# *Appendix N*

Control Option 42

## Control Options Analysis for Rocky Mountain National Park Initiative

*Proposed Implementation of expansion of 1-hour VOC RACT requirements to the entire 8-hour EAC area*

**Purpose**

**Purpose:** This analysis presents the pros and cons of expanding the applicability of Regulation No. 7's Reasonably Available Control Technology (RACT) requirements to the 8-hour ozone control area from the current Denver 1-hour ozone attainment/maintenance area would require that the rule requirements apply to existing and new facilities in order to achieve reductions in current and future emissions.

**Cost/Benefit**

**Costs:** The RACT requirements in the 1-hour ozone attainment/maintenance area are applied to VOC sources with potential emissions of over 100 tons per year. Sources can take synthetic minor requirements (production, hourly limitation, and controls) to avoid RACT and be under the 100 tpy threshold. The 1-hour ozone area does not include the counties of Weld, Larimer, and eastern sections of Adams and Arapahoe that are included in the 8-hour EAC area.

**Costs:** Expanding the RACT area would capture 51 miscellaneous VOC sources over 25 TPY (actuals) and 14 miscellaneous VOC sources over 100 TPY. In addition, 832 tank batteries over 25 tpy would be in this additional area. Of these tanks, 357 are uncontrolled. If these tanks were subject to RACT (assuming RACT for a tank battery is a flare and control efficiency is 95%), about 12, 850 tpy could be reduced for a cost range of $2.5 - $5.2 million dollars. Please see VOC details (miscellanous and tank batteries) sheets for more information.

**Costs:** RACT for the other miscellaenous VOC sources include the use of low or no-VOC solvent coatings, the use of high-transfer efficiency equipment, and the implementation of good housekeeping practices. RACT for these sources will have to be made on a case-by-case basis. However, typically RACT can reduce VOC emissions on average 40 - 50%. The total VOC emissions from miscellaneous sources subject to the expansion is 19,800 tpy uncontrolled and 3,950 tpy controlled. Therefore, if a 40% RACT (on average) were applied to these sources, a reduction of 1,580 tpy could be achieved. A thorough cost analysis could not be conducted due to case-by-case situtations. On average, VOC reductions per ton for RACT is about $2000. Therefore, the cost can be estimated at approximately $3.2 million dollars.

**Disadvantages:** RACT beyond tank batteries will have to be examined on a case-by-case basis and moderate controls and inspections will have to be required to ensure sufficient VOC reductions. However, since there are only 51 miscellaneous VOC sources and only 14 sources over 100 tpy, this should take moderate effort undertaken by both industry and the APCD and is not unreasonable.

**Implementation**

Expanding RACT requirements could achieve overall VOC emission reductions up to 14,500 tpy for a cost range of $6 - $8.5 million dollars. RACT

**Viability**

**The realistic implementation date for the VOC RACT expansion will take several years due to regulation changes and case-by-case examination of larger miscellaneous VOC sources. However, once regulations are set in place, the expansion should be relatively straightforward and implementable.**