

United States Department of the Interior

BUREAU OF LAND MANAGEMENT
Arizona State Office
One North Central Avenue, Suite 800
Phoenix, Arizona 85004-4427

August 30, 2011

In Reply Refer To:
9211-1 (9340) P

EMS TRANSMISSION 08/31/11
Instruction Memorandum No. AZ-2011-028
Expires: 9/30/2013

To: District Fire Management Officers, District Fuels Specialists
From: State Director
Subject: Smoke Approval Process

Purpose: The purpose of this Instruction Memorandum (IM) is to identify the process and requirements for coordination of smoke management and prescribed burning treatments between the Bureau of Land Management (BLM) Arizona Fire and Fuels Programs and Arizona Department of Environmental Quality (ADEQ).

Policy/Action: The ADEQ currently requires each agency to coordinate smoke management and prescribed burning treatments in order to mitigate air quality impacts throughout the State. The BLM Arizona Fire and Fuels Program will comply with all mandates and timeframes required by the ADEQ to ensure that proper coordination between the two agencies is conducted.

There are **four** timeframes that must be met in order comply with the ADEQ mandates and timelines.

1. The annual program of work registration form required by ADEQ will be completed by field units and e-mailed to Rance Marquez, Fuels Specialist, at the State Office (SO) for review by January 10. The SO will compile the registrations and submit them to the ADEQ by January 15. Field units will be responsible for the remainder of the treatment (Attachments 2, 3 and 4) submissions.
2. The ADEQ Burn Plan form will be submitted to the ADEQ 2 weeks prior to the prescribed fire implementation.
3. Burn requests will be submitted to ADEQ by 1400 hours, the day before the prescribed fire implementation.

4. Daily prescribed fire accomplishments will be submitted to the ADEQ by 1400 hours on the business day following the date of the approved ignition.

In addition, if the prescribed fire is anticipated to produce a large plume, the plume report will also need to be submitted along with daily prescribed fire accomplishments.

It is recommended that during the National Environmental Policy Act analysis, if smoke modeling shows that smoke may have an effect on a neighboring state, it is advisable to coordinate with the adjacent state(s) smoke coordinator.

Timeframe: This IM is effective immediately. The ADEQ smoke year is based on the calendar year, January 1 - December 31.

Background: ADEQ's air quality protection efforts are designed to assure compliance with Federal and State health-based air quality standards. Responsibility for protecting Arizona's outdoor (ambient) air quality is shared by ADEQ and all land management agencies. In order to ensure air quality standards are met, it is the duty and responsibility of the BLM to ensure that all planned and unplanned wildland fire activities meet the requirements for reporting and are closely coordinated with ADEQ.

Budget Impact: None

Manual/Handbook Sections Affected: None

Contact: Questions should be directed to Rance Marquez at 602-417-9305.

SIGNED BY
Raymond Suazo
for James G. Kenna

AUTHENTICATED BY
Susan Williams
Staff Assistant

5 Attachments:

- 1 - [Hourly Plume Observation Report](#) (1 p)
- 2 - [ADEQ Annual Registration](#) (1 p)
- 3 - [ADEQ Burn Plan](#) (2 pp)
- 4 - [Daily Burn Form](#) (1 p)
- 5 - [Daily Burn Accomplishment Report](#) (1 p)

Annual Prescribed Burn and Non-Burning Alternative Registration (Ref. R18-2-1503)

UPDATED 090205

Contact Person Information:

Agency:

Name:

Address:

Phone:

Date (MM/DD/YY):

<u>Smoke Management Techniques</u>			
1. Ignition before 3:00 PM	2. Reducing Fuel Production	3. Reducing the area burned	4. Planned ignition 3/15-9/15
5. Ignition before new fuels appear	6. Increased Combustion Efficiency	7. Ignited under adequate ventilation	8. Other
<u>Emission Reduction Techniques</u>			
1. Pre-Burn Fuel Removal	2. Mechanical Processing	3. Ungulates	4. Burn More Frequently
5. Aerial / Mass Ignition	6. Rapid Mop-Up	7. Windrow Burning	8. Air Curtain Incinerators
9. Burn Before Green Up	10. Backing Fire	11. Maintain fire line intensity	12. Isolating Fuels
13. Concentrating Fuels	14. Chemical Treatment	15. Mosaic / Jackpot Burning	16. Moist Litter and Duff
17. Burn before large activity fuels cure	18. High moisture in large fuels	19. Under-burn before litter-fall	20. Piles 21. Other

***NBA= Non-Burning Alternative, SMT= Smoke Management Technique, ERT= Emission Reduction Technique, WFU= Wildland Fire Use.**

Burn Plan #	Project Name	SMU #	Primary Fuel Type	Max Daily Acres	Total Acres for year	ERT	% ERT Acres	SMT	Projected Season	General Location	Status New/Current/Complete	NBA y/n?	WFU y/n?

Unit Information

Burn Name:	County:	Acres in burn unit
Burn Number:	Burn Lat/Long	Acres Daily
Agency:	Predominant Fire Regime Condition Class (FRCC): (1-3)	
Township: (one per block)	Primary Smoke Management Number: (1-11)	
Range: (one per block)	Elevation: (ft) <i>Provide average elevation.</i>	
Sections: (multiple)	Unit Lined by: 1)Natural Barriers 2)Blackline 3)Wetline/Fireline 4)Trails/Roads 5)None	

Burn Information

Smoke Management

Primary Burn Type (only 1): 1)Broadcast (Natural), 2) Broadcast (Activity Non-piled), 3) Piles	Wind Direction: <i>Provide a single direction or a range of directions</i>
Burn Purpose: 1) Hazard Reduction, 2) Range Improvement, 3) Wildlife, 4) Ecology, 5) Research, 6) WUI	Representative Weather Station: <i>Provide name first, then number.</i>
Fire Technique: 1) Heading, 2) Backing, 2) Piles/Jackpot	Emission Reduction Techniques: <i>Provide numbers from table below.</i>
Ignition Method: 1) Aerial, 2) Hand, 3) Machine	1. Pre-burn Fuel Removal 2. Mechanical Processing 3. Ungulates 4. Burn More Frequently
Average Slope: (%)	5. Aerial/ Mass Ignition 6. Rapid Mop-up 7. Windrow Burning 8. Air Curtain Incinerators
Aspect(s): <i>Provide Predominant Aspect(s). (N, NNE, NE, etc.)</i>	9. Burn Before Green UP 10. Backing Fire 11. Maintain Fire Line Intensity 12. Isolating Fuels
Temperature: (°F) <i>Provide minimum and maximum values.</i>	13. Concentrating Fuels 14. Chemical Treatment 15. Mosaic/Jackpot Burning 16. Moist Litter and Duff
Relative Humidity: (%) <i>Provide min and max values.</i>	17. Burn before large activity fuels cure 18. High moisture in large fuels 19. Under-burning before litter fall 20. Piles
Mid-flame Wind Speed: (mph) <i>Provide min and max values.</i>	

Plume Sensitivity Areas within 15 Miles:

Diurnal Drainage Sensitive Areas within 15 Miles:

Fuels Information

Broadcast Burning

Piled Slash

Primary Fuel Type: (Select only one type)	1) Ponderosa, 2) Ponderosa/Grass, 3) Juniper, 4) Mixed Conifer, 5) Grass, 6) Shrub/Brush (Chap., Oak, Sage) 7) Mixed Conifer/Shrub/Brush	Number of Piles per Acre: <i>Provide the average number of piles per acre.</i>
Primary NFDRS Fuel Model: (A-U) <i>Select only one fuel model.</i>		Tons of Piles per Acre: <i>Provide the average fuel loading per acre.</i>
Harvest Date (If Applicable): mm/yy		Soil in Piles: (%)
Primary Duff Type: 1) Black (Litter Type), 2) Red (Rotten Log Type)		Primary Species: (>50%) 1) Ponderosa Pine, 2) Douglas Fir, 3) Cottonwood 4) Aspen 5) Rotten 6) Other
Sound and Rotten (Woody Fuels Only – Do not include piles)	Rotten (Woody Fuels Only – Do not include piles)	Primary Species: (%)
0.0-2.5 in. Fuels (T/A):	>3.0 in. Fuels (T/A):	Secondary Species: (<50%) 1) Ponderosa Pine, 2) Douglas Fir, 3) Cottonwood 4) Aspen 5) Rotten 6) Other
0.26-1.0 in. Fuels (T/A):	OTHER (Do not include these fuels in any other category)	Secondary Species: (%)
1.01-3.0 in. Fuels (T/A):	Stump 20+ in. Fuels (T/A):	Quality: 1) Clean 2) Dirty 3) Real Dirty
Sound (Woody Fuels Only – Do not include piles)	Shrub/Brush Fuels (T/A):	Dimensions: (ft) <i>Provide the average width and height of round piles, as well as the length if elongated.</i>
3.01-9.0 in. Fuels (T/A):	Grass/Herb Fuels (T/A):	Packing Ratio: 1) Ponderosa Pine <10 inches 2) Short needle conifer 3) Logs >10 inches
9.01-20 in. Fuels (T/A):	Average Litter Depth (T/A):	Submit burn plan forms at least 14 days before planned ignition.
>20.0 in. Fuels (T/A):	Average Duff Depth (T/A):	

Today's Date: (MM/DD/YY) / /
Ignition Date: (MM/DD/YY) / /

Daily Burn Form

Submit burn forms by 2:00 p.m. the day before the planned ignition date. Submit one daily burn form per burn for each planned ignition date.

BURN NAME:	
BURN NUMBER:	
ACRES TO BE TREATED:	
BURN LOCATION: (TT/RR/SS or SS-SS)	/ /
SMOKE MANAGEMENT UNIT NUMBER: (1-11)	
ARE THE ACRES REQUESTED THIS DATE LINED? (Natural, Blackline, Wetline / Fireline, Trail / Roads) <i>If acres are not lined, maximum area that could burn is _____</i>	Yes <input type="checkbox"/> No <input type="checkbox"/>
MULTIPLE OR CONSECUTIVE DAY BURN?	Yes <input type="checkbox"/> No <input type="checkbox"/>
EXPECTED DAYTIME PLUME BEHAVIOR:	
EXPECTED DIURNAL SMOKE BEHAVIOR:	
EXPECTED IMPACT ON SENSITIVE AREA(S) :	
COMMENTS: (Description of fuel conditions, fuel consumption, or smoke transport from previous day, etc.)	
Contact Name:	Contact Number:

Arizona Interagency Smoke Management Use Only		
REVIEWED BY:	CONDITIONS:	ACRES:

Daily Burn Accomplishment Form

Updated 10/18/05

Contact Number:	
Contact Name:	

Please submit accomplishment forms the day following ignition. Submit only one accomplishment for per burn for each ignition date.

BURN NAME:																						
BURN NUMBER:																						
IGNITION DATE: (MM/DD/YY)																						
ACREAGE TREATED: Area for which management objective(s) were achieved.																						
ACREAGE BURNED: Area blackened for broadcast burns only, not to exceed the acreage treated.																						
ACREAGE ERT(s) USED: Area in which emission reduction techniques were used.																						
BURN LOCATION: (TT/RR/SS or SS-SS)																						
BURN DURATION: (Hours)																						
IGNITION DURATION: (Minutes) Non-piled Activity fuels only																						
DEAD FUEL MOISTURE: (%) 10 hour																						
DEAD FUEL MOISTURE: (%) 1000 hour																						
DUFF FUEL MOISTURE: (%) (OPTIONAL) Natural fuels only																						
FUEL MOISTURE METHOD: 1) NFDRS 2) Measured 3) Both																						
DAYS SINCE LAST RAINFALL: Non-piled activity fuels only.																						
SNOW-OFF DATE: (MM/YY) Non-piled activity fuels only.																						
PRIMARY EMISSION REDUCTION TECHNIQUE: (Select the primary ERT for the treated acres.)																						
<table border="0"> <tr> <td>1. Pre-Burn Fuel Removal</td> <td>2. Mechanical Processing</td> <td>3. Ungulates</td> <td>4. Burn More Frequently</td> </tr> <tr> <td>5. Aerial / Mass Ignition</td> <td>6. Rapid Mop-Up</td> <td>7. Windrow Burning</td> <td>8. Air Curtain Incinerators</td> </tr> <tr> <td>9. Burn Before Green Up</td> <td>10. Backing Fire</td> <td>11. Maintain fire line intensity</td> <td>12. Isolating Fuels</td> </tr> <tr> <td>13. Concentrating Fuels</td> <td>14. Chemical Treatment</td> <td>15. Mosaic / Jackpot Burning</td> <td>16. Moist Litter and Duff</td> </tr> <tr> <td>17. Burn before large activity fuels cure</td> <td>18. High moisture in large fuels</td> <td>19. Under-burn before litter-fall</td> <td>20. Piles 21. Other</td> </tr> </table>		1. Pre-Burn Fuel Removal	2. Mechanical Processing	3. Ungulates	4. Burn More Frequently	5. Aerial / Mass Ignition	6. Rapid Mop-Up	7. Windrow Burning	8. Air Curtain Incinerators	9. Burn Before Green Up	10. Backing Fire	11. Maintain fire line intensity	12. Isolating Fuels	13. Concentrating Fuels	14. Chemical Treatment	15. Mosaic / Jackpot Burning	16. Moist Litter and Duff	17. Burn before large activity fuels cure	18. High moisture in large fuels	19. Under-burn before litter-fall	20. Piles 21. Other	
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DIURNAL PLUME CHARACTERISTICS:																						
REMARKS:																						
FUEL INFORMATION (BROADCAST BURNING)																						
PRIMARY FUEL TYPE:		1)Ponderosa 2)Ponderosa /Grass 3)Juniper 4)Mixed Conifer 5)Grass 6)Shrub/Brush (Includes Chaparral, Oak, and Sage) 7)Mixed Conifer /Shrub /Brush																				
PRIMARY NFDRS FUEL MODEL: (A-U)		FIRE REGIME CONDITION CLASS: (1,2,3)																				
HARVEST DATE: (If Applicable) MM/YY		PRIMARY DUFF TYPE: 1) Black (Litter Type), 2) Red (Rotten Log Type)																				
<u>SOUND AND ROTTEN</u> (Woody Fuels Only – Do not include piles)		<u>ROTTEN</u> (Woody fuels only – Do not include piles)																				
0.0 – 0.25 IN FUELS: (T/A)		>3.0 IN FUELS: (T/A)																				
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3.01 – 9.0 IN FUELS: (T/A)		GRASS /HERB FUELS: (T/A)																				
9.01 – 20 IN FUELS: (T/A)		AVERAGE LITTER DEPTH: (T/A)																				
>20.0 IN FUELS: (T/A)		AVERAGE DUFF DEPTH: (T/A)																				
FUELS INFORMATION (PILED SLASH)																						
NUMBER OF PILES PER ACRE: Provide the average number of piles per acre.																						
TONS OF PILES PER ACRE: Provide the average fuel loading per acre																						
SOIL IN PILES: (%)																						
PRIMARY SPECIES: (>50%) 1) Ponderosa Pine, 2) Douglas Fir, 3) Cottonwood, 4) Aspen, 5) Rotten, 6) Other																						
PRIMARY SPECIES: (%)																						
SECONDARY SPECIES: (<50%) 1) Ponderosa Pine, 2) Douglas Fir, 3) Cottonwood, 4) Aspen, 5) Rotten, 6) Other																						
SECONDARY SPECIES: (%)																						
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