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June 30, 2005

**NEW MEXICO ENVIRONMENT TECHNICAL NOTE NO. 8**

**SUBJECT: ECS – AIR QUALITY ASSESSMENT TOOL**

**Purpose:** To distribute Environment Technical Note 8.

**Effective Date:** When received.

**Filing Instructions:** Maintained on web page.

Attached is Environment Technical Note 8, revised from a national draft tool developed in March 2003. This assessment tool should help in identifying air quality resource concerns and in determining how to address that resource concern.

GEORGE CHAVEZ  
State Resource Conservationist

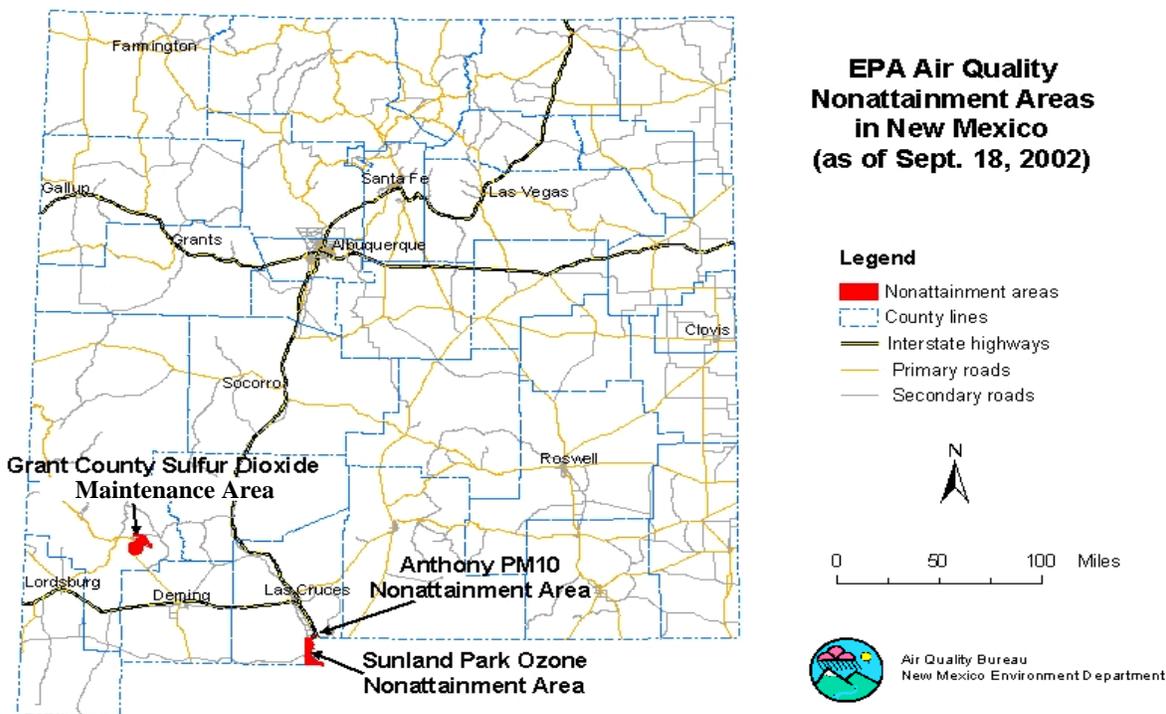
Attachment

## New Mexico Environmental Technical Note 8: Air Quality Assessment Tool

This assessment tool should help field offices determine whether or not they have air quality/atmospheric resource issues/concerns and then how to address that issue concern.

**1. Is the Conservation Treatment Unit (CTU) in a non-attainment area?**

- PM10 (Anthony)     
  PM2.5 (None identified)     
  Ozone (Sunland Park)  
 Other Do you want to consider methods to reduce PM anyway?



### PM10

**Are there unpaved roads and equipment areas? If yes, consider practices/techniques that reduce or eliminate PM10 generation such as:**

- Synthetic/organic suppressants for PM control
- Water
- Speed or traffic reduction techniques (speed bumps, speed limits, gates)
- Mulches (hulls, wood chips)
- Paving or gravel surfaces (NCPS No. 560).

**Is there any surface disturbance? If yes, consider practices/techniques that reduce or eliminate PM10 generation such as: (on the fields)**

- Residue management practices (NCPS No. 329C, 344, 329B, and 329A,.)
- Vegetative barriers (NCPS No. 311, 327,340,332,601,386,603,393,342.)
- Irrigation management (NCPS No.449).
- Range management (NCPS No. 512 and 550)
- Forest management (NCPS No. 490, 460, and 380).
- Wildlife management (NCPS No. 422)
- Land reconstruction (NCPS No. 572, 543, 466, and 544).
- Recreation (NCPS No. 566 and 568).

**Are there any harvest operations? If yes, consider practices/techniques that reduce or eliminate PM10 generation such as:**

- Forest management (NCPS No. 666 and 660).
- Range Management (NCPS No. 511).

**Is there any track out on paved roads? If yes, consider practices/techniques that reduce or eliminate PM10 generation such as:**

- construction entrance

**Does wind contribute to PM generation and/or transport? If yes, consider practices/techniques that reduce or eliminate PM10 generation such as:**

- wind erosion control practices – windbreaks (NCPS No. 380, 650), vegetative barriers (NCPS No. 601), Cross Wind Ridges (589a), Cross Wind Trap Strips (589c), Stripcropping (585), Herbaceous Wind Barriers (603)

**Are there any feedlots/AFOs? If yes, consider practices/techniques that reduce or eliminate PM10 generation such as:**

- corral dust control (frequent manure scraping – 634)

**Is there any on-farm materials handling (grain elevator, bulk fertilizers, manure)? If yes, consider practices/techniques that reduce or eliminate PM10 generation such as:**

- waste utilization standard (NCPS No. 633)

## **PM2.5**

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**Is this an AFO? If yes, consider practices/techniques that reduce or eliminate PM2.5 generation such as:**

- Waste utilization and management (NCPS No. 313, 359, 633, and 317).
- Frequent manure removal/scraping (NCPS No. 634).
- Sprinkler irrigation
- Cover manure storage (NCPS No. 365).
- Biofilter installation (Amendments for Treatment of Ag Waste (591))
- Feed management (592)

**Is any agricultural or prescribed burning done? If yes, consider practices/techniques that reduce or eliminate PM2.5 generation such as:**

- **Consider non-burning alternatives and emission reduction techniques and follow smoke management plan (NCPS No.338).**

**Are diesel engines used in the operation? If yes, consider practices/techniques that reduce or eliminate PM2.5 generation such as:**

- **Switch out to electric engines**
- **Newer certified engines – diesel, natural gas or propane**
- **Retrofit existing engine – add-on technologies**
- **Alternative fuel blends**

**Is there any on-farm materials handling? If yes, consider practices/techniques that reduce or eliminate PM2.5 generation such as:**

- **Waste utilization and management (NCPS No. 313, 359, 633, 365, 317, and 364).**

### **Ozone (Ozone precursors are both VOCs and NOx)**

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**Is any agricultural or prescribed burning done? If yes, consider practices/techniques that reduce or eliminate both NOx and VOC generation such as:**

- **Consider non-burning alternatives and emission reduction techniques and follow smoke management plan (NCPS No. 338).**

**Are nitrogen fertilizers used in the operation? If yes, consider practices/techniques that reduce or eliminate VOC generation such as:**

- **Consider N formulation of fertilizer (NCPS No. 590)**
- **Fertilizer incorporation (NCPS No. 590)**
- **Application rate, method and timing (NCPS No. 590)**

**Is animal waste utilized on the farm? If yes, consider practices/techniques that reduce or eliminate VOC generation such as:**

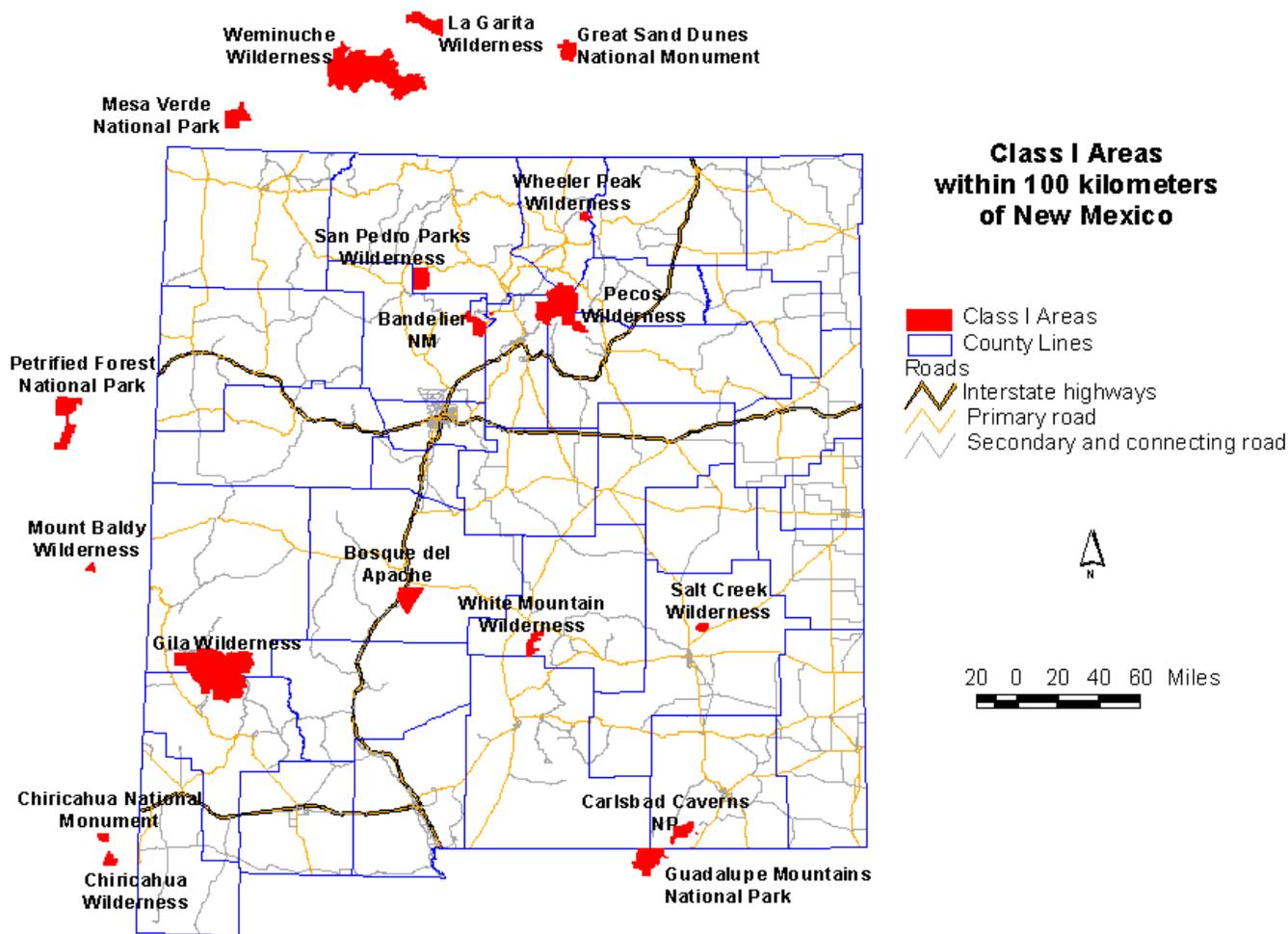
- **Waste utilization (NCPS No. 633)**
- **Composting (NCPS No. 317)**

**Are pesticides used on the farm? If yes, consider practices/techniques that reduce or eliminate VOC generation such as:**

- **Consider different formulations and application techniques - Pest management (NCPS No. 595).**

**Are combustion engines used on the farm? If yes, consider practices/techniques that reduce or eliminate NOx generation such as:**

- **Switch out to electric or cleaner burning natural gas engine**
- **Retrofit existing engine**
- **Alternative fuel blends**



**2. Is the CTU within 50 km (~31 miles) of a Class I area? (Near IS<50 km) (smoke/visibility, NOx, O3, VOC, NH3)**

**Consider practices/techniques that reduce or eliminate smoke generation**

- Emission reduction techniques
- Use of non-burning alternatives (i.e., chipping, debris removal)
- Crop Residue Management (NCPS No. 329C, 344, 329B, and 329A,.)
- Smoke management plan (NCPS No. 338).
- No-till or Minimum Tillage (NCPS No. 329C, 344, 329B, and 329A,.)

**3. Is the CTU within X miles of a concentrated population (X people/mile) or a major transportation corridor (freeway, interstate highway, state highway, airport, vehicle miles traveled)? (nuisance, safety) If yes, Consider practices/techniques that will reduce or eliminate generation of PM or smoke.**

**Consider practices/techniques that will reduce or eliminate generation of odor.**

- Feed management (592)
- Biofilters (591)
- Control manure moisture
- Manure management (NCPS No. 590, 313, 359, 633)
- Slurry injection
- Composting (NCPS No. 317)

**4. Are pesticides applied to the CTU? (VOCs, drift) If yes, Consider practices/techniques that will reduce or eliminate drift such as:**

- Consult label directions
- Windbreak (NCPS No. 380, 650)
- Application techniques (NCPS No. 595)

**Consider practices/techniques that will reduce or eliminate generation of VOCs such as:**

- Change pesticide formulation if possible (NCPS No. 595)
- Integrated Pest Management (NCPS No. 595)

**5. Are greenhouse gases (ghgs) regulated? (CH<sub>4</sub>, N<sub>2</sub>O, CO<sub>2</sub>, CFCs,) Not yet in New Mexico.**

**Consider practices/techniques that will offset or reduce generation of CH<sub>4</sub> such as:**

- Digesters for electricity generation (NCPS No. 365)
- Feed management (592)
- Livestock management

**Consider practices/techniques that will offset or reduce generation of N<sub>2</sub>O such as:**

- Fertilizer formulation (NCPS No. 590)
- Soil management

**Consider practices/techniques that will offset or reduce generation of CO<sub>2</sub> such as:**

- Reduced tillage
- Use of renewable energy
- Reduce or Eliminate open burning
- C-sequestration practices to offset CO<sub>2</sub> emissions

**6. Are plant and animal health and productivity, and human comfort adversely affected by air circulation?**

- Construction of windbreaks, herbaceous wind barriers and/or hedgerow planting will disturb air flow serving to increase/decrease air flow and reduces energy costs.
- Use of fans and air dams
- Building design