

# \* PROCESS PAPER \*

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## HOW TO DETERMINE THE CATEGORIZATION OF ESCAPED PRESCRIBED FIRE

### CATEGORIZING NATURAL VS ANTHROPOGENIC FIRE EMISSIONS TASK TEAM

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**QUESTION:** What is the appropriate categorization for escaped prescribed fire (EPF) under the Regional Haze Rule (RHR)?

**BACKGROUND:** The RHR at 40 CFR 51.308(d) requires states (tribes), in coordination with federal land managers and other interested parties, to develop and implement visibility protection plans to reduce anthropogenic (man-made) air pollution that causes visibility impairment. 40 CFR 51.308(d)(3)(iv) requires states (tribe) to identify all anthropogenic sources of visibility impairment considered by states (tribe) in developing its long-term strategy.

**2001 POLICY STATEMENT:** The 2001 WRAP Policy for Categorizing Fire Emissions states that emissions resulting from EPF located outside the original burn unit will be treated as a wildfire under suppression. See page 17.

**ESCAPED PRESCRIBED FIRE:** An EPF is a prescribed fire declared a wildfire. EPF is not a small slop over that is not declared a wildfire.

The following is from the *Interagency Standards for Fire and Fire Aviation Operations*, Release Date: January 2005.

*“A prescribed fire will be declared a wildfire when the assigned Burn Boss determines that one or more of the following conditions or events has occurred or is likely to occur, and if these conditions cannot be mitigated within the next burning period by implementing the contingency actions in the prescribed fire plan by on-site holding forces and listed contingency resources staged during this operational period:*

- *The prescribed fire leaves the planned unit boundary.*
- *The fire behavior exceeds limits described in the prescribed fire plan and/or the fire is threatening to leave the planned unit boundary.*
- *The fire effects are unacceptable.*

- *Smoke production must be reduced because of adverse air quality impacts.*
- *Local and/or geographic area fire activity escalates and resources committed as contingency or holding forces are needed for re-assignment to other incidents.*

*After wildfire declaration, a prescribed fire project is over. A Wildland Fire Situation Analysis will define appropriate future management action.”*

**WRAP POLICY AUTHORITY:** Basically, any WRAP action, including policy adoption is not binding, leaving states and tribes free to adopt, modify or disregard anything the WRAP may have to say about regional haze. The following statement is from the WRAP Charter:

*“The WRAP has no regulatory authority and recognizes that all legal authority is reserved by its members in accordance with existing law.”*

**2005 GUIDANCE STATEMENT OPTIONS\*:**

- **Anthropogenic:** Emissions resulting from an escaped prescribed fire located outside the original burn unit are categorized as “anthropogenic”.
- **Natural:** Emissions resulting from an escaped prescribed fire located outside the original burn unit are categorized as “natural”.
- **Retain Original Classification:** Emissions resulting from an escaped prescribed fire located outside the original burn unit will retain the categorization assigned to the original burn unit.
- **State / Tribe Choose:** Emissions resulting from an escaped prescribed fire located outside the original burn unit will be categorized, according to state or tribal regulator preference. States and tribes are encouraged to work toward developing consistent application of EPF categorizations. This may be part of state or tribal smoke management plans and/or through WRAP FEJF’s Regional Coordination of Smoke Management Programs guidance process.

**\*NOTE:** WRAP members are encouraged to work cooperatively before, during, and after an EPF incident. The recommended EPF process is outlined below:

- EPF incident occurs.
- Burner takes appropriate fire management action.
- As soon as practicable, burner notifies regulator of EPF incident.
- Burner and regulator share information during the EPF incident.
- Following EPF incident, burner and regulator conduct an after action review.
- Regulator takes appropriate air quality management action.

**POSITION STATEMENTS:** The following statements were provided by individuals with the intent of describing their position on categorizing EPF through contextual statements. These statements are not necessarily factual, but represent current thought. Do not cite or quote these statements.

**ESCAPED PRESCRIBED FIRE CATEGORIZATION STATEMENTS**

CONTEXT	STATEMENTS
<p><b>WRAP Policy Consistency</b></p>	<p><b>NATURAL:</b> The WRAP Guidance does not alter or change the categorization policy set forth in the 2001 WRAP Policy for Categorizing Fire Emissions (WRAP Policy) document. Page 17 states the ability to control emissions from EPFs is limited, which is the same as that of wildfires under suppression. Categorizing EPF as "natural" is based on the principle that full suppression is the response, and nothing additional is possible to reduce emissions once a Rx fire escapes. This is the same response as applied to wildfire ("natural") that is either naturally or human ignited. Therefore EPF, and should be categorized the same way.</p> <p><b>ANTHROPOGENIC:</b> The WRAP Policy is ambiguous, in that it doesn't unequivocally say that EPF will be categorized as "natural."</p> <p>Rather it says the EPF shall be treated as a "wildfire under suppression." Wildfire under suppression is defined as "natural" and one reasonable interpretation is that EPF, by extension is also "natural."</p> <p>It also states that. "The EPA Interim Air Quality Policy on Wildland and Prescribed Fires (EPA Policy) be consulted for these escaped fire incidents." This EPA Policy clearly says that the response to escaped prescribed fires should be suppression, but any resulting high PM concentrations are treated like a prescribed fire under this policy, and not a natural event (e.g. they need a certified SMP. etc., and are not "natural.") This reference to the EPA Policy creates a contradiction within the WRAP Policy itself.</p> <p>If the guidance can concisely interpret the uncertain language of the WRAP Policy in a manner that EPA would find easier to approve, it would allow all the programs to proceed without having to reopen the WRAP Policy.</p> <p>"Natural" categorization of EPF removes emissions from this category from control, even though it is the result of human-caused ignition. EPF's, though rare, can cause much greater visibility and other air quality impacts than a prescribed burn under prescription in the same area. The perception of a free pass is difficult to explain away to the public. Intuitively, EPF should maintain the same designation of the prescribed burn that spawned it, or it should be "anthropogenic."</p>

CONTEXT	STATEMENTS
<p><b>EPA Policy Consistency</b></p>	<p><b><u>NATURAL:</u></b> The WRAP Policy and Guidance addresses emissions within the context of regional haze visibility protection under Clean Air Act (CAA) §169A. The EPA Policy Section VII(2) addresses emissions within the context of air quality standards protection under CAA §109. Therefore, WRAP Policy and Guidance do not need to be reconciled for consistency with the EPA Policy.</p> <p>Consistency with the EPA Policy was substituted into the Policy late in the development process in an attempt to compromise and gain consensus. The EPA Policy referenced in the WRAP Policy was an attempt to ensure NAAQS issues are addressed for wildfire (and EPF) episodes.</p> <p><b><u>ANTHROPOGENIC:</u></b> EPA Policy has numerous references to air quality and visibility protection.</p> <p>If there is a relationship between the WRAP Policy and the EPA Policy, the underlying principle of the EPA Policy is fundamentally inconsistent with the WRAP Policy. They both allow EPA to use its discretion, if state health protection and smoke management programs are in place, to designate Non-attainment, or consider how high PM ambient air quality due to wildfires is handled. EPA Policy does not consider EPF as a “natural” event. Trying to establish a relationship is meaningless because EPA Policy on Wildland and Prescribed Fire and the Natural Events Policy pertain to NAAQS, and the (WRAP) WRAP Policy addresses regional haze.</p>
<p><b>Fire Tracking System Accounting</b></p>	<p>The FTS tracks emissions from fire types, regardless of categorization. Within the FTS, the categorization of emissions as “natural” or “anthropogenic” is necessary in order to support apportionment, in association with monitored visibility data, to: <b><u>NATURAL:</u></b> ... address natural reductions in visibility from fire, and <b><u>ANTHROPOGENIC:</u></b> ... to identify those fire emissions that need to be controlled to achieve reasonable progress.</p> <p><b><u>NATURAL:</u></b> Logistically, separating emissions from escaped prescribed fire (no further reductions) is burdensome and misleading to EPA / public that emissions reductions may occur.</p> <p>By designating EPF emissions as “natural,” it is easier for fire manager to discern this category, especially if the entire fire is included.</p> <p><b><u>ANTHROPOGENIC:</u></b> A fire tracking system is designed to measure success in meeting the Annual Emissions Goal (AEG) and to assess reasonable progress is a core requirement of ESMPs in 309 states and tribes.</p>

CONTEXT	STATEMENTS
<p><b>Burner Internal Accountability</b></p>	<p><b><u>NATURAL:</u></b> An EPF is an unwanted condition burners consider extremely serious. Burners conduct internal investigations to review personnel credentials, burn plan conditions, etc. Fire emissions are minimized because the fire is treated as a wildfire under total suppression.</p> <p>Internal accountability provides large disincentives for decisions and actions leading to escape. There are numerous reasons to use prudent judgment within guidelines that carry far more weight on decisions than the WRAP Policy.</p> <p>The following is from the <i>Interagency Standards for Fire and Fire Aviation Operations</i>, Release Date: January 2005.  <i>“Escaped prescribed fires will receive an administrative review. The level and scope of the review will be determined by the injuries, damage and cost associated with the escape.  A prescribed fire that escapes and requires an expenditure of suppression funds or results in property damage, injuries, or fatalities will be investigated.”</i></p> <p><b><u>ANTHROPOGENIC:</u></b> The classification of an EPF as anthropogenic could be expected to lead to better burner accountability.</p> <p>Even though this WRAP Policy may not tempt a burner to carelessly or deliberately cause an EPF, there is fear on the air quality regulator’s side of a public perception that this WRAP Policy constitutes a “Get out of Jail” card that the regulatory agency will have difficulty explaining to the public, where smoke intrusions have occurred.</p>
<p><b>State / Tribe Regulatory Response</b></p>	<p><b><u>NATURAL:</u></b> Emissions from EPF cannot be categorized as anthropogenic because states and tribes cannot demonstrate to EPA / public further control of emissions since the response is total suppression.</p> <p><b><u>ANTHROPOGENIC:</u></b> There is ample room to interpret the WRAP Policy to categorize EPF as “anthropogenic.” If states and tribes choose to incorporate such guidance, it would allow the programs to proceed, with confidence that it would be a non-issue for EPA.</p> <p>The desire of states and tribes is to move forward under the adopted WRAP Policy with appropriate guidance for the next burning season, and not get hung up on subtleties.</p> <p>States and tribes could have better regulatory oversight if an EPF is anthropogenic.</p> <p>The regulatory response becomes more complicated as the regulatory agency must reconcile this WRAP Policy with other EPA policies related to NAAQS, especially if NAAQS and regional haze impacts are caused by the same EPF incident. Explaining this to the public would be very problematic.</p>

CONTEXT	STATEMENTS
<p><b>EPA Review Of RHR Requirements</b></p>	<p><b><u>NATURAL:</u></b> EPA cannot concur with a state / tribe demonstration committing to reducing emissions from escaped prescribed fire because the response is total suppression. See argument at “EPA Policy Consistency”</p> <p><b><u>ANTHROPOGENIC:</u></b> A Guidance interpretation that EPF is “natural,” based solely on the management response, suppression is contrary to the EPA Policy. EPA will have a hard time approving this element of the Guidance.</p> <p>The FEJF has been taking air quality into consideration when dealing with regional haze issues, as it should on this guidance as well. The WRAP Policy says that regardless of the classification fires are to be managed for visibility, nuisance, and public health. NAAQS are the public health standards.</p> <p>EPA has made it pretty clear that reference to the EPA Policy to make the WRAP Policy consistent is meaningless. There is no consistency, because the EPA policies address NAAQS, and not Regional Haze. EPA Policy will trump WRAP Policy related to NAAQS. EPA will have difficulty approving a SIP or TIP that incorporates a categorizing system that calls EPF as “natural.”</p>
<p><b>Public Perception / Trust</b></p>	<p><b><u>NATURAL:</u></b> Burning under controlled conditions to mitigate uncontrolled wildfire benefits the public. The public acknowledges burning is subject to failure like any complex industrial operation. Providing for public comment through NEPA, site visits, and other processes assures the public of the safeguards / precautions burners take to accomplish burns. If the rationale is explained fully, the public is smart enough to appreciate the situation.</p> <p><b><u>ANTHROPOGENIC:</u></b> If a human ignited prescribed burn went out of prescription calling the resulting emissions anthropogenic is more likely to improve public perception and trust.</p> <p>The public that has concerns about this is likely to have just been smoked out by an escaped fire. Any idea that the public will accept the notion that the EPF is “natural” is crazy.</p>

CONTEXT	STATEMENTS
<p><b>Burner Reporting Blackened Acres</b></p>	<p><b><u>NATURAL:</u></b> The Guidance provides an optional worksheet that may be used on a daily basis to track fire emissions categorizations for specific events on specific days. A new daily worksheet is necessary to track escaped prescribed fire emissions. Other, less burdensome methods to report daily acres blackened are available.</p> <p>It is difficult on the ground to segregate prescribed blackened acres from escaped blackened areas. Some EPF’s may not burn outside the original perimeter. Attempting to do this creates uncertainty and ambiguity.</p> <p>The re-categorization to “natural” of only the acres blackened by EPF is a reasonable dividing line. Segregating blackened acres under prescription from blackened acres of EPF seems straightforward and should be implementable.</p> <p><b><u>ANTHROPOGENIC:</u></b> By classifying an EPF as anthropogenic, tracking would be easier if the prescribed fire was also so classified.</p> <p>If segregation is big problem on its face, perhaps the WRAP Policy should be changed to either leaving EPF as it is originally categorized (consistent with other parts of the WRAP Policy not to re-categorize once the fire is ignited), or calling the entire blackened area “anthropogenic.”</p>
<p><b>Smoke Management Program Integration</b></p>	<p><b><u>NATURAL:</u></b> Unforeseen circumstances like adverse weather events that cause or contribute to an EPF – even through an SMP process - should not make a burner responsible, because the burner response to the EPF is total suppression. Therefore, the EPF is appropriately categorized as natural.</p> <p><b><u>ANTHROPOGENIC:</u></b> If the burner decides to burn with approval through an SMP – and the burn escapes or unforeseen circumstances with weather occurred, the burner should have anticipated worst-case scenarios. Therefore, the burn should be categorized as anthropogenic – providing further incentive to make proper burn calls.</p>
<p><b>Summary</b></p>	<p><b><u>NATURAL:</u></b> Given the EPA Policy Section VII(2) addresses only NAAQS violations and flagging AQS data – AND – management response to EPF is total suppression that already minimizes emissions, it is appropriate to categorize EPF as natural since states and tribes cannot demonstrate to EPA reasonable further progress in reducing ‘anthropogenic’ emissions from EPF.</p> <p><b><u>ANTHROPOGENIC:</u></b> EPF should be classified as anthropogenic in the guidance to resolve ambiguities in the WRAP Policy, allow conformity with the EPA Policy, and provide closer involvement oversight by state and tribal regulators. This approach does not require re-opening the WRAP Policy and by using this interpretation for EPF while allowing states and tribes to submit their SIPs without further delay and with a greater likelihood of receiving EPA approval.</p>

**TABLE 1**  
**Total Number of Prescribed Fires, Acres, and Number and Percentage of Prescribed Fires Converted to Wildfire by Agency and Total for 1996 - 20001**

Agency	Prescribed Fires		Converted to Wildfire <sup>2</sup>	
	#	acres	#	%
<b>USFS</b>	23,000	5,571,400	230	1.0
<b>FWS</b>	4,772	1,183,776	12	0.3
<b>BLM</b>	1,451	523,050	10	0.7
<b>NPS</b>	1,153	372,698	14	1.2
<b>BIA</b>	836	236,351	3	0.4
<b>Total</b>	31,212	7,887,275	269	0.9

<sup>1</sup> Data compiled from individual agency databases in May 2000 by the National Park Service.

<sup>2</sup> Conversion to wildfire can occur whenever observed characteristics no longer meet the prescription in the burn plan. This includes weather conditions or forecast, fuels and vegetation conditions, observed or predicted fire behavior, availability or resource to manage the fire, air quality or other management concerns for public or firefighter safety and the ability of the fire to accomplish the stated management objectives. These fires may or may not have exceeded the management area defined in the prescribed burn plan.