

***NATIONAL WEATHER SERVICE
PRODUCT/SERVICE DESCRIPTION DOCUMENT (PDD)
TYPE: Official Product
DATE: July 28, 2003***

RED FLAG POTENTIAL INDEX

Part 1 - Mission Connection

1. Product/Service Description:

The Red Flag Potential Index (RFPI) is a graphical product produced by forecasters at WFO Las Vegas (VEF) using GFE/IFPS. Ratings of Red Flag potential (numbers 1 through 4) for the next three days (today, tomorrow and the next day) are calculated using forecasts of relative humidity and prevailing 20-ft, 10-minute average surface wind, along with forecaster knowledge of other factors such as critical fire conditions and the existence of active wild-fires. The RFPI is intended to be used as general guidance, primarily for planning purposes. Since the southern half of our forecast area operates an aggressive, proactive prescribed burn program, this product will be issued year-round.

2. Purpose/Intended Use:

The RFPI gives users a quick three day forecast of the current thinking regarding location and likelihood of widespread red flag conditions developing in the WFO Las Vegas area of forecast responsibility. Users might include interagency communications centers, the U.S. Forest Service, the BLM and other land agencies, fire planners, burn bosses, dispatchers, Fire Weather Center managers and forecasters, etc. During the first two days, it will provide a graphic depiction of any Red Flag or near-Red Flag conditions. The image will be consistent with any Fire Weather Watches or Red Flag Warnings in effect, but it will add value by providing a visual image of the areas of concern. During the Day 3 time frame, it will provide guidance as to where conditions are likely to approach or exceed Red Flag conditions if the forecast parameters do not change within the next day or so. This information can be useful for general planning with decisions such as resource deployment or prescribed burn scheduling. It is intended to supplement, not replace, the official forecast products (e.e., the FWF and Spots). Increasing categories of potential are literally associated with prevailing wind exceeding specific thresholds (20 mph, 25 mph, 30 mph) in low humidity environments, but as such they also imply a certain degree of probability and confidence. There is no inclusion in this product for Red Flag conditions associated with dry lightning.

3. Audience:

The main audience includes interagency communications centers, the U.S. Forest Service, the BLM and other land agencies, fire planners, burn bosses, fire dispatchers, fire weather centers, etc. However, since it is available on the internet. a broader audience, including the media, may make use of the information.

4. Presentation Format:

The RFPI is a graphical representation (created by GFE/IFPS) posted on the internet, showing areas of Low, Moderate, and High risk of Red Flag conditions, identified by an index rating scale of 1 through 4. Included on the product are an explanation of each category, along with a caveat for what it may and may not be interpreted to imply for decision makers.

5. **Feedback Method:**

We solicit feedback primarily from the land management agencies and fire weather centers. Feedback may also be provided by mail:

E-mail comments or questions can be sent to Stanley.Czyzyk@noaa.gov

6. **Example:** Examples can be found at URL:

<http://www.wrh.noaa.gov/lasvegas/rfpi.shtml>.

Part 2 - Technical

1. **Format and Science Basis:**

This product was developed because of the need for a graphical representation of areas expected to be in Red Flag or near-Red Flag exceedance in the 12 to 72 hour time frame. The RFPI attempts to address that void. The product does not attempt take into consideration Red Flag conditions associated with dry lightning potential. The RFPI is intended to be used as general guidance information for illustrating current thinking concerning the relative risk of Red Flag conditions developing in the WFO Las Vegas area of forecast responsibility. It is calculated using gridded forecasts of relative humidity and prevailing 20-foot, 10-minute average surface winds, along with forecaster knowledge of other important factors such as critical fire conditions, fuel moisture, the existence of active wildfires, etc. The RFPI is typically initialized using the ETA model to populate GFE/IFPS but any of the available model grids could be used.

2. **Availability:**

The RFPI is produced twice each day, about 6 AM and 4 PM along with the main fire weather forecast packages. The product may be updated at forecaster discretion.

3. **Additional Information:**

The Las Vegas WFO is producing the RFPI as an experimental guidance product based on interest expressed by customers. The format was developed from suggestions by forecasters and customers alike. Stan Czyzyk is the focal point.