events time- and date-stamped with GPS location.
- Repair within 3 business days in case of thermocouple or other flame detection device alarm activation.
- Records must include alarm activations, Method 22 observations, manual ignition flame monitoring, gas analysis.

Enclosed Combustion Devices (ECD) and Thermal Oxidizers (TO)

- Proper sizing and design – no gas sent to ECD/TO in excess of manufacturer maximum rated capacity
- New ECD/TO – continuous pilot flame or auto-igniter (upon start-up)
- Existing ECD/TO – continuous pilot flame or auto-igniter by August 5, 2025 (ED + 2 years)
- For any ECD/TO with a continuous pilot flame or auto-igniter, equip with system to ensure operation with a flame present whenever gas sent to the ECD/TO
- Operate with no visible emissions (30 seconds in any 15 minute period allowed)
- Monitor presence of pilot flame or flame during combustion (for auto-igniter) using a thermocouple with continuous recorder and alarm
- Method 22 quarterly and whenever VE observed
- Records to keep: device alarm activation (date and time), corrective action, inspector name, maintenance activities, Method 22, monitoring events, gas analysis (VOC content and heating value)

Vapor Recovery Units (VRU)

- Operate VRU as closed vent system
- During startup, shutdown, maintenance or other VRU downtime, control VOC with backup control device or redundant VRU unless otherwise approved in a permit issued prior to August 5, 2023
  - Only alternative is to shut down and isolate the source being controlled by the VRU.
  - Backup control device or redundant VRU required 3 years after ED for sites that already have a VRU as of the effective date
- Monitoring: Comply with Section 116 or implement program that meets Subpart OOOOa.
- Records to keep – For each monitoring event: inspector name, maintenance/repair activities, date, time GPS. Also, type of redundant control device during VRU downtime (or shut down time period or records of compliance with permit issued before August 5, 2023).

Equipment Leaks and Fugitive Emissions

20.2.50.116 NMAC

Monitoring

> 10 bbl/day or > 60k scf/day	≤ 10 bbl/day or ≤ 60k scf/day

▫ Weekly AVO
  ▪ Defects, pressure leaks, liquid leaks, odors
  ▪ Repair immediately or according to Subsection E
	▫ Monthly AVO
	  ▪ Defects and leaking components
	▫ If within 1,000 ft of occupied area, weekly AVO

Repair requirements:

1. Visible tag if not repaired at time of discovery;
2. Repair ASAP but no later than 30 days from discovery;
3. Re-monitor no later than 15 days after repair;
4. If repair in 30 days would require shutdown, designate as "Repair delayed" and identify next scheduled shutdown;
   a. Repair (earlier of) before end of scheduled shutdown or within 2 years
   b. If delayed due to parts shortage, within 15 days of resolution of shortage

Monitoring – OGI or Method 21 ("Sniffer")

Well sites and standalone tank batteries

- Existing – ED + 2 years*; New – at startup
  - Annually – PTE <2 tpy VOC
  - Semi-annually – PTE 2-5 tpy VOC
  - Quarterly – PTE > 5 tpy VOC

*Exceptions

- Well sites within 1,000 feet of occupied area - quarterly
- Existing wellhead only facilities – annually on phased-in schedule starting 1/1/2024
- Inactive well sites as of ED – annually beginning 2/5/2023 (ED + 6 months)
- Inactive well sites after ED – annually starting 30 days from inactive status
- Injection well sites and temporarily abandoned well sites not subject

Gathering/boosting stations and gas processing plants

- Quarterly – PTE < 25 tpy VOC
- Monthly – PTE ≥ 25 tpy VOC

Transmission compressor stations

Quarterly or pursuant to NSPS as of ED (at least as stringent as OOOOa)

Other requirements / options

- Companies may apply for “Alternative Monitoring Plans” which must be approved by AQB management
  - Notify at least 15 days prior to first monitoring and certify use of AMP annually
  - Failure to comply with any provision without correcting and disclosing to the department within 15 calendar days of identifying the violation is grounds for terminating the AMP
  - Return to default monitoring within 15 days of AMP termination or denial of AMP
- Records to keep: (approved AMP); inspection information (including type of inspection, leak descriptions and whether visible tag placed on leak); DOR info (including re-monitoring); OGI specifications, instrument check and leak survey requirements in NSPS Part A (60.18(i)(1)-(3) for OGI-detected leaks.

Engines & Turbines

20.2.50.113 NMAC

Applicability

Engines or turbines at well sites, tank batteries, gathering and boosting stations, natural gas processing plants and transmission compressor stations

- Rated horsepower greater than those in tables 1, 2 or 3
  - Portable and stationary natural gas-fired engines
    - Spark ignition
    - Compression ignition
  - Natural gas-fired combustion turbines
- Inventories of existing spark ignition engines by 1/1/2023 – with schedule for compliance with Table 1
- Inventories of existing turbines by 7/1/2023 – with schedule for compliance with Table 3

Schedule – spark-ignition engines

- New – upon startup, meet standards in Table 2
- Existing
  - 30% of company's existing engines by 1/1/2025
  - 65% of company's existing engines by 1/1/2027
  - 100% of company's existing engines by 1/1/2029
- Existing engines may reduce hours of operation to achieve an equivalent allowable tpy emission reduction, or to reduce emissions by 95% (annually)
- Companies may submit a proposed alternative compliance plan to meet overall emissions reductions.
- Companies may submit a proposed alternative emissions standard to show technical or economic infeasibility.

Schedule – compression-ignition engines

- New – if >500 hp and not subject to NSPS IIII
  - Limit NOx emissions to 9 g/bhp-hr or less upon startup
- Existing – not mentioned!
- Companies may submit a proposed alternative compliance plan to meet overall emissions reductions.
- Companies may submit a proposed alternative emissions standard to show technical or economic infeasibility.

Schedule - turbines

- New – upon startup, meet standards in lower portion of Table 3
- Existing – meet standards in top portion of Table 3:
  - 30% of company's existing turbines by 1/1/2024
  - 65% of company's existing turbines by 1/1/2026
  - 100% of company's existing turbines by 1/1/2028
- Company may reduce annual hours of operation to reduce PTE to an equivalent required reduction of NOx and VOC
- Turbines eligible for alternative compliance plan or alternative emission standard

Other tidbits

- Emergency engines (NSPS, MACT definitions) not subject to Section 113 except:
  - Must have non-resettable hour meter to monitor and record hours of operation
- Short-term replacement engines not considered “new” unless it replaces a new engine.
- Relocated engines and like-kind replacements – not included in Section 113

Monitoring

Maintenance

- According to manufacturer-recommended schedule
- Compliant with Part 50 if compliant with NSPS, MACT requirements
- Catalytic converters and AFR controllers inspected and maintained per manufacturer specifications (see Section 112). During maintenance, engine or turbine must be shut down.

Testing

- If operated 500 hours per year or more
  - 180 days after effective date applicable to the source (existing)
  - If installed more than 180 days after effective date, within 60 days of achieving max production rate (but no later than 180 days after startup)
  - Initial test for NOx and VOC using EPA reference methods or ASTM D6348
  - Annual testing may be by portable analyzer or EPA reference methods

Recordkeeping

- Inspections, maintenance and repair activity (see 113.D(1)) – per Section 112
- Initial and annual emissions testing – keep 5 years of records
- If limiting hours of operation:
  - Record hours of operation using non-resettable hour meter;
  - Calculate and record annual NOx and VOC emissions to demonstrate compliance with Table 1 or Table 3

Simple, right?!

Part 50 is a very complex rule

- Tools available already:
  - Timelines document
  - FAQ document (mostly updated)
  - Compliance checklists for each section of the rule
  - Template (for industry) for Compliance Data Reporting (beginning next summer)
- What else is needed (besides training on remaining sections of the rule)?

Conclusion

- **Inspectors and Reports Analysts:** You are the "face" of compliance and industry will likely ask you a lot of questions. Please don't feel like you need to answer if you are unsure; you can get back to them. And always justify any answers you give by citing portions of the rule. Pay attention to definitions!

- **Enforcement Specialists:** Your analysis will be crucial for defending compliance determinations.

Thank you for all you do. We'll get through this … together!