

# VDEQ Generator Requirements and Other Generator Topics

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# 2009 General Assembly

## ▶ DR legislation:

- *Adopt an air general permit or permits for the construction, installation, and operation of distillate oil, natural gas, liquid propane gas, and bio-diesel fired electric generating facilities that participate in a voluntary demand response program (i.e. load curtailment, demand response, peak shaving or like program) and that qualify as non major facilities under the Clean Air Act Amendments of 1990.*

## ▶ Emergency Gen legislation:

- *Adopt a general permit or permits for the use of back-up generation to authorize the construction, installation, reconstruction, modification, and operation of emergency generation sources during ISO-declared emergencies. Such general permit or permits shall include a definition of "emergency" that is compatible with the ISO's emergency operations manual.*

# Two General Permits

- ▶ Finalized and Effective: August 17, 2011
  - Demand Response GP: 9 VAC 5, Chapter 530
  - Emergency GP: 9 VAC 5, Chapter 540
  - Air Regs may be found at:  
<http://www.deq.virginia.gov/Programs/Air/LawsRegulationsGuidance.aspx>
- ▶ Applicability
  - DR Applicability [Compression Ignition (CI), Diesel]: 1.1 MW but less than 59 MW
  - Emergency Applicability [CI, Diesel]:
    - Attainment areas: 1.1 MW to about 8 MW
    - Nonattainment areas: 1.1 MW to about 4 MW
  - Don't use these generalities for specific permitting decisions—read the regs.

# General Permits, Continued

- ▶ What they require (BACT and compliance):
  - Tier 4 NO<sub>x</sub> control
  - ULSD (0.0015% S)
  - Testing–for DR
  - Record keeping/Reporting/Notifications
- ▶ Issued 4 Emergency Generator GPs
- ▶ 0 Demand Response GPs

# Modeling Efforts

- ▶ 2007 MARAMA Base Year
  - Identified known DG units in point source inventory
    - Expect this to underestimate the source sector
    - No other, better information available
  - Created a temporal profile
    - Used actual operational data from VA units
    - Dominion, enforcement orders
    - Assigned the temporal profile to identified units in the SMOKE preprocessor
- ▶ Conceptual Description:  
<http://www.marama.org/technical-center/emissions-inventory/2007-emissions-and-projections/version-3-2007-emissions-inventory>
- ▶ 2011 BY?

# Challenges

- ▶ EPA's Lack of Concern
  - VDEQ commented on this issue in several venues
  - As yet, no response
- ▶ Inventory
  - Not well represented in inventory
  - NONROAD model doesn't include DR or EG engines, for the most part
  - Emission factors depend on model year of engine
  - Point source/nonroad source split
  - Temporal profiles
    - Anecdotally, appears to be highly area specific
    - Weather, existing EGUs, and transmission options

# Challenges–Data

- ▶ Information on DR and EG programs very difficult to get
- ▶ OTC has been trying
- ▶ Dominion’s IRP:
  - <https://www.dom.com/about/pdf/irp/chapter-1.pdf>
  - “Demand–Side Resources–approved and extended DSM programs reaching approximately 374 MW by 2028; proposed and future DSM programs reaching approximately 170 MW by 2028;”
    - How much is fuel combustion?
    - How much of the fuel combustion is not well controlled?

# Questions?

