

**MEMORANDUM OF AGREEMENT
AMONG THE NEZ PERCE TRIBE,
THE IDAHO DEPARTMENT OF ENVIRONMENTAL QUALITY,
IDAHO STATE DEPARTMENT OF AGRICULTURE, AND
THE U.S. ENVIRONMENTAL PROTECTION AGENCY
RELATING TO AGRICULTURAL SMOKE MANAGEMENT IN THE
CLEARWATER AIRSHED**

WHEREAS, the Nez Perce Tribe (Tribe), the United States Environmental Protection Agency Region 10 (EPA), the Idaho Department of Environmental Quality (IDEQ), and the Idaho State Department of Agriculture (ISDA) (the Parties) each desire to develop an agreement to coordinate and assist in smoke management issues to protect public health, safety and welfare in the Clearwater Airshed (Airshed);

WHEREAS, the Airshed generally includes Latah, Nez Perce, Clearwater, Idaho, and Lewis Counties and the Nez Perce Reservation as described in the Treaty of 1863 (Reservation);

WHEREAS, the Airshed includes areas which fall under the regulatory authority of the State of Idaho, the Nez Perce Tribe, and EPA;

WHEREAS, the Clean Air Act as amended (42 U.S.C. 7661 *et. seq.*) established numerous programs and regulations which apply generally to all lands within the state of Idaho, including the Reservation;

WHEREAS, EPA has proposed rules under the Clean Air Act to control air quality and agricultural burning on the Reservation, and has entered into a Direct Implementation Cooperative Agreement with the Tribe to develop a voluntary smoke management plan for the Reservation;

WHEREAS, the Parties are committed to jointly developing and implementing a long-term smoke management strategy for the Airshed;

WHEREAS, the state of Idaho and the Tribe are jointly funding a meteorological contractor which analyzes meteorological data and provides a daily burn recommendation to be used by the Parties for burn and no-burn decision making; and

THEREFORE, the parties agree to enter into this Memorandum of Agreement (Agreement) as follows:

1. The IDEQ Emergency Rule (IDAPA 50.01.01.550-562) and the ISDA Crop Residue Disposal Rules (IDAPA 02.06.16), will be followed in the Airshed.

2. The Parties agree to work collaboratively to ensure that regular and timely coordination occurs (e.g., meetings, conference calls, electronic mail, and facsimile) for effective smoke management in the Airshed.
3. Each Party will share with the other Parties all information and data that are collected and considered for managing smoke from agricultural burning.
4. Each Party agrees to provide reasonable notification when conducting visits to burn sites or visiting growers in the following manner. The Tribe will be notified when the other Parties conduct site visits within the exterior boundaries of the Reservation, and ISDA will be notified when representatives of either the Tribe or EPA conduct visits outside of the Reservation boundaries. As determined feasible and appropriate, joint site visits will be arranged within the affected Airshed.
5. All Parties agree to coordinate complaints and investigations in the following manner. In all cases, the Parties shall ensure that complaints are forwarded or investigations are conducted within a reasonable time.
 - a. Complaints received and investigations by one Party shall be forwarded to the contacts listed for all other Parties.
 - b. EPA and the Tribe will designate an employee of the Tribe as a representative of EPA to respond to complaints and participate in investigations within the exterior boundaries of the Reservation.
 - c. ISDA will designate a local representative to respond to complaints and participate in investigations outside of Reservation boundaries.
 - d. Representatives of ISDA and the Tribe may jointly respond to complaints. Representatives of IDEQ and EPA may participate in those responses and investigations based upon the appropriateness (significance) of associated health and welfare issues.
6. The Tribe and IDEQ, with the assistance of ISDA and EPA, will work together to develop smoke management guidance documents for the Airshed. As is feasible and possible within available resources, the Tribe, IDEQ, and ISDA will work together to create a GIS map of agriculture field coverage for the Airshed.
7. Consistent with IDEQ Emergency Rule (IDAPA 50.01.01.550-562) and the ISDA Crop Residue Disposal Rules (IDAPA 02.06.16), the Parties agree to work together in a timely manner to coordinate agricultural burn decisions so as to achieve consensus among the Parties for all agricultural burning within the Airshed, with participation from local stakeholders, as outlined in the Clearwater Airshed Smoke Management Program Operations Guide 2002 (Attachment A).
 - a. The Tribe and State will ensure that meteorological modeling data is generated by the joint State/Tribe meteorological contractor and provided to the Parties in a timely manner.

- b. Local burn decisions by the Parties will also consider the particulate and weather balloon data, growers' input, other weather station information, and current wildland fire conditions.
 - c. If consensus cannot be reached that meteorological, balloon release, and/or monitoring data shows conditions are favorable to support a burn decision for an area within the Reservation identified by EPA and the Tribe, in consultation with ISDA and IDEQ, a local no-burn decision shall be designated.
8. The Parties intend to coordinate outreach to the public and to the local media in order to inform and educate the public about smoke management issues within the Airshed.
9. The Parties agree to work with other government agencies, local advisory groups, and appropriate entities involved with smoke management issues.
10. In addition to the foregoing, the Parties agree that each Party will have the following roles and responsibilities, and will notify the other Parties as soon as possible if its resources may be inadequate to fulfill these tasks in the future.

ISDA

- ISDA will serve as the central repository for information related to agricultural burning and for notification of burn/no-burn decisions in the Airshed.
- ISDA will prepare daily updates of the acres registered for crop residue disposal and the reported burned acres. The updates will be available electronically to the Parties.
- ISDA will provide copies of all field registration forms for the Reservation portion of the Airshed to the Tribe.

The Nez Perce Tribe

- The Tribe will conduct daily balloon launches during the burn season on the Camas Prairie within the Reservation boundary, and will submit the balloon launch data to the State/Tribe meteorological contractor and to ISDA.
- The Tribe will establish, operate and maintain continuous monitoring sites in Kamiah and near Ruebens.

IDEQ

- IDEQ will operate and maintain the continuous monitoring sites in Lewiston, Grangeville and Moscow to support burn/no burn decisions.
- IDEQ will consult, where practicable, with the Parties regarding decisions under the IDEQ emergency episode criteria.
- IDEQ will provide for a 24-hour complaint hotline service and ensure daily distribution to the Parties of summaries of the calls received.

EPA

- EPA will participate in the burn/no burn decision making if there is a disagreement among the other Parties.

- EPA will work with the Parties to develop and implement a joint smoke management plan.

11. All notices, reports, and submittals made pursuant to this Agreement shall be addressed to the following contacts:

Kerby Cole
Regional Air Quality Manager
Idaho Department of Environmental Quality
Lewiston Regional Office
1118 F Street
Lewiston, Idaho 83501
Phone: (208) 799-4370
Facsimile: (208) 799-3451
E-mail: kcOLE@deq.state.id.us

Julie Simpson
Environmental Specialist
Nez Perce Tribe Environmental Restoration and Waste Management Program
P.O. Box 365
Lapwai, Idaho 83540
Phone: (208) 843-7375
Facsimile: (208) 843-7378
E-mail: julies@nezperce.org

Doug Cole
U.S. Environmental Protection Agency
1435 North Orchard Street
Boise, Idaho 83706
Phone: (208) 378-5764
Facsimile: (208) 378-5744
E-mail: cole.doug@epa.gov

Curt Thornburg
Program Manager
Idaho State Department of Agriculture
2227 Old Penitentiary Road
Boise, ID 83712
Phone: (208) 332-8620
Facsimile: (208) 334-2283
E-mail: cthornbu@agri.state.id.us

If there is a change in any of the contacts identified above, the Party shall notify the other Parties within ten (10) working days. During a period of active burning, each Party will immediately notify the other parties if a designated contact is temporarily unavailable and identify a substitute contact.

12. Communications between the Parties while implementing this Agreement generally will be to those persons listed above. If a dispute arises, the issue will be presented in writing to immediate supervisors, and the staffs will present the matter to progressively higher levels of management until consensus is reached.

13. The Parties recognize that each Party reserves all rights, powers, and remedies now or hereafter existing in law or in equity, by statute, treaty, or otherwise. Nothing in this Agreement is or shall be construed to be a waiver of the sovereignty of the Nez Perce Tribe, the State of Idaho, or the United States. By entering into this Agreement, the Parties reserve, and do not waive, jurisdictional claims relating to proper application of the Clean Air Act or any other matter. The Agreement instead is intended solely to facilitate intergovernmental cooperation among the Parties and does not create any right in the Parties or other persons to seek administrative or judicial enforcement of provisions herein. No Party shall use this Agreement for the purpose of advancing any such jurisdictional claim.

14. This Agreement shall be reviewed annually and revised, if necessary.

15. This Agreement shall be effective upon the date of signature by all of the Parties. Any Party may voluntarily withdraw from this Agreement by providing thirty (30) days written notice to the other Parties.

NEZ PERCE TRIBE

BY: Samuel N. Penney

11-5-02
Date

BY: _____

Date

If there is a change in any of the contacts identified above, the Party shall notify the other Parties within ten (10) working days. During a period of active burning, each Party will immediately notify the other parties if a designated contact is temporarily unavailable and identify a substitute contact.

12. Communications between the Parties while implementing this Agreement generally will be to those persons listed above. If a dispute arises, the issue will be presented in writing to immediate supervisors, and the staffs will present the matter to progressively higher levels of management until consensus is reached.

13. The Parties recognize that each Party reserves all rights, powers, and remedies now or hereafter existing in law or in equity, by statute, treaty, or otherwise. Nothing in this Agreement is or shall be construed to be a waiver of the sovereignty of the Nez Perce Tribe, the State of Idaho, or the United States. By entering into this Agreement, the Parties reserve, and do not waive, jurisdictional claims relating to proper application of the Clean Air Act or any other matter. The Agreement instead is intended solely to facilitate intergovernmental cooperation among the Parties and does not create any right in the Parties or other persons to seek administrative or judicial enforcement of provisions herein. No Party shall use this Agreement for the purpose of advancing any such jurisdictional claim.

14. This Agreement shall be reviewed annually and revised, if necessary.

15. This Agreement shall be effective upon the date of signature by all of the Parties. Any Party may voluntarily withdraw from this Agreement by providing thirty (30) days written notice to the other Parties.

IDAHO STATE DEPARTMENT OF AGRICULTURE

BY:

 1-27-03
Date

If there is a change in any of the contacts identified above, the Party shall notify the other Parties within ten (10) working days. During a period of active burning, each Party will immediately notify the other parties if a designated contact is temporarily unavailable and identify a substitute contact.

12. Communications between the Parties while implementing this Agreement generally will be to those persons listed above. If a dispute arises, the issue will be presented in writing to immediate supervisors, and the staffs will present the matter to progressively higher levels of management until consensus is reached.

13. The Parties recognize that each Party reserves all rights, powers, and remedies now or hereafter existing in law or in equity, by statute, treaty, or otherwise. Nothing in this Agreement is or shall be construed to be a waiver of the sovereignty of the Nez Perce Tribe, the State of Idaho, or the United States. By entering into this Agreement, the Parties reserve, and do not waive, jurisdictional claims relating to proper application of the Clean Air Act or any other matter. The Agreement instead is intended solely to facilitate intergovernmental cooperation among the Parties and does not create any right in the Parties or other persons to seek administrative or judicial enforcement of provisions herein. No Party shall use this Agreement for the purpose of advancing any such jurisdictional claim.

14. This Agreement shall be reviewed annually and revised, if necessary.

15. This Agreement shall be effective upon the date of signature by all of the Parties. Any Party may voluntarily withdraw from this Agreement by providing thirty (30) days written notice to the other Parties.

IDAHO DEPARTMENT OF ENVIRONMENTAL QUALITY

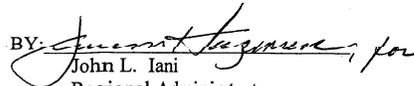
BY:  Date 11/23/02

13. The Parties recognize that each Party reserves all rights, powers, and remedies now or hereafter existing in law or in equity, by statute, treaty, or otherwise. Nothing in this Agreement is or shall be construed to be a waiver of the sovereignty of the Nez Perce Tribe, the State of Idaho, or the United States. By entering into this Agreement, the Parties reserve, and do not waive, jurisdictional claims relating to proper application of the Clean Air Act or any other matter. The Agreement instead is intended solely to facilitate intergovernmental cooperation among the Parties and does not create any right in the Parties or other persons to seek administrative or judicial enforcement of provisions herein. No Party shall use this Agreement for the purpose of advancing any such jurisdictional claim.

14. This Agreement shall be reviewed annually and revised, if necessary.

15. This Agreement shall be effective upon the date of signature by all of the Parties. Any Party may voluntarily withdraw from this Agreement by providing thirty (30) days written notice to the other Parties.

U.S. ENVIRONMENTAL PROTECTION AGENCY REGION 10

BY:  for 10-10-02
John L. Iani Date
Regional Administrator

Attachment A: Clearwater Airshed Smoke Management Program Operations Guide 2002

Purpose

This document identifies the roles and responsibilities of the Idaho Department of Environmental Quality (DEQ), Idaho State Department of Agriculture (ISDA), the Nez Perce Tribe (NPT), the Environmental Protection Agency (EPA), and local growers and industry to successfully implement an agricultural smoke management plan (SMP) within the Clearwater Airshed. Representatives from these groups, agencies, and governments agree to participate in Clearwater Airshed Advisory Groups. Members of the Clearwater Airshed Local Advisory Groups agree to meet annually to review and modify the guidance plan where necessary.

Recognizing that field burning is an agricultural tool to control disease, weeds and pests, remove crop residue, and for other agronomic reasons, the participants are dedicated to reducing smoke and the adverse public health and welfare¹ impacts of smoke generated by agricultural practices.

The objectives of this SMP are:

1. To minimize the generation and/or impact of smoke when prescribed burning is necessary.
2. To minimize emissions before, during and after the burn.
3. To prevent impacts which trigger the State's Emergency Episode Rule.
4. To utilize reasonable efforts to dissipate agricultural smoke in such a manner to assure that National Ambient Air Quality Standards (NAAQS) are not exceeded.
5. To minimize impacts of smoke in sensitive areas.
6. To address smoke transport issues through enhanced communication.
7. To develop and maintain a system to track acres burned.
8. To encourage and use alternative treatments where environmentally acceptable, technologically feasible, and economically reasonable.
9. To coordinate planning and outreach efforts of all participants to reasonably support all objectives of the smoke management plan.

¹ In section 302(h) of the Clean Air Act, welfare is described as "all language referring to effects on welfare includes, but is not limited to, effects on soil, water, crops, vegetation, manmade materials, animals, wildlife, weather, visibility, and climate, damage to and deterioration of property, and hazards to transportation, as well as effects on economic values and on personal comfort and well-being, whether caused by transformation, conversion, or combination with other air pollutants."

To meet these objectives, participants need to help develop and abide with the smoke management program.

Introduction

This document is a guide to agricultural crop residue disposal smoke management program (SMP) for the State of Idaho and the Nez Perce Tribe (NPT) for the Clearwater Airshed. This guide is for all involved in agricultural smoke management and hopes to provide a concise overview of the smoke management operations process.

According to the recommendation of the Air Quality Policy on Agricultural Burning from the Agricultural Air Quality Task Force of the USDA, the most common reasons to burn are:

- to reduce harvest crop residues that inhibit tillage or soil preparation,
- to decrease the need for herbicide and pesticide application for pest and weed management,
- to provide stimulation for seed production required by crops such as bluegrass and promote substantial re-growth,
- to reduce fire hazard.²

Smoke is composed of particulate matter (PM), gases, and water vapor. Most of these particles are very small (2.5 microns or smaller, which is less than the diameter of a human hair). When inhaled, these small particles may lodge deep in the lungs and hinder oxygen from reaching the blood stream. The body cannot readily expel the particles so they may stay in the respiratory system for a prolonged time. Smoke-related health problems will depend on level of exposure, individual age and susceptibility, and other factors. Health risks associated with PM include worsening of asthma and other cardiopulmonary diseases. Healthy individuals will normally recover from smoke exposures and not suffer long-term consequences. However, prolonged or repeated exposure can make recovery lengthier. Certain sensitive populations such as those suffering from cardiopulmonary disease, children or the elderly, may experience more severe acute and chronic symptoms from smoke exposure and take longer to recover. More research is needed (and some of it is underway) to determine how particulate matter from fires affects these groups differently. For more information on the affects of smoke on sensitive populations read "Wildfire Smoke: A Guide for Public Health Officials."³

² Air Quality Policy on Agricultural Burning, recommendation from the Agricultural Air Quality Task Force, USDA, November 10, 1999.

³ http://www2.state.id.us/deq/air/smoke/Wildfire_Smoke_Guide.pdf

The National Ambient Air Quality Standards (NAAQS) are the standards used to decide if the air quality is degraded and therefore a health risk. EPA sets these standards; for PM2.5, the levels are 65 micrograms per cubic meter for 24-hour average and 15 micrograms per cubic meter annual average. However, these levels do not adequately cover short-term exposure risks. Idaho has an Emergency Episode Rule for PM2.5 set at a level of 80 micrograms per cubic meter, one-hour average, when stagnant meteorological conditions exist and the conditions are predicted to persist. For the purposes of smoke management in the Clearwater Airshed, the DEQ emergency rule (as well as the ISDA Crop Residue Disposal requirements) will be followed throughout the Airshed.

The Clearwater Airshed has developed an innovative approach to smoke management in an area of mixed geography, multiple jurisdictions and shared agency responsibilities. The high level of cooperation between ISDA, DEQ, the Nez Perce Tribe, EPA, local growers and industry make this smoke management program unique and progressive.

The goal of the smoke management program is to minimize the impacts of agricultural burning on air quality, public health and welfare, while allowing growers to use the management tool of fire. This is done through determining days of good ventilation and dispersion, limiting acres and hours when conditions are not optimal.

Geographic Details of the Clearwater Airshed

Clearwater Airshed generally encompasses the counties of Clearwater, Idaho, Latah, Lewis, and Nez Perce, the Nez Perce Reservation, and is subject to the jurisdictions of the State of Idaho, the Nez Perce Tribe, and EPA. The Clearwater Airshed is the northern portion of the USGS hydrologic sub-region called the Lower Snake. *(A map of the airshed can be found in Appendix A).*

Smoke Management Program Operations

The daily and seasonal operations of the SMP are handled by ISDA with assistance from DEQ, the NPT, and EPA. The operation of the SMP was initially developed over the 2001 pilot year of the program with ISDA and IDEQ. Working with the local advisory Crop Residue Disposal (CRD) committees, ISDA, DEQ, EPA, and NPT developed a series of operational procedures for the Clearwater Airshed. The following sections include the basics of the Clearwater Airshed SMP operation.

- > Air Quality Management
- > Agency Obligations
- > Local Coordinators
- > Grower Obligations
- > Local Meteorology
- > Regional Meteorology
- > Monitoring and Background Air Quality
- > Daily Burn Call Operations
- > ISDA Crop Residue Disposal Website
- > Registration and Training
- > Approval Process
- > Reporting
- > Complaint Procedures
- > Public Information and Outreach
- > Websites for Additional Information

Air Quality Management

Our guiding principle is that air quality should not be allowed to degrade if reasonable control can maintain a higher level of air quality. This benefits everyone in the airshed; if saturation of the airshed does not occur then there will be greater opportunity for growers to accomplish necessary burning within a reasonable timeframe.

From experience we know that when designing a successful air quality management program, special attention must be paid to four issues:

- 1. Local and Regional Meteorology**
- 2. Background Air Quality**
- 3. Source Strength**
- 4. Control Measures**

"Meteorology" refers to the dispersion characteristics of the local and regional atmosphere. Close attention to meteorology allows us to predict the capacity of the atmosphere to disperse air pollution; this is critical to successful air quality management. We must have an awareness of local and regional atmospheric conditions to forecast how and where smoke will disperse. For the 2002 burn season from August through October, a meteorologist will be contracted to issue preliminary burn recommendations.

Local meteorological conditions of surface and upper air during a burn event determine if the smoke will rise and which direction it will go when it reaches the transport wind. If surface wind speed is too high (over 15 knots = 17 mph) the smoke will be pushed along the ground and not rise. If there is an inversion the smoke will only rise to the inversion and may settle back to the ground. The direction of the transport winds dictate if the smoke will move toward any sensitive receptors.

Regional meteorology allows us to understand what is developing on a larger scale in the Airshed. Regional meteorology helps us determine the type of conditions we may have before or after the burn event. It is important that adequate ventilation persist after the burn. If stable meteorological conditions will develop later in the day it will keep the smoke from dispersing properly. We can also adjust the burn prescription from morning to later in the day if morning conditions are not optimum and the Airshed may develop good dispersion later in the afternoon.

"Background air quality" refers to the recent and current air quality as measured by the monitors. It is essential to know where you are before starting toward a new goal or even when making routine adjustments to the program. Monitoring provides this background information. It also tells us how the airshed is responding to the smoke being added.

The Nez Perce Tribe and DEQ maintain a network of air quality monitoring sites in the Clearwater Airshed. These sites are well operated and maintained to meet federal requirements for data representativeness and reporting criteria. The sites include real-time instruments that measure Particulate Matter 2.5 (PM2.5) and at some sites, localized weather conditions. Location of the DEQ sites can be found on their website⁴.

"Source strength" refers to the amount of pollution entering the atmosphere during a fixed period of time from a given location or area. In the case of agricultural smoke management, we are talking about the number of acres burned each day in a particular airshed. Not only do the number of acres ignited each day need to be controlled, accurate reporting of acres actually burned is also essential. Knowledge of acres burned is vital to ensure that the smoke management team incorporates reasonable adjustments on a day-to-day basis.

"Control measures" refers to the ability to influence who is burning, how much, and when. It refers to program functions like outreach to growers so they know what is expected of them. It includes infrastructure like having sufficient field staff to provide a local presence to process registrations, get burn information out, and investigate complaints.

The smoke management plan (SMP) developed for the Clearwater Airshed has these four concepts incorporated into the management scheme. To understand these influences we must understand the jurisdiction and obligations of the agencies involved.

⁴ <http://www2.state.id.us/deq/air/air1.htm>. Also see the section in this document called "Monitoring and Background Air Quality" for more information.

Agency Obligations

Several agencies have a role in smoke management and crop residue disposal in the Clearwater Airshed.

Idaho State Department of Agriculture (ISDA) is tasked with the authority to promulgate rules relating to crop residue burning in the State of Idaho. Idaho Code § 22-4801.

The *Idaho Department of Lands* (IDL) issues Special Use Permits for fire management purposes under Idaho's Forestry Act. Idaho Code § 38-115.

The *Nez Perce Tribe* (NPT) works closely with the Environmental Protection Agency (EPA) on agricultural smoke management for the Reservation. Consistent with their government-to-government relationship, NPT and EPA have entered into an agreement whereby the Tribe performs many of the functions involving implementation of the CAA.

The *Environmental Protection Agency* (EPA) has authority to implement the Clean Air Act within the exterior boundaries of the Nez Perce Indian Reservation and has established a Direct Implementation Cooperative Agreement with the NPT to develop and implement an agricultural smoke management plan for the Reservation.

The *Idaho Department of Environmental Quality* (DEQ) is the state agency responsible to safeguard air quality and limit and control the emission of air contaminants. Idaho Code § 39-105(3)(d).

Local Coordinators

In order for the Clearwater SMP to be successful at the local level, two local SMP coordinators will work with growers, one for ISDA and one for the NPT. The coordinators will work together to ensure that local conditions support burning. Growers should get to know their local coordinators; working closely with them can help to ensure a successful crop residue disposal season. See Appendix B, Guidelines for Local Agricultural SMP Coordinators, for more information.

Grower Obligations (Control Measures)

The growers are key to the success of the smoke management program. Their understanding of the program and their support are critical to the success of the SMP. Growers are required to:

- ✓ Take ISDA training for burners,
- ✓ Register fields with ISDA (see Forms Appendix C),
- ✓ Phone in specific burn requests to ISDA at 1-866-224-2456,
- ✓ Obtain verbal approval from ISDA or the Tribe to burn for that day,

- ✓ Report back acres burned to local ISDA coordinator prior to receiving approval to burn additional acres,
- ✓ Provide adequate fire suppression,
- ✓ Burn only on designated burn days,
- ✓ Follow State- and Tribal-issued burn restrictions,
- ✓ Obtain all necessary permits from IDL, County, NPT and/or fire districts.
- ✓ Growers who lease tribally owned land within the exterior boundaries of the Nez Perce Reservation must also obtain a burn permit from the Nez Perce Tribe Land Services Program in Lapwai (208-843-7392). The Superintendent of the Bureau of Indian Affairs approves these burn permits. Growers must also obtain a fire permit from IDL. Only bluegrass crops are allowed to be burned on a regular basis. A copy of the Nez Perce Tribe bluegrass field burn permit is in Appendix C.

Local Meteorology

During the August through October burn season the NPT will launch balloons on the Camas Prairie every morning, except weekends and federal holidays, at approximately 7:00 AM. The operational procedure in Appendix D includes instructions for a two-person team. One person sets up the theodolite and balloon-filling system then fills the balloon. The second person sets up the data logger and readies the equipment to receive information from the temperature sonde (t-sonde). Once the equipment is ready, one person keeps time and records the reading while the other person follows the balloon and calls out the elevation and azimuth. Readings are taken every minute for a minimum of 20 minutes or until the balloon can no longer be seen. The entire process takes about two hours.

DEQ operates a meteorological tower in Moscow that measures wind speed, wind direction, and temperature. The NPT operates meteorological towers in Kamiah and Reubens. Data from other agencies' meteorological stations in Pullman, Lewiston, and Grangeville can be accessed via the web.

Regional Meteorology

Daily meteorological dispersion is forecasted by the contractor and reviewed by ISDA, DEQ and the NPT for the Clearwater Airshed. This information combined with the background air quality information, requested acres and other possible sources of smoke, such as wildfires, go into the determination of the burn decision.

Monitoring and Background Air Quality

DEQ operates three real time monitors near Grangeville, Lewiston and Moscow. These "TEOMs" measure PM2.5. The Nez Perce Tribe also operates TEOMs that measure PM2.5 located in Reubens and in Kamiah. The monitors are beneficial in many ways; they give us an idea of what the air quality has been previous to the burn days, they allow us to see if the current burn day is degrading the air quality, and they help to gauge any lingering effects of burning.

DEQ, NPT, and the meteorologist use this information to assist in the recommendation of good burn days, specific hours of adequate ventilation for each day, and the recommended number of acres and geographic limits of burn areas. See the meteorology sections in this document for more information.

DEQ and NPT will monitor the air quality and initiate air pollution emergency burn bans as well as enforcement of any violations of burn bans as per their jurisdictions. If the Airshed becomes saturated and there is the likelihood of air quality conditions becoming unhealthy and meteorological stagnation, DEQ can enforce a burn ban under the Emergency Episode Rule. DEQ will issue an Air Quality Advisory and notify ISDA to curtail burning. DEQ will also notify the NPT and EPA. For the purposes of SMP coordination in the Clearwater Airshed, DEQ's Emergency Episode Rule will also apply to the Nez Perce Reservation – if the rule is triggered, NPT and EPA will also curtail burning on the reservation. The local coordinators will contact the growers when a burn ban is issued.

Daily Burn Call Operations

Applicable to **All** Registered Fields (Grass and Cereal Grains):

1. In the morning, the contract meteorologist evaluates the local weather conditions utilizing various national and local weather information. During this time and throughout the day, the meteorologist has electronic access to DEQ and NPT monitoring data.
2. Based on the weather evaluation, pilot information, and current and previous air quality, the meteorologist decides if conditions are appropriate for good smoke dispersion. If local weather conditions are favorable, the meteorologist recommends a burn day plus the number of acres appropriate and the time to burn for each county (Latah, Nez Perce, Clearwater, Idaho, and Lewis). The meteorologist will also contact ISDA, DEQ and NPT each morning to provide a status update on conditions for burning. ISDA and the NPT then coordinate and designate which growers can begin field-burning operations. Daily burn/no-burn decisions will be posted on the ISDA website, and growers will be called if they can burn that day.

3. If the PM_{2.5} concentration at any one of the monitoring sites reaches 60 ug/m³ for a one-hour average during the burn period, the ISDA and local coordinators will reevaluate the meteorological conditions for smoke dispersion and take necessary action to minimize further impacts.
4. If the PM_{2.5} concentration at any one of the monitoring sites reaches 64 ug/m³ for a one-hour average during the burn period, all field burning will be curtailed and no additional fields allowed for burning for the rest of the day. Existing burns are allowed to burn out. The grower(s) may take additional action to increase the burn rate to complete an existing field burn(s) once a curtailment is announced.
5. At the recommendation of the meteorologist and an evaluation of the conditions it is the responsibility of the ISDA, the NPT and EPA, with the assistance of the local smoke coordinators, to make the decisions to limit or curtail field burning.
6. If weather conditions change and particulate levels drop below the trigger levels identified above, the ISDA, the NPT, EPA, and the local smoke coordinators have the discretion to decide whether to continue burning. The meteorologist will be available for consultation and make the call to halt burning.
7. On the morning following a burn day, the meteorologist will again evaluate the weather conditions for good smoke dispersion, the previous burn day events, and the current air quality conditions before providing recommendation to continue fielding burning that day.

To ensure good communication and coordination, it will be necessary for the burners to carry with them some type of communication device (such as a pager, radio or cellular phone) while in the field in the event a curtailment or suspension of burning is recommended for a period of time. Participants should have a contingency plan identified enabling them to reduce smoke emissions should a halt be called during a burn day.

ISDA Crop Disposal Website (Control Measures)

The meteorological contractor fills in a template with the hours, acres and ventilation recommendations for each day's burn calls. This information is posted to the ISDA website and is available to agency personnel and others wishing to be informed of the daily burn call. The general public and growers can also access the information on the website. In addition, growers have access to the information on the phone recording at 1-866-224-2456. The contractor's template and the ISDA website information are not authorizations to burn. Growers must obtain specific authorization from their local coordinators prior to field ignition.

Registration & Training

Registration forms can be found at ISDA offices (local and state), IDEQ Lewiston Regional Office, Idaho Department of Lands Offices, seed company offices, County Extension Educators, Soil Conservation District offices, the Nez Perce Tribe Land Services Program Office, and on ISDA's and the Tribe's websites^{5,6}. Please see a copy of the forms in Appendix C.

ISDA will serve as the clearinghouse for field registration. Growers are encouraged to register all their fields early with ISDA, so the agency can begin building a database sufficient to plan that the acreage be burned in a coordinated manner. In the case of crops such as Kentucky bluegrass that do not change from year to year, the registration form does not need to be filled out annually; it will be assumed that the grower will repeatedly burn the field. A good practice for growers would be to keep a copy of the prior registration form and notify ISDA that the same fields will once again need to be entered into the system. If an annual crop is removed from a field ISDA should be notified of any changes and if the field will be burned in the current year. ISDA and the NPT maintain the data of acres and location of registered fields.

While conservation land does not require registration it is a good idea to let ISDA, the NPT, and the local authorities know when you plan to burn, and choose an approved burn day. Notification enables the agencies to appropriately adjust the numbers of acres allowed to be burned.

The ISDA website contains the grower hotline phone number, daily burn/no-burn call information, the CRD rules and registration forms.⁷

Burn training is provided through the pesticide program within ISDA. For more information please call (208) 332-8605. The training includes information such as the need for air pollution reduction, agricultural burning rules, burning techniques, burn/no-burn days and a burning checklist.

Approval Process (Control Measures and Source Strength)

When a grower is ready to burn his registered fields, the burner or his designee calls ISDA on the toll-free line 1-866-224-2456 or calls the local coordinator to submit a burn request for their preferred burn day. This can be done up to two (2) days in advance. When calling the following information will be requested of the burner:

⁵ <http://www.agri.state.id.us/plants/BurnReq/CountySummary.aspx>

⁶ http://www.nezperce.org/Programs/land_services_program.htm

⁷ <http://www.agri.state.id.us/>

- Grower name, address, phone, etc.,
- Legal description of field location (Township, Range and Section). The more information the quicker the decision can be made,
- Number of acres requested to be burned,
- The burner's assigned field number from the registration form,
- Class (type) of field: turf grass, cereal grain, or forage grasses.

On the day of the burn, growers must wait for approval from ISDA to burn. ISDA takes the recommendation from the meteorologist, DEQ, and the approval from the Nez Perce Tribe and EPA for within the reservation, and determines which fields will be given approval for that specific burn day. ISDA then responds directly to the burner and gives specific approval of fields, acres and times for burning. This method of approval is an important means to avoid the potential risk of igniting too many acres and overwhelming the Airshed's capacity to handle the smoke.

Reporting (Source Strength)

Reporting the amount of acres burned is a requirement of the ISDA CRD Rule and should be made within 24 hours to the local coordinator or to the same toll-free number as requests (1-866-224-2456). *This is a critical step in the process of determining if the program is working correctly.* Analyzing the time and number of acres burned allows the program to identify problem areas. It also summarizes how well the burn prescription predicted by the local SMP coordinators was met. If for some reason, such as unfavorable local conditions (e.g. high winds, precipitation), the total amount of requested acres are not burned and the burner would like approval for the next burn day to finish the acres, the caller should make this known to ISDA when reporting the amount of acres burned.

Complaint Procedures (Control Measures)

ISDA and DEQ, in coordination with the NPT and EPA, will establish and maintain a complaint line for the burn season. The toll free number to receive complaints and comments concerning field burning is: 1-866-345-1007. ISDA will respond to complaints outside reservation boundaries, and the NPT will respond to on-reservation complaints.

The objective of the complaint procedure is to ensure that the complainant is given the opportunity to express input to the program. Complaints provide valuable feedback as to the success of the forecast and burn conditions. When it is not an approved burn day the complaint can also help to identify non-compliance activities or problem areas.

The better the information obtained from a complainant the more able smoke managers are to assess the situation and troubleshoot problems. If the wind is blowing too hard and the model did not forecast high winds the model can then be adjusted. If it is not a burn day or it is after the allowed burn time, local smoke coordinators can establish if the fire in question was planned, an accident, or an out of control burn. Information collected from the complainant includes:

- Name and phone number,
- Location (address),
- Time of day and type of burn if known,
- Physical description of the location such as canyon or across the road,
- What is the problem can it be smelled, seen or both,
- How thick is it, and how long has it been in this condition.

Often callers are not aware that rules are in place, and that growers are required to register and get approval before burning. The initial contact is viewed as an opportunity to educate the caller on the smoke management program. This is also the chance to make sure the person feels that their frustrations have been heard and that they are important to the operation of the SMP.

Public Education and Outreach

The Clearwater Airshed members intend to coordinate outreach to the public and to the local media to inform and educate the public about smoke management issues within the Airshed. Callbacks requested by complainants are a good opportunity to provide such information. Information notices will be published in the Lewiston Morning Tribune, the Nez Perce Tribal Newspaper Tats Tito'ooqan, the Clearwater Progress, and in the Moscow-Pullman Daily Herald. DEQ, ISDA, and the NPT will coordinate on articles and notices submitted to these newspapers and to other media outlets, including radio and television. The grass growers and/or grain grower associations may also submit notices and articles to the media for public education.

Websites for Additional Information

ISDA website address

<http://www.agri.state.id.us/Crop/crdinfo.htm>

Pacific Northwest MMS Weather Forecasts

<http://www.atmos.washington.edu/mm5rt/indexall.html>

Smoke and Dispersion Forecasts for Montana and Idaho

http://www.fs.fed.us/r1/fire/nrcc/Smoke_web_pages/forecast.htm

National Weather Service – Fire Weather

<http://www.wrh.noaa.gov/spokane/fire.htm>

Program for Fire Ecosystem and Fire Applications

<http://www.cefa.dri.edu/>

CEFA mixing heights

http://www.cefa.dri.edu/Operational_Products/NCEP_Exp/exp_index.htm

Most recent fires

<http://nhis7.web.noaa.gov/website/SSDFire/viewer.htm>

http://www.osei.noaa.gov/Events/Fires/US_Northwest/

http://www.fs.fed.us/r4/rsgis_fire/index.html

Washington state info, including wildfires and Pullman particulates data

<http://www.ecy.wa.gov/programs/air/airhome.html>