Flexibility and Alternative Monitoring: Dugway Proving Ground’s Success Story with Fuel Burning Equipment

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Dugway Proving Ground

- Located in western desert regions of Utah
- More than 790,000 acres in size
- Laboratory and test facilities
- Test and training ranges
- Air emissions subject to Title V operating permit
- Permit covers FBE, facilities, and activities
FBE Types and Requirements

- Significant Boilers and Heaters
- Boilers subject to 40 CFR 60 Subpart Dc
- Insignificant Boilers and Heaters
- Housing and Civilian FBE
- Emergency Generators
- Portable Generators
FBE Types and Requirements

- Boilers and Heaters
  - “Significant”
    - 1 MMBTU Oil-fired
    - 5 MMBTU Gas-fired
  - LSTF & LNCTF FBE
  - 40 CFR 60 Subpart Dc
    - “Insignificant”
  - Housing and Civilian
  - Requirements: opacity, records, fuel monitoring
FBE Types and Requirements

- Emergency Generators
  - “Permanent”
  - Associated with buildings
  - Used during outages
- Portable Generators
  - Trailer-mounted
  - Power for remote locations
- Requirements
Evolution of DPG’s Title V Permit

• History
  – Notices of Intent (NOI) submitted as needed
  – NOI declared associated FBE & operational limitations
  – Regulators issue Approval Order
  – All Approval Orders combined in Title V

• Problems
  – FBE Mobility
  – Differing requirements for similar FBE
  – New monitoring and record-keeping requirements which were at odds with current practices
Flexible Approaches to FBE

• Three goals in correcting the Title V permit:
  – Revise monitoring and record-keeping requirements to incorporate DPG’s current practices
  – Standardize the monitoring and record-keeping for all of the FBE
  – Allow for FBE mobility within the installation
Revise Monitoring and Record-keeping

• Alternative Monitoring for Subpart Dc Boilers
• EPA’s Applicability Determination Index
  – http://www.epa.gov/Compliance/planning/data/air/adi.html
  – NSPS, NESHAP, MACT
  – Guidance letter dated February 20, 1992
    • Gas-fired boilers have no emission standards
    • Distillate oil-fired boilers meet emission standards
    • Monthly vs. daily monitoring
    • Common vs. individual monitors
    • Acceptable monitors: fuel bills, meters, tanks
3 Goals

- Protect environment
- Allow flexibility
- Monitor & report FBE consistently
Standardize Monitoring and Record-keeping

• Monthly fuel monitoring
  – Existing practice at Dugway
  – Dc Boilers monitored like other FBE
• New fuel use limitations for oil-fired boilers and portable generators
• Existing use of fuel bills now acceptable form of monitoring for all FBE
Standardize Monitoring and Record-keeping

- Monthly fuel monitoring
  - Existing practice
  - Dc Boilers vs. others
- Fuel-use limitations
  - Boilers
  - Portable generators
  - Controls emissions
- LSTF & LNCTF
  - Incorporated with all other FBE
  - Removed hour limitations
- PSD Considerations
  - 1,000,000 gallons limit
  - SOx emissions
• Portable generators
• Emergency generators
  – Original permit gave specific locations
  – Any move = permit modification
• Permitting process requires boundary concentrations

• “One-point” modeling
  – Near DPG border
  – Highly unlikely
  – Very conservative
• Regulator approval
  – DPG explained needs and proposed model
  – Regulators agreed model was appropriate
Summary

• FBE Types
  – Boilers
    • 40 CFR 60 Dc
  – Emergency generators
  – Portable generators

• Problems
  – FBE mobility
  – Monitoring & record-keeping
  – Unique requirements

• Solutions:
  – EPA guidance
  – Negotiations
  – Including current practices

• Results:
  – Revised monitoring
  – Standardized record-keeping & monitoring
  – FBE mobility
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