

# Annual Emissions Goal

## For Fire

As required by 40 CFR 51.309(d)(6)(v), an annual emissions goal will be established yearly to minimize emission increases from fire, excluding emissions from wildfire. This requirement is a result of federal and state land managers' projection of "significant increases in prescribed fire in order to reduce the effects of wildfire resulting from past decades of fire suppression."<sup>1</sup> The emissions goal will be determined by quantifying the emission reductions obtained through the use of emission reduction techniques (ERT) on a project specific basis. The emission goal will be established for the upcoming fire projects prior to the beginning of the fire season, either at the beginning of the calendar year or before the year begins. In addition, the emission goal will be established in cooperation with states, federal land management agencies, and private entities.

### **Prescribed Fire**

To establish the Annual Emissions Goal, the State of Utah will follow the following process. Firstly, the UDAQ will organize an annual meeting with Land Managers and will work collaboratively with the Land Managers to establish the goal. A review of the upcoming prescribed fire projects that is listed on the Annual Burn Schedule, a requirement of state administrative rule R307-204, will be made to determine appropriate ERT for each fire project using the feasibility criteria listed below. Once appropriate ERT are determined, then the benefit from using the techniques will be quantified. An assessment will be made of the ERT applied per project during the previous fire season to verify application and to improve the information base.

The Annual Emissions Goal is based on the use of ERT to minimize emissions from prescribed fire. An ERT is a technique for controlling emissions from prescribed fires to minimize the amount of emissions produced per acre or unit burned. Research has shown that fire emissions can be minimized through the use of ERT that increase combustion efficiency and reduce the smoldering stage of burning. There are six general categories of ERT: reduce the area burned, reduce fuel load, reduce fuel production, reduce fuel consumed, schedule burning before new fuels appear, and increase combustion efficiency. Information on available ERT will be gathered from the National Wildfire Coordination Group's (NWCG) *Smoke Management Guide for Prescribed and Wildland Fire*<sup>2</sup>, Environmental Protection Agency's (EPA) *Prescribed Burning Background*

---

<sup>1</sup> Grand Canyon Visibility Transport Commission 's *Recommendations for Improving Western Vistas*, June, 1996, page 23.

<sup>2</sup> NWCG's *Smoke Management Guide For Prescribed and Wildland Fire*, 2001 Edition.

*Document and Technical Information Document for Prescribed Burning Best Available Control Measures*<sup>3</sup>, policy documents issued by WRAP, and related field experience.

The benefit from using the technique(s) will be quantified either by quantifying the emissions averted through the use of ERT using available emission factors or quantifying the percent of total acres on which ERT are applied for all projected fire projects. The quantification of the emission reductions achieved through the use of the ERT constitutes the emissions goal.

During the annual meeting, an assessment will be made of the techniques applied during the previous fire season to verify application. Information on the types of ERT applied for each implemented prescribed fire project will be gathered from the Daily Emissions Report, a requirement of state administrative rule R307-204, to complete the assessment.

### Feasibility Criteria

The following feasibility criteria will be used to evaluate ERT for potential use: economic, safety, technical, environmental, and land management objectives. Examples of how to apply the feasibility criteria are listed below.

Economic: What are the economic costs of applying a certain ERT? Is a specific ERT more economical than others? Any ERT that significantly reduces crop yields or exceeds the cost of a crop is not likely to be accepted by farmers or growers. The same concern is relevant to the application of ERT on wildlands.

Safety: Are certain ERT not feasible due to public and firefighter safety concerns? Are certain ERT not feasible due to concerns related to containment of the fire, i.e. keeping the fire within certain boundaries? Do certain ERT minimize the possibility of nuisance and hazard smoke?

Technical: Are the equipment and resources available to utilize a specific ERT? Are sufficient training programs available in the use of ERT for the Land Managers?

Environmental: Are there specific air quality and non-air quality environmental limitations (e.g., vegetation/crop type, fire type, time of year, area in WRAP region, soil compaction, water quality, etc.) that influence the use of certain ERT?

Land Management Objectives: Is a certain ERT not feasible due to conflicts with land management objectives? Do certain ERT maximize the likelihood of achieving the land management objective of the burn?

---

<sup>3</sup> EPA's Prescribed Burning Background Document and Technical Information Document for Prescribed Burning Best Available Control Measures, September 1992.

## **Agricultural Burning**

According to 40 CFR 51.309(d)(6)(v), an annual emissions goal will be established yearly to minimize emission increases from fire. Since the term “fire” includes agricultural burning, the UDAQ worked collaboratively with the Utah Farm Bureau Federation and Utah State University Extension to determine whether emissions from agricultural burning are indeed increasing. Results from a survey conducted in 2003 by the Utah State University Extension<sup>4</sup> demonstrated that agricultural burning has decreased by 48% from 1996 to 2002. Therefore, an annual emission goal is not needed at this time for agricultural burning. In the future, if emissions tracking activities show an increase in agricultural burning emissions, then UDAQ will evaluate whether an Annual Emissions Goal is needed.

---

<sup>4</sup> *Agricultural Burning in Utah and the Regional Haze Rule*, Utah State University Extension, in collaboration with the Utah Farm Bureau Federation. Logan, Utah. July, 2003.