

NEIL ABERCROMBIE  
GOVERNOR OF HAWAII



LORETTA J. FUDDY, A.C.S.W., M.P.H.  
DIRECTOR OF HEALTH

STATE OF HAWAII  
DEPARTMENT OF HEALTH  
P.O. Box 3378  
HONOLULU, HAWAII 96801-3378

In reply, please refer to:  
File:

November 18, 2013

Mr. Jared Blumenfeld  
Regional Administrator  
U.S. EPA, Region IX  
75 Hawthorne Street  
San Francisco, California 94105

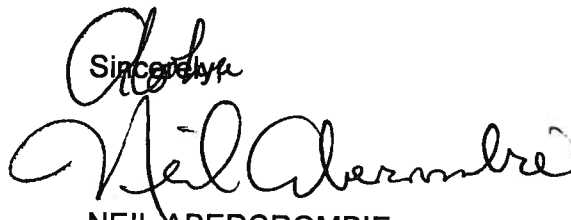
Dear Mr. Blumenfeld:

SUBJECT: Recommended Designation for the Newly Promulgated Annual Fine Particulate Matter (PM<sub>2.5</sub>) National Ambient Air Quality Standard (NAAQS)

Pursuant to Section 107(d)(1) of the Clean Air Act, I am recommending that the State of Hawaii be designated by counties for the new annual PM<sub>2.5</sub> NAAQS. The Department of Health (DOH), which manages the ambient air monitoring network, has determined that based on the quality-assured PM<sub>2.5</sub> data for the calendar years 2010 through 2012, Maui County and the City and County of Honolulu are in attainment and Kauai and Hawaii counties are unclassifiable for the new annual PM<sub>2.5</sub> standard.

Supporting documentation for these recommendations is presented in Attachment I. In summary, Kauai County is unclassifiable due to insufficient monitoring data and Hawaii County is unclassifiable due to impact from volcanic emissions. The exceedance of the annual PM<sub>2.5</sub> standard at the Kona air monitoring station in Hawaii County is due to emissions from the Kilauea volcano and has been flagged accordingly in EPA's Air Quality System. The DOH will be submitting documentation to EPA for concurrence with excluding the flagged data as an exceptional event.

We look forward to working with EPA Region IX on the final PM<sub>2.5</sub> designation. If you have any questions, please contact Mr. Gary Gill, Deputy Director for Environmental Health at (808) 586-4424.

Sincerely,  
  
NEIL ABERCROMBIE  
Governor, State of Hawaii

Attachment

c: Deborah Jordan, Director, Air Division (AIR-1), U.S. Environmental Protection Agency  
Dena Vallano, Ph.D., ORISE Research Fellow, Air Quality Analysis Office (AIR-7),  
U.S. Environmental Protection Agency

## ATTACHMENT I

### State of Hawaii Designation Recommendation for the Annual PM<sub>2.5</sub> National Ambient Air Quality Standard (NAAQS)

#### I. Recommendation

The U.S. Environmental Protection Agency (EPA) revised the primary health-based PM<sub>2.5</sub> annual NAAQS effective December 14, 2012 and pursuant to the Federal Clean Air Act 107(d)(1), states are required to make attainment, nonattainment, or unclassifiable recommendations one year after promulgation of a new or revised standard.

As detailed in this document, it is recommended that Maui County and the City and County of Honolulu be initially designated as in attainment and Kauai and Hawaii counties be designated as unclassifiable for the new annual PM<sub>2.5</sub> NAAQS.

#### II. Basis for the Recommendation

The annual PM<sub>2.5</sub> standard is attained when the three year average at each monitor does not exceed 12 micrograms per cubic meter ( $\mu\text{g}/\text{m}^3$ ). The annual averages used to determine compliance with the revised standard are 2010, 2011 and 2012, collectively called the 2012 annual design value (DV).

Four of the State and Local Air Monitoring Stations (SLAMS) are in the City and County of Honolulu, which is the only Metropolitan Statistical Area (MSA) in the state and where the majority of anthropogenic sources are located. The 2012 DV for all four stations are in attainment of the annual standard. The one SLAMS in Maui County is primarily to monitor the effects of agricultural burning and the 2012 DV is also in attainment of the annual standard.

The Special Purpose Monitoring Station (SPMS) in Kauai County is established to monitor for cruise ship emissions. The station began operating in April 2011, has an incomplete 2012 DV, and is therefore unclassifiable because there is not enough data to make a designation determination.

The five PM<sub>2.5</sub> SPMS in Hawaii County are to monitor the impact of emissions from the Kilauea volcano. Although the 2012 DV at the Kona monitor exceeded the annual PM<sub>2.5</sub> standard, the data is flagged as being due to a natural event in EPA's Air Quality System (AQS). The state will be submitting the required exceptional events documentation to EPA providing the causal relationship between the active volcano and the exceedance. Until EPA concurs with the flagged data, Hawaii County is recommended as unclassifiable.

III. Annual PM<sub>2.5</sub> NAAQS Data

Counties in Attainment for the Annual PM<sub>2.5</sub> NAAQS

The 2012 DVs for the four stations in the City and County of Honolulu and the one station in Maui County are shown in *Table 1*. The Sand Island station (150031004) and the Kihei station (150090006) had incomplete annual means but per Appendix N to 40 CFR 50, a data substitution test was performed for the quarters with less than 75% data recovery, passed, and therefore the original DVs are considered valid. The substitution test data is provided in *Table 2*.

**Table 1. 2012 DVs for the City and County of Honolulu and Maui County**

| Station                              | 2010 Annual Mean | 2011 Annual Mean | 2012 Annual Mean | 3-year average (2012 DV) |
|--------------------------------------|------------------|------------------|------------------|--------------------------|
| <b>City &amp; County of Honolulu</b> |                  |                  |                  |                          |
| Honolulu (150031001)                 | 4.7              | 4.6              | 5.1              | 4.8                      |
| Kapolei (150030010)                  | 4.3              | 5.2              | 7.0              | 5.5                      |
| Pearl City (150032004)               | 4.4              | 5.0              | 6.3              | 5.2                      |
| Sand Island (150031004)              | 10.0*            | 9.0              | 6.2              | 8.4                      |
| <b>Maui County</b>                   |                  |                  |                  |                          |
| Kihei (150090006)                    | 4.8              | 6.0*             | 6.4              | 5.7                      |

\* Annual mean did not meet completeness criteria

Appendix N to 40 CFR 50 allows for incomplete design values to be validated if it passes the maximum quarterly value data substitution test. Briefly, the maximum daily PM<sub>2.5</sub> value across all three years for the quarter under consideration is substituted for all missing values (TDV<sub>max</sub>). If the recalculated annual PM<sub>2.5</sub> DV is less than or equal to the level of the standard, in this case 12 µg/m<sup>3</sup>, then the original NAAQS DV is considered valid. The TDV<sub>max</sub> was performed for the 2<sup>nd</sup> quarter 2010 for Sand Island (150031004) and for the 3<sup>rd</sup> quarter 2011 for Kihei (150090006).

**Table 2. Substitution Test (TDV<sub>max</sub>) for Validation of the 2012 DV**

| Station        | Year | Incomplete Quarter | % Complete | Max Daily PM <sub>2.5</sub> | Test Ann. Mean | Test DV | Orig. DV Valid? |
|----------------|------|--------------------|------------|-----------------------------|----------------|---------|-----------------|
| SI (150031004) | 2010 | 2                  | 68         | 18.9                        | 10.625         | 8.6     | Y               |
| KH (150090006) | 2011 | 3                  | 68         | 23.5                        | 7.325          | 6.2     | Y               |

Counties Unclassifiable for the Annual PM<sub>2.5</sub> NAAQS

The Niimalu, Kauai station (150070007) began operating April 1, 2011, does not have enough data for designation determination and therefore is currently unclassifiable. The available data is presented in *Table 3*.

The 2012 DVs for the five stations in Hawaii County, established to monitor the ambient air effects of the ongoing Kilauea volcano eruption is also included in *Table 3*. The Kona station (150011012) exceeded the NAAQS and the data has been flagged in the EPA AQS database (AQS code 'RS'). As previously mentioned, the state will be submitting an Exceptions Events document for EPA concurrence with

the exceptional event flags. The Hilo station (150011006) had an incomplete 3<sup>rd</sup> quarter in 2010 and an incomplete 2<sup>nd</sup> quarter in 2012. The TDV<sub>max</sub> was performed for both years, passed, and therefore the 2012 DV is considered valid. The substitution test data is presented in *Table 4*. The Ocean View station (150012020) began operating on April 1, 2010 and the Mt. View station (150012023) began on December 7, 2010. Both stations currently do not have enough data to determine attainment status.

**Table 3. 2012 DVs for Kauai and Hawaii Counties**

| Station                | 2010 Annual Mean    | 2011 Annual Mean | 2012 Annual Mean | 3-year average (2012 DV) |
|------------------------|---------------------|------------------|------------------|--------------------------|
| <b>Kauai County</b>    |                     |                  |                  |                          |
| Niumalu (150070007)    | None <sup>1</sup>   | 4.8 <sup>2</sup> | 6.8              | 5.8 <sup>2</sup>         |
| <b>Hawaii County</b>   |                     |                  |                  |                          |
| Hilo (150011006)       | 5.0 <sup>2</sup>    | 4.5              | 5.2 <sup>2</sup> | 4.9                      |
| Kona (150011012)       | 18.2                | 12.1             | 16.2             | 15.5                     |
| Pahala (150012016)     | 8.3                 | 6.1              | 7.5              | 7.3                      |
| Ocean View (150012020) | 16.1 <sup>1,2</sup> | 9.9              | 12.9             | 13.0 <sup>2</sup>        |
| Mt. View (150012023)   | 5.7 <sup>1,2</sup>  | 4.4              | 5.3 <sup>2</sup> | 5.2 <sup>2</sup>         |

<sup>1</sup> Niumalu Station began operating 4/1/11; Ocean View began operating 4/1/10; Mt. View began 12/7/10

<sup>2</sup> Annual mean did not meet completeness criteria

**Table 4. Substitution Test (TDV<sub>max</sub>) for Validation of the 2012 DV: Hilo Station**

| Station        | Year | Incomplete Quarter | % Complete | Max Daily PM <sub>2.5</sub> | Test Ann. Mean | Test DV | Orig. DV Valid? |
|----------------|------|--------------------|------------|-----------------------------|----------------|---------|-----------------|
| HL (150011006) | 2010 | 3                  | 74         | 9.7                         | 5.475          | 5.3     | Y               |
| HL (150011006) | 2012 | 2                  | 71         | 14.5                        | 5.975          | 5.3     | Y               |

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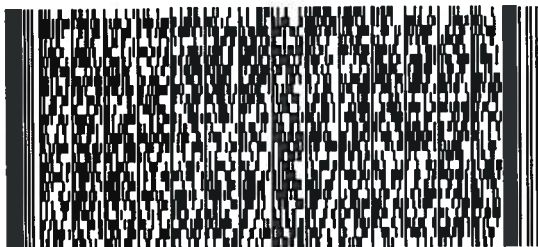
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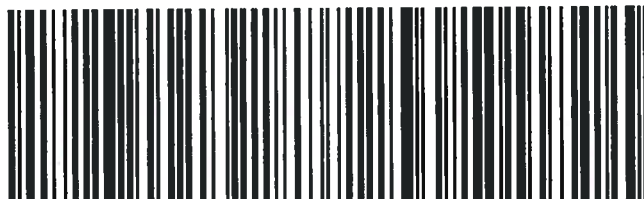
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