State of Hawaii
2024
Air Monitoring Network Plan

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Clean Air Branch

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Acronyms and Definitions

AADT	Annual Average Daily Traffic
AQI	Air Quality Index
AQS	Environmental Protection Agency Air Quality System
BAM	Beta-Attenuation Mass Monitor
CAA	Clean Air Act
CAB	State of Hawaii Department of Health Clean Air Branch
CAB-IT	Clean Air Branch Information Technology
CBSA	Core-Based Statistical Areas
CFR	Code of Federal Regulations
CO	Carbon Monoxide
DOH	Hawaii State Department of Health
DRR	Data Requirements Rule
DWS	Hawaii County Department of Water Supply
ECA	(North American) Emissions Control Area (Maritime)
EPA	United States Environmental Protection Agency
FEM	Federal Equivalent Method
FRM	Federal Reference Method
H_2S	Hydrogen Sulfide
HECO	Hawaiian Electric Company
IMPROVE	Integrated Monitoring of Protected Visual Environments
LERZ	Kilauea Volcano Lower East Rift Zone
MSA	Metropolitan Statistical Area
MSL	Mean Sea Level
NAAQS	National Ambient Air Quality Standards
NCore	National Core Multi-Pollutant Monitoring Stations
NEI	National Emissions Inventory
NO	Nitrogen Oxide
NO_2	Nitrogen Dioxide
NO_y	Reactive Oxides of Nitrogen
O_3	Ozone
OMB	Federal Office of Management and Budget
PAMS	Photochemical Assessment Monitoring Station
Pb	Lead
PGV	Puna Geothermal Ventures
PM	Particulate matter
$PM_{2.5}$	Particulate matter less than or equal to 2.5 microns in aerodynamic diameter
PM_{10}	Particulate matter less than or equal to 10 microns in aerodynamic diameter
$PM_{10-2.5}$	Particulate matter coarse
POC	Parameter Occurrence Code
PQAO	Primary Quality Assurance Organization
PPB	Parts per billion
PPM	Parts per million
PSD	Prevention of Significant Deterioration
PWEI	Population Weighted Emissions Index
QC	Quality Control
SLAMS	State and Local Air Monitoring Stations
SO_2	Sulfur Dioxide
SPM(S)	Special Purpose Monitoring (Stations)
VMAP	Vog Measurement and Prediction Project
VOG	Haze due to volcanic emissions
WD	Wind direction
WS	Wind speed
$\mu g/m^3$	micrograms per cubic meter of air

Introduction

The State of Hawaii Department of Health (DOH), Clean Air Branch (CAB) plans, operates, and maintains the statewide ambient air quality monitoring network. Ambient air monitoring data is submitted to the U.S. Environmental Protection Agency's (EPA) AirNow website which reports air quality using the Air Quality Index (AQI). This data is used to determine compliance with National Ambient Air Quality Standards (NAAQS), to track and characterize air quality trends, evaluate emission control strategies, and to support health studies.

The DOH manages the State and Local Air Monitoring Stations (SLAMS), Special Purpose Monitoring Stations (SPMS), and the National Core Multi-Pollutant Monitoring Station (NCore). DOH oversees an ambient air station on the island of Oahu that is operated by Hawaiian Electric Company (HECO) to meet the Data Requirements Rule (DRR), although DOH has recently submitted a request to EPA to close this station. Additionally, Hawaii has two Interagency Monitoring of Protected Visual Environments (IMPROVE) stations located at Haleakala National Park on Maui and Volcanoes National Park on the island of Hawaii. The IMPROVE stations are operated and maintained by the National Park Service through their federal land management agency.

This annual review evaluates the state's existing ambient air monitoring network to determine adequacy in meeting monitoring objectives, optimizing the network by adding new, relocating, or discontinuing stations, ensuring that air quality issues important to the state are being addressed, and that the quality assured data meets the needs of stakeholders.

This plan encompasses the 18-month period from July 1, 2024 through December 31, 2025. During this period, modifications to this plan may occur due to changes of available resources, staff reductions, funding restrictions, unanticipated community concerns, site issues, or new EPA monitoring requirements. This plan is being submitted to the EPA Region 9 according to the Code of Federal Regulations (CFR), Title 40, Part 58, Section 58.10 Annual monitoring network plan and periodic network assessment.

Notification of the plan availability for public inspection and comment was provided through public notices published on May 15, 2024 in the daily newspapers of all counties. The plan was available for inspection on the Clean Air Branch website at http://health.hawaii.gov/cab, for 30 days from May 15, 2024 to June 14, 2024. Documentation of public notification is provided in **Appendix A**. Comments received will be addressed and included in this plan.

1.0 Network Purpose and Design

1.1 Overview

In 1970, the federal Clean Air Act (CAA) was promulgated as a comprehensive response to address air pollution and created the EPA as the agency responsible for carrying out the law. In 1990, the CAA was amended, Title 40 of the Code of Federal Regulations (CFR) Part 50 required the EPA to set National Ambient Air Quality Standards (NAAQS) for pollutants considered harmful to public health and the environment. This amendment identified six principal pollutants, which are called criteria air pollutants, they are: particulate matter (PM), sulfur dioxide (SO_2), carbon monoxide (CO), nitrogen dioxide (NO_2), ozone (O_3), and lead (Pb). Additionally, the CAA NAAQS defined two types of standards:

- *Primary standards* set limits to protect public health including protecting "sensitive" populations such as asthmatics, children, and the elderly.
- *Secondary standards* set limits to protect public welfare, including the protection against decreased visibility, damage to animals, crops, vegetation, and buildings.

These standards are reviewed periodically and are subject to revisions. Additionally, there is a state standard for hydrogen sulfide (H_2S) that was established primarily to monitor the ambient air effects of geothermal energy production activities on the island of Hawaii.

40 CFR Part 58 requires that states establish and operate active ambient air quality surveillance systems in a manner that assures the most applicable data of the highest quality is collected. Appendix A to 40 CFR Part 58 provides the quality assurance requirements that each monitoring organization must implement to ensure that the data produced will be of the type and quality needed and expected by the data user. The data is used, in part, to support regulatory, research, and health decisions and to provide air quality information to the general public.

The ambient air monitoring network is designed for the following purposes:

- To determine compliance with the NAAQS.
- To provide the public with timely air quality information.
- To support air pollution research and health studies.
- To track pollution trends throughout the region, including non-urban areas.
- To develop emissions control strategies.
- To prevent or alleviate air pollution episodes by activating emergency control procedures.

The State of Hawaii's monitoring network consists of three major categories of monitoring stations, State and Local Air Monitoring Stations (SLAMS), National Core (NCore), and Special Purpose Monitoring Stations (SPMS).

The annual network review ensures that Hawaii continues to meet monitoring and siting requirements, the three basic monitoring objectives, addresses the six site types in 40

CFR Part 58, Appendix D, provides information for non-regulatory data goals, and complies with requirements of 40 CFR Part 58, Appendices A, C, D, and E as follows:

- *Appendix A: Quality Assurance Requirements for SLAMS, SPMS and PSD Air Monitoring*
- *Appendix C: Ambient Air Quality Monitoring Methodology*
- *Appendix D: Network Design Criteria for Ambient Air Quality Monitoring*
- *Appendix E: Probe and Monitoring Path Siting Criteria for Ambient Air Quality Monitoring*

1.1.1 State and Local Air Monitoring Stations (SLAMS)

The **SLAMS** sites were established primarily to determine compliance with the NAAQS and to meet minimum monitoring requirements set forth in 40 CFR Part 58, Appendix D but may also serve other data purposes such as providing real-time air pollution data for the general public, for regulatory decision making and compliance.

One of the main objectives is to show whether the state is in attainment or non-attainment of the seven criteria pollutants. Non-attainment of any of the NAAQS may have regulatory consequences addressed through the air permitting program. Historically, Hawaii has been in attainment of the NAAQS. Summarized data is available at: https://health.hawaii.gov/cab/hawaii-air-quality-data-books.

All SLAMS must meet quality assurance, methodology, and siting requirements of 40 CFR 58 Appendix A, C and E, respectively. All data is submitted to EPA's Air Quality System (AQS) within 90 days at the end of each calendar quarter, as required in 40 CFR 58.16.

On October 17, 2006, as published in the Federal Register, the EPA provided final rule revisions to ambient monitoring regulations as contained in 40 CFR, Parts 53 and 58. Included in these revised rules are the requirements for establishing NCore sites. NCore stations are established to support the tracking of long-term trends of criteria and non-criteria pollutants, model evaluation, long- term health and ecosystem assessments, and other scientific and technological studies.

It was mandated by the EPA that each state is required to operate at least one **NCore** site, to begin January 1, 2011, and measure, at a minimum, $PM_{2.5}$ particulate matter (particles with an average aerodynamic diameter of 2.5 micrometers or less) using continuous and integrated/filter-based samplers, speciated $PM_{2.5}$, $PM_{10-2.5}$ particulate matter, SO_2, CO, nitrogen oxide (NO), reactive oxides of nitrogen (NO_y), O_3, wind speed, wind direction, relative humidity and ambient temperature. Gas monitors at this site are more sensitive than the standard monitors used at the other sites. Concentrations measured are well below NAAQS but are important in the formation of ozone and particulate matter. Hawaii's SLAMS network includes a NCore site in Kapolei which became fully operational on January 1, 2011.

1.1.2 Special Purpose Monitoring Stations (SPMS)

The **SPMS** were established for specific areas of interest to the state and do not count in meeting the minimum monitoring requirements. However, all SPMS utilize

Federal Reference Methods (FRM), Federal Equivalent Methods (FEM), or Approved Regional Methods (ARM), and meet the requirements of 40 CFR Part 58, Appendix E, follow all the quality assurance criteria contained in 40 CFR Part 58, Appendix A as well as the data quality and measurement quality objectives and siting requirements. All data from SPMS which have operated for more than 24 months are eligible for comparison to respective NAAQS.

Areas of Interest for special purpose air monitoring are from sources that are natural and man-made. Hawaii's SPM network is established primarily to monitor air quality impacts of emissions from Kilauea volcano, hydrogen sulfide (H_2S) emissions from geothermal energy production and impacts from cruise ships on the island of Kauai.

1.2 Network Design and Review Process

The network review process is conducted to determine if any changes or modifications to the network are necessary. Changes such as meeting new NAAQS monitoring requirements, utilizing newer and better technology, reducing or eliminating redundancy and low value monitoring, ensuring that enough data is being collected using the best technology, and that all siting and quality assurance requirements are met.

Modification decisions are made using a variety of tools, including but not limited to: data trend analyses; performance and technical systems audits; regular site inspections; cost and value analyses; assessment of unfavorable site changes such as loss of lease or construction that adversely affect data collection; and the need to address special studies or new regulatory as well as non-regulatory monitoring objectives.

1.2.1 Monitoring Objectives and Site Types

Ambient air monitoring networks must be designed to meet three basic objectives as stated in 40 CFR Part 58, Appendix D:

1) Provide air pollution data to the general public in a timely manner.
2) Support compliance with NAAQS and emissions strategy development.
3) Support air pollution research studies.

The state's ambient air monitoring network achieves all three objectives as follows:

1) Air pollution data from all SLAMS and SPMS are exhibited near real-time on the DOH public website. Additionally, continuous $PM_{2.5}$ and O_3 data is provided to EPA's AIRNow website for use in calculating the AQI, SO_2 data is provided for the Hawaii SO_2 Short Term Advisory, and $PM_{2.5}$ and SO_2 data is provided to the Vog Measurement and Prediction Project (VMAP).
2) Data from SLAMS are used to demonstrate compliance with the NAAQS and in development and tracking of emissions control strategies. Similarly, data from the NCore station is used to demonstrate compliance with the NAAQS and to track long-term trends of criteria and non-criteria pollutants as well as support emissions control strategies.
3) All SLAMS, SPMS, and NCore monitoring provide valuable information in support of air pollution, health, and other scientific studies.

In order for the network to support the three basic objectives outlined above, it must be designed with a variety of monitoring site types. The six general site types are:

1) Determine the highest pollutant concentrations expected in the network.
2) Measure typical concentrations in areas of high population density.
3) Determine the impact of significant sources or source categories on air quality.
4) Determine general background concentrations.
5) Determine the extent of regional pollutant transport between populated areas.
6) Measure pollution impacts on visibility, vegetation, crops, animals, and buildings.

The site type for each station in the network is included in its detailed description in Section 3.0 of this plan.

1.2.2 $PM_{2.5}$ Network Changes

According to 40 CFR 58.10 (c), this network plan must document how the state will provide for the review of changes to a $PM_{2.5}$ monitoring network that impact the location of a violating $PM_{2.5}$ monitor. The agency must document the process for obtaining public comment and include any comments received through the public notification process within the submitted plan. The state has in place a public notification procedure which includes posting a notice in the newspapers of all counties and on the agency web site allowing for public inspection and comments of the changes that are in the annual network plan document. Any comments received are reviewed and if appropriate provided a response.

1.3 Organizational Structure and Responsibilities

The CAB is the state agency responsible for air pollution control in Hawaii and includes planning, management, data collection, quality assurance, and regulatory activities. The DOH serves as the Primary Quality Assurance Organization (PQAO).

The CAB is responsible for the overall planning, siting, and quality assurance oversight of the ambient air monitoring program as well as all data collection activities including installing, operating, and maintaining ambient air monitoring equipment and stations, in order to provide valid quality assured, defensible data that meet EPA QA requirements. The CAB-IT provides the quality assured data to AQS. The DOH contracts out laboratory support for collocated $PM_{2.5}$ mass analyses.

2.0 Network Evaluation

The criteria ambient air quality network for the State of Hawaii is established according to the requirements of 40 CFR Part 58, Appendix D. The CAB is responsible for ensuring that the network meets or exceeds the minimum EPA monitoring requirements and locating stations to adequately address the purposes and objectives. The criteria and NCore pollutants covered in this document; CO, NO_2, O_3, SO_2, PM_{10}, and $PM_{2.5}$ are currently monitored at sixteen (16) stations statewide as follows:

- one (1) SLAMS and one (1) NCore CO monitors.
- one (1) SLAMS NO_2 monitor.
- one (1) NCore NO/NO_y monitor.
- one (1) SLAMS and one (1) NCore O_3 monitors.
- four (4) SLAMS, eight (8) SPMS, and one (1) NCore SO_2 monitors.
- one (1) SPMS H_2S monitor.
- one (1) SLAMS and one (1) NCore PM_{10} monitors.
- three (3) SLAMS, ten (10) SPMS, and one (1) NCore $PM_{2.5}$ monitors.

40 CFR Part 58, Appendix D identifies the minimum monitoring requirements for criteria pollutants in the SLAMS network. The monitoring requirements are based on the latest census population in each Metropolitan Statistical Area (MSA). MSAs are defined by the Federal Office of Management and Budget (OMB) and the U.S. Census Bureau. According to the OMB, there are two MSAs in the state: Urban Honolulu with a 2023 census population of 989,408 and Kahului-Wailuku-Lahaina in Maui County with a 2023 census population of 164,183. The 2023 census population was estimated at 1,435,138 for the state, down 0.3% from the 2022 estimate of 1,439,399. There are five counties in the state: Kauai (islands of Niihau and Kauai); City & County of Honolulu (island of Oahu); Maui (islands of Maui, Molokai excluding Kalawao County, Lanai, and Kahoolawe); Kalawao (Kalaupapa Settlement on Molokai) and Hawaii (island of Hawaii). Hawaii's network meets the minimum monitoring requirements.

As the NAAQS are revised, the number of required monitors may also change, some of the tools that may be used to determine network adequacy are:

- Historical monitoring data.
- Maps of emissions densities.
- Dispersion modeling.
- Special studies.
- Best professional judgment.
- State Implementation Plan requirements.
- Monitoring strategies.
- Population density changes.
- Traffic counts.

The actual geographic location of monitors in the network is reviewed using maps, photographs, and GIS information. Plots of source emissions, historical monitoring data, population density, and other special study findings may also be used to evaluate the monitor locations.

The stated objective for each monitoring site is reconfirmed and the location's spatial scale is verified. If the site location does not support the stated objectives or the designated spatial scale, changes will be proposed to the EPA in the annual network plan to rectify the discrepancy.

An integral part of the network review is an in-depth determination of whether it meets the needs of specific state objectives as well as budgetary and staff limitations. This includes reviewing for:

- The need for new monitors or monitoring sites.
- The need to relocate existing monitors.
- Siting problems and solutions.
- Data submittal and completeness problems.
- Station maintenance issues.
- Quality assurance problems.
- The need for air quality studies and special monitoring programs.
- Other issues such as proposed regulations and funding.

The network review is documented in the annual network plan and is made available for public inspection at least thirty (30) days prior to submittal to EPA Region 9 on or before July 1 of each year. The most current network plan is posted on the CAB website at http://health.hawaii.gov/cab under "Reports".

2.1 $PM_{2.5}$ Network

The state must operate a minimum number of required $PM_{2.5}$ monitors based on population and the most recent 3-year design value in each MSA. There are three $PM_{2.5}$ SLAMS in the Honolulu MSA and one SPMS in the Maui MSA with complete design values. The design value for the annual $PM_{2.5}$ standard is the most current 3-year average annual mean for each site. The design value for the 24-hour $PM_{2.5}$ standard is the most current 3-year average of annual 98^{th} percentile 24-hour values recorded at each monitoring site. Table 2-1 shows the annual and daily design values for complete data years 2021 to 2023.

The most recent 3-year design values in the Honolulu and Maui MSAs were less than 85% of any $PM_{2.5}$ NAAQS. Table 2-2 shows that the state operates more than the minimum monitoring requirements for $PM_{2.5}$ in each MSA. Additionally, in 2023, the state resumed operations at one SLAMS in the Maui MSA and operated ten SPMS on the island of Hawaii for volcanic emissions. All stations use FEM monitors and follow the requirements of 40 CFR Part 58, Appendices A, D, and E. All SPMS have been operating for more than 24 months and therefore are subject to NAAQS comparison.

The IMPROVE monitoring station (HACR1) at Haleakala National Park on Maui, operated by the National Park Service, serves as the background/transport $PM_{2.5}$ site for the state's network. All primary $PM_{2.5}$ monitors operated by the state are continuous FEM. Figure 2-1 shows the map locations of all the $PM_{2.5}$ stations in the state.

Table 2-1. $PM_{2.5}$ Network and Concentrations for Each MSA

Site	AQS No.	Sampling Frequency	Annual Design Value (µg/m³) 2021 – 2023	Percent of Annual NAAQS (12µg/m³)	Daily Design Value (µg/m³) 2021-2023	Percent of 24-Hour NAAQS (35 µg/m³)
Honolulu MSA						
Honolulu	150031001	Continuous	3.5	29	7	20
Kapolei	150030010	Continuous	**4.3**	36	**9**	26
Sand Island	150031004	Continuous	3.6	30	8	23
Maui MSA						
Kahului[1]	150090006	Continuous	**4.0**	33	**8**	23

NOTE: Haleakala IMPROVE (150099001) is the $PM_{2.5}$ background/transport site for Hawaii and is operated and maintained by the NPS

[1] The Kahului station is used above for the Maui MSA as it had a complete 3-year design value. The Kihei station resumed operations on August 21, 2023 after having been shut down since March 30, 2022; it had been slated for discontinuation but restarted due to air quality concerns resulting from the August 8, 2023 Maui wildfires. A complete 3-year design value was not available for the Kihei station.

Table 2-2. $PM_{2.5}$ Minimum Monitoring Requirements for Each MSA

MSA Population Category (2023 Census) (40 CFR 58 Appendix D Table D-5)	Most recent 3-year Design Value ≥85% of any $PM_{2.5}$ NAAQS (≥29.75 µg/m³ for 24-hr standard; ≥10.2 µg/m³ for annual standard)	Most recent 3-year Design Value <85% of any $PM_{2.5}$ NAAQS (<29.75 µg/m³ for 24-hour standard; <10.2 µg/m³ for annual standard)
>1,000,000	3	2
500,000-1,000,000	2	**1**
50,000-<500,000	1	0

MSA	2023 Census Population (estimated)	Highest Annual Design Value 2021 – 2023	Highest Daily Design Value 2021-2023	Required No. of Monitors	Number of Active Monitors in the MSA	Number of Monitors Needed
Honolulu	989,408	4.3	9	1	3	0
Maui	164,183	4.0	8	0	2	0

Appendix A to 40 CFR Part 58 requires that 15 percent of each $PM_{2.5}$ monitoring method be collocated. The state currently operates three SLAMS, one NCore and ten SPMS FEM monitors (fourteen total); twelve of which are using Method 209 and two that are using Method 238. The number of collocated monitors will be adjusted accordingly as needed to accommodate any future $PM_{2.5}$ network changes.

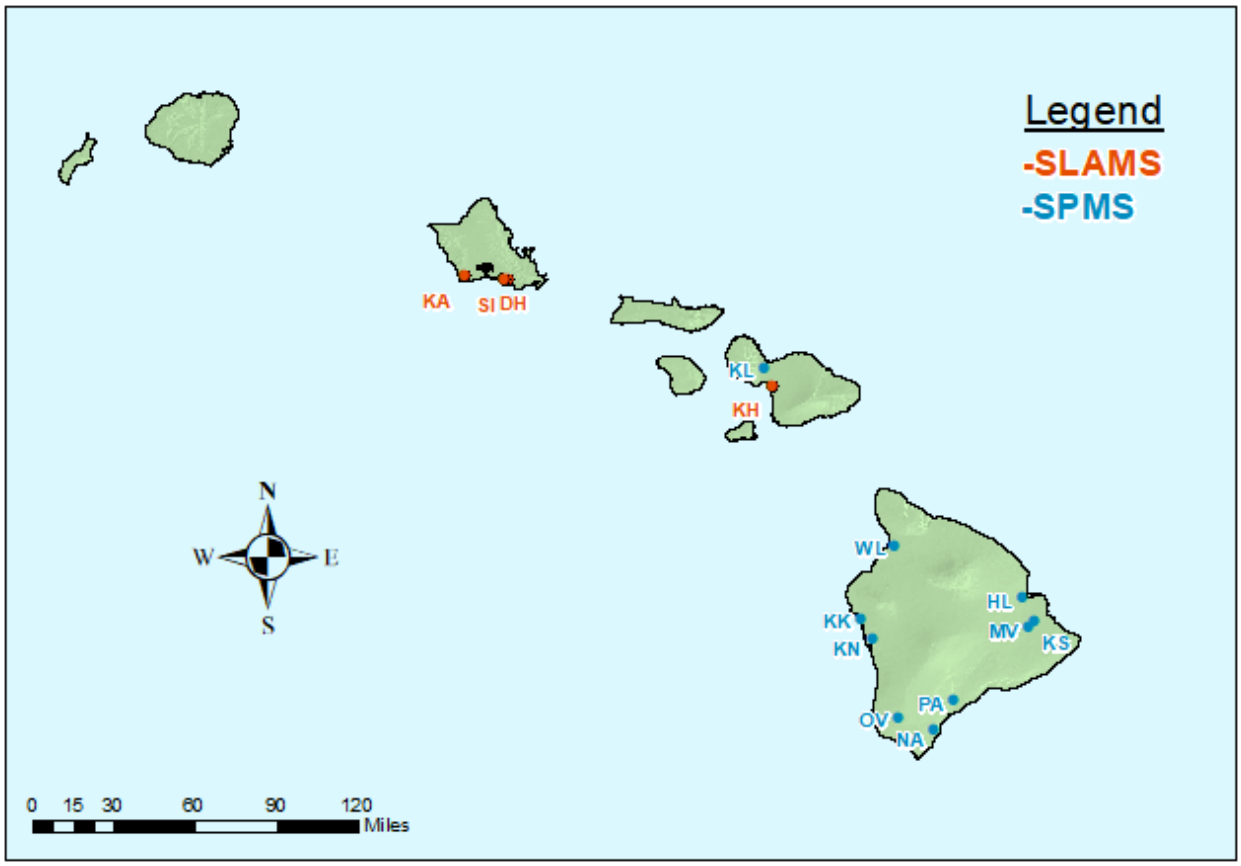
One collocated monitor is required for the stations using Method 238. One FRM collocated monitor is operating at the Kapolei NCore station to meet this requirement.

Two collocated monitors are currently required for the twelve stations using Method 209, one is the FRM collocated monitor operating at the Sand Island station. There is also a $PM_{2.5}$ FEM collocated at the Kona station. The number of FRM and/or FEM collocated monitors will be adjusted accordingly as needed to accommodate any future $PM_{2.5}$ network changes. Table 2-3 summarizes the $PM_{2.5}$ collocated network at the time of plan publication.

Table 2-3. $PM_{2.5}$ Collocated Network

Method Code	# Primary Monitors	# Required Collocated	# Active Collocated FRM	# Active Collocated FEM (same method designation as primary)
209	12	2	1	1
238	2	1	1	0

Figure 2-1. $PM_{2.5}$ Network



2.2 PM_{10} Network

The minimum number of required PM_{10} monitoring stations for the MSA is dependent upon population and concentration measurements. High concentration areas are those for which the ambient PM_{10} data show concentrations exceeding the PM_{10} NAAQS by 20 percent or more. Medium and low concentration areas are those for which ambient PM_{10} data show concentrations exceeding 80 percent of the NAAQS, and concentrations less than 80 percent of the NAAQS, respectively.

PM_{10} data for 2023 showed the Honolulu MSA to be a low concentration area (Table 2-4) and, therefore, is required to have one to two PM_{10} monitors (Table 2-5). In the absence of a PM_{10} design value for the Maui MSA and with a population <250,000, no PM_{10} monitoring is required in that MSA. The state meets the minimum PM_{10} monitoring requirements with two PM_{10} stations in the Honolulu MSA.

Table 2-4. PM_{10} Network and Concentrations for the Honolulu MSA[1]

Site Name	AQS No.	2023 Maximum 24-Hr Value ($\mu g/m^3$)	Percent of 24-Hr NAAQS	Sampling Frequency
Honolulu	150031001	33	22	Continuous
Kapolei	150030010	**76**	51	Continuous

[1] There is currently no PM_{10} monitor operating in the Maui MSA.

Table 2-5. PM_{10} Minimum Monitoring Requirements for Each MSA

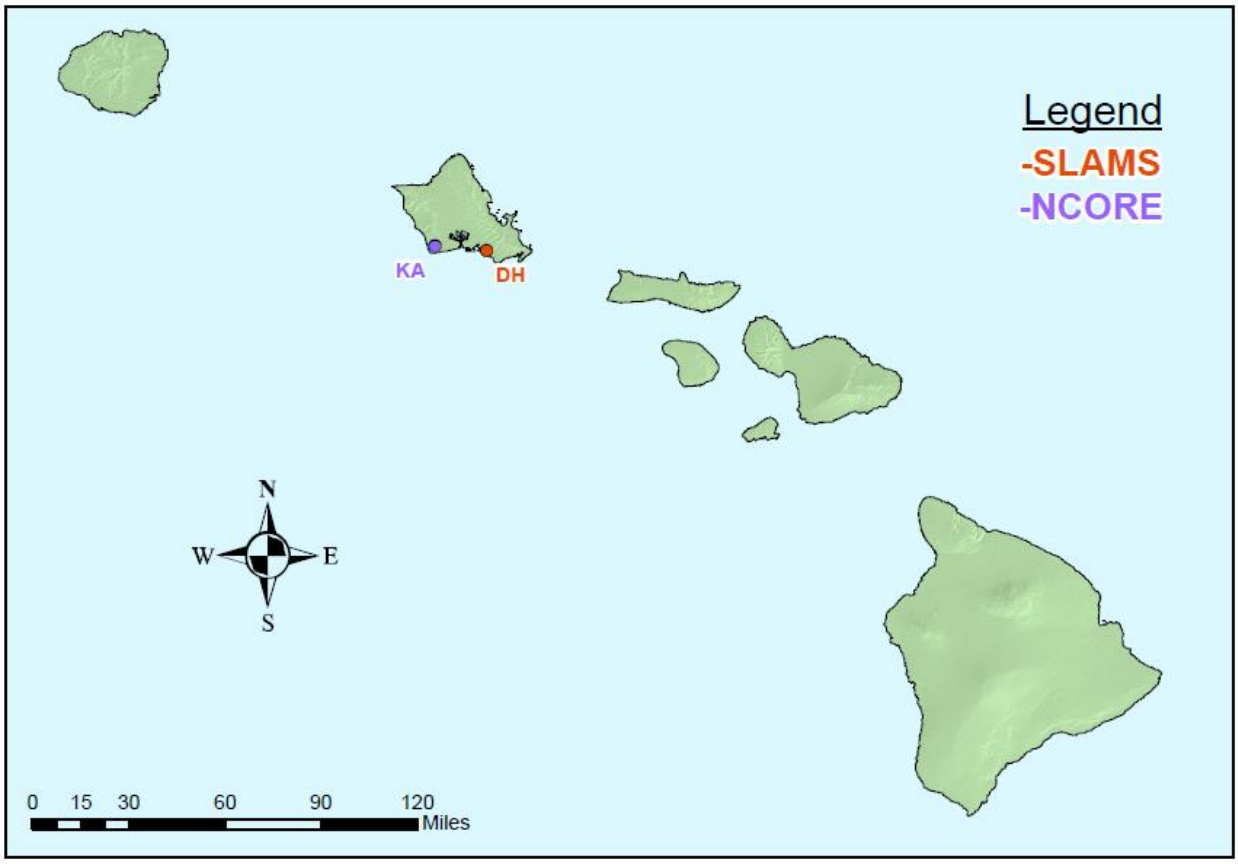
MSA Population Category (2023 Census) (40 CFR 58 Appendix D Table D-4)	High Concentration ≥120% of NAAQS (≥180 $\mu g/m^3$)	Medium Concentration >80% of NAAQS (>120 $\mu g/m^3$)	Low Concentration <80% of NAAQS (<120 $\mu g/m^3$)[1]
>1,000,000	6-10	4-8	2-4
500,000-1,000,000	4-8	2-4	**1-2**
250,000-500,000	3-4	1-2	0-1
100,000-250,000	1-2	0-1	0

MSA	2023 Census Population (estimated)	Highest 24-hr Value (2023)	Required # of Monitors	# of Active Monitors in the MSA	# of Monitors Needed
Honolulu	989,408	33 $\mu g/m^3$	1-2	2	0
Maui	164,183	No data available	0[1]	0	0

[1] 40 CFR Part 58, Appendix D, Section 4.6, Table D-4 states that in the absence of a design value, these minimum monitoring requirements apply.

Figure 2-2 is a map of the current PM_{10} sites in the state. All the PM_{10} stations are in the Honolulu MSA.

Figure 2-2. PM_{10} Network



2.3 Pb Network

Pb monitoring was conducted from January 1, 2012, until discontinued on December 31, 2018 at the Kapolei/NCore site. Concentrations of Pb measured during this period were approximately one to two percent of the standard. The state has no sources emitting greater than 0.5 tons per year according to the most recent emissions inventory. EPA approved the discontinuation of Pb monitoring per letter dated October 29, 2018.

Table 2-6. Minimum Pb Monitoring Requirement at NCore

NCore	AQS ID	CBSA	2023 Census Population (estimated)	# Required Monitors	# Active Monitors	# Monitors Needed
KA	150030010	Honolulu	989,408	*0	*0	0

* Per EPA letter dated October 29, 2018, the Pb monitoring at Kapolei NCore was approved to be discontinued.

2.4 O_3 Network

Depending upon MSA population and typical peak concentrations, the state must operate a minimum number of O_3 monitors. NCore sites are intended to complement O_3 data collection and can be used to meet the minimum monitoring requirements.

The O_3 monitoring season for the State of Hawaii is 12-months from January to December. The O_3 design value is the 3-year average of the fourth-highest daily maximum 8-hour concentrations measured at each monitor.

The most recent O_3 design value concentrations at the Sand Island and Kapolei NCore stations in the Honolulu MSA showed less than 85% of the O_3 NAAQS (Table 2-7). The Maui MSA does not have any O_3 monitoring. According to 40 CFR Part 58, Appendix D, Table D-2 and, as shown in Table 2-7 below, with a 2023 census population estimated at 164,183 and in the absence of a design value, no O_3 monitor is required in the Maui MSA. The state meets the minimum O_3 network monitoring requirements.

Table 2-7. O_3 Design Values for the Honolulu MSA

Stations in the MSA	8-Hour Design Value 2021 – 2023	2023 MSA Census Population	Required # of Monitors	# of Active Monitors in the MSA	# of Monitors Needed
Sand Island (150031004)	0.045	989,408 (estimated)	1	2	0
Kapolei (150030010)	0.043				
There is no O_3 monitor in the Maui MSA		164,183 (estimated)	0	0	0

Table 2-8. O_3 Minimum Monitoring Requirements for Each MSA

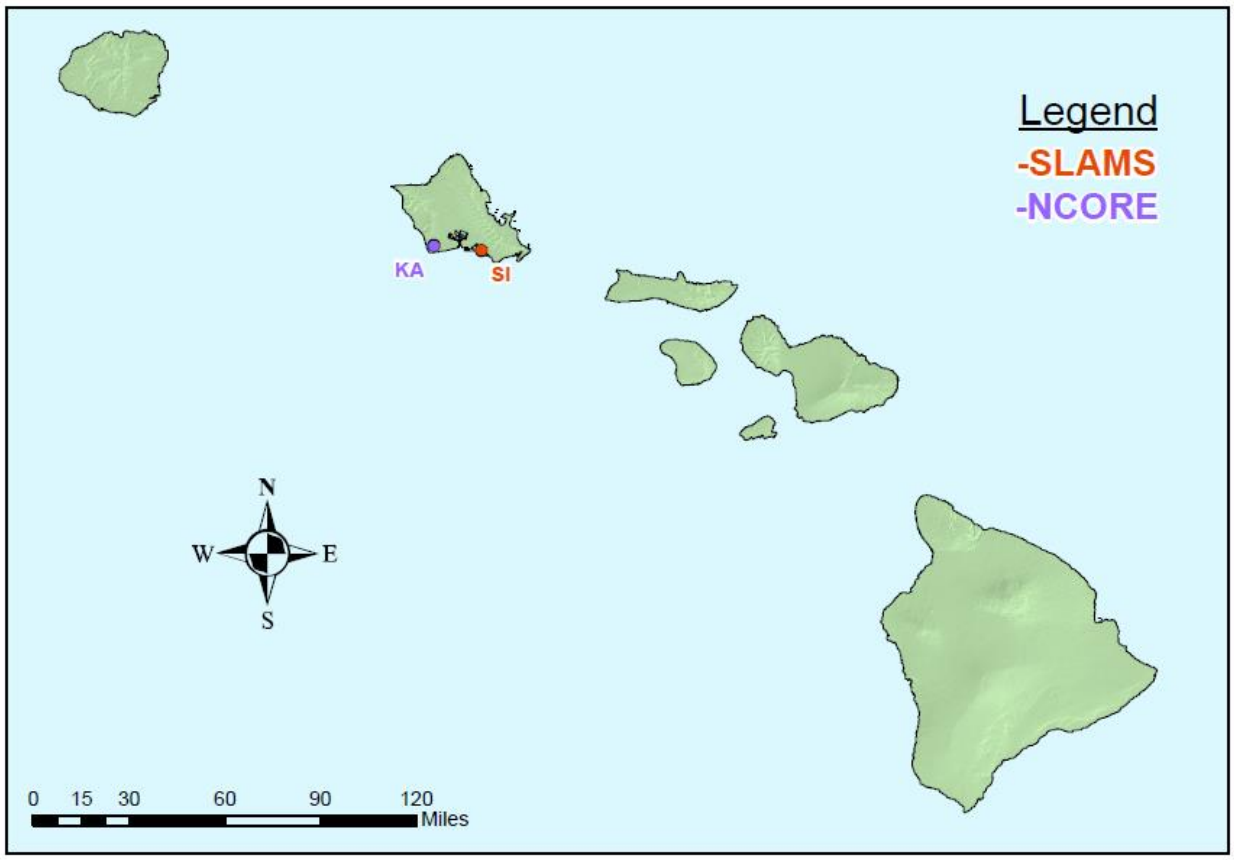
MSA Population Category (40 CFR 58 Appendix D Table D-2)	Most recent 3-year design value ≥85% of any O_3 NAAQS (≥.064 ppm, 8-hr standard)	Most recent 3-year design value <85% of any O_3 NAAQS (<.064 ppm, 8-hr standard)[1]
>10 million	4	2
4-10 million	3	1
350,000-<4 million	2	**1**
50,000-<350,000	1	0

[1] According to 40 CFR part 58 Appendix D, Table D-2, these minimum monitoring requirements apply in the absence of a design value.

Hawaii is in attainment with the 8-hour O_3 standard and is not required to submit an Enhanced Monitoring Plan (EMP). 40 CFR Part 58.10 requires that states with Moderate and above 8-hour O_3 nonattainment areas and states in the Ozone Transport Region as defined in 40 CFR 51.900 shall develop and implement an EMP.

Figure 2-3 shows the map locations of the SLAMS and NCore O_3 stations. Both stations are in the Honolulu MSA.

Figure 2-3. O_3 Network



2.5 NO_2 Network

40 CFR Part 58, Appendix D Section 4.3.3 requires area wide NO_2 monitoring in the location of highest expected concentration in Core-Based Statistical Areas (CBSA) with a population ≥1,000,000. The Honolulu MSA had a 2023 census population estimated at 989,408, down 0.6% from the 2022 estimate of 995,638, continuing a recent downward trend. The population and Annual Average Daily Traffic (AADT) for the Honolulu CBSA will be monitored, and when thresholds are reached, the near-road monitoring will be established.

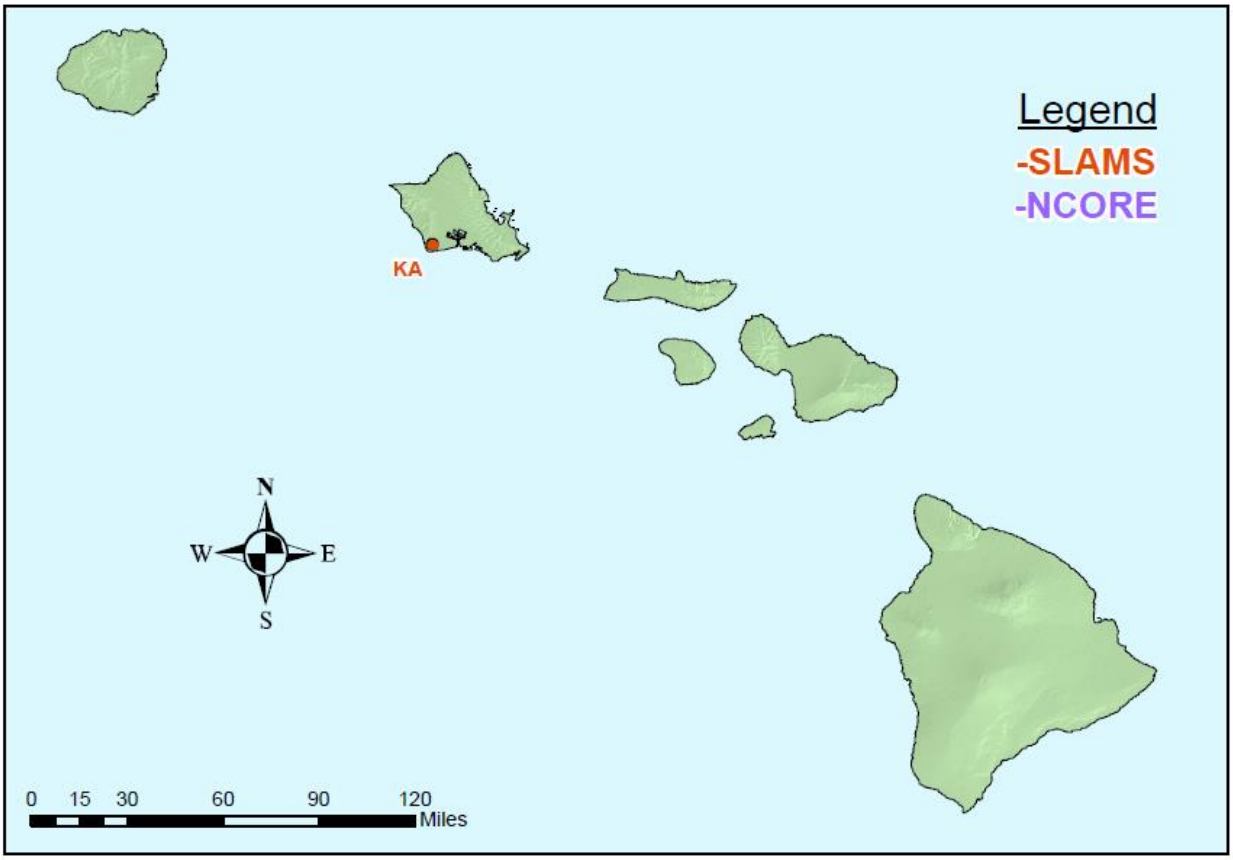
The state currently has one SLAMS NO_2 station in the Honolulu MSA which measures typical concentration in areas of high population density. Additionally, this location would be suitable as the area-wide monitor because it is in the area of highest expected concentration. No NO_2 monitoring is required in the Maui MSA.

Table 2-9. Minimum Near-Road NO_2 Monitoring Requirements for the MSA

CBSA	2023 Census Population (estimated)	Max AADT Counts (2021)[1]	# Required Monitors	# Monitors to be operational by 1/1/2017
Honolulu	989,408	252,626	0	0

[1] 2021 estimated average AADT provided by the State of Hawaii Department of Transportation, calculated from a 4% drop in volume from the 2019 count of 263,152.

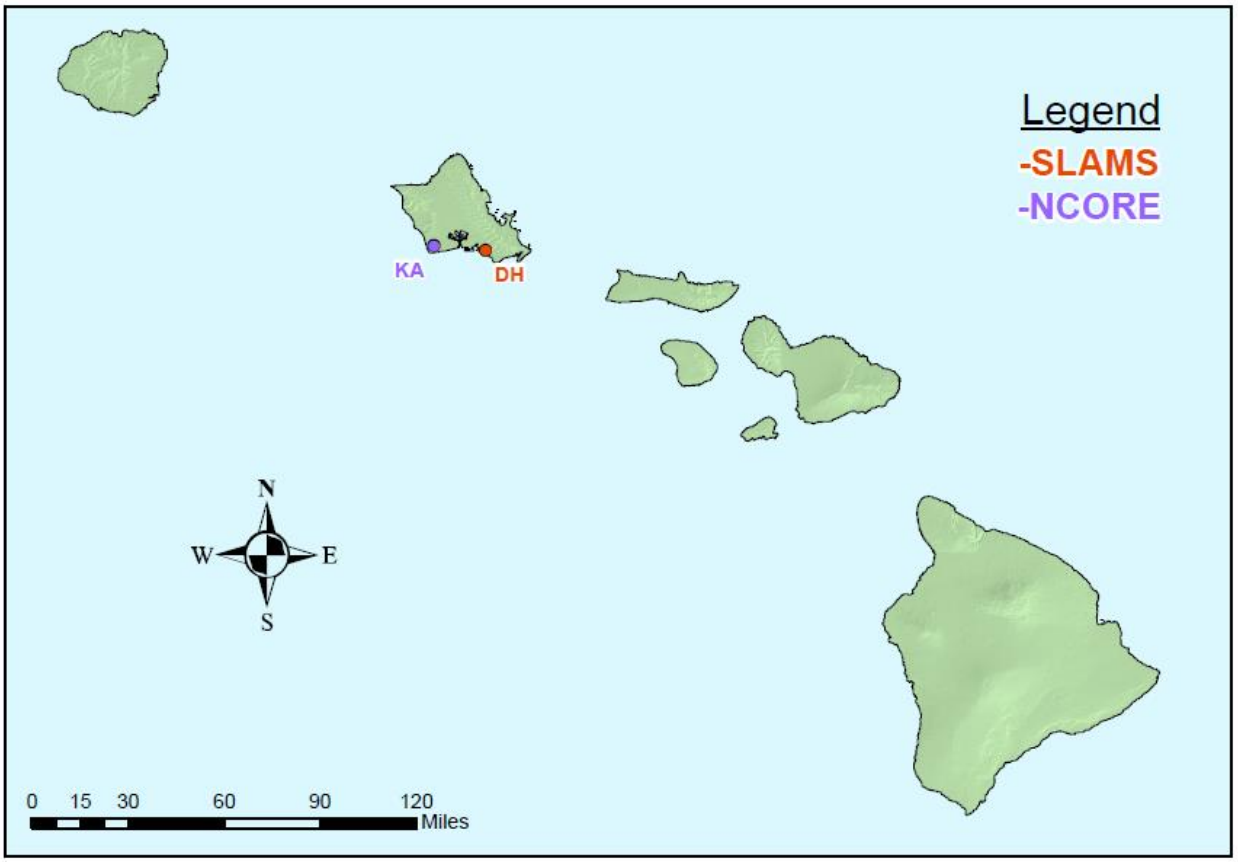
Figure 2-4. NO_2 Network



2.6 CO Network

The state operates two CO monitors, one SLAMS and one SLAMS/NCore, in the Honolulu MSA. Figure 2-5 shows the locations of the CO sites in the state. 40 CFR Part 58, Appendix D Section 4.2.2 requires one collocated CO monitor at near-road NO_2 sites in Core-based Statistical Areas (CBSA) with populations ≥1,000,000. The Honolulu MSA had a 2023 census population estimated at 989,408. The population and AADT for the Honolulu CBSA will be monitored, and when thresholds are reached, the near-road monitoring and the collocated CO monitor will be established. No CO monitoring is required in the Maui MSA.

Figure 2-5. CO Network



2.7 SO_2 Network

According to the Population Weighted Emissions Index (PWEI) calculation, established to determine SO_2 monitoring requirements, Hawaii is required to operate one SO_2 monitor in the Honolulu MSA and none in the Maui MSA (Table 2-10). The state currently operates one SLAMS SO_2 monitor in the Honolulu MSA, and one at the NCore station in Kapolei which meets the minimum number of required SO_2 stations. There are no requirements for a SO_2 monitor in the Maui MSA.

The SPM station on Kauai was established to measure SO_2 from cruise ship emissions and will continue. The FEM monitors SO_2, follows all requirements of 40 CFR Part 58, Appendices A, D, and E, and as of April 2, 2013, has been operating for more than 24 months and is eligible for comparison with the NAAQS.

Elevated levels of SO_2 in communities affected by volcanic emissions continue to be a concern on Hawaii Island. To provide timely notification of SO_2 levels on Hawaii Island there are currently nine stations monitoring for SO_2, two are SLAMS (Hilo and Kona) and seven (Mountain View, Pahala, Ocean View, Keaau, Leilani, Naalehu, and Waikoloa) are SPMS. All stations use FEM monitors and follow the requirements of 40 CFR Part 58, Appendices A, D, and E. Mountain View, Pahala, Ocean View, and Leilani have been operating for more than 24 months and are eligible for NAAQS comparison. The probe at Naalehu does not meet siting requirements, and Keaau and Waikoloa have operated at their permanent location for less than 24 months, therefore these stations are not currently subject to NAAQS comparisons. See Section 2.12 for discussion on site modifications and Section 3.0 for detailed location information. Figure 2-6 shows the locations of the SLAMS and SPMS discussed.

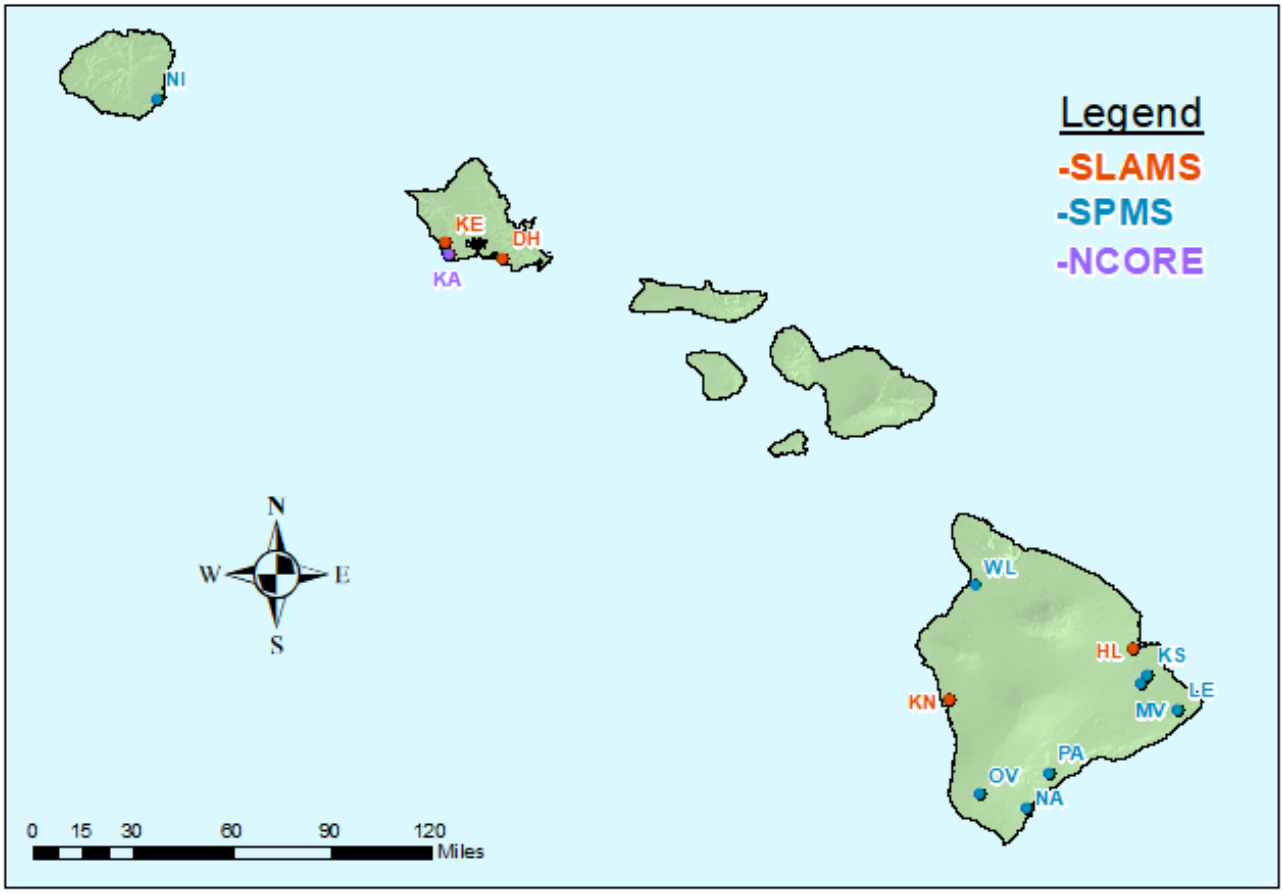
The state is also required by 40 CFR Part 51, Subpart BB, Data Requirements Rule, to characterize maximum 1-hour ambient concentrations of SO_2 through either ambient air quality monitoring or air quality modeling analysis. Currently the state has one air station, Kahe, to monitor four sources that have been identified as having SO_2 emissions data of 2,000 tons or more (see detailed site description for more information). On April 30, 2024, the state put in a request to EPA to close this station, as it meets the requirements of 58.14 for discontinuation. DRR monitoring at Waiau was discontinued on December 31, 2021 with EPA approval.

Table 2-10. Minimum SO_2 Monitoring Requirements

CBSA	County	2023 Census Population (estimated)	Total SO_2 (tons/year) 2020 NEI	PWEI[1]	DRR[2] Sources Using Monitoring	# Required Monitors	# Active Monitors	# Monitors Needed
Honolulu	City & County of Honolulu	989,408	11,446	11,396	4	1	1 SLAMS 1 NCore 1 DRR	0
Maui	Maui	164,183	2,353	387	0	0	0	0

[1] According to 40 CFR 58 Appendix D, if the PWEI for a CBSA is ≥ 5,000 but < 100,000, a minimum of one SO_2 monitor is required.
[2] Data Requirements Rule for the 2010 1-Hour SO_2 Primary NAAQS.

Figure 2-6. SO_2 Network



2.8 NCore

The Kapolei NCore station is located in the residential, commercial, and industrial community on the southwest side of Oahu. Kapolei is the "second city" next to Honolulu with county, state, and federal agencies having established offices in the area. The NCore parameters are: NO/NO_y, trace-level SO_2, trace-level CO, O_3, $PM_{10-2.5}$, $PM_{2.5}$ speciation and the meteorological parameters wind speed, wind direction, temperature, and relative humidity.

By correspondence dated October 30, 2009, EPA approved Kapolei as the NCore station and it became fully operational on January 1, 2011.

40 CFR Part 58, Appendix D, Section 5 (a) requires the state to collect and report Photochemical Assessment Monitoring Station (PAMS) measurements at each NCore site located in a CBSA with a population ≥1,000,000. As stated previously, the Honolulu MSA had a 2023 census population estimated at 989,408, down 0.6% from 2022, therefore, DOH will continue to work with EPA to determine the appropriate timeline to meet the requirement to operate a PAMS.

2.9 H_2S Network

There is a geothermal facility, Puna Geothermal Ventures (PGV), located on Hawaii Island in the lower east rift zone of the Kilauea volcano. PGV is permitted to operate a 41-megawatt geothermal power plant and to conduct geothermal energy exploration and production. The pollutant of concern emitted from the facility operations is hydrogen sulfide (H_2S). The state has a one-hour H_2S standard of 25 parts per billion (ppb).

DOH established and operates a station at the Leilani Community Association Center, downwind of the facility, to monitor ambient levels of H_2S due to activities from PGV. The Leilani station which began sampling on September 18, 2020 is operated and maintained according to EPA monitoring and quality assurance requirements.

2.10 Site Closures

40 CFR Part 58, Appendix A, Section 2.1.3 states: The PQAO/monitoring organization's quality system must have adequate resources both in personnel and funding to plan, implement, assess, and report on the achievement of the requirements of this appendix and its' approved Quality Assurance Project Plan (QAPP).

2.10.1 Kahe (150034001) SLAMS
Makakilo, Oahu, Hawaii
Parameter: SO_2

As stated previously, the state submitted a formal closure request to EPA on April 30, 2024 to discontinue the Kahe (150034001) SLAMS/DRR site. Notification of the request document availability for public inspection and comment was provided through a public notice published on February 20, 2024 in the daily newspaper of the City and County of Honolulu. The request document was available for inspection on the Clean Air Branch website at http://health.hawaii.gov/cab, for 30 days from February 20, 2024 to March 21, 2024. No comments were received. A copy of the request packet is attached in Appendix B of this year's plan.

There are no plans to close any other sites in the next 18 months.

2.11 Site Additions

There are no plans to add any sites in the next 18 months. However, DOH has installed mobile $PM_{2.5}$ monitors and low-cost $PM_{2.5}$ sensors to supplement network coverage and provide vital air quality information to the public. This remains especially important in the cleanup and recovery efforts in the areas ravaged by the unprecedented August 8, 2023 Maui wildfires. The low cost $PM_{2.5}$ sensors are proving a viable option for the state in the management of the network.

2.12 Site Modifications

2.12.1 Kihei (150090006) SLAMS
Kihei, Maui, Hawaii
Parameter: $PM_{2.5}$

The Kihei station resumed operations on August 21, 2023 after having been shut down since March 30, 2022. The station had been slated for permanent discontinuation for network resource management purposes but was restarted due to air quality concerns resulting from the August 8, 2023 Maui wildfires and subsequent ongoing cleanup and recovery efforts there. A formal closure approval request to EPA was included in Appendix C of the 2023 air monitoring network plan but the state is currently no longer requesting formal discontinuation of this site, although closing the site remains a possibility in the future as the state continues to manage network resources.

2.12.2 Naalehu (150013028 and 15001333) SPMS
Naalehu, Hawaii
Parameter: $PM_{2.5}$

The state submitted a package to EPA on April 2, 2024, requesting EPA approval to permanently relocate the $PM_{2.5}$ monitor that was operating at the Naalehu Fire Station (NA28) ambient air monitoring station (150013028) to the nearby Naalehu Elementary School (NA33) station (150013033). A copy of the request packet is attached in Appendix C of this year's plan.

There are no plans to modify any of the other current sites in the next 18 months.

2.13 Summary of Network and Changes

Table 2-11 summarizes the state's 2024 network monitors and planned changes. Since it has been determined that no criteria monitors are currently required in the Maui MSA, only monitors required for the Honolulu MSA are addressed in the table. Sections 2.10 to 2.12 detail station closures, additions, and equipment or network modifications, and is summarized in Table 2-12.

As indicated in table 2-11, the monitors used for all criteria pollutants are FRM or FEM and follow the requirements of 40 CFR 58, Appendices A, C, D, E and G. Hawaii's air monitoring network meets or exceeds the minimum required monitoring for each parameter.

Table 2-11. Number of Monitors by Pollutant or Program

N/A = Not applicable

Pollutant/ Program	SLAMS Only	SPMS	SLAMS/NCore	No. of Collocated	Total in MSA[1,2]	Total in State[2]	Total Required in MSA[1]	Meets EPA Required Minimum?	Planned Additions	Planned Closures
CO (FRM)	1	0	1	N/A	2	2	N/A	N/A	0	0
NO_2 (FRM)	1	0	---	N/A	1	1	N/A	N/A	0	0
SO_2 (FEM)	4	8	1	N/A	3	13	1	YES	0	1
O_3 (FEM)	1	0	1	N/A	2	2	1	YES	0	0
NO/NO_y	N/A	N/A	1 (NCore)	N/A	1	1	1	YES	0	0
PM_{10} (FEM)	1	0	1	N/A	2	2	1-2	YES	0	0
$PM_{2.5}$ (all are FEM)	3	10	1	2 FRM 1 FEM	3	14[3]	1	YES	0	0
$PM_{2.5}$ Speciation	0	0	1 (NCore/ Supplemental Speciation)	N/A	1	1	1 (NCore)	YES	0	0
$PM_{10-2.5}$	N/A	N/A	1 (NCore)	N/A	1	1	1 (NCore)	YES	0	0
H_2S	N/A	1	N/A	N/A	0	1	N/A	N/A	0	0

[1] As promulgated in 40 CFR 58 Appendix D, the minimum monitoring requirements apply to Metropolitan Statistical Areas (MSA). Currently, only the Honolulu MSA has requirements for minimum criteria pollutant monitoring.
[2] Total refers to the number of primary monitors only and does not count collocated monitors.
[3] Twelve of the fourteen are using Method 209 and two are using Method 238.

Table 2-12. Summary of Network Changes

Site	AQS ID	Site Type	Affected Parameters	Reason for Closure/Addition/Modification
City and County of Honolulu				
Kahe	150034001	SLAMS/ DRR	SO_2	**Site closure:** The state submitted a formal closure request to EPA on April 30, 2024 to discontinue the Kahe (150034001) SLAMS/DRR site. A copy of the request packet is attached in Appendix B of this year's plan.
Maui County				
Kihei	150090006	SLAMS	$PM_{2.5}$	**Site modification:** The Kihei station resumed operations on August 21, 2023 after having been shut down since March 30, 2022. The station had been slated for permanent discontinuation for network resource management purposes. It was restarted due to air quality concerns resulting from the August 8, 2023 Maui wildfires and subsequent ongoing cleanup and recovery efforts there. A formal closure approval request to EPA was included in Appendix C of the 2023 air monitoring network plan but the state is currently no longer requesting formal discontinuation of this site.
Hawaii County				
Naalehu	150013028/ 150013033	SPMS	$PM_{2.5}$	**Site modification:** The state submitted a package to EPA on April 2, 2024, requesting EPA approval to permanently relocate the PM2.5 monitor that was operating at the Naalehu Fire Station (NA28) ambient air monitoring station (150013028) to the nearby Naalehu Elementary School (NA33) station (150013033). A copy of the request packet is attached in Appendix C of this year's plan.

The operation of each monitor meets the requirements of appendices A, C, D, E and G of 40 CFR Part 58, where applicable.

3.0 Detailed Site Descriptions

The following are descriptions and photos of each station in the state's current ambient air monitoring network. The descriptions include area location, traffic, probe siting, monitor information and adherence to quality assurance.

DOH Clean Air Branch is the collecting and reporting agency for all stations and monitors operating in the state.

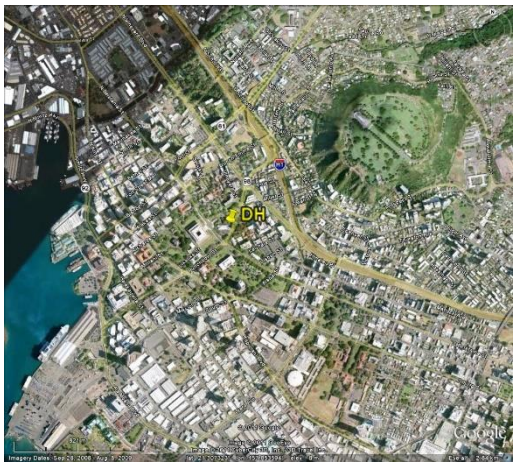
Table 3-1. State of Hawaii Ambient Air Monitoring Network

ID	AQS No.	Site Name	Basic Monitoring Objective(s)[1]	Parameters
DH	150031001	Honolulu	1,2	$PM_{2.5}$, PM_{10}, SO_2, CO
KA SLAMS/ NCore	150030010	Kapolei	1,2,3	$PM_{2.5}$, $PM_{2.5}$ collocated FRM, PM_{10}, ($PM_{10-2.5}$), trace SO_2, NO_2, NO/NO_y, trace CO, O_3, $PM_{2.5}$ speciation, WS, WD, RH, Ambient Temperature
SI	150031004	Sand Island	1,2	$PM_{2.5}$, $PM_{2.5}$ collocated FRM, O_3
KH	150090006	Kihei	1, 2	$PM_{2.5}$
KL	150090025	Kahului	1, 2	$PM_{2.5}$
NI	150070007	Niumalu	1,2,3	SO_2
HL (SLAMS)	150011006	Hilo	1,2,3	SO_2
HL (SPMS)	150011006	Hilo	1,2,3	$PM_{2.5}$
KN SLAMS)	150011012	Kona	1,2,3	SO_2
KN (SPMS)	150011012	Kona	1,2,3	$PM_{2.5}$, $PM_{2.5}$ collocated FEM
MV	150012023	Mt. View	1,2,3	$PM_{2.5}$, SO_2
OV	150012020	Ocean View	1,2,3	$PM_{2.5}$, SO_2
PA	150012016	Pahala	1,2,3	$PM_{2.5}$, SO_2
LE	150012035	Leilani	1,3	H_2S, SO_2
KK	150013034	Kailua-Kona	1,2,3	$PM_{2.5}$
KS	150013027	Keaau	1,2,3	$PM_{2.5}$, SO_2
NA	150013033	Naalehu	1,2,3	$PM_{2.5}$, SO_2
WL	150012021	Waikoloa	1,2,3	$PM_{2.5}$, SO_2
KE	150034001	Kahe	1,2,3	SO_2

[1] Basic Monitoring Objectives:

1) Public information
2) NAAQS compliance
3) Support research

(DH) HONOLULU			
AQS: 150031001	Type: SLAMS	County: Honolulu	MSA: Honolulu
Address: 1250 Punchbowl St., Honolulu, HI 96813			
Latitude: 21.30758 Longitude: -157.85542			Elevation: 20 m MSL
Location Description: This station is located on the roof of the state Department of Health building in downtown Honolulu. The surrounding streets are busy thoroughfares serving the downtown area. The area includes a major hospital (Queen's Medical Center), the state capitol, other state, county, commercial and business buildings as well as residential condominiums. This station has been operating since 1972.			



DH TRAFFIC DESCRIPTION			
Type of Roadway	Punchbowl	S. Beretania	Vineyard
Freeway			
Major Street or Highway	X	X	X
Distance from air intake (m)	30	122	610
Direction from air inlet	E	S	N
Composition of roadway	asphalt	asphalt	asphalt
Number of traffic lanes	5	6	6
Average daily traffic	19,800 [1]	20,100 [1]	34,800 [1]
Average vehicle speed (est. mph)	20	25	25
Traffic one way or two	2	1	2
Street parking?	No	No	No
[1] Source: State of Hawaii Department of Transportation (2016 count)			

For "Site Representativeness" in the following table:

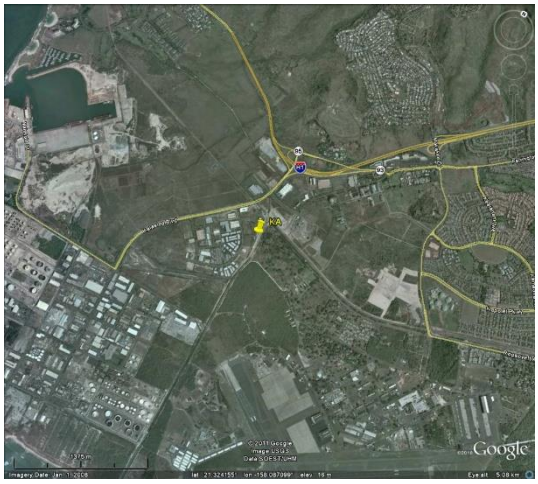
[1]Site Types:
1) Located to determine the highest concentrations;
2) Located to measure typical concentrations in areas of high population density;
3) Located to determine the impact of significant sources or source categories on air quality;
4) Located to determine general background concentration levels;
5) Located to determine extent of regional pollutant transport among populated areas and in support of secondary standards;
6) Located to measure air pollution impacts on visibility, vegetation damage, or other welfare-based impacts.

[2] Purposes:
1) Provide air pollution data to the general public in a timely manner;
2) Support compliance with ambient air quality standards;
3) Support emissions strategy development and track trends in air pollution abatement control measures;
4) Support for air pollution research.

(DH) Honolulu continued

DH MONITOR INFORMATION (N/A = Not Applicable)				
	PM_{10}	**$PM_{2.5}$**	**SO_2**	**CO**
POC/FRM or FEM	1/FEM	3/FEM	6/FEM	1/FRM
Type of monitor	SLAMS	SLAMS	SLAMS	SLAMS
AQS parameter code	81102	88101	42401	42101
Manufacturer	TAPI	TAPI	Thermo	TAPI
Model no.	T640X	T640X	43iQ	T300
AQS method code	239	238	060	093
Monitoring start date	8/17/2022	1/1/2023	9/27/2019	10/15/2019
Monitoring frequency	Continuous	Continuous	Continuous	Continuous
Probe material	N/A	N/A	Glass	Glass
Residence time (sec)	N/A	N/A	14.4	9.2
Distance between collocated monitors	N/A	N/A	N/A	N/A
Analytical laboratory	N/A	N/A	N/A	N/A
Location of probe	building roof	building roof	building roof	building roof
Building dimensions (H) (m)	13.7	13.7	13.7	13.7
Horizontal distance from supporting structure (m)	3.1	3.1	4.8	4.8
Vertical distance above supporting structure (m)	2.5	2.5	1.1	1.1
Height of probe above ground (m)	16.2	16.2	14.8	14.8
Distance (m) & direction from drip line of tree(s)	5.4 SW	5.4 SW	8.5 SW	8.5 SW
Horizontal distance from edge of nearest traffic lane (m)	27	27	30	30
Horizontal distance from nearest parking lot (m)	24	24	24	24
Distance (m) & direction from obstructions on roof, vertical height above probe (m)	9 ESE, 2.7	9 ESE, 2.7	9 ESE, 2.7	9 ESE 2.7
Distance (m) & direction from possible obstructions not on roof, vertical height (m)	N/A	N/A	N/A	N/A
Distance (m) & direction from furnace or incineration flues	234 S/SW	234 S/SW	238 S/SW	238 S/SW
Unrestricted airflow	360°	360°	360°	360°
Located in paved (P) or vegetative (V) ground?	P	P	P	P
SITE REPRESENTATIVENESS				
Spatial scale	Neighborhood	Neighborhood	Neighborhood	Middle
Applicable NAAQS averaging time(s)	24-hr	24-hr, annual	1-hr, 3-hr, annual	1-hr, 8-hr
Sampling season	12 months	12 months	12 months	12 months
Site type[1]	2	2	2	1
Purpose of monitor[2]	1, 2	1, 2	1, 2	1, 2
Suitable for comparison against the annual $PM_{2.5}$ NAAQS?	N/A	Yes	N/A	N/A
DATA QUALITY				
Last PEP	N/A	10/13/22 (BAM 1022)	N/A	N/A
Last NPAP (2017 NPAP done for O_3 only in SI site)	N/A	N/A	6/27/18	6/27/18
Date of last annual independent performance audit (CAB)	N/A	N/A	5/11/23	5/11/23
Frequency of flow rate verification (automated PM)	Monthly	Monthly	N/A	N/A
Frequency of flow rate verification (manual $PM_{2.5}$)	N/A	N/A	N/A	N/A
Dates of last 2 semi-annual flow rate audits (PM)	5/11/23, 11/20/23	5/11/23, 11/20/23	N/A	N/A
Frequency of 1-point flow rate verification (Pb)	N/A	N/A	N/A	N/A
Dates of last 2 semi-annual flow rate audits (Pb)	N/A	N/A	N/A	N/A
Precision & accuracy submitted to AQS	Quarterly	Quarterly	Quarterly	Quarterly
Frequency of 1-pt. QC check (gases)	N/A	N/A	Weekly	Weekly
Frequency of multi-point gas calibration	N/A	N/A	6 months	6 months
Annual data certification submitted	5/1/24	5/1/24	5/1/24	5/1/24
Changes in the next 18 months?	None	None	None	None

(KA) KAPOLEI SLAMS and NCORE			
AQS: 150030010	Type: SLAMS	County: Honolulu	MSA: Honolulu
Address: 2052 Lauwiliwili St., Kapolei, HI 96707			
Latitude: 21.32374 Longitude: -158.08861			Elevation: 17.9 m MSL
Location Description: Located in the Kapolei Business Park in the city of Kapolei, the area is a mix of business, commercial, and government activities surrounded by an ever-expanding residential community. The site is also approximately 1.25 km northeast (upwind) of the state's largest industrial park on the southwest coast of Oahu. The station has been operating as a SLAMS station since 2002. On October 30, 2009, EPA approved the Kapolei station as the state's NCore site, and in addition to the SLAMS parameters, the station began collecting the required NCore parameters on January 1, 2011. There are plans to replace the station shelters with new ones.			



KA TRAFFIC DESCRIPTION		
Type of Roadway	Kalaeloa Blvd.	Lauwiliwili St.
Freeway		
Major Street or Highway	X	
Local Street or Road		X
Distance from air intake (m)	379	167
Direction from air inlet	NW	W
Composition of roadway	Asphalt	Asphalt
Number of traffic lanes	4	2
Average daily traffic	36,607 [1]	[2] Estimated: <5,000
Average vehicle speed (est. mph)	35	30
Traffic one way or two	2	2
Street parking?	No	Yes
[1] Source: State of Hawaii Department of Transportation (2016) [2] Estimate only, no data available, local road		

For "Site Representativeness" in the following table:

[1]Site Types:
1) located to determine the highest concentrations;
2) located to measure typical concentrations in areas of high population density;
3) located to determine the impact of significant sources or source categories on air quality;
4) located to determine general background concentration levels;
5) located to determine extent of regional pollutant transport among populated areas and in support of secondary standards;
6) located to measure air pollution impacts on visibility, vegetation damage, or other welfare-based impacts

[2] Purposes:
1) Provide air pollution data to the general public in a timely manner;
2) Support compliance with ambient air quality standards;
3) Support emissions strategy development and track trends in air pollution abatement control measures;
4) Support for air pollution research

(KA) Kapolei SLAMS and NCore continued

KA MONITOR INFORMATION (N/A = Not Applicable)				
	PM_{10}	**$PM_{2.5}$ Primary**	**$PM_{2.5}$ QA Collocated**	**$PM_{10-2.5}$**
POC/FRM or FEM	3/FEM	1/FEM	2/FRM	7/FEM
Type of monitor	SLAMS/NCore	SLAMS/NCore	SLAMS/NCore	NCore
AQS parameter code	81102	88101	88101	86101
Manufacturer	TAPI	TAPI	Met One	TAPI
Model no.	T640X	T640X	E-SEQ-FRM	T640X
AQS method code	239	238	142	240
Monitoring start date	1/7/2022	1/7/2022	9/4/21	1/7/2022
Monitoring frequency	Continuous	Continuous	1/3 days	Continuous
Probe material	N/A	N/A	N/A	N/A
Residence time (sec)	N/A	N/A	N/A	N/A
Manual PM instrument flow rate (liters per minute)	N/A	N/A	16.7	N/A
Distance between collocated monitors (m)	N/A	2.1	2.1	N/A
Analytical laboratory	N/A	N/A	Pace Analytical	N/A
Location of probe	shelter roof	shelter roof	shelter roof	shelter roof
Shelter dimensions (H x W x D) (m)	2.7x2.4x4.9	2.7x2.4x4.9	2.7x2.4x4.9	2.7x2.4x4.9
Horizontal distance from supporting structure (m)	N/A	N/A	N/A	N/A
Vertical distance above supporting structure (m)	2.2	2.2	1.9	2.2
Height of probe above ground (m)	4.9	4.9	4.6	4.9
Distance (m) & direction from drip line of tree(s)	17 NW	17 NW	18 NW	18 NW
Horizontal distance from edge of nearest traffic lane (m)	167	167	169	167
Horizontal distance from nearest parking lot (m)	87	87	87	87
Distance (m) & direction from obstructions on roof, vertical height above probe (m)	N/A	N/A	N/A	N/A
Distance (m) & direction from possible obstructions not on roof, vertical height (m)	170 E, 9	170 E, 9	170 E, 9	170 E, 9
Distance (m) & direction from furnace or incineration flues	None	N/A	None	None
Unrestricted airflow	360°	360°	360°	360°
Located in paved (P) or vegetative (V) ground?	gravel	gravel	gravel	gravel
SITE REPRESENTATIVENESS				
Spatial scale	Neighborhood	Neighborhood	Neighborhood	Neighborhood
Applicable NAAQS averaging time(s)	24-hr	24-hr, annual	24-hr, annual	N/A
Sampling season	12 months	12 months	12 months	12 months
Site type[1]	2	2	Quality Assurance	2
Purpose of monitor[2]	1, 2	1, 2	Quality Assurance	4
Suitable for comparison against the annual $PM_{2.5}$ NAAQS?	N/A	Yes	Yes	N/A
DATA QUALITY				
Last PEP	N/A	10/12/22	N/A	N/A
Last NPAP	N/A	N/A	N/A	N/A
Date of last annual independent performance audit (CAB)	N/A	N/A	N/A	N/A
Frequency of flow rate verification (automated PM)	Monthly	Monthly	N/A	Monthly
Frequency of flow rate verification (manual $PM_{2.5}$)	N/A	N/A	Monthly	N/A
Dates of last 2 semi-annual flow rate audits (PM)	5/23/23, 12/12/23	5/23/23, 12/12/23	5/23/23, 12/12/23	5/23/23, 12/12/23
Frequency of 1-point flow rate verification (Pb)	N/A	N/A	N/A	N/A
Dates of last 2 semi-annual flow rate audits (Pb)	N/A	N/A	N/A	N/A
Precision & accuracy submitted to AQS	Quarterly	Quarterly	Quarterly	Quarterly
Frequency of 1-pt. QC check (gases)	N/A	N/A	N/A	N/A
Frequency of multi-point gas calibration	N/A	N/A	N/A	N/A
Annual data certification submitted	5/1/24	5/1/24	5/1/24	5/1/24
Changes in the next 18 months?	None	None	None	None

(KA) Kapolei SLAMS and NCore continued

KA MONITOR INFORMATION (N/A = Not Applicable)				
	O_3	**NO_2**	**Trace CO**	**Trace SO_2**
POC/FRM or FEM	1/FRM	1/FRM	2/FRM	2/FEM
Type of monitor	SLAMS/NCore	SLAMS	SLAMS/NCore	SLAMS/NCore
AQS parameter code	44201	42602	42101	42401
Manufacturer	Thermo	TAPI	API	Thermo
Model no.	49i	T500U	M300EU	43iTLE
AQS method code	047	212	093	560
Monitoring start date	1/9/2014	10/5/2006	9/30/2014	1/1/2011
Monitoring frequency	Continuous	Continuous	Continuous	Continuous
Probe material	Teflon	Teflon	Teflon	Teflon
Residence time (sec)	2.7	3.5	1.3	10.4
Distance between collocated monitors (m)	N/A	N/A	N/A	N/A
Analytical laboratory	N/A	N/A	N/A	N/A
Location of probe	shelter roof	shelter roof	shelter roof	shelter roof
Shelter dimensions (H x W x D) (m)	2.7x2.4x4.9	2.7x2.4x4.9	4 x 2.4 x 5	4 x 2.4 x 5
Horizontal distance from supporting structure (m)	N/A	N/A	N/A	N/A
Vertical distance above supporting structure (m)	1.1	1.1	1	1
Height of probe above ground (m)	3.8	3.8	5	5
Distance (m) & direction from drip line of tree(s)	12 N	12 N	12 N	12 N
Horizontal distance from edge of nearest traffic lane (m)	162	167	162	162
Horizontal distance from nearest parking lot (m)	82	87	82	82
Distance (m) & direction from obstructions on roof, vertical height above probe (m)	N/A	N/A	N/A	N/A
Distance (m) & direction from possible obstructions not on roof, vertical height (m)	165 E, 9	170 E, 9	165 E, 9	165 E, 9
Distance (m) & direction from furnace or incineration flues	None	None	N/A	N/A
Unrestricted airflow	360°	360°	360°	360°
Located in paved (P) or vegetative (V) ground?	gravel	gravel	gravel	gravel
SITE REPRESENTATIVENESS				
Spatial scale	Neighborhood	Neighborhood	Neighborhood	Neighborhood
Applicable NAAQS averaging time(s)	8-hr	1-hr, annual	1-hr; 8-hr	1-hr; 3-hr; annual
Sampling season	12 months	12 months	12 months	12 months
Site type[1]	2	2	2	2
Purpose of monitor[2]	1, 2	1, 2	1,2,4	1,2,4
Suitable for comparison against the annual $PM_{2.5}$ NAAQS?	N/A	N/A	N/A	N/A
DATA QUALITY				
Last PEP	N/A	N/A	N/A	N/A
Last NPAP	6/23/21	6/23/21	6/23/21	6/23/21
Date of last annual independent performance audit (CAB)	5/25/23	5/22/23	5/23/23	5/23/23
Frequency of flow rate verification (automated PM)	N/A	N/A	N/A	N/A
Frequency of flow rate verification (manual $PM_{2.5}$)	N/A	N/A	N/A	N/A
Dates of last 2 semi-annual flow rate audits (PM)	N/A	N/A	N/A	N/A
Frequency of 1-point flow rate verification (Pb)	N/A	N/A	N/A	N/A
Dates of last 2 semi-annual flow rate audits (Pb)	N/A	N/A	N/A	N/A
Precision & accuracy submitted to AQS	Quarterly	Quarterly	Quarterly	Quarterly
Frequency of 1-pt. QC check (gases)	14 days	Weekly	14 days	14 days
Frequency of multi-point gas calibration	6 months	6 months	6 months	6 months
Annual data certification submitted	5/1/24	5/1/24	5/1/24	5/1/24
Changes in the next 18 months?	None	None	None	None

(KA) Kapolei SLAMS and NCore continued

KA MONITOR INFORMATION (N/A = Not Applicable)				
	NO/NOy	**$PM_{2.5}$ Spec.**	**RH**	**AT**
POC/FRM or FEM	1/FRM	N/A	POC 1	POC 1
Type of monitor	NCore	NCore/Supp. Speciation	NCore	NCore
AQS parameter code	42601/42600	Various	62201	62101
Manufacturer	Thermo	Met-One/URG	RM Young	RM Young
Model no.	42iY	SASS/3000N	05103VP	05103VP
AQS method code	574	811/136	014	020
Monitoring start date	1/14/2016	7/24/2019	1/1/2011	1/1/2011
Monitoring frequency	Continuous	1/3 days	Continuous	Continuous
Probe material	Teflon	N/A	N/A	N/A
Residence time (sec)	19.0	N/A	N/A	N/A
Distance between collocated monitors	N/A	N/A	N/A	N/A
Analytical laboratory	N/A	EPA contract	N/A	N/A
Location of probe	shelter roof	shelter roof	10m tower	10m tower
Shelter dimensions (H x W x D) (m)	2.7 x 2.4 x 4.9	2.7 x 2.4 x 4.9	2.7 x 2.4 x 4.9	2.7 x 2.4 x 4.9
Horizontal distance from supporting structure (m)	N/A	N/A	N/A	N/A
Vertical distance above supporting structure (m)	1	2.1/1.9	N/A	N/A
Height of probe above ground (m)	5	4.7/4.5	N/A	N/A
Distance (m) & direction from drip line of tree(s)	12 N	13N/11N	N/A	N/A
Horizontal distance from edge of nearest traffic lane (m)	162	165	N/A	N/A
Horizontal distance from nearest parking lot (m)	82	85	N/A	N/A
Distance (m) & direction from obstructions on roof, vertical height above probe (m)	N/A	N/A	N/A	N/A
Distance (m) & direction from possible obstructions not on roof, vertical height (m)	165 E, 9	168 E, 9	N/A	N/A
Distance (m) & direction from furnace or incineration flues	N/A	N/A	N/A	N/A
Unrestricted airflow	360°	360°	360°	360°
Located in paved (P) or vegetative (V) ground?	gravel	gravel	gravel	gravel
SITE REPRESENTATIVENESS				
Spatial scale	Neighborhood	Neighborhood	N/A	N/A
Applicable NAAQS averaging time(s)	N/A	N/A	N/A	N/A
Sampling season	12 months	12 months	12 months	12 months
Site type[1]	2	2	N/A	N/A
Purpose of monitor[2]	4	4	N/A	N/A
Suitable for comparison against the annual $PM_{2.5}$ NAAQS?	N/A	N/A	N/A	N/A
DATA QUALITY				
Last PEP	N/A	N/A	N/A	N/A
Last NPAP	6/23/21	N/A	N/A	N/A
Date of last annual independent performance audit (CAB)	728/23	N/A	12/19/23	12/19/23
Frequency of flow rate verification (automated PM)	N/A	N/A	N/A	N/A
Frequency of flow rate verification (manual $PM_{2.5}$)	N/A	Monthly	N/A	N/A
Dates of last 2 semi-annual flow rate audits (manual $PM_{2.5}$)	N/A	5/25/23, 12/12/23	N/A	N/A
Frequency of 1-point flow rate verification (Pb)	N/A	N/A	N/A	N/A
Dates of last 2 semi-annual flow rate audits (Pb)	N/A	N/A	N/A	N/A
Precision & accuracy submitted to AQS	Quarterly	Quarterly	N/A	N/A
Frequency of 1-pt. QC check (gases)	14 days	N/A	N/A	N/A
Frequency of multi-point gas calibration	6 months	N/A	N/A	N/A
Annual data certification submitted	5/1/24	5/1/24	5/1/24	5/1/24
Changes in the next 18 months?	None	None	None	None

(KA) Kapolei SLAMS and NCore continued

KA MONITOR INFORMATION (N/A = Not Applicable)				
	WS	**WD**		
POC/FRM or FEM	POC 1	POC 1		
Type of monitor	NCore	NCore		
AQS parameter code	61103	61104		
Manufacturer	RM Young	RM Young		
Model no.	05103VP	05103VP		
AQS method code	020	020		
Monitoring start date	1/1/2011	1/1/2011		
Monitoring frequency	Continuous	Continuous		
Probe material	N/A	N/A		
Residence time (sec)	N/A	N/A		
Distance between collocated monitors	N/A	N/A		
Analytical laboratory	N/A	N/A		
Location of probe	10m tower	10m tower		
Shelter dimensions (H x W x D) (m)	4 x 2.4 x 5	4 x 2.4 x 5		
Horizontal distance from supporting structure (m)	N/A	N/A		
Vertical distance above supporting structure (m)	N/A	N/A		
Height of probe above ground (m)	N/A	N/A		
Distance (m) & direction from drip line of tree(s)	N/A	N/A		
Horizontal distance from edge of nearest traffic lane (m)	N/A	N/A		
Horizontal distance from nearest parking lot (m)	N/A	N/A		
Distance (m) & direction from obstructions on roof, vertical height above probe (m)	N/A	N/A		
Distance (m) & direction from possible obstructions not on roof, vertical height (m)	N/A	N/A		
Distance (m) & direction from furnace or incineration flues	N/A	N/A		
Unrestricted airflow	360°	360°		
Located in paved (P) or vegetative (V) ground?	gravel	gravel		
SITE REPRESENTATIVENESS				
Spatial scale	N/A	N/A		
Applicable NAAQS averaging time(s)	N/A	N/A		
Sampling season	12 months	12 months		
Site type[1]	N/A	N/A		
Purpose of monitor[2]	N/A	N/A		
Suitable for comparison against the annual $PM_{2.5}$ NAAQS?	N/A	N/A		
DATA QUALITY				
Last PEP	N/A	N/A		
Last NPAP	N/A	N/A		
Date of last annual independent performance audit (CAB)	12/19/23	12/19/23		
Frequency of flow rate verification (automated PM)	N/A	N/A		
Frequency of flow rate verification (manual $PM_{2.5}$)	N/A	N/A		
Dates of last 2 semi-annual flow rate audits (manual $PM_{2.5}$)	N/A	N/A		
Frequency of 1-point flow rate verification (Pb)	N/A	N/A		
Dates of last 2 semi-annual flow rate audits (Pb)	N/A	N/A		
Precision & accuracy submitted to AQS	N/A	N/A		
Frequency of 1-pt. QC check (gases)	N/A	N/A		
Frequency of multi-point gas calibration	N/A	N/A		
Annual data certification submitted	5/1/24	5/1/24		
Changes in the next 18 months?	None	None		

(SI) SAND ISLAND			
AQS: 150031004	Type: SLAMS	County: Honolulu	MSA: Honolulu
Address: 1039 Sand Island Parkway, Honolulu, HI 96819			
Latitude: 21.30384 Longitude: -157.87117			Elevation: 5.3 m MSL
Location Description: Station is located in the University of Hawaii's Anuenue Fisheries near the entrance to the Sand Island Recreational Area. Sand Island is downwind of downtown Honolulu, across from Honolulu Harbor. This station has been operating since 1980.			

SI TRAFFIC DESCRIPTION	
Type of Roadway	Sand Island Parkway
Freeway	
Major Street or Highway	X
Local Street or Road	
Distance from air intake (m)	37
Direction from air inlet	W
Composition of roadway	asphalt
Number of traffic lanes	2
Average daily traffic	14,000 [1]
Average vehicle speed (est. mph)	30
Traffic one way or two	2
Street parking?	No
[1] Source: State of Hawaii Department of Transportation (2016 count)	

For "Site Representativeness" in the following table:

[1]Site Types: 1) located to determine the highest concentrations;
2) located to measure typical concentrations in areas of high population density;
3) located to determine the impact of significant sources or source categories on air quality;
4) located to determine general background concentration levels;
5) located to determine extent of regional pollutant transport among populated areas and in support of secondary standards;
6) located to measure air pollution impacts on visibility, vegetation damage, or other welfare-based impacts

[2] Purposes: 1) Provide air pollution data to the general public in a timely manner;
2) Support compliance with ambient air quality standards;
3) Support emissions strategy development and track trends in air pollution abatement control measures;
4) Support for air pollution research

(SI) Sand Island continued

SI MONITOR INFORMATION (N/A = Not Applicable)				
	$PM_{2.5}$ Primary	**O_3**	**$PM_{2.5}$ QA Collocated**	
POC/FRM or FEM	2/FEM	2/FRM	1/FRM	
Type of monitor	SLAMS	SLAMS	SLAMS	
AQS parameter code	88101	44201	88101	
Manufacturer	Met One	Thermo	Met One	
Model no.	BAM1022	49iQ	E-SEQ-FRM	
AQS method code	209	047	142	
Monitoring start date	2/13/2019	1/1/1980	4/6/2023	
Monitoring frequency	Continuous	Continuous	1/12 days	
Probe material	N/A	Glass	N/A	
Residence time (sec)	N/A	3.1	N/A	
Distance between collocated monitors	2	N/A	2	
Manual PM instrument flow rate (liters per minute)	N/A	N/A	16.7	
Analytical laboratory	N/A	N/A	Pace Analytical	
Location of probe	shelter roof	shelter roof	shelter roof	
Shelter dimensions (H x W x D) (m)	2.5x2.5x4.9	2.5x2.5x4.9	2.5x2.5x4.9	
Horizontal distance from supporting structure (m)	N/A	N/A	N/A	
Vertical distance above supporting structure (m)	2.2	1.1	2.2	
Height of probe above ground (m)	4.7	3.6	4.7	
Distance (m) & direction from drip line of tree(s)	15 E	15 E	15 E	
Horizontal distance from edge of nearest traffic lane (m)	37	37	37	
Horizontal distance from nearest parking lot (m)	40	40	40	
Distance (m) & direction from obstructions on roof, vertical height above probe (m)	N/A	N/A	N/A	
Distance (m) & direction from possible obstructions not on roof, vertical height (m)	14 N, 5.5	14 N, 5.5	14 N, 5.5	
Distance (m) & direction from furnace or incineration flues	N/A	N/A	N/A	
Unrestricted airflow	360°	360°	360°	
Located in paved (P) or vegetative (V) ground?	gravel	gravel	gravel	
SITE REPRESENTATIVENESS				
Spatial scale	Neighborhood	Neighborhood	Neighborhood	
Applicable NAAQS averaging time(s)	24-hr, annual	8-hr	24-hr, annual	
Sampling season	12 months	12 months	12 months	
Site type[1]	5	1	Quality Assurance	
Purpose of monitor[2]	1, 2	1, 2, 3	Quality Assurance	
Suitable for comparison against the annual $PM_{2.5}$ NAAQS?	Y	N/A	Y	
DATA QUALITY				
Last PEP	10/13/22	N/A	N/A	
Last NPAP	N/A	6/24/21	N/A	
Date of last annual independent performance audit (CAB)	N/A	5/16/23	N/A	
Frequency of flow rate verification (automated PM)	Monthly	N/A	N/A	
Frequency of flow rate verification (manual $PM_{2.5}$)	N/A	N/A	Monthly	
Dates of last 2 semi-annual flow rate audits (PM)	5/16/23, 11/7/23	N/A	4/12/23, 11/7/23	
Frequency of 1-point flow rate verification (Pb)	N/A	N/A	N/A	
Dates of last 2 semi-annual flow rate audits (Pb)	N/A	N/A	N/A	
Precision & accuracy submitted to AQS	Quarterly	Quarterly	Quarterly	
Frequency of 1-pt. QC check (gases)	N/A	Weekly	N/A	
Frequency of multi-point gas calibration	N/A	6 months	N/A	
Annual data certification submitted	5/1/24	5/1/24	5/1/24	
Changes in the next 18 months?	None	None	None	

(KH) KIHEI			
AQS: 150090006	Type: SLAMS	County: Maui	MSA: Maui
Address: TMK 2-3-9-4:28 Hale Piilani Park, Kihei, HI 96753			
Latitude: 20.780997	Longitude: -156.44637		Elevation: 46.5 m MSL
Location Description: This station is located in the Hale Piilani subdivision's park in upper Kihei and is currently bordered by former ag lands to the northeast and by homes to the southwest. The station was originally established to monitor the effects of agricultural burning and had been operating since 1999 monitoring for particulates. It was shut down on March 30, 2022 for network resource management purposes, but was restarted on August 21, 2023 to monitor the air quality during the cleanup and recovery efforts resulting from the unprecedented and devastating August 8, 2023 Maui wildfires.			

KH TRAFFIC DESCRIPTION		
Type of Roadway	Kaiolohia	Kaiwahine
Freeway		
Major Street or Highway		
Local Street or Road	X	X
Distance from air intake (m)	114	118
Direction from air inlet	NW	S
Composition of roadway	asphalt	Asphalt
Number of traffic lanes	2	2
Average daily traffic	[1] Estimated <3,000	[1] Estimated <3,000
Average vehicle speed (est. mph)	25	25
Traffic one way or two	2	2
Street parking?	Yes	Yes
[1] Estimated only, no data available, roads are for local residential access		

For "Site Representativeness" in the following table:

[1]Site Types:
1) located to determine the highest concentrations;
2) located to measure typical concentrations in areas of high population density;
3) located to determine the impact of significant sources or source categories on air quality;
4) located to determine general background concentration levels;
5) located to determine extent of regional pollutant transport among populated areas and in support of secondary standards;
6) located to measure air pollution impacts on visibility, vegetation damage, or other welfare-based impacts

[2] Purposes:
1) Provide air pollution data to the general public in a timely manner;
2) Support compliance with ambient air quality standards;
3) Support emissions strategy development and track trends in air pollution abatement control measures;
4) Support for air pollution research

(KH) Kihei continued

KH MONITOR INFORMATION (N/A = Not Applicable)				
	$PM_{2.5}$			
POC/FRM or FEM	2/FEM			
Type of monitor	SLAMS			
AQS parameter code	88101			
Manufacturer	Met One			
Model no.	BAM1022			
AQS method code	209			
Monitoring start date	2/11/2019 8/21/2023 (restart)			
Monitoring frequency	Continuous			
Probe material	N/A			
Residence time (sec)	N/A			
Distance between collocated monitors	N/A			
Analytical laboratory	N/A			
Location of probe	shelter roof			
Shelter dimensions (H x W x D) (m)	4 x 2 x 5			
Horizontal distance from supporting structure (m)	N/A			
Vertical distance above supporting structure (m)	1			
Height of probe above ground (m)	5			
Distance (m) & direction from drip line of tree(s)	15.2 NNW			
Horizontal distance from edge of nearest traffic lane (m)	154.5			
Horizontal distance from nearest parking lot (m)	105.2			
Distance (m) & direction from obstructions on roof, vertical height above probe (m)	N/A			
Distance (m) & direction from possible obstructions not on roof, vertical height above probe (m)	15.2 NNW, 7.6			
Distance (m) & direction from furnace or incineration flues	N/A			
Unrestricted airflow	360°			
Located in paved (P) or vegetative (V) ground?	V			
SITE REPRESENTATIVENESS				
Spatial scale	Neighborhood			
Applicable NAAQS averaging time(s)	24-hr, annual			
Sampling season	12 months			
Site type[1]	2, 3			
Purpose of monitor[2]	1, 2, 4			
Suitable for comparison against the annual $PM_{2.5}$ NAAQS?	Yes			
DATA QUALITY				
Last PEP	10/20/21			
Last NPAP	N/A			
Date of last annual independent performance audit (CAB)	N/A			
Frequency of flow rate verification (automated PM)	Monthly			
Frequency of flow rate verification (manual $PM_{2.5}$)	N/A			
Dates of last 2 semi-annual flow rate audits (PM)	12/6/23 (only1, operation resumed 8/21/23)			
Frequency of 1-point flow rate verification (Pb)	N/A			
Dates of last 2 semi-annual flow rate audits (Pb)	N/A			
Precision & accuracy submitted to AQS	Quarterly			
Frequency of 1-pt. QC check (gases)	N/A			
Frequency of multi-point gas calibration	N/A			
Annual data certification submitted	5/1/24			
Changes in the next 18 months?	None			

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(KL) KAHULUI			
AQS: 150090025	Type: SPMS	County: Maui	MSA: Maui
Address: TMK 2-3-8-007-153 Maui Lani Parkway, Kahului, HI 96732			
Latitude: 20.869444	Longitude: -156.492417		Elevation: 55.5 m MSL
Location Description: This station is located off of Maui Lani Parkway in Kahului and surrounded primarily by residential land. The station was established to measure typical concentrations of air pollutants in areas of high population density. This station began monitoring for $PM_{2.5}$ on January 13, 2015.			

KL TRAFFIC DESCRIPTION	
Type of Roadway	Maui Lani Parkway
Freeway	
Major Street or Highway	
Local Street or Road	X
Distance from air intake (m)	80
Direction from air inlet	S
Composition of roadway	asphalt
Number of traffic lanes	2
Average daily traffic	<2000[1]
Average vehicle speed (est. mph)	30
Traffic one way or two	2
Street parking?	No
[1] Estimate only, no data available, local road	

For "Site Representativeness" in the following table:

[1]Site Types:
1) located to determine the highest concentrations;
2) located to measure typical concentrations in areas of high population density;
3) located to determine the impact of significant sources or source categories on air quality;
4) located to determine general background concentration levels;
5) located to determine extent of regional pollutant transport among populated areas and in support of secondary standards;
6) located to measure air pollution impacts on visibility, vegetation damage, or other welfare-based impacts

[2] Purposes:
1) Provide air pollution data to the general public in a timely manner;
2) Support compliance with ambient air quality standards;
3) Support emissions strategy development and track trends in air pollution abatement control measures;
4) Support for air pollution research

(KL) Kahului continued

KL MONITOR INFORMATION (N/A = Not Applicable)				
	$PM_{2.5}$			
POC/FRM or FEM	1/FEM			
Type of monitor	SPMS			
AQS parameter code	88101			
Manufacturer	Met One			
Model no.	BAM 1022			
AQS method code	209			
Monitoring start date	2/11/2019			
Monitoring frequency	Continuous			
Probe material	N/A			
Residence time (sec)	N/A			
Distance between collocated monitors	N/A			
Analytical laboratory	N/A			
Location of probe	stand-alone shelter on ground			
Shelter dimensions (H x W x D) (m)	N/A			
Horizontal distance from supporting structure (m)	N/A			
Vertical distance above supporting structure (m)	N/A			
Height of probe above ground (m)	2.7			
Distance (m) & direction from drip line of tree(s)	15.2 NE			
Horizontal distance from edge of nearest traffic lane (m)	70			
Horizontal distance from nearest parking lot (m)	N/A			
Distance (m) & direction from obstructions on roof, vertical height above probe (m)	N/A			
Distance (m) & direction from possible obstructions not on roof, vertical height above probe (m)	15.2 NE, 6.1			
Distance (m) & direction from furnace or incineration flues	N/A			
Unrestricted airflow	360°			
Located in paved (P) or vegetative (V) ground?	P			
SITE REPRESENTATIVENESS				
Spatial scale	Neighborhood			
Applicable NAAQS averaging time(s)	24-hr, annual			
Sampling season	12 months			
Site type[1]	2, 3			
Purpose of monitor[2]	1, 2, 4			
Suitable for comparison against the annual $PM_{2.5}$ NAAQS?	Yes			
DATA QUALITY				
Last PEP	10/23/19			
Last NPAP	N/A			
Date of last annual independent performance audit (CAB)	N/A			
Frequency of flow rate verification (automated PM)	Monthly			
Frequency of flow rate verification (manual $PM_{2.5}$)	N/A			
Dates of last 2 semi-annual flow rate audits (PM)	6/7/23, 12/6/23			
Frequency of 1-point flow rate verification (Pb)	N/A			
Dates of last 2 semi-annual flow rate audits (Pb)	N/A			
Precision & accuracy submitted to AQS	Quarterly			
Frequency of 1-pt. QC check (gases)	N/A			
Frequency of multi-point gas calibration	N/A			
Annual data certification submitted	5/1/24			
Changes in the next 18 months?	None			

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(NI) NIUMALU			
AQS: 150070007	Type: SPMS	County: Kauai	MSA: Not in an MSA
Address: 2342 Hulemalu Rd., Lihue, HI 96766			
Latitude: 21.9495 Longitude: -159.365			Elevation: 11 m MSL
Location Description: Located on a private residential property approximately 1 mile downwind of Nawiliwili Harbor, this station was established to monitor the impact of cruise ship emissions on nearby communities. With the lower ECA fuel sulfur requirements for cruise ships, this station provides information on the effects of lowered fuel sulfur on ambient SO_2. This station began operating in April 2011.			

NI TRAFFIC DESCRIPTION		
Type of Roadway	Hulemalu Rd.	Niumalu Rd.
Freeway		
Major Street or Highway		
Local Street or Road	X	X
Distance from air intake (m)	44.4	309.7
Direction from air inlet	NW	NE
Composition of roadway	asphalt	Asphalt
Number of traffic lanes	2	1
Average daily traffic	100 [1]	30 [1]
Average vehicle speed (est. mph)	15	20
Traffic one way or two	2	2
Street parking?	No	No
[1] Estimated only, no data available, roads are for local residential access		

For "Site Representativeness" in the following table:

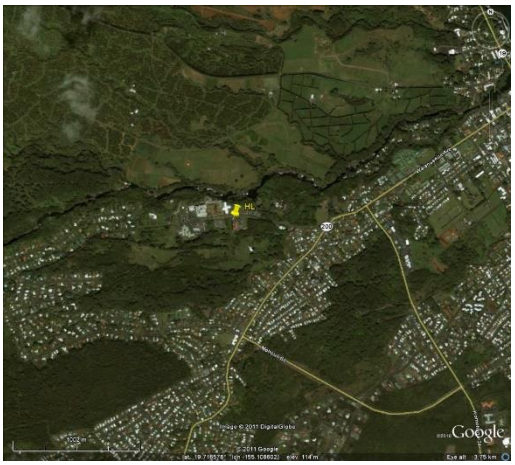
[1]Site Types:
1) located to determine the highest concentrations;
2) located to measure typical concentrations in areas of high population density;
3) located to determine the impact of significant sources or source categories on air quality;
4) located to determine general background concentration levels;
5) located to determine extent of regional pollutant transport among populated areas and in support of secondary standards;
6) located to measure air pollution impacts on visibility, vegetation damage, or other welfare-based impacts

[2] Purposes:
1) Provide air pollution data to the general public in a timely manner;
2) Support compliance with ambient air quality standards;
3) Support emissions strategy development and track trends in air pollution abatement control measures;
4) Support for air pollution research

(NI) Niumalu continued

NI MONITOR INFORMATION (N/A = Not Applicable)				
	SO_2			
POC/FRM or FEM	1/FEM			
Type of monitor	SPMS			
AQS parameter code	42401			
Manufacturer	TECO			
Model no.	43iQ			
AQS method code	060			
Monitoring start date	8/29/2019			
Monitoring frequency	Continuous			
Probe material	Glass			
Residence time (sec)	10.8			
Distance between collocated monitors	N/A			
Analytical laboratory	N/A			
Location of probe	shelter roof			
Shelter dimensions (H x W x D) (m)	3x5x2.4			
Horizontal distance from supporting structure (m)	N/A			
Vertical distance above supporting structure (m)	1			
Height of probe above ground (m)	4			
Distance (m) & direction from drip line of tree(s)	11.5 SE			
Horizontal distance from edge of nearest traffic lane (m)	44.4			
Horizontal distance from nearest parking lot (m)	N/A			
Distance (m) & direction from obstructions on roof, vertical height above probe (m)	N/A			
Distance (m) & direction from possible obstructions not on roof, vertical height (m)	14.6 W, 7.2			
Distance (m) & direction from furnace or incineration flues	N/A			
Unrestricted airflow	360°			
Located in paved (P) or vegetative (V) ground?	V			
SITE REPRESENTATIVENESS				
Spatial scale	Neighborhood			
Applicable NAAQS averaging time(s)	1-hr, 3-hr, annual			
Sampling season	12 months			
Site type[1]	3			
Purpose of monitor[2]	1, 2, 4			
Suitable for comparison against the annual $PM_{2.5}$ NAAQS?	N/A			
DATA QUALITY				
Last PEP	N/A			
Last NPAP	6/20/23			
Date of last annual independent performance audit (CAB)	5/31/23			
Frequency of flow rate verification (automated PM)	N/A			
Frequency of flow rate verification (manual $PM_{2.5}$)	N/A			
Dates of last 2 semi-annual flow rate audits (PM)	N/A			
Frequency of 1-point flow rate verification (Pb)	N/A			
Dates of last 2 semi-annual flow rate audits (Pb)	N/A			
Precision & accuracy submitted to AQS	Quarterly			
Frequency of 1-pt. QC check (gases)	Semi-weekly			
Frequency of multi-point gas calibration	6 months			
Annual data certification submitted	5/1/24			
Changes in the next 18 months?	Replace Shelter			

(HL) HILO			
AQS: 150011006	Type: SLAMS (SO_2); SPMS ($PM_{2.5}$)	County: Hawaii	MSA: Not in an MSA
Address: 1099 Waianuenue Ave., Hilo, HI 96720			
Latitude: 19.71756 Longitude: -155.11053			Elevation: 136.8 m MSL
Location Description: Located on the grounds of the Adult Rehabilitation Center of Hilo, near the Hilo Medical Center, this site was originally established to monitor volcanic emissions during non-prevalent wind conditions. This station has been operating since 1997. The shelter was replaced on March 31, 2023.			



HL TRAFFIC DESCRIPTION	
Type of Roadway	Waianuenue Ave.
Freeway	
Major Street or Highway	X
Local Street or Road	
Distance from air intake (m)	18
Direction from air inlet	N
Composition of roadway	Asphalt
Number of traffic lanes	2
Average daily traffic	8,400[1]
Average vehicle speed (est. mph)	35
Traffic one way or two	2
Street parking?	No
[1] Source: State of Hawaii Department of Transportation (2016 count)	

For "Site Representativeness" in the following table:

[1]Site Types: 1) located to determine the highest concentrations;
2) located to measure typical concentrations in areas of high population density;
3) located to determine the impact of significant sources or source categories on air quality;
4) located to determine general background concentration levels;
5) located to determine extent of regional pollutant transport among populated areas and in support of secondary standards;
6) located to measure air pollution impacts on visibility, vegetation damage, or other welfare-based impacts

[2] Purposes: 1) Provide air pollution data to the general public in a timely manner;
2) Support compliance with ambient air quality standards;
3) Support emissions strategy development and track trends in air pollution abatement control measures;
4) Support for air pollution research

(HL) Hilo continued

HL MONITOR INFORMATION (N/A = Not Applicable)				
	$PM_{2.5}$	**SO_2**		
POC/FRM or FEM	1/FEM	1/FEM		
Type of monitor	SPMS	SLAMS		
AQS parameter code	88101	42401		
Manufacturer	Met-One	TECO		
Model no.	BAM 1022	43iQ		
AQS method code	209	060		
Monitoring start date	1/1/2018	1/1/2007		
Monitoring frequency	Continuous	Continuous		
Probe material	N/A	Teflon		
Residence time (sec)	N/A	11.0		
Distance between collocated monitors	N/A	N/A		
Analytical laboratory	N/A	N/A		
Location of probe	stand-alone shelter on ground	shelter roof		
Shelter dimensions (H x W x D) (m)	N/A	2.7x2.3x3.7		
Horizontal distance from supporting structure (m)	N/A	N/A		
Vertical distance above supporting structure (m)	2.2	1		
Height of probe above ground (m)	5.5	4		
Distance (m) & direction from drip line of tree(s)	16 NW	19 NW		
Horizontal distance from edge of nearest traffic lane (m)	19	18		
Horizontal distance from nearest parking lot (m)	28	30		
Distance (m) & direction from obstructions on roof, vertical height above probe (m)	N/A	N/A		
Distance (m) & direction from possible obstructions not on roof, vertical height (m)	N/A	N/A		
Distance (m) & direction from furnace or incineration flues	29 NNW (10m stack height)	29 NNW (10m stack height)		
Unrestricted airflow	360°	360°		
Located in paved (P) or vegetative (V) ground?	V	V		
SITE REPRESENTATIVENESS				
Spatial scale	Neighborhood	Neighborhood		
Applicable NAAQS averaging time(s)	24-hr, annual	1-hr, 3-hr, annual		
Sampling season	12 months	12 months		
Site type[1]	3	3		
Purpose of monitor[2]	1, 2, 4	1, 2, 4		
Suitable for comparison against the annual $PM_{2.5}$ NAAQS?	Y	N/A		
DATA QUALITY				
Last PEP	10/4/22	N/A		
Last NPAP	N/A	7/27/22		
Date of last annual independent performance audit (CAB)	N/A	10/11/23		
Frequency of flow rate verification (automated PM)	Monthly	N/A		
Frequency of flow rate verification (manual $PM_{2.5}$)	N/A	N/A		
Dates of last 2 semi-annual flow rate audits (PM)	6/14/23,11/21/23	N/A		
Frequency of 1-point flow rate verification (Pb)	N/A	N/A		
Dates of last 2 semi-annual flow rate audits (Pb)	N/A	N/A		
Precision & accuracy submitted to AQS	Quarterly	Quarterly		
Frequency of 1-pt. QC check (gases)	N/A	Weekly		
Frequency of multi-point gas calibration	N/A	6 months		
Annual data certification submitted	5/1/24	5/1/24		
Changes in the next 18 months?	None	None		

(KN) KONA			
AQS: 150011012	Type: SLAMS (SO_2) SPMS ($PM_{2.5}$)	County: Hawaii	MSA: Not in an MSA
Address: 81-1043 Konawaena School Rd., Kona, HI 96750			
Latitude: 19.50978 Longitude: -155.91342			Elevation: 517.2 m MSL
Location Description: This station is located on the upper campus of Konawaena High School. It was established to measure impacts from volcanic emissions. The station has been operating at this site since 2005. The shelter is scheduled to be replaced; the date is to be determined.			

KN TRAFFIC DESCRIPTION		
Type of Roadway	Konawaena School Rd.	Mamalahoa Highway
Freeway		
Major Street or Highway		X
Local Street or Road	X	
Distance from air intake (m)	17	702
Direction from air inlet	N	W
Composition of roadway	asphalt	Asphalt
Number of traffic lanes	1	2
Average daily traffic	500 [1]	16,300 [2]
Average vehicle speed (est. mph)	10	55
Traffic one way or two	2	2
Street parking?	No	No

[1] Estimated only, no data available. School access only with limited ingress/egress
[2] Source: State of Hawaii Department of Transportation (2016 count)

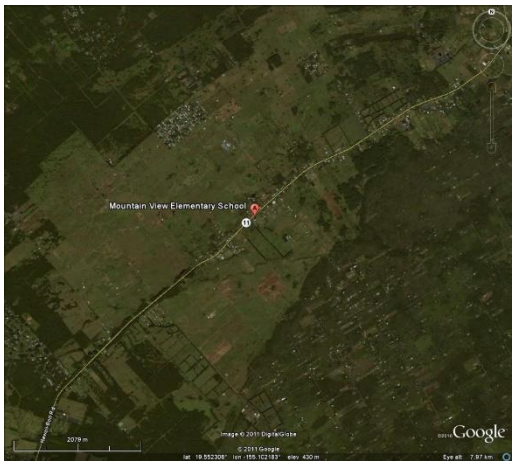
For "Site Representativeness" in the following table:
[1]Site Types: 1) located to determine the highest concentrations;
2) located to measure typical concentrations in areas of high population density;
3) located to determine the impact of significant sources or source categories on air quality;
4) located to determine general background concentration levels;
5) located to determine extent of regional pollutant transport among populated areas and in support of secondary standards;
6) located to measure air pollution impacts on visibility, vegetation damage, or other welfare-based impacts

[2] Purposes: 1) Provide air pollution data to the general public in a timely manner;
2) Support compliance with ambient air quality standards;
3) Support emissions strategy development and track trends in air pollution abatement control measures;
4) Support for air pollution research

(KN) Kona continued

KN MONITOR INFORMATION (N/A = Not Applicable)				
	$PM_{2.5}$ Primary	**$PM_{2.5}$ QA Collocated**	**SO_2**	
POC/FRM or FEM	1/FEM	2/FEM	1/FEM	
Type of monitor	SPMS	SPMS	SLAMS	
AQS parameter code	88101	88101	42401	
Manufacturer	Met-One	Met-One	TECO	
Model no.	BAM 1022	BAM 1022	43iQ	
AQS method code	209	209	060	
Monitoring start date	3/5/2019	3/5/2019	9/13/2005	
Monitoring frequency	Continuous	Continuous	Continuous	
Probe material	N/A	N/A	Teflon	
Residence time (sec)	N/A	N/A	11.8	
Distance between collocated monitors (m)	2.5	2.5	N/A	
Analytical laboratory	N/A	N/A	N/A	
Location of probe	stand-alone shelter on ground	stand-alone shelter on ground	shelter roof	
Shelter dimensions (H x W x D) (m)	N/A	N/A	3x2.4x5	
Horizontal distance from supporting structure (m)	N/A	N/A	N/A	
Vertical distance above supporting structure (m)	N/A	N/A	1.1	
Height of probe above ground (m)	2.1	2.1	4.1	
Distance (m) & direction from drip line of tree(s)	15.2 W	15.2 W	38 NE	
Horizontal distance from edge of nearest traffic lane (m)	30	30	30	
Horizontal distance from nearest parking lot (m)	N/A	N/A	N/A	
Distance (m) & direction from obstructions on roof, vertical height above probe (m)	N/A	N/A	N/A	
Distance (m) & direction from possible obstructions not on roof, vertical height (m)	3.4 S, 3	3.4 S, 3	21 SSW, 9	
Distance (m) & direction from furnace or incineration flues	N/A	N/A	N/A	
Unrestricted airflow	270°	270°	360°	
Located in paved (P) or vegetative (V) ground?	V	V	V	
SITE REPRESENTATIVENESS				
Spatial scale	Neighborhood	Neighborhood	Neighborhood	
Applicable NAAQS averaging time(s)	24-hr, annual	24-hr, annual	1-hr, 3-hr; annual	
Sampling season	12 months	12 months	12 months	
Site type[1]	3	Quality Assurance	3	
Purpose of monitor[2]	1, 2, 4	1, 2, 4	1, 2, 4	
Suitable for comparison against the annual $PM_{2.5}$ NAAQS?	Y	Y	N/A	
DATA QUALITY				
Last PEP	10/6/22	10/6/22	N/A	
Last NPAP	N/A	N/A	6/28/22	
Date of last annual independent performance audit (CAB)	N/A	N/A	11/8/23	
Frequency of flow rate verification (automated PM)	Monthly	Monthly	N/A	
Frequency of flow rate verification (manual $PM_{2.5}$)	N/A	N/A	N/A	
Dates of last 2 semi-annual flow rate audits (PM)	6/21/23, 12/20/23	6/21/23, 12/20/23	N/A	
Frequency of 1-point flow rate verification (Pb)	N/A	N/A	N/A	
Dates of last 2 semi-annual flow rate audits (Pb)	N/A	N/A	N/A	
Precision & accuracy submitted to AQS	Quarterly	Quarterly	Quarterly	
Frequency of 1-pt. QC check (gases)	N/A	N/A	Weekly	
Frequency of multi-point gas calibration	N/A	N/A	6 months	
Annual data certification submitted	5/1/24	5/1/24	5/1/24	
Changes in the next 18 months?	None	None	Replace shelter	

(MV) MOUNTAIN VIEW			
AQS: 150012023	Type: SPMS	County: Hawaii	MSA: Not in an MSA
Address: 18-1235 Volcano Rd., Mt. View, HI 96771			
Latitude: 19.57002 Longitude: -155.08046			Elevation: 436.5 m MSL
Location Description: This station is located on the grounds of the Mountain View Elementary School. The original Mountain View station, which began in December 2007, was moved at the ending of 2010 approximately 1.8 miles southwest to this current location. Due to the proximity of this community to the Kilauea volcano, it was established to monitor volcanic emissions during non-trade wind days.			



	MV TRAFFIC DESCRIPTION
Type of Roadway	Volcano Rd.
Freeway	
Major Street or Highway	X
Local Street or Road	
Distance from air intake (m)	21
Direction from air inlet	N
Composition of roadway	asphalt
Number of traffic lanes	2
Average daily traffic	13,400 [1]
Average vehicle speed (est. mph)	40
Traffic one way or two	2
Street parking?	No
[1] Source: State of Hawaii Department of Transportation (2016 count)	

For "Site Representativeness" in the following table:

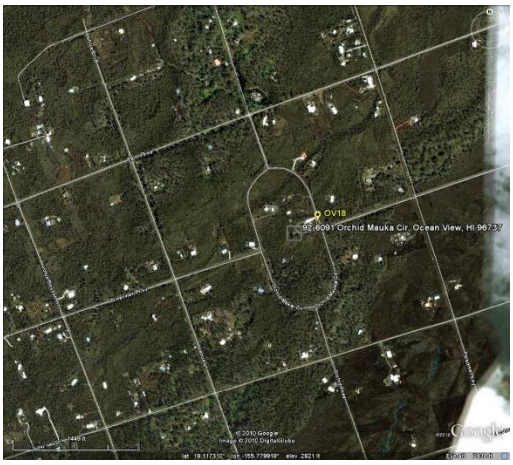
[1]Site Types: 1) located to determine the highest concentrations;
2) located to measure typical concentrations in areas of high population density;
3) located to determine the impact of significant sources or source categories on air quality;
4) located to determine general background concentration levels;
5) located to determine extent of regional pollutant transport among populated areas and in support of secondary standards;
6) located to measure air pollution impacts on visibility, vegetation damage, or other welfare-based impacts

[2] Purposes: 1) Provide air pollution data to the general public in a timely manner;
2) Support compliance with ambient air quality standards;
3) Support emissions strategy development and track trends in air pollution abatement control measures;
4) Support for air pollution research

(MV) Mt. View continued

MV MONITOR INFORMATION (N/A = Not Applicable)				
	$PM_{2.5}$	**SO_2**		
POC/FRM or FEM	1/FEM	1/FEM		
Type of monitor	SPMS	SPMS		
AQS parameter code	88101	42401		
Manufacturer	Met-One	TECO		
Model no.	BAM 1022	43iQ		
AQS method code	209	060		
Monitoring start date	5/29/2019	12/8/2010		
Monitoring frequency	Continuous	Continuous		
Probe material	N/A	Teflon		
Residence time (sec)	N/A	11.7		
Distance between collocated monitors	N/A	N/A		
Analytical laboratory	N/A	N/A		
Location of probe	stand-alone shelter on ground	shelter roof		
Shelter dimensions (H x W x D) (m)	N/A	3x2.4x5		
Horizontal distance from supporting structure (m)	N/A	N/A		
Vertical distance above supporting structure (m)	N/A	1		
Height of probe above ground (m)	2.2	4		
Distance (m) & direction from drip line of tree(s)	4 SW	2 SW		
Horizontal distance from edge of nearest traffic lane (m)	21	23		
Horizontal distance from nearest parking lot (m)	46.5	46.5		
Distance (m) & direction from obstructions on roof, vertical height above probe (m)	N/A	N/A		
Distance (m) & direction from possible obstructions not on roof, vertical height (m)	N/A	N/A		
Distance (m) & direction from furnace or incineration flues	N/A	N/A		
Unrestricted airflow	360°	360°		
Located in paved (P) or vegetative (V) ground?	V	V		
SITE REPRESENTATIVENESS				
Spatial scale	Neighborhood	Neighborhood		
Applicable NAAQS averaging time(s)	24-hr, annual	1-hr, 3-hr; annual		
Sampling season	12 months	12 months		
Site type[1]	3	3		
Purpose of monitor[2]	1, 2, 4	1, 2, 4		
Suitable for comparison against the annual $PM_{2.5}$ NAAQS?	Y	N/A		
DATA QUALITY				
Last PEP	10/4/22	N/A		
Last NPAP	N/A	6/23/22		
Date of last annual independent performance audit (CAB)	N/A	12/7/23		
Frequency of flow rate verification (automated PM)	Monthly	N/A		
Frequency of flow rate verification (manual $PM_{2.5}$)	N/A	N/A		
Dates of last 2 semi-annual flow rate audits (PM)	6/14/23, 12/7/23	N/A		
Frequency of 1-point flow rate verification (Pb)	N/A	N/A		
Dates of last 2 semi-annual flow rate audits (Pb)	N/A	N/A		
Precision & accuracy submitted to AQS	Quarterly	Quarterly		
Frequency of 1-pt. QC check (gases)	N/A	Weekly		
Frequency of multi-point gas calibration	N/A	60 days		
Annual data certification submitted	5/1/24	5/1/24		
Changes in the next 18 months?	None	Replace shelter		

(OV) OCEAN VIEW			
AQS: 150012020	Type: SPMS	County: Hawaii	MSA: Not in an MSA
Address: 92-6091 Orchid Mauka Circle, Ocean View, HI 96737			
Latitude: 19.11756 Longitude: -155.77814			Elevation: 862.6 m MSL
Location Description: This station was established in 2010 and is located on the grounds of the Ocean View Fire Station. During normal trade-winds, volcanic emissions are carried into this residential/agricultural community. This shelter is scheduled to be replaced; the date is to be determined.			



OV TRAFFIC DESCRIPTION	
Type of Roadway	Orchid Mauka Circ.
Freeway	
Major Street or Highway	
Local Street or Road	X
Distance from air intake (m)	13.6
Direction from air inlet	ENE
Composition of roadway	asphalt
Number of traffic lanes	2
Average daily traffic	< 3,000 [1]
Average vehicle speed (est. mph)	25
Traffic one way or two	2
Street parking?	No
[1] Estimated only, local residential street, no data available	

For "Site Representativeness" in the following table:

[1]Site Types:
1) located to determine the highest concentrations;
2) located to measure typical concentrations in areas of high population density;
3) located to determine the impact of significant sources or source categories on air quality;
4) located to determine general background concentration levels;
5) located to determine extent of regional pollutant transport among populated areas and in support of secondary standards;
6) located to measure air pollution impacts on visibility, vegetation damage, or other welfare-based impacts

[2] Purposes:
1) Provide air pollution data to the general public in a timely manner;
2) Support compliance with ambient air quality standards;
3) Support emissions strategy development and track trends in air pollution abatement control measures;
4) Support for air pollution research

(OV) Ocean View continued

OV MONITOR INFORMATION (N/A = Not Applicable)				
	$PM_{2.5}$	**SO_2**		
POC/FRM or FEM	1/FEM	1/FEM		
Type of monitor	SPMS	SPMS		
AQS parameter code	88101	42401		
Manufacturer	Met-One	TECO		
Model no.	BAM 1022	43iQ		
AQS method code	209	060		
Monitoring start date	5/1/2019	4/1/2010		
Monitoring frequency	Continuous	Continuous		
Probe material	N/A	Teflon		
Residence time (sec)	N/A	11.9		
Distance between collocated monitors	N/A	N/A		
Analytical laboratory	N/A	N/A		
Location of probe	Stand-alone PM shelter on station stairs platform	shelter roof		
Shelter dimensions (H x W x D) (m)	N/A	3x2.4x5		
Horizontal distance from supporting structure (m)	N/A	N/A		
Vertical distance above supporting structure (m)	2.1	1.1		
Height of probe above ground (m)	3.1	4.1		
Distance (m) & direction from drip line of tree(s)	10.4 SE	11.3 SE		
Horizontal distance from edge of nearest traffic lane (m)	13.6	13.6		
Horizontal distance from nearest parking lot (m)	6.4	6.4		
Distance (m) & direction from obstructions on roof, vertical height above probe (m)	N/A	N/A		
Distance (m) & direction from possible obstructions not on roof, vertical height (m)	1.1 W/ 3.4 (station shelter)	N/A		
Distance (m) & direction from furnace or incineration flues	N/A	N/A		
Unrestricted airflow	270°	360°		
Located in paved (P) or vegetative (V) ground?	gravel	gravel		
SITE REPRESENTATIVENESS				
Spatial scale	Neighborhood	Neighborhood		
Applicable NAAQS averaging time(s)	24-hr, annual	1-hr, 3-hr; annual		
Sampling season	12 months	12 months		
Site type[1]	3, 6	3, 6		
Purpose of monitor[2]	1, 2, 4	1, 2, 4		
Suitable for comparison against the annual $PM_{2.5}$ NAAQS?	Y	N/A		
DATA QUALITY				
Last PEP	10/6/22	N/A		
Last NPAP	N/A	6/28/22		
Date of last annual independent performance audit (CAB)	N/A	11/1/23		
Frequency of flow rate verification (automated PM)	Monthly	N/A		
Frequency of flow rate verification (manual $PM_{2.5}$)	N/A	N/A		
Dates of last 2 semi-annual flow rate audits (PM)	6/21/23, 12/20/23	N/A		
Frequency of 1-point flow rate verification (Pb)	N/A	N/A		
Dates of last 2 semi-annual flow rate audits (Pb)	N/A	N/A		
Precision & accuracy submitted to AQS	Quarterly	Quarterly		
Frequency of 1-pt. QC check (gases)	N/A	Weekly		
Frequency of multi-point gas calibration	N/A	6 months		
Annual data certification submitted	5/1/24	5/1/24		
Changes in the next 18 months?	None	Replace shelter		

(PA) PAHALA			
AQS: 150012016	Type: SPMS	County: Hawaii	MSA: Not in an MSA
Address: 96-3150 Pikake St., Pahala, HI 96777			
Latitude: 19.2039 Longitude: -155.48018			Elevation: 320 m MSL
Location Description: This station is located on the grounds of the Ka'u High/Pahala Elementary School. During normal trade-winds, volcanic emissions are carried into this rural community. The station began operating in 2007.			

PA TRAFFIC DESCRIPTION		
Type of Roadway	Puahala	Pumeli
Freeway		
Major Street or Highway		
Local Street or Road	X	X
Distance from air intake (m)	226	61
Direction from air inlet	E	N
Composition of roadway	Asphalt	Asphalt
Number of traffic lanes	2	2
Average daily traffic	< 3,000 [1]	< 3,000 [1]
Average vehicle speed (est. mph)	25 mph	25 mph
Traffic one way or two	2	2
Street parking?	No	No
[1] Estimated only, no data available. Local roads for a community with a 2010 population of about 1,400		

For "Site Representativeness" in the following table:

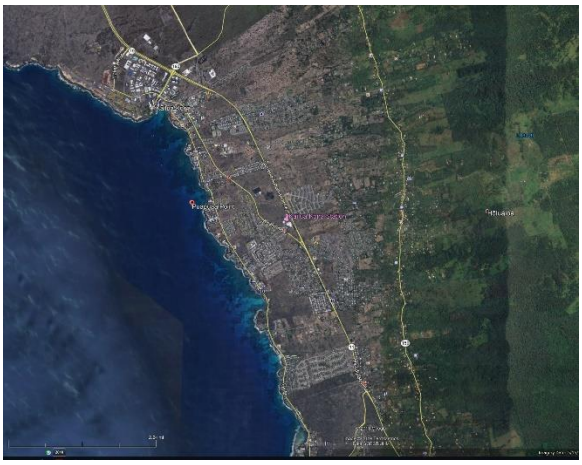
[1]Site Types:
1) located to determine the highest concentrations;
2) located to measure typical concentrations in areas of high population density;
3) located to determine the impact of significant sources or source categories on air quality;
4) located to determine general background concentration levels;
5) located to determine extent of regional pollutant transport among populated areas and in support of secondary standards;
6) located to measure air pollution impacts on visibility, vegetation damage, or other welfare-based impacts

[2] Purposes:
1) Provide air pollution data to the general public in a timely manner;
2) Support compliance with ambient air quality standards;
3) Support emissions strategy development and track trends in air pollution abatement control measures;
4) Support for air pollution research

(PA) Pahala continued

PA MONITOR INFORMATION (N/A = Not Applicable)				
	$PM_{2.5}$	**SO_2**		
POC/FRM or FEM	1/FEM	1/FEM		
Type of monitor	SPMS	SPMS		
AQS parameter code	88101	42401		
Manufacturer	Met-One	TECO		
Model no.	BAM 1022	43iQ		
AQS method code	209	060		
Monitoring start date	2/26/2019	8/10/2007		
Monitoring frequency	Continuous	Continuous		
Probe material	N/A	Teflon		
Residence time (sec)	N/A	11.2		
Distance between collocated monitors	N/A	N/A		
Analytical laboratory	N/A	N/A		
Location of probe	stand-alone shelter on ground	shelter roof		
Shelter dimensions (H x W x D) (m)	N/A	2.7x2x3.7		
Horizontal distance from supporting structure (m)	N/A	N/A		
Vertical distance above supporting structure (m)	N/A	1		
Height of probe above ground (m)	2.1	4		
Distance (m) & direction from drip line of tree(s)	11 S	13 SW		
Horizontal distance from edge of nearest traffic lane (m)	48	48		
Horizontal distance from nearest parking lot (m)	40	40		
Distance (m) & direction from obstructions on roof, vertical height above probe (m)	N/A	N/A		
Distance (m) & direction from possible obstructions not on roof, vertical height (m)	N/A	N/A		
Distance (m) & direction from furnace or incineration flues	N/A	N/A		
Unrestricted airflow	270°	360°		
Located in paved (P) or vegetative (V) ground?	V	V		
SITE REPRESENTATIVENESS				
Spatial scale	Neighborhood	Neighborhood		
Applicable NAAQS averaging time(s)	24-hr, annual	1-hr, 3-hr; annual		
Sampling season	12 months	12 months		
Site type[1]	3	3		
Purpose of monitor[2]	1, 2, 4	1, 2, 4		
Suitable for comparison against the annual $PM_{2.5}$ NAAQS?	Y	N/A		
DATA QUALITY				
Last PEP	6/23/22	N/A		
Last NPAP	N/A	6/23/22		
Date of last annual independent performance audit (CAB)	N/A	11/21/23		
Frequency of flow rate verification (automated PM)	Monthly	N/A		
Frequency of flow rate verification (manual $PM_{2.5}$)	N/A	N/A		
Dates of last 2 semi-annual flow rate audits (PM)	5/4/22, 11/21/23	N/A		
Frequency of 1-point flow rate verification (Pb)	N/A	N/A		
Dates of last 2 semi-annual flow rate audits (Pb)	N/A	N/A		
Precision & accuracy submitted to AQS	Quarterly	Quarterly		
Frequency of 1-pt. QC check (gases)	N/A	Weekly		
Frequency of multi-point gas calibration	N/A	6 months		
Annual data certification submitted	5/1/24	5/1/24		
Changes in the next 18 months?	None	None		

(KK) KAILUA-KONA			
AQS: 150013034	Type: SPMS	County: Hawaii	MSA: Not in an MSA
Address: Department of Water Supply Puapua'a Reservoir, Kailua-Kona, HI 96740			
Latitude: 19.61815833 Longitude: -155.9711111			Elevation: 92.4 m MSL
Location Description: This station is located in the middle of Kailua-Kona town within a fenced area that contains a County of Hawaii water reservoir and pump house. The station was established to monitor the effects of volcanic emissions and has been operating since November 21, 2018 monitoring for $PM_{2.5}$.			



KK TRAFFIC DESCRIPTION			
Type of Roadway	Kuakini Highway	Walua Road	Queen Kaahumanu Hwy
Freeway			
Major Street or Highway	X		X
Local Street or Road		X (no through traffic)	
Distance from air intake (m)	125	42	145
Direction from air inlet	NW	S	E
Composition of roadway	asphalt	asphalt	Asphalt
Number of traffic lanes	2	2	2
Average daily traffic	8,200 [1]	[2] Estimated <50	22,900 [1]
Average vehicle speed (est. mph)	45	25	45
Traffic one way or two	2	2	2
Street parking?	No	No	No
[1] Source: State of Hawaii Department of Transportation (2016 count) [2] Estimated only, no data available, road is for local business access			

For "Site Representativeness" in the following table:

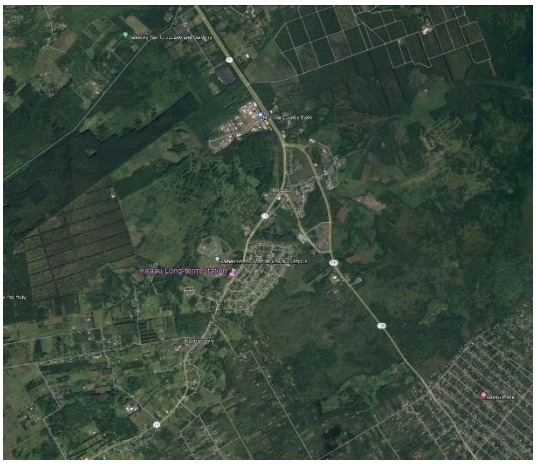
[1]Site Types:
1) located to determine the highest concentrations;
2) located to measure typical concentrations in areas of high population density;
3) located to determine the impact of significant sources or source categories on air quality;
4) located to determine general background concentration levels;
5) located to determine extent of regional pollutant transport among populated areas and in support of secondary standards;
6) located to measure air pollution impacts on visibility, vegetation damage, or other welfare-based impacts

[2] Purposes:
1) Provide air pollution data to the general public in a timely manner;
2) Support compliance with ambient air quality standards;
3) Support emissions strategy development and track trends in air pollution abatement control measures;
4) Support for air pollution research

(KK) Kailua-Kona continued

KK MONITOR INFORMATION (N/A = Not Applicable)				
	$PM_{2.5}$			
POC/FRM or FEM	1/FEM			
Type of monitor	SPMS			
AQS parameter code	88101			
Manufacturer	Met One			
Model no.	BAM1022			
AQS method code	209			
Monitoring start date	11/15/2018			
Monitoring frequency	Continuous			
Probe material	N/A			
Residence time (sec)	N/A			
Distance between collocated monitors	N/A			
Analytical laboratory	N/A			
Location of probe	stand-alone shelter on ground			
Shelter dimensions (H x W x D) (m)	N/A			
Horizontal distance from supporting structure (m)	N/A			
Vertical distance above supporting structure (m)	2.2			
Height of probe above ground (m)	2.2			
Distance (m) & direction from drip line of tree(s)	19.8 SE			
Horizontal distance from edge of nearest traffic lane (m)	42			
Horizontal distance from nearest parking lot (m)	25			
Distance (m) & direction from obstructions on roof, vertical height above probe (m)	N/A			
Distance (m) & direction from possible obstructions not on roof, vertical height (m)	3 NE/3			
Distance (m) & direction from furnace or incineration flues	N/A			
Unrestricted airflow	180°			
Located in paved (P) or vegetative (V) ground?	gravel			
SITE REPRESENTATIVENESS				
Spatial scale	Neighborhood			
Applicable NAAQS averaging time(s)	24-hr, annual			
Sampling season	12 months			
Site type[1]	3			
Purpose of monitor[2]	1, 2, 4			
Suitable for comparison against the annual $PM_{2.5}$ NAAQS?	N			
DATA QUALITY				
Last PEP	None			
Last NPAP	N/A			
Date of last annual independent performance audit (CAB)	N/A			
Frequency of flow rate verification (automated PM)	Monthly			
Frequency of flow rate verification (manual $PM_{2.5}$)	N/A			
Dates of last 2 semi-annual flow rate audits (PM)	6/21/23, 12/20/23			
Frequency of 1-point flow rate verification (Pb)	N/A			
Dates of last 2 semi-annual flow rate audits (Pb)	N/A			
Precision & accuracy submitted to AQS	Quarterly			
Frequency of 1-pt. QC check (gases)	N/A			
Frequency of multi-point gas calibration	N/A			
Annual data certification submitted	5/1/24			
Changes in the next 18 months?	None			

(KS) KEAAU			
AQS: 150013027	Type: SPMS	County: Hawaii	MSA: Not in an MSA
Address: Kamehameha Schools Hawaii Campus, 16-714 Volcano Road, Keaau, HI 96749			
Latitude: 19.605424	Longitude: -155.051379		Elevation: 179.8 m MSL
Location Description: This temporary station is located in the town of Keaau on the Kamehameha Schools Hawaii campus. The station began monitoring for $PM_{2.5}$ and SO_2 on June 14, 2018 at a temporary location elsewhere on campus and was relocated to its permanent location on June 30, 2023.			



KS TRAFFIC DESCRIPTION	
Type of Roadway	Volcano Road/Mamalahoa Highway
Freeway	
Major Street or Highway	X
Local Street or Road	
Distance from air intake (m)	40
Direction from air inlet	S
Composition of roadway	asphalt
Number of traffic lanes	2
Average daily traffic	13,400 [1]
Average vehicle speed (est. mph)	45
Traffic one way or two	2
Street parking?	No
[1] Source: State of Hawaii Department of Transportation (2016 count)	

For "Site Representativeness" in the following table:

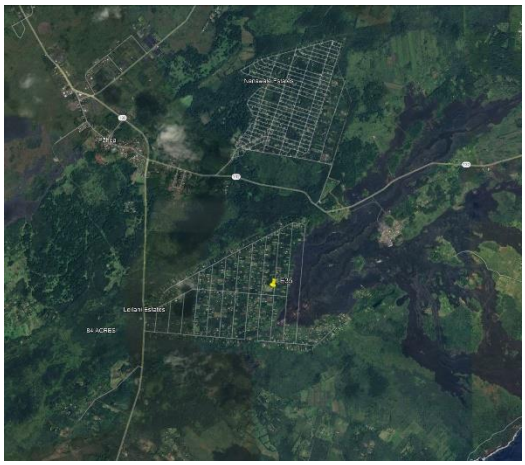
[1]Site Types:
1) located to determine the highest concentrations;
2) located to measure typical concentrations in areas of high population density;
3) located to determine the impact of significant sources or source categories on air quality;
4) located to determine general background concentration levels;
5) located to determine extent of regional pollutant transport among populated areas and in support of secondary standards;
6) located to measure air pollution impacts on visibility, vegetation damage, or other welfare-based impacts

[2] Purposes:
1) Provide air pollution data to the general public in a timely manner;
2) Support compliance with ambient air quality standards;
3) Support emissions strategy development and track trends in air pollution abatement control measures;
4) Support for air pollution research

(KS) Keaau continued

KS MONITOR INFORMATION (N/A = Not Applicable)				
	$PM_{2.5}$	**SO_2**		
POC/FRM or FEM	1/FEM	1/FEM		
Type of monitor	SPMS	SPMS		
AQS parameter code	88101	42401		
Manufacturer	Met One	TECO		
Model no.	BAM1022	43iQ		
AQS method code	209	060		
Monitoring start date	6/14/2018	6/14/2018		
Monitoring frequency	Continuous	Continuous		
Probe material	N/A	Teflon		
Residence time (sec)	N/A	11.1		
Distance between collocated monitors	N/A	N/A		
Analytical laboratory	N/A	N/A		
Location of probe	stand-alone shelter on ground	shelter roof		
Shelter dimensions (H x W x D) (m)	N/A	2.7x2x3.7		
Horizontal distance from supporting structure (m)	N/A	N/A		
Vertical distance above supporting structure (m)	N/A	1		
Height of probe above ground (m)	2.2	4		
Distance (m) & direction from drip line of tree(s)	75 E	75 E		
Horizontal distance from edge of nearest traffic lane (m)	40	40		
Horizontal distance from nearest parking lot (m)	330	330		
Distance (m) & direction from obstructions on roof, vertical height above probe (m)	N/A	N/A		
Distance (m) & direction from possible obstructions not on roof, vertical height (m)	N/A	N/A		
Distance (m) & direction from furnace or incineration flues	N/A	N/A		
Unrestricted airflow	360°	360°		
Located in paved (P) or vegetative (V) ground?	V	V		
SITE REPRESENTATIVENESS				
Spatial scale	Neighborhood	Neighborhood		
Applicable NAAQS averaging time(s)	24-hr, annual	1-hr, 3-hr; annual		
Sampling season	12 months	12 months		
Site type[1]	3	3		
Purpose of monitor[2]	1, 2, 4	1, 2, 4		
Suitable for comparison against the annual $PM_{2.5}$ NAAQS?	N	N/A		
DATA QUALITY				
Last PEP	None	N/A		
Last NPAP	N/A	None		
Date of last annual independent performance audit (CAB)	N/A	12/13/23		
Frequency of flow rate verification (automated PM)	Monthly	N/A		
Frequency of flow rate verification (manual $PM_{2.5}$)	N/A	N/A		
Dates of last 2 semi-annual flow rate audits (PM)	6/14/23, 12/13/23	N/A		
Frequency of 1-point flow rate verification (Pb)	N/A	N/A		
Dates of last 2 semi-annual flow rate audits (Pb)	N/A	N/A		
Precision & accuracy submitted to AQS	Quarterly	Quarterly		
Frequency of 1-pt. QC check (gases)	N/A	Weekly		
Frequency of multi-point gas calibration	N/A	6 months		
Annual data certification submitted	5/1/24	5/1/24		
Changes in the next 18 months?	None	None		

(LE) LEILANI			
AQS: 150012035	Type: SPMS	County: Hawaii	MSA: Not in an MSA
Address: Leilani Community Association Center, 13-3441 Moku Street, Pahoa, Hawaii 96778			
Latitude: 19.46566667 Longitude: - 154.91444444			Elevation: 243 m MSL
Location Description: This station is located in a residential subdivision within a fenced area that contains the Leilani Community Association Center. The station was established to monitor emissions from the nearby geothermal energy facility and has been monitoring for H_2S and SO_2 since September 2019. The shelter was moved to a more suitable location at the center on September 20, 2020.			



LE TRAFFIC DESCRIPTION		
Type of Roadway	Leilani Avenue	Kupono Street
Freeway		
Major Street or Highway		
Local Street or Road	X	X
Distance from air intake (m)	130	45
Direction from air inlet	S	E
Composition of roadway	asphalt	asphalt
Number of traffic lanes	2	2
Average daily traffic	[1] Estimated <2,000	[1] Estimated <200
Average vehicle speed (est. mph)	25	20
Traffic one way or two	2	2
Street parking?	No	No
[1] Estimated only, no data available, roads are for local residential access		

For “Site Representativeness” in the following table:

[1]Site Types:
1) located to determine the highest concentrations;
2) located to measure typical concentrations in areas of high population density;
3) located to determine the impact of significant sources or source categories on air quality;
4) located to determine general background concentration levels;
5) located to determine extent of regional pollutant transport among populated areas and in support of secondary standards;
6) located to measure air pollution impacts on visibility, vegetation damage, or other welfare-based impacts

[2] Purposes:
1) Provide air pollution data to the general public in a timely manner;
2) Support compliance with ambient air quality standards;
3) Support emissions strategy development and track trends in air pollution abatement control measures;
4) Support for air pollution research

(LE) Leilani continued

LE MONITOR INFORMATION (N/A = Not Applicable)				
	H_2S	**SO_2**		
POC/FRM or FEM	N/A	1/FEM		
Type of monitor	SPMS	SPMS		
AQS parameter code	N/A	42401		
Manufacturer	TECO	TECO		
Model no.	450IQ	43IQ		
AQS method code	N/A	060		
Monitoring start date	9/17/2019	9/12/2019		
Monitoring frequency	Continuous	Continuous		
Probe material	Teflon	Teflon		
Residence time (sec)	4.9	11.2		
Distance between collocated monitors	N/A	N/A		
Analytical laboratory	N/A	N/A		
Location of probe	shelter roof	shelter roof		
Shelter dimensions (H x W x D) (m)	2.7x2x3.7	2.7x2x3.7		
Horizontal distance from supporting structure (m)	N/A	N/A		
Vertical distance above supporting structure (m)	1.0	1.0		
Height of probe above ground (m)	4	4		
Distance (m) & direction from drip line of tree(s)	10 W	10 W		
Horizontal distance from edge of nearest traffic lane (m)	45	45		
Horizontal distance from nearest parking lot (m)	175	175		
Distance (m) & direction from obstructions on roof, vertical height above probe (m)	N/A	N/A		
Distance (m) & direction from possible obstructions not on roof, vertical height (m)	N/A	N/A		
Distance (m) & direction from furnace or incineration flues	N/A	N/A		
Unrestricted airflow	360°	360°		
Located in paved (P) or vegetative (V) ground?	gravel	gravel		
SITE REPRESENTATIVENESS				
Spatial scale	Neighborhood	Neighborhood		
Applicable NAAQS averaging time(s)	1-hour state standard 25 ppb	1-hour		
Sampling season	12 months	12 months		
Site type[1]	3	3		
Purpose of monitor[2]	1, 4	1, 4		
Suitable for comparison against the annual $PM_{2.5}$ NAAQS?	N/A	N/A		
DATA QUALITY				
Last PEP	N/A	N/A		
Last NPAP	N/A	None		
Date of last annual independent performance audit (CAB)	10/18/23	10/18/23		
Frequency of flow rate verification (automated PM)	N/A	N/A		
Frequency of flow rate verification (manual $PM_{2.5}$)	N/A	N/A		
Dates of last 2 semi-annual flow rate audits (PM)	N/A	N/A		
Frequency of 1-point flow rate verification (Pb)	N/A	N/A		
Dates of last 2 semi-annual flow rate audits (Pb)	N/A	N/A		
Precision & accuracy submitted to AQS	Quarterly	Quarterly		
Frequency of 1-pt. QC check (gases)	Weekly	Weekly		
Frequency of multi-point gas calibration	6 months	6 months		
Annual data certification submitted	5/1/24	5/1/24		
Changes in the next 18 months?	None	None		

(NA) NAALEHU			
AQS: 150013033	Type: SPMS	County: Hawaii	MSA: Not in an MSA
Address: Naalehu Elementary School, 95-5547 Mamalahoa Hwy., Naalehu, HI 96772			
Latitude: 19.060656	Longitude: -155.579167		Elevation: 196.3 m MSL
Location Description: This station is located at the USGS Seismograph building on the campus of Naalehu Elementary School. The SO_2 monitor has been operating since September 6, 2018. A $PM_{2.5}$ sampler that was previously operating at the nearby Naalehu Volunteer Fire Station (150013028) was relocated to this station on December 2, 2022.			

NA TRAFFIC DESCRIPTION	
Type of Roadway	Mamalahoa HIghway
Freeway	
Major Street or Highway	X
Local Street or Road	
Distance from air intake (m)	180
Direction from air inlet	N
Composition of roadway	asphalt
Number of traffic lanes	2
Average daily traffic	3,700 [1]
Average vehicle speed (est. mph)	25
Traffic one way or two	2
Street parking?	No
[1] Source: State of Hawaii Department of Transportation (2016 count)	

For “Site Representativeness” in the following table:

[1]Site Types:
1) located to determine the highest concentrations;
2) located to measure typical concentrations in areas of high population density;
3) located to determine the impact of significant sources or source categories on air quality;
4) located to determine general background concentration levels;
5) located to determine extent of regional pollutant transport among populated areas and in support of secondary standards;
6) located to measure air pollution impacts on visibility, vegetation damage, or other welfare-based impacts

[2] Purposes:
1) Provide air pollution data to the general public in a timely manner;
2) Support compliance with ambient air quality standards;
3) Support emissions strategy development and track trends in air pollution abatement control measures;
4) Support for air pollution research

(NA) Naalehu continued

NA MONITOR INFORMATION (N/A = Not Applicable)				
	$PM_{2.5}$	**SO_2**		
POC/FRM or FEM	1/FEM	1/FEM		
Type of monitor	SPMS	SPMS		
AQS parameter code	88101	42401		
Manufacturer	Met One	TECO		
Model no.	BAM1022	43iQ		
AQS method code	209	060		
Monitoring start date	12/2/2022	9/6/2018		
Monitoring frequency	Continuous	Continuous		
Probe material	N/A	Teflon		
Residence time (sec)	N/A	11.1		
Distance between collocated monitors	N/A	N/A		
Analytical laboratory	N/A	N/A		
Location of probe	stand-alone shelter on ground	building wall		
Shelter dimensions (H x W x D) (m)	N/A	2.4 x 3.7 x 3.1		
Horizontal distance from supporting structure (m)	N/A	1		
Vertical distance above supporting structure (m)	2.2	N/A		
Height of probe above ground (m)	2.2	1.9		
Distance (m) & direction from drip line of tree(s)	20 NW	20 NW		
Horizontal distance from edge of nearest traffic lane (m)	114	114		
Horizontal distance from nearest parking lot (m)	114	114		
Distance (m) & direction from obstructions on roof, vertical height above probe (m)	N/A	N/A		
Distance (m) & direction from possible obstructions not on roof, vertical height (m)	1 E/2.4	N/A		
Distance (m) & direction from furnace or incineration flues	N/A	N/A		
Unrestricted airflow	360°	180°		
Located in paved (P) or vegetative (V) ground?	V	V		
SITE REPRESENTATIVENESS				
Spatial scale	Neighborhood	Neighborhood		
Applicable NAAQS averaging time(s)	24-hr, annual	1-hr, 3-hr; annual		
Sampling season	12 months	12 months		
Site type[1]	3	3		
Purpose of monitor[2]	1, 2, 4	1, 2, 4		
Suitable for comparison against the annual $PM_{2.5}$ NAAQS?	N	N/A		
DATA QUALITY				
Last PEP	N/A	N/A		
Last NPAP	N/A	Not Done		
Date of last annual independent performance audit (CAB)	N/A	10/25/23		
Frequency of flow rate verification (automated PM)	Monthly	N/A		
Frequency of flow rate verification (manual $PM_{2.5}$)	N/A	N/A		
Dates of last 2 semi-annual flow rate audits (PM)	6/14/23, 11/21/23	N/A		
Frequency of 1-point flow rate verification (Pb)	N/A	N/A		
Dates of last 2 semi-annual flow rate audits (Pb)	N/A	N/A		
Precision & accuracy submitted to AQS	Quarterly	Quarterly		
Frequency of 1-pt. QC check (gases)	N/A	Weekly		
Frequency of multi-point gas calibration	N/A	6 months		
Annual data certification submitted	5/1/24	5/1/24		
Changes in the next 18 months?	None	None		

(WL) WAIKOLOA			
AQS: 150012021	Type: SPMS	County: Hawaii	MSA: Not in an MSA
Address: TMK 3-6-8-002-019, Waikoloa, HI 96738			
Latitude: 19.977500	Longitude: -155.798056		Elevation: 182.9 m MSL
Location Description: This station is located within a fenced area that contains a County of Hawaii water tank and pump house, approximately 3 km northeast of Waikoloa. The $PM_{2.5}$ monitor for this station was relocated from Waikoloa E.S. on July 28, 2021. An SO_2 monitor and shelter was added to the station on December 8, 2022.			

WL TRAFFIC DESCRIPTION		
Type of Roadway	Queen Kaahumanu Hwy.	Waikoloa Road
Freeway		
Major Street or Highway	X	
Local Street or Road		X
Distance from air intake (m)	2,143	4,580
Direction from air inlet	W	N
Composition of roadway	asphalt	asphalt
Number of traffic lanes	2	2
Average daily traffic	11,900 [1]	8,200 [1]
Average vehicle speed (est. mph)	55	55
Traffic one way or two	2	2
Street parking?	No	No
[1] Source: State of Hawaii Department of Transportation (2016 count)		

For "Site Representativeness" in the following table:

[1]Site Types:
1) located to determine the highest concentrations;
2) located to measure typical concentrations in areas of high population density;
3) located to determine the impact of significant sources or source categories on air quality;
4) located to determine general background concentration levels;
5) located to determine extent of regional pollutant transport among populated areas and in support of secondary standards;
6) located to measure air pollution impacts on visibility, vegetation damage, or other welfare-based impacts

[2] Purposes:
1) Provide air pollution data to the general public in a timely manner;
2) Support compliance with ambient air quality standards;
3) Support emissions strategy development and track trends in air pollution abatement control measures;
4) Support for air pollution research

(WL) Waikoloa continued

WL MONITOR INFORMATION (N/A = Not Applicable)				
	$PM_{2.5}$	**SO_2**		
POC/FRM or FEM	1/FEM	1/FEM		
Type of monitor	SPMS	SPMS		
AQS parameter code	88101	42401		
Manufacturer	Met One	TECO		
Model no.	BAM1022	43iQ		
AQS method code	209	060		
Monitoring start date	7/28/2021	12/8/2022		
Monitoring frequency	Continuous	Continuous		
Probe material	N/A	Teflon		
Residence time (sec)	N/A	10.9		
Distance between collocated monitors	N/A	N/A		
Analytical laboratory	N/A	N/A		
Location of probe	stand-alone shelter on ground	shelter roof		
Shelter dimensions (H x W x D) (m)	N/A	2.7 x 2.0 x 3.7		
Horizontal distance from supporting structure (m)	N/A	N/A		
Vertical distance above supporting structure (m)	2.2	1		
Height of probe above ground (m)	2.2	4		
Distance (m) & direction from drip line of tree(s)	15W	15W		
Horizontal distance from edge of nearest traffic lane (m)	2143	2143		
Horizontal distance from nearest parking lot (m)	2590	2590		
Distance (m) & direction from obstructions on roof, vertical height above probe (m)	N/A	N/A		
Distance (m) & direction from possible obstructions not on roof, vertical height (m)	3 NE/3	N/A		
Distance (m) & direction from furnace or incineration flues	N/A	N/A		
Unrestricted airflow	360°	360°		
Located in paved (P) or vegetative (V) ground?	gravel	gravel		
SITE REPRESENTATIVENESS				
Spatial scale	Neighborhood	Neighborhood		
Applicable NAAQS averaging time(s)	24-hr, annual	1-hr, 3-hr; annual		
Sampling season	12 months	12 months		
Site type[1]	3	3		
Purpose of monitor[2]	1, 2, 4	1, 2, 4		
Suitable for comparison against the annual $PM_{2.5}$ NAAQS?	N	N/A		
DATA QUALITY				
Last PEP	N/A	N/A		
Last NPAP	N/A	None - new		
Date of last annual independent performance audit (CAB)	N/A	11/16/23		
Frequency of flow rate verification (automated PM)	Monthly	N/A		
Frequency of flow rate verification (manual $PM_{2.5}$)	N/A	N/A		
Dates of last 2 semi-annual flow rate audits (PM)	6/21/23, 12/20/23	N/A		
Frequency of 1-point flow rate verification (Pb)	N/A	N/A		
Dates of last 2 semi-annual flow rate audits (Pb)	N/A	N/A		
Precision & accuracy submitted to AQS	Quarterly	Quarterly		
Frequency of 1-pt. QC check (gases)	N/A	Weekly		
Frequency of multi-point gas calibration	N/A	6 months		
Annual data certification submitted	5/1/24	5/1/24		
Changes in the next 18 months?	None	None		

KAHE (Data Requirements Rule)			
AQS: 150034001	Type: SLAMS	County: Honolulu	MSA: Honolulu
Address: Palehua Road, Makakilo, Oahu			
Latitude: 21.3678 Longitude: -158.1053			Elevation: 388 m MSL
Location Description: This station is located on the hillside south of Palehua Road and overlooks the Pacific Ocean. The area around the station is undeveloped and is currently used for cattle grazing. The station is approximately 2.7 kilometers northeast of the Kahe Generating Station. The city of Makakilo is located to the east and southeast. The areas immediately to the west through north are undeveloped.			

TRAFFIC DESCRIPTION			
Type of Roadway	Palehua Road	Farrington Highway	
Freeway			
Major Street or Highway	X	X	
Distance from air intake (m)	12.8	2,750	
Direction from air inlet	N	SW	
Composition of roadway	asphalt	asphalt	
Number of traffic lanes	1	4	
Average daily traffic	20 (estimate)	52,300[1]	
Average vehicle speed (est. mph)	15	40	
Traffic one way or two	2	2	
Street parking?	No	No	
[1] Source: State of Hawaii Department of Transportation 2015 count			

For “Site Representativeness” in the following table:

[1]Site Types: 1) located to determine the highest concentrations;
2) located to measure typical concentrations in areas of high population density;
3) located to determine the impact of significant sources or source categories on air quality;
4) located to determine general background concentration levels;
5) located to determine extent of regional pollutant transport among populated areas and in support of secondary standards;
6) located to measure air pollution impacts on visibility, vegetation damage, or other welfare-based impacts

[2] Purposes: 1) Provide air pollution data to the general public in a timely manner;
2) Support compliance with ambient air quality standards;
3) Support emissions strategy development and track trends in air pollution abatement control measures;
4) Support for air pollution research

(KE) Kahe continued

KAHE MONITOR INFORMATION (N/A = Not Applicable)				
	SO_2			
POC/FRM or FEM	1/FEM			
Type of monitor	SLAMS			
AQS parameter code	42401			
Manufacturer	Thermo Scientific			
Model no.	43i-TLE			
AQS method code	560			
Monitoring start date	12/16/2016			
Monitoring frequency	Continuous			
Probe material	Borosilicate glass			
Residence time (sec)	12.2			
Distance between collocated monitors	N/A			
Analytical laboratory	N/A			
Location of probe	Shelter roof			
Building dimensions (H) (m)	3.3			
Horizontal distance from supporting structure (m)	0			
Vertical distance above supporting structure (m)	1.0			
Height of probe above ground (m)	4.3			
Distance (m) & direction from drip line of tree(s))	N/A			
Horizontal distance from edge of nearest traffic lane (m)	12.8			
Horizontal distance from nearest parking lot (m)	N/A			
Distance (m) & direction from obstructions on roof, vertical height above probe (m)	N/A			
Distance (m) & direction from possible obstructions not on roof, vertical height (m)	N/A			
Distance (m) & direction from furnace or incineration flues	2,740 SW			
Unrestricted airflow	360°			
Located in paved (P) or vegetative (V) ground?	V			
SITE REPRESENTATIVENESS				
Spatial scale	Neighborhood			
Applicable NAAQS averaging time(s)	1-hr			
Sampling season	12 months			
Site type[1]	3			
Purpose of monitor[2]	2, 3			
Suitable for comparison against the annual $PM_{2.5}$ NAAQS?	N/A			
DATA QUALITY				
Last PEP	N/A			
Last NPAP	6/22/21			
Date of last annual independent performance audit	12/22/22			
Frequency of flow rate verification (automated PM)	N/A			
Frequency of flow rate verification (manual $PM_{2.5}$)	N/A			
Dates of last 2 semi-annual flow rate audits (PM)	N/A			
Frequency of 1-point flow rate verification (Pb)	N/A			
Dates of last 2 semi-annual flow rate audits (Pb)	N/A			
Precision & accuracy submitted to AQS	N/A			
Frequency of 1-pt. QC check (gases)	Biweekly			
Frequency of multi-point gas calibration	Quarterly			
Annual data certification submitted	5/1/24			
Changes in the next 18 months?	None			

Appendix A

Public Notice Documentation

The 2024 Air Monitoring Network Plan, based on 40 CFR 58.10, documents, and describes the establishment and maintenance of Hawaii's ambient air monitoring network. This document was made available for public viewing on the Clean Air Branch website and at the following Department of Health locations:

- Clean Air Branch, 2827 Waimano Home Road, Room 130, Pearl City, Oahu
- Kauai District Health Office, 3040 Umi Street, Lihue, Kauai
- Maui District Health Office, 54 High Street, Room 300, Wailuku, Maui
- Hawaii District Health Office, 1582 Kamehameha Avenue, Hilo, Hawaii
- Clean Air Branch-Kona, Keakealani Building, 79-1020 Haukapila Street, Room 115, Kealakekua, Hawaii

Public notification of the availability of the Plan for public inspection was published in the major newspapers on all counties. The public comment period was for 30 days from May 15, 2024 to June 14, 2024.

The public notice was published in the following newspapers for the following counties:

- Kauai County: The Garden Island
- City and County of Honolulu: The Star Advertiser
- Maui County: The Maui News
- Hawaii County: West Hawaii Today and Hawaii Tribune Herald

Documentations of the public notice are attached.

Comments received will be addressed and included in this plan.

AFFIDAVIT OF PUBLICATION

IN THE MATTER OF
PUBLIC NOTICE (Docket No. 24-CA-PA-07)

STATE OF HAWAII }
} SS.
City and County of Honolulu }

Doc. Date: MAY 15 2024 # Pages: 1
Notary Name: COLLEEN E. SORANAKA First Judicial Circuit
Doc. Description: Affidavit of Publication
MAY 15 2024
Notary Signature Date

COLLEEN E. SORANAKA NOTARY PUBLIC No. 90-263 STATE OF HAWAII

Lisa Sakakida being duly sworn, deposes and says that she is a clerk, duly authorized to execute this affidavit of Oahu Publications, Inc. publisher of The Honolulu Star-Advertiser, MidWeek, The Garden Island, West Hawaii Today, and Hawaii Tribune-Herald, that said newspapers are newspapers of general circulation in the State of Hawaii, and that the attached notice is true notice as was published in the

Honolulu Star-Advertiser 0 times on:

MidWeek 0 times on:

The Garden Island 0 times on:

Hawaii Tribune-Herald 1 times on:
05/15/2024

West Hawaii Today 0 times on:

Other Publications: 0 times on:

And that affiant is not a party to or in any way interested in the above entitled matter.

Lisa Sakakida

Subscribed to and sworn before me this 15th day of May A.D. 20 24

Colleen E. Soranaka, Notary Public of the First Judicial Circuit, State of Hawaii
My commission expires: Jan 06 2028

COLLEEN E. SORANAKA NOTARY PUBLIC No. 90-263 STATE OF HAWAII

Ad # 0001454694

ICSP NO.: _____

PUBLIC NOTICE
(Docket No. 24-CA-PA-07)

The Department of Health, State of Hawaii, is notifying all interested persons of the report, "2024 Air Monitoring Network Plan." This report, based on 40 CFR §58.10, documents, and describes the establishment and maintenance of Hawaii's ambient air monitoring network.

The report is available for public review during regular office hours, Monday through Friday, 7:45 a.m. to 4:15 p.m., at the following locations:

Oahu:
- Clean Air Branch, Department of Health
  2827 Waimano Home Road, Room 130
  Pearl City, HI 96782

Hawaii:
- Hawaii District Health Office, Department of Health
  1582 Kamehameha Ave., Hilo, Hawaii 96720
- Clean Air Branch – Kona, Keakealani Building, Department of Health
  79-1020 Haukapila Street, Room 115, Kealakekua, Hawaii 96750

Kauai:
- Kauai District Health Office, Department of Health
  3040 Umi Street, Lihue, Kauai 96766

Maui:
- Maui District Health Office, Department of Health (Environmental Health)
  54 High Street, Room 300, Wailuku, Maui 96793

The network plan is also available for inspection on the Hawaii Department of Health, Clean Air Branch website at: https://health.hawaii.gov/cab. Interested persons may submit written comments addressed to the Department of Health at:

Clean Air Branch, Department of Health
2827 Waimano Home Road, Room 130
Pearl City, Hawaii 96782

The comments must be postmarked or received by June 14, 2024.
For additional information, contact Ms. Lisa Young of the Clean Air Branch in Pearl City at (808) 586-4200.
(HTH1454694 5/15/24)

AFFIDAVIT OF PUBLICATION

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PUBLIC NOTICE (Docket No. 24-CA-PA-07)

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City and County of Honolulu }

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05/15/2024
MidWeek 0 times on:
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Hawaii Tribune-Herald 0 times on:
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- Kauai District Health Office, Department of Health
  3040 Umi Street, Lihue, Kauai 96766

Maui:
- Maui District Health Office, Department of Health (Environmental Health)
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(SA1454693 5/15/24)

AFFIDAVIT OF PUBLICATION

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My commission expires: Jan 06 2028

COLLEEN E. SORANAKA NOTARY PUBLIC No. 90-263 STATE OF HAWAII

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(TGI1454696 5/15/24)

AFFIDAVIT OF PUBLICATION

IN THE MATTER OF
PUBLIC NOTICE (Docket No. 24-CA-PA-07)

STATE OF HAWAII }
} SS.
City and County of Honolulu }

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MAY 15 2024
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05/15/2024

Other Publications: 0 times on:

And that affiant is not a party to or in any way interested in the above entitled matter.

Lisa Sakakida

Subscribed to and sworn before me this 15th day of May A.D. 2024

Colleen E. Soranaka, Notary Public of the First Judicial Circuit, State of Hawaii
My commission expires: Jan 06 2028

COLLEEN E. SORANAKA NOTARY PUBLIC No. 90-263 STATE OF HAWAII

Ad # 0001454695

ICSP NO.: _____

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Clean Air Branch, Department of Health
2827 Waimano Home Road, Room 130
Pearl City, Hawaii 96782

The comments must be postmarked or received by June 14, 2024.
For additional information, contact Ms. Lisa Young of the Clean Air Branch in Pearl City at (808) 586-4200.
(WHT1454695 5/15/24)

AFFIDAVIT OF PUBLICATION

STATE OF HAWAII,
County of Maui. } ss.

Brandy Emmanuel being duly sworn deposes and says, that she is the Advertising Sales of the Maui Publishing Co., Ltd., publishers of THE MAUI NEWS, a newspaper published in Wailuku, County of Maui, State of Hawaii; that the ordered publication as to PUBLIC NOTICE (DOCKET NO. 24-CA-PA-07

of which the annexed is a true and correct printed notice, was published 1 times in THE MAUI NEWS, aforesaid, commencin8 on the 15th day of May, 2024, and ending on the 15th day of May, 2024, (One day inclusive), to-wit: on May 15, 2024

and that affiant is not a party to or in any way interested in the above entitled matter.

This 1 page PUBLIC NOTICE, dated May 15, 2024,

was subscribed and sworn to before me this 21st day of May, 2024, in the Second Circuit of the State of Hawaii, by Brandy Emmanuel.

Notary Public, Second Judicial Circuit, State of Hawaii
Kimberly Uradomo
Commission exp: 07/02/2026

KIMBERLY URADOMO NOTARY 06-397 PUBLIC STATE OF HAWAII

PUBLIC NOTICE

(Docket No. 24-CA-PA-07)

The Department of Health, State of Hawaii, is notifying all interested persons of the report, "2024 Air Monitoring Network Plan." This report, based on

40 CFR §58.10, documents, and describes the establishment and maintenance of Hawaii's ambient air monitoring network.

The report is available for public review during regular office hours, Monday through Friday, 7:45 a.m. to 4:15 p.m., at the following locations:

Oahu:
- Clean Air Branch, Department of Health 2827 Waimano Home Road, Room 130 Pearl City, HI 96782

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Clean Air Branch – Kona, Keakealani Building, Department of Health 79-1020 Haukapila Street, Room 115 Kealakekua, Hawaii 96750

Kauai:
- Kauai District Health Office, Department of Health 3040 Umi Street, Lihue, Kauai 96766

Maui:
- Maui District Health Office, Department of Health (Environmental Health) 54 High Street, Room 300 Wailuku, Maui 96793

The network plan is also available for inspection on the Hawaii Department of Health, Clean Air Branch website at: https://health.hawaii.gov/cab. Interested persons may submit written comments addressed to the Department of Health at:

Clean Air Branch, Department of Health 2827 Waimano Home Road, Room 130 Pearl City, Hawaii 96782

The comments must be postmarked or received by June 14, 2024. For additional information, contact Ms. Lisa Young of the Clean Air Branch in Pearl City at (808) 586-4200.

(MN: May 15, 2024)

Appendix B

Request to Close the Kahe SLAMS/DRR Air Monitoring Station (150034001) – Package Submitted 4/30/2024

JOSH GREEN, M.D.
GOVERNOR OF HAWAI'I
KE KIA'ĀINA O KA MOKU'ĀINA 'O HAWAI'I

KENNETH S. FINK, MD, MGA, MPH
DIRECTOR OF HEALTH
KA LUNA HO'OKELE

STATE OF HAWAII
DEPARTMENT OF HEALTH
KA 'OIHANA OLAKINO
P.O. Box 3378
HONOLULU, HAWAII 96801-3378

In reply, please refer to:
File:
24-219M&A CAB

April 30, 2024

Dena Vallano, Ph.D.
Manager
Monitoring and Analysis Section (AIR 2-3)
U.S. EPA, Region 9
75 Hawthorne Street
San Francisco, California 94105

Dear Dr. Vallano:

SUBJECT: Request to Close the Kahe (KE26) SO_2 SLAMS/Data Requirement Rule (DRR) Air Monitoring Station (150034001)

The State of Hawaii is requesting approval from the U.S. EPA to permanently discontinue the Kahe (KE26) SO_2 SLAMS/DRR Air Monitoring Station (150034001). According to 40 CFR 58.14, the state may request for discontinuance of a SLAMS station if stated criteria are met, and the requirements of Appendix D to Part 58 continues to be met. This request was made available for public commenting from February 20, 2024, through March 21, 2024; no comments were received. Attached is the closure request including justification and supporting information.

If there are any questions concerning the attached, please contact Ms. Lisa Young of my staff at (808) 586-4200.

Sincerely,

MARIANNE ROSSIO, P.E.
Manager, Clean Air Branch

LY/GW:rkb

Attachments

c: Julia Carlstad, Air Quality Analysis Office, U.S. EPA, Region 9

Request to Close the Kahe (KE) SLAMS/Data Requirements Rule Air Monitoring Station (150034001)

The State of Hawaii is requesting EPA approval to permanently discontinue the Kahe ambient air monitoring station (150034001). The state is required by 40 CFR Part 51, Subpart BB, Data Requirements Rule (DRR), to characterize maximum 1-hour ambient concentrations of SO_2 through either ambient air quality monitoring or air quality modeling analysis. This monitor is operated solely for the purpose of satisfying the 2015 SO_2 DRR (80 FR 51052) for Hawaiian Electric Company's Kahe Generating Station, the Kalealoa Cogeneration Plant, and AES Hawaii, Inc.'s Cogeneration Plant. This station is located in Makakilo on the hillside south of Palehua Road and started operating on January 1, 2017.

The state currently has three SLAMS SO_2 stations in the Honolulu MSA. With this station closure, there will be two SO_2 monitoring stations remaining in the Honolulu MSA, which meets the state's minimum requirement for SO_2 monitoring. DOH is requesting approval from EPA to permanently shut down this station.

The Kahe station has operated for more than three years and thus the concentrations may be used for NAAQS comparison. According to 40 CFR 58.14, the state may request for discontinuance of a SLAMS station if any of the stated criteria are met and if requirements of Appendix D to Part 58 continues to be met. The Kahe station meets the following requirement for shutdown:

> Any criteria SLAMS monitor which has been in attainment during the previous five years, has a probability of less than 10 percent of exceeding 80 percent of the applicable NAAQS during the next three years, and which is not specifically required by an attainment or maintenance plan.

II. Data in Support of Discontinuing the Kahe Station

To comply with the removal requirements based on past and future expected attainment for all applicable NAAQS, the following tests must be met:

1) The SO_2 monitor is currently in attainment and has been in attainment during the previous five years;
2) The probability is less than 10% that the monitor will exceed 80% of the applicable NAAQS during the next three years based on past concentrations, trends, and variability;
3) The monitor is not required by an attainment or maintenance plan; and
4) The monitor is not the last monitor in a nonattainment or maintenance area plan.

The State of Hawaii is in attainment for all NAAQS and therefore, Kahe is not specifically required for any attainment, non-attainment, or maintenance plan.

The following data is presented in support of station shutdown based on past compliance with, and the expectation that the monitors would not exceed, all applicable NAAQS in the future.

Table 1. 2017-2021 Attainment of SO_2 NAAQS at KE

Pollutant Standard	2017		2018		2019		2020		2021	
	Max	2nd Max	Max	2nd Max	Max	2nd Max	Max	2nd Max	Max	2nd Max
SO_2 1-hr Average (<75 ppb)	69	64	56	50	70	68	70	69	65	60
SO_2 3-hr Average (<500 ppb)	43	36	31	25	44	39	46	43	47	42

To demonstrate a less than 10% probability that the monitors would exceed 80% of the applicable NAAQS, the following equation[a] was applied:

$$\overline{X} + \frac{t * s}{\sqrt{n}} < 0.8 * NAAQS$$

Where: $\overline{X}$ *= the average design value for the last 5 years*
t = student's t value for n-1 degrees of freedom at the 90% confidence level
s = standard deviation of the design values
n = number of records
NAAQS = applicable standard

[a] Equation used is from the EPA-454/D-07-001 document titled "Ambient Air Monitoring Network Assessment Guidance"

Table 2. Applicable NAAQS

Pollutant	Form of NAAQS	NAAQS	80% of NAAQS
SO_2	1-hour	75 ppb	**60 ppb**
	3-hour	500 ppb	**400 ppb**

Conservatively using the 2017 to 2021 design values for all applicable NAAQS from Table 1, the probability that any monitor would exceed 80% of the NAAQS was computed.

Table 3. Probability Computations for Applicable NAAQS at KE

Pollutant & Averaging Time	Average ($\overline{X}$) 2017-2021	Standard Deviation (*s*)	Student's t value (*t*)	No. of values (*n*)	90% upper confidence interval	Is the result <80% of NAAQS?
SO_2						
1-hour[1]	52 ppb	3.51	2.13	5	**54.9**	**Yes <60 ppb**
3-hour[1]	32 ppb	2.19	2.13	5	**34.5**	**Yes <400 ppb**

1 Design value.

III. Continued Compliance with 40 CFR Part 58 Appendix D

Closing the Kahe air monitoring station will not affect compliance with the requirements of 40 CFR Part 58 Appendix D, "Network Design Criteria for Ambient Air Quality Monitoring."

SO_2 Design Criteria

40 CFR Part 58, Appendix D Section 4.4.2, requires the use of the Population Weighted Emissions Index (PWEI) calculation to determine SO_2 monitoring requirements, and accordingly, Hawaii is currently required to operate one SO_2 monitor in the Honolulu MSA. The state currently has three SO_2 monitors in the Honolulu MSA, with one SLAMS (DH), one SLAMS/DRR (KE), and one SLAMS/NCore trace SO_2 monitor at Kapolei (KA/NCore). This meets the minimum number of required SO_2 stations. With the discontinuation of SO_2 monitoring at Kahe, the network would continue to meet SO_2 design criteria.

IV. Summary

Based on attainment with all applicable NAAQS in the past five or more years, a less than 10% probability of exceeding any NAAQS in the future, and continued compliance with network design criteria, closing the Kahe air monitoring station would meet the SLAMS discontinuance requirements of 40 CFR Part 58.

V. Public Comments

Notification of the closure request availability for public inspection and comment was provided through a public notice published on February 20, 2024 in the major daily newspaper of the City and County of Honolulu. The request was available for inspection at the Clean Air Branch on Oahu and on the Clean Air Branch website at http://health.hawaii.gov/cab, for 30 days from February 20, 2024 to March 21, 2024; no comments were received.

Documentation of public notification is provided in Attachment 1 of this document; AQS reports in support of the closure are provided in Attachment 2.

Attachment 1

Public Notice Documentation

The Request to Close the Kahe (KE) SLAMS/Data Requirements Rule Air Monitoring Station (150034001) was made available for public viewing on the Clean Air Branch website and at the following Department of Health location:

- Clean Air Branch, 2827 Waimano Home Road, Room 130, Pearl City, Oahu

Public notification of the availability of the Request for public inspection was published in The Star Advertiser, the major newspaper of the City and County of Honolulu. The public comment period was for 30 days from February 20, 2024 to March 21, 2024; no comments were received. Documentation of the public notice is attached.

AFFIDAVIT OF PUBLICATION

IN THE MATTER OF
PUBLIC NOTICE (Docket No. 24-CA-PA-04)

STATE OF HAWAII }
} SS.
City and County of Honolulu }

Doc. Date: FEB 2 0 2024 # Pages: 1
Notary Name: COLLEEN E. SORANAKA First Judicial Circuit
Doc. Description: Affidavit of Publication
FEB 2 0 2024
Notary Signature Date

COLLEEN E. SORANAKA NOTARY PUBLIC No. 90-263 STATE OF HAWAII

Kimberly Masu being duly sworn, deposes and says that she is a clerk, duly authorized to execute this affidavit of Oahu Publications, Inc. publisher of The Honolulu Star-Advertiser, MidWeek, The Garden Island, West Hawaii Today, and Hawaii Tribune-Herald, that said newspapers are newspapers of general circulation in the State of Hawaii, and that the attached notice is true notice as was published in the

Honolulu Star-Advertiser 1 times on:
02/20/2024
MidWeek 0 times on:
The Garden Island 0 times on:
Hawaii Tribune-Herald 0 times on:
West Hawaii Today 0 times on:
Other Publications: 0 times on:

And that affiant is not a party to or in any way interested in the above entitled matter.

Kimberly Masu

Subscribed to and sworn before me this 20th day of February A.D. 2024

Colleen E. Soranaka, Notary Public of the First Judicial Circuit, State of Hawaii
My commission expires: Jan 06 2028

COLLEEN E. SORANAKA NOTARY PUBLIC No. 90-263 STATE OF HAWAII

Ad # 0001444989

ICSP.NO.: _____

PUBLIC NOTICE
(Docket No. 24-CA-PA-04)

The Department of Health, State of Hawaii, is notifying all interested persons of the document, "Request to Close the Kahe (KE) SLAMS/Data Requirements Rule Air Monitoring Station (150034001)." This request, based on 40 CFR 58.14, documents the SLAMS discontinuance requirements that were met at the Kahe station, including data in support of the closure.

The report is available for public review during regular office hours, Monday through Friday, 7:45 a.m. to 4:15 p.m., at the following location:

Clean Air Branch, Department of Health
2827 Waimano Home Road, Room 130
Pearl City, HI 96782

The closure request is also available for inspection on the Hawaii Department of Health, Clean Air Branch website at http://health.hawaii.gov/cab. Interested persons may submit written comments addressed to the Department of Health at:

Clean Air Branch, Department of Health
2827 Waimano Home Road, Room 130
Pearl City, HI 96782

The comments must be postmarked or received by March 21, 2024. For additional information, contact Ms. Lisa Young of the Clean Air Branch at (808) 586-4200.
(SA1444989 2/20/24)

Attachment 2

AQS Reports in Support of Request for Closure

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

User ID: XGSWU

CERTIFICATION EVALUATION AND CONCURRENCE

Report Request ID: 2140915

Report Code: AMP600

Nov. 8, 2023

GEOGRAPHIC SELECTIONS

Tribal Code	State	County	Site	Parameter	POC	City	AQCR	UAR	CBSA	CSA	EPA Region
	15	003	4001								

PROTOCOL SELECTIONS

Parameter Classification	Parameter	Method	Duration
CRITERIA			

SELECTED OPTIONS

Option Type	Option Value
MERGE PDF FILES	YES
AGENCY ROLE	CERTIFYING

DATE CRITERIA

Start Date	End Date
2017	2017

Data Evaluation and Concurrence Report Summary

Certification Year: 2017
Certifying Agency (CA): Hawaii State Department Of Health (0481)

Pollutants in Report:

Parameter Name	Code	Monitors Evaluated	Monitors Recommended for Concurrence by AQS	Monitors NOT Recommended for Concurrence by AQS
Sulfur dioxide	42401	1	1	0

PQAOs in Report:

PQAO Name	PQAO Code	TSA Date
Hawaii State Department Of Health	0481	07/28/20

Summary of 'N' flags for all pollutants:

PQAO	Parameter Code	AQS Site-ID	POC	AQS Recommended Flag	Cert. Agency Recommended Flag	Reason for AQS Recommendation

Signature of Monitoring Organization Representative: _____

Data Evaluation and Concurrence Report for Gaseous Pollutants

Certifying Year 2017
Certifying Agency Code Hawaii State Department Of Health (0481)
Parameter Sulfur dioxide (42401) (ppb)
PQAO Name Hawaii State Department Of Health (0481)
QAPP Approval Date 07/06/2023

NPAP Audit Summary:

Number of Passed Audits	NPAP Bias	Criteria Met
		Y

AQS Site ID	POC	Monitor Type	Routine Data						One Point Quality Check			Annual PE		NPAP			Concur. Flag		
			Mean	Min	Max	Exceed. Count	Outlier Count	Perc. Comp.	Precision	Bias	Complete	Bias	Complete	Bias	PQAO Level Criteria	QAPP Appr.	Aqs Rec Flag	CA Rec Flag	Epa Concur
15-003-4001	1	SLAMS	1.0	0.0	68.7		0	97	1.75	-1.92	100	- 4.59	100		Y	Y	Y		Y

EPA Comment: 2017 5-minute SO2 data at this site certified per 'Certified S02 Monitoring Data for 2017 Data Requirements Rule' email from Hawaii Department of Health, recieved April 30, 2018.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

User ID: XGSWU

CERTIFICATION EVALUATION AND CONCURRENCE

Report Request ID: 2140914

Report Code: AMP600

Nov. 8, 2023

GEOGRAPHIC SELECTIONS

Tribal Code	State	County	Site	Parameter	POC	City	AQCR	UAR	CBSA	CSA	EPA Region
	15	003	4001								

PROTOCOL SELECTIONS

Parameter Classification	Parameter	Method	Duration
CRITERIA			

SELECTED OPTIONS

Option Type	Option Value
MERGE PDF FILES	YES
AGENCY ROLE	CERTIFYING

DATE CRITERIA

Start Date	End Date
2018	2018

Data Evaluation and Concurrence Report Summary

Certification Year: 2018
Certifying Agency (CA): Hawaii State Department Of Health (0481)

Pollutants in Report:

Parameter Name	Code	Monitors Evaluated	Monitors Recommended for Concurrence by AQS	Monitors NOT Recommended for Concurrence by AQS
Sulfur dioxide	42401	1	1	0

PQAOs in Report:

PQAO Name	PQAO Code	TSA Date
Hawaii State Department Of Health	0481	07/28/20

Summary of 'N' flags for all pollutants:

PQAO	Parameter Code	AQS Site-ID	POC	AQS Recommended Flag	Cert. Agency Recommended Flag	Reason for AQS Recommendation

Signature of Monitoring Organization Representative: _____

Data Evaluation and Concurrence Report for Gaseous Pollutants

Certifying Year 2018
Certifying Agency Code Hawaii State Department Of Health (0481)
Parameter Sulfur dioxide (42401) (ppb)
PQAO Name Hawaii State Department Of Health (0481)
QAPP Approval Date 07/06/2023

NPAP Audit Summary:

Number of Passed Audits	NPAP Bias	Criteria Met
1	7.60996	Y

AQS Site ID	POC	Monitor Type	Routine Data						One Point Quality Check			Annual PE		NPAP		QAPP Appr.	Concur. Flag		
			Mean	Min	Max	Exceed. Count	Outlier Count	Perc. Comp.	Precision	Bias	Complete	Bias	Complete	Bias	PQAO Level Criteria		Aqs Rec Flag	CA Rec Flag	Epa Concur
15-003-4001	1	SLAMS	0.7	0.0	55.9		0	98	0.81	-0.90	100	- 8.92	100		Y	Y	Y	Y	Y

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

User ID: XGSWU

CERTIFICATION EVALUATION AND CONCURRENCE

Report Request ID: 2140913

Report Code: AMP600

Nov. 8, 2023

GEOGRAPHIC SELECTIONS

Tribal Code	State	County	Site	Parameter	POC	City	AQCR	UAR	CBSA	CSA	EPA Region
	15	003	4001								

PROTOCOL SELECTIONS

Parameter Classification	Parameter	Method	Duration
CRITERIA			

SELECTED OPTIONS

Option Type	Option Value
MERGE PDF FILES	YES
AGENCY ROLE	CERTIFYING

DATE CRITERIA

Start Date	End Date
2019	2019

Data Evaluation and Concurrence Report Summary

Certification Year: 2019
Certifying Agency (CA): Hawaii State Department Of Health (0481)

Pollutants in Report:

Parameter Name	Code	Monitors Evaluated	Monitors Recommended for Concurrence by AQS	Monitors NOT Recommended for Concurrence by AQS
Sulfur dioxide	42401	1	1	0

PQAOs in Report:

PQAO Name	PQAO Code	TSA Date
Hawaii State Department Of Health	0481	07/28/20

Summary of 'N' flags for all pollutants:

PQAO	Parameter Code	AQS Site-ID	POC	AQS Recommended Flag	Cert. Agency Recommended Flag	Reason for AQS Recommendation

Signature of Monitoring Organization Representative: _____

Data Evaluation and Concurrence Report for Gaseous Pollutants

Certifying Year 2019
Certifying Agency Code Hawaii State Department Of Health (0481)
Parameter Sulfur dioxide (42401) (ppb)
PQAO Name Hawaii State Department Of Health (0481)
QAPP Approval Date 07/06/2023

NPAP Audit Summary:

Number of Passed Audits	NPAP Bias	Criteria Met
2	3.79747	Y

AQS Site ID	POC	Monitor Type	Routine Data						One Point Quality Check			Annual PE		NPAP		QAPP Appr.	Concur. Flag		
			Mean	Min	Max	Exceed. Count	Outlier Count	Perc. Comp.	Precision	Bias	Complete	Bias	Complete	Bias	PQAO Level Criteria		Aqs Rec Flag	CA Rec Flag	Epa Concur
15-003-4001	1	SLAMS	1.2	0.0	70.0		0	97	1.18	-1.13	100	- 8.22	100		Y	Y	Y	Y	Y

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

User ID: XGSWU

CERTIFICATION EVALUATION AND CONCURRENCE

Report Request ID: 2140912

Report Code: AMP600

Nov. 8, 2023

GEOGRAPHIC SELECTIONS

Tribal Code	State	County	Site	Parameter	POC	City	AQCR	UAR	CBSA	CSA	EPA Region
	15	003	4001								

PROTOCOL SELECTIONS

Parameter Classification	Parameter	Method	Duration
CRITERIA			

SELECTED OPTIONS

Option Type	Option Value
MERGE PDF FILES	YES
AGENCY ROLE	CERTIFYING

DATE CRITERIA

Start Date	End Date
2020	2020

Data Evaluation and Concurrence Report Summary

Certification Year: 2020
Certifying Agency (CA): Hawaii State Department Of Health (0481)

Pollutants in Report:

Parameter Name	Code	Monitors Evaluated	Monitors Recommended for Concurrence by AQS	Monitors NOT Recommended for Concurrence by AQS
Sulfur dioxide	42401	1	1	0

PQAOs in Report:

PQAO Name	PQAO Code	TSA Date
Hawaii State Department Of Health	0481	07/28/20

Summary of 'N' flags for all pollutants:

PQAO	Parameter Code	AQS Site-ID	POC	AQS Recommended Flag	Cert. Agency Recommended Flag	Reason for AQS Recommendation

Signature of Monitoring Organization Representative: _____

Data Evaluation and Concurrence Report for Gaseous Pollutants

Certifying Year 2020
Certifying Agency Code Hawaii State Department Of Health (0481)
Parameter Sulfur dioxide (42401) (ppb)
PQAO Name Hawaii State Department Of Health (0481)
QAPP Approval Date 07/06/2023

NPAP Audit Summary:

Number of Passed Audits	NPAP Bias	Criteria Met
		Y

AQS Site ID	POC	Monitor Type	Routine Data						One Point Quality Check			Annual PE		NPAP		QAPP Appr.	Concur. Flag		
			Mean	Min	Max	Exceed. Count	Outlier Count	Perc. Comp.	Precision	Bias	Complete	Bias	Complete	Bias	PQAO Level Criteria		Aqs Rec Flag	CA Rec Flag	Epa Concur
15-003-4001	1	SLAMS	0.8	0.0	69.6		0	98	0.88	+1.01	100	- 4.01	100		Y	Y	Y	Y	Y

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

User ID: XGSWU

CERTIFICATION EVALUATION AND CONCURRENCE

Report Request ID: 2140911

Report Code: AMP600

Nov. 8, 2023

GEOGRAPHIC SELECTIONS

Tribal Code	State	County	Site	Parameter	POC	City	AQCR	UAR	CBSA	CSA	EPA Region
	15	003	4001								

PROTOCOL SELECTIONS

Parameter Classification	Parameter	Method	Duration
CRITERIA			

SELECTED OPTIONS

Option Type	Option Value
MERGE PDF FILES	YES
AGENCY ROLE	CERTIFYING

DATE CRITERIA

Start Date	End Date
2021	2021

Data Evaluation and Concurrence Report Summary

Certification Year: 2021
Certifying Agency (CA): Hawaii State Department Of Health (0481)

Pollutants in Report:

Parameter Name	Code	Monitors Evaluated	Monitors Recommended for Concurrence by AQS	Monitors NOT Recommended for Concurrence by AQS
Sulfur dioxide	42401	1	1	0

PQAOs in Report:

PQAO Name	PQAO Code	TSA Date
Hawaii State Department Of Health	0481	07/28/20

Summary of 'N' flags for all pollutants:

PQAO	Parameter Code	AQS Site-ID	POC	AQS Recommended Flag	Cert. Agency Recommended Flag	Reason for AQS Recommendation

Signature of Monitoring Organization Representative: _____

Data Evaluation and Concurrence Report for Gaseous Pollutants

Certifying Year 2021
Certifying Agency Code Hawaii State Department Of Health (0481)
Parameter Sulfur dioxide (42401) (ppb)
PQAO Name Hawaii State Department Of Health (0481)
QAPP Approval Date 07/06/2023

NPAP Audit Summary:

Number of Passed Audits	NPAP Bias	Criteria Met
3	1.90901	Y

AQS Site ID	POC	Monitor Type	Routine Data						One Point Quality Check			Annual PE		NPAP			Concur. Flag		
			Mean	Min	Max	Exceed. Count	Outlier Count	Perc. Comp.	Precision	Bias	Complete	Bias	Complete	Bias	PQAO Level Criteria	QAPP Appr.	Aqs Rec Flag	CA Rec Flag	Epa Concur
15-003-4001	1	SLAMS	0.6	0.1	64.9		0	98	0.87	+1.12	100	- 8.63	100	1.91	Y	Y	Y	N	N

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

User ID: XGSWU

MAXIMUM VALUES REPORT

Report Request ID: 2140906 Report Code: AMP440 Nov. 8, 2023

GEOGRAPHIC SELECTIONS

Tribal Code	State	County	Site	Parameter	POC	City	AQCR	UAR	CBSA	CSA	EPA Region
	15	003	4001	42401							

PROTOCOL SELECTIONS

Parameter Classification	Parameter	Method	Duration
CRITERIA			

SELECTED OPTIONS

Option Type	Option Value
EVENTS PROCESSING	REPORT ALL EVENT RECORDS
MERGE PDF FILES	YES
AGENCY ROLE	PQAO

SORT ORDER

Order	Column
1	PARAMETER_CODE
2	STATE_CODE
3	DURATION_CODE
4	DATES
5	COUNTY_CODE
6	SITE_ID
7	POC
8	EDT_ID

DATE CRITERIA

Start Date	End Date
2017	2021

APPLICABLE STANDARDS

Standard Description
CO 8-hour 1971
Lead 3-Month 2009
Lead 3-Month PM10 Surrogate 2009
NO2 Annual 1971
Ozone 8-hour 2015
PM10 24-hour 2006
PM25 Annual 2012
SO2 1-hour 2010

EXCEPTIONAL DATA TYPES

EDT	DESCRIPTION
0	NO EVENTS
1	EVENTS EXCLUDED
2	EVENTS INCLUDED
5	EVENTS WITH CONCURRENCE EXCLUDED

UNITED STATES ENVIRONMENTAL PROCTECTION AGENCY
AIR QUALITY SUBSYSTEM
MAXIMUM VALUES REPORT

Nov. 8, 2023

Sulfur dioxide (42401)

State: Hawaii
Duration: 1 HOUR
Year: 2017

Primary: 75
Secondary:
Unit: Parts per billion

Maximum Values

Site ID	POC	County Name / City Name		Methods	1st Max	2nd Max	3rd Max	4th Max	5th Max	Num Obs	Num Exc	EDT ID
					6th Max	7th Max	8th Max	9th Max	10th Max			
15-003-4001	1	Honolulu	560		68.7	64.3	58.3	54.7	51.5	8475	0	0
		Not in a city			01/17:13	01/13:15	01/11:16	03/06:11	09/14:10			
					47.4	47.3	45.2	44.9	41.6			
					10/07:04	09/13:13	03/17:14	08/28:13	03/10:14			

Sulfur dioxide (42401)

State: Hawaii
Duration: 1 HOUR
Year: 2018

Primary: 75
Secondary:
Unit: Parts per billion

Maximum Values

Site ID	POC	County Name / City Name		Methods	1st Max	2nd Max	3rd Max	4th Max	5th Max	Num Obs	Num Exc	EDT ID
					6th Max	7th Max	8th Max	9th Max	10th Max			
15-003-4001	1	Honolulu	560		55.9	49.8	38.6	37.8	35.7	8617	0	0
		Not in a city			02/11:06	04/30:02	01/12:08	05/04:00	05/02:12			
					34.2	32.6	31.2	30.9	29.9			
					02/20:04	04/03:12	04/06:00	02/07:07	12/26:16			

Sulfur dioxide (42401)

State: Hawaii
Duration: 1 HOUR
Year: 2019

Primary: 75
Secondary:
Unit: Parts per billion

Maximum Values

Site ID	POC	County Name / City Name		Methods	1st Max	2nd Max	3rd Max	4th Max	5th Max	Num Obs	Num Exc	EDT ID
					6th Max	7th Max	8th Max	9th Max	10th Max			
15-003-4001	1	Honolulu	560		70.0	67.7	65.8	61.8	57.7	8520	0	0
		Not in a city			08/10:16	01/21:17	07/04:11	01/11:10	11/05:04			
					54.9	52.4	51.3	47.1	46.2			
					10/25:10	02/22:23	08/09:15	09/14:16	11/12:14			

UNITED STATES ENVIRONMENTAL PROCTECTION AGENCY
AIR QUALITY SUBSYSTEM
MAXIMUM VALUES REPORT

Nov. 8, 2023

Sulfur dioxide (42401)

State: Hawaii
Duration: 1 HOUR
Year: 2020

Primary: 75
Secondary:
Unit: Parts per billion

Maximum Values

Site ID	POC	County Name / City Name		Methods	1st Max	2nd Max	3rd Max	4th Max	5th Max	Num Obs	Num Exc	EDT ID
					6th Max	7th Max	8th Max	9th Max	10th Max			
15-003-4001	1	Honolulu	560		69.6	69.0	61.7	57.1	54.3	8596	0	0
		Not in a city			09/30:17	11/01:21	03/05:04	01/28:02	04/05:04			
					49.3	45.4	44.8	41.9	38.8			
					10/01:11	01/30:00	05/06:12	04/12:10	12/03:10			

Sulfur dioxide (42401)

State: Hawaii
Duration: 1 HOUR
Year: 2021

Primary: 75
Secondary:
Unit: Parts per billion

Maximum Values

Site ID	POC	County Name / City Name		Methods	1st Max	2nd Max	3rd Max	4th Max	5th Max	Num Obs	Num Exc	EDT ID
					6th Max	7th Max	8th Max	9th Max	10th Max			
15-003-4001	1	Honolulu	560		64.9	59.9	48.4	44.1	42.9	8574	0	0
		Not in a city			11/17:13	08/31:10	03/26:06	01/09:16	02/12:17			
					38.2	37.0	36.1	35.7	34.0			
					06/26:10	11/16:14	11/18:14	05/30:21	03/14:18			

Sulfur dioxide (42401)

State: Hawaii
Duration: 5 MINUTE
Year: 2017

Primary:
Secondary:
Unit: Parts per billion

Maximum Values

Site ID	POC	County Name / City Name		Methods	1st Max	2nd Max	3rd Max	4th Max	5th Max	Num Obs	Num Exc	EDT ID
					6th Max	7th Max	8th Max	9th Max	10th Max			
15-003-4001	7	Honolulu	560		197.3	122.9	116.4	110.1	109.2	100799		0
		Not in a city			01/15:06	01/11:17	01/11:16	01/11:16	01/28:09			
					108.6	104.7	102.9	102.0	95.4			
					01/11:17	01/11:16	01/13:13	01/11:16	01/13:13			

UNITED STATES ENVIRONMENTAL PROCTECTION AGENCY
AIR QUALITY SUBSYSTEM
MAXIMUM VALUES REPORT

Nov. 8, 2023

Sulfur dioxide (42401)

State: Hawaii
Duration: 5 MINUTE
Year: 2018

Primary:
Secondary:
Unit: Parts per billion

Maximum Values

Site ID	POC	County Name / City Name		Methods	1st Max	2nd Max	3rd Max	4th Max	5th Max	Num Obs	Num Exc	EDT ID
					6th Max	7th Max	8th Max	9th Max	10th Max			
15-003-4001	7	Honolulu	560		173.4	107.4	105.0	102.0	98.2	101356		0
		Not in a city			05/04:00	02/11:06	02/11:06	05/04:02	02/11:06			
					97.9	97.9	95.4	90.4	89.4			
					02/11:06	05/04:02	05/04:02	05/02:12	05/02:12			

Sulfur dioxide (42401)

State: Hawaii
Duration: 5 MINUTE
Year: 2019

Primary:
Secondary:
Unit: Parts per billion

Maximum Values

Site ID	POC	County Name / City Name		Methods	1st Max	2nd Max	3rd Max	4th Max	5th Max	Num Obs	Num Exc	EDT ID
					6th Max	7th Max	8th Max	9th Max	10th Max			
15-003-4001	7	Honolulu	560		143.2	138.4	136.1	125.5	124.8	99267		0
		Not in a city			01/21:17	11/05:05	01/21:17	08/09:15	11/05:04			
					124.2	119.0	114.3	114.2	113.5			
					02/22:23	02/22:23	01/11:10	01/11:10	11/01:09			

Sulfur dioxide (42401)

State: Hawaii
Duration: 5 MINUTE
Year: 2020

Primary:
Secondary:
Unit: Parts per billion

Maximum Values

Site ID	POC	County Name / City Name		Methods	1st Max	2nd Max	3rd Max	4th Max	5th Max	Num Obs	Num Exc	EDT ID
					6th Max	7th Max	8th Max	9th Max	10th Max			
15-003-4001	7	Honolulu	560		395.0	350.5	137.9	129.9	119.8	100926		0
		Not in a city			03/10:01	03/10:01	01/28:02	03/05:04	01/28:02			
					107.4	106.1	103.7	95.1	90.4			
					09/30:17	03/05:04	11/01:21	01/28:02	04/05:04			

UNITED STATES ENVIRONMENTAL PROCTECTION AGENCY
AIR QUALITY SUBSYSTEM
MAXIMUM VALUES REPORT

Nov. 8, 2023

Sulfur dioxide (42401)

State: Hawaii
Duration: 5 MINUTE
Year: 2021

Primary:
Secondary:
Unit: Parts per billion

Site ID	POC	County Name / City Name	Methods	Maximum Values					Num Obs	Num Exc	EDT ID
				1st Max	2nd Max	3rd Max	4th Max	5th Max			
				6th Max	7th Max	8th Max	9th Max	10th Max			
15-003-4001	7	Honolulu	560	95.8	89.2	89.0	86.1	83.7	100863		0
		Not in a city		08/31:10	08/31:09	03/26:06	08/31:10	08/31:09			
				83.6	83.1	82.0	82.0	81.6			
				08/31:10	03/26:06	11/16:15	11/17:13	11/17:13			

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

User ID: XGSWU

DESIGN VALUE REPORT

Report Request ID: 2140904

Report Code: AMP480

Nov. 8, 2023

GEOGRAPHIC SELECTIONS

Tribal Code	State	County	Site	Parameter	POC	City	AQCR	UAR	CBSA	CSA	EPA Region
	15	003	4001								

PROTOCOL SELECTIONS

Parameter Classification	Parameter	Method	Duration
DESIGN VALUE			

SELECTED OPTIONS

Option Type	Option Value
SINGLE EVENT PROCESSING	EXCLUDE REGIONALLY CONCURRED EVENTS
MERGE PDF FILES	YES
AGENCY ROLE	PQAO
USER SITE METADATA	STREET ADDRESS
QUARTERLY DATA IN WORKFILE	NO
WORKFILE DELIMITER	,
USE LINKED SITES	YES

DATE CRITERIA

Start Date	End Date
2017	2021

APPLICABLE STANDARDS

Standard Description
Lead 3-Month 2009
NO2 1-hour 2010
Ozone 8-hour 2015
PM10 24-hour 2006
PM25 24-hour 2012
PM25 Annual 2012
SO2 1-hour 2010

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
AIR QUALITY SYSTEM
PRELIMINARY DESIGN VALUE REPORT

Report Date: Nov. 8, 2023

Notes: 1. Computed design values are a snapshot of the data at the time the report was run (may not be all data for year).
2. Some PM2.5 24-hour DVs for incomplete data that are marked invalid here may be marked valid in the Official report due to additional analysis.
3. Annual Values not meeting completeness criteria are marked with an asterisk ('*').

Pollutant: Sulfur dioxide(42401)
Standard Units: Parts per billion(008)
NAAQS Standard: SO2 1-hour 2010
Statistic: Annual 99th Percentile **Level:** 75

Design Value Year: 2017

REPORT EXCLUDES MEASUREMENTS WITH REGIONALLY CONCURRED EVENT FLAGS.

State Name: Hawaii

		2017			2016			2015			3-Year	
Site ID	STREET ADDRESS	Comp. Qrtrs	99th Percentile	Cert& Eval	Comp. Qrtrs	99th Percentile	Cert& Eval	Comp. Qrtrs	99th Percentile	Cert& Eval	Design Value	Valid Ind.
15-003-4001	PALEHUA ROAD	4	54.7	Y							55	N

Notes:
1. Computed design values are a snapshot of the data at the time the report was run (may not be all data for year).
2. Some PM2.5 24-hour DVs for incomplete data that are marked invalid here may be marked valid in the Official report due to additional analysis.
3. Annual Values not meeting completeness criteria are marked with an asterisk ('*').

Pollutant: Sulfur dioxide(42401)
Standard Units: Parts per billion(008)
NAAQS Standard: SO2 1-hour 2010
Statistic: Annual 99th Percentile **Level:** 75

Design Value Year: 2018

REPORT EXCLUDES MEASUREMENTS WITH REGIONALLY CONCURRED EVENT FLAGS.

State Name: Hawaii

		2018			2017			2016			3-Year	
Site ID	STREET ADDRESS	Comp. Qrtrs	99th Percentile	Cert& Eval	Comp. Qrtrs	99th Percentile	Cert& Eval	Comp. Qrtrs	99th Percentile	Cert& Eval	Design Value	Valid Ind.
15-003-4001	PALEHUA ROAD	4	37.8	Y	4	54.7	Y				46	N

Notes: 1. Computed design values are a snapshot of the data at the time the report was run (may not be all data for year).
2. Some PM2.5 24-hour DVs for incomplete data that are marked invalid here may be marked valid in the Official report due to additional analysis.
3. Annual Values not meeting completeness criteria are marked with an asterisk ('*').

Pollutant: Sulfur dioxide(42401)
Standard Units: Parts per billion(008)
NAAQS Standard: SO2 1-hour 2010
Statistic: Annual 99th Percentile **Level:** 75

Design Value Year: 2019

REPORT EXCLUDES MEASUREMENTS WITH REGIONALLY CONCURRED EVENT FLAGS.

State Name: Hawaii

		2019			2018			2017			3-Year	
Site ID	STREET ADDRESS	Comp. Qrtrs	99th Percentile	Cert& Eval	Comp. Qrtrs	99th Percentile	Cert& Eval	Comp. Qrtrs	99th Percentile	Cert& Eval	Design Value	Valid Ind.
15-003-4001	PALEHUA ROAD	4	61.8	Y	4	37.8	Y	4	54.7	Y	51	Y

Notes:
1. Computed design values are a snapshot of the data at the time the report was run (may not be all data for year).
2. Some PM2.5 24-hour DVs for incomplete data that are marked invalid here may be marked valid in the Official report due to additional analysis.
3. Annual Values not meeting completeness criteria are marked with an asterisk ('*').

Pollutant: Sulfur dioxide(42401)
Standard Units: Parts per billion(008)
NAAQS Standard: SO2 1-hour 2010
Statistic: Annual 99th Percentile **Level:** 75

Design Value Year: 2020

REPORT EXCLUDES MEASUREMENTS WITH REGIONALLY CONCURRED EVENT FLAGS.

State Name: Hawaii

		2020			2019			2018			3-Year	
Site ID	STREET ADDRESS	Comp. Qrtrs	99th Percentile	Cert& Eval	Comp. Qrtrs	99th Percentile	Cert& Eval	Comp. Qrtrs	99th Percentile	Cert& Eval	Design Value	Valid Ind.
15-003-4001	PALEHUA ROAD	4	57.1	Y	4	61.8	Y	4	37.8	Y	52	Y

Notes:
1. Computed design values are a snapshot of the data at the time the report was run (may not be all data for year).
2. Some PM2.5 24-hour DVs for incomplete data that are marked invalid here may be marked valid in the Official report due to additional analysis.
3. Annual Values not meeting completeness criteria are marked with an asterisk ('*').

Pollutant: Sulfur dioxide(42401)
Standard Units: Parts per billion(008)
NAAQS Standard: SO2 1-hour 2010
Statistic: Annual 99th Percentile **Level:** 75

Design Value Year: 2021

REPORT EXCLUDES MEASUREMENTS WITH REGIONALLY CONCURRED EVENT FLAGS.

State Name: Hawaii

		2021			2020			2019			3-Year	
Site ID	STREET ADDRESS	Comp. Qrtrs	99th Percentile	Cert& Eval	Comp. Qrtrs	99th Percentile	Cert& Eval	Comp. Qrtrs	99th Percentile	Cert& Eval	Design Value	Valid Ind.
15-003-4001	PALEHUA ROAD	4	44.1	N	4	57.1	Y	4	61.8	Y	54	Y

Notes:
1. Computed design values are a snapshot of the data at the time the report was run (may not be all data for year).
2. Some PM2.5 24-hour DVs for incomplete data that are marked invalid here may be marked valid in the Official report due to additional analysis.
3. Annual Values not meeting completeness criteria are marked with an asterisk ('*').

CERTIFICATION EVALUATION AND CONCURRENCE FLAG MEANINGS

FLAG	MEANING
M	The monitoring organization has revised data from this monitor since the most recent certification letter received from the state.
N	The certifying agency has submitted the certification letter and required summary reports, but the certifying agency and/or EPA has determined that issues regarding the quality of the ambient concentration data cannot be resolved due to data completeness, the lack of performed quality assurance checks or the results of uncertainty statistics shown in the AMP255 report or the certification and quality assurance report.
S	The certifying agency has submitted the certification letter and required summary reports. A value of "S" conveys no Regional assessment regarding data quality per se. This flag will remain until the Region provides an "N" or "Y" concurrence flag.
U	Uncertified. The certifying agency did not submit a required certification letter and summary reports for this monitor even though the due date has passed, or the state's certification letter specifically did not apply the certification to this monitor.
X	Certification is not required by 40 CFR 58.15 and no conditions apply to be the basis for assigning another flag value
Y	The certifying agency has submitted a certification letter, and EPA has no unresolved reservations about data quality (after reviewing the letter, the attached summary reports, the amount of quality assurance data submitted to AQS, the quality statistics, and the highest reported concentrations).

Notes: 1. Computed design values are a snapshot of the data at the time the report was run (may not be all data for year).
2. Some PM2.5 24-hour DVs for incomplete data that are marked invalid here may be marked valid in the Official report due to additional analysis.
3. Annual Values not meeting completeness criteria are marked with an asterisk ('*').

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

User ID: XGSWU

DATA COMPLETENESS REPORT

Report Request ID: 2176470 Report Code: AMP430 Mar. 28, 2024

GEOGRAPHIC SELECTIONS

Tribal Code	State	County	Site	Parameter	POC	City	AQCR	UAR	CBSA	CSA	EPA Region
	15	003	4001	42401							

PROTOCOL SELECTIONS

Parameter Classification	Parameter	Method	Duration
CRITERIA			

SELECTED OPTIONS

Option Type	Option Value
OZONE EVALUATION	SEASONAL-HOURLY
MERGE PDF FILES	YES
AGENCY ROLE	REPORTING

SORT ORDER

Order	Column
1	EPA_REGION
2	STATE_CODE
3	MONITOR_TYPE
4	COUNTY_CODE
5	SITE_ID
6	PARAMETER_CODE
7	POC

DATE CRITERIA

Start Date	End Date
2017 01	2017 12

APPLICABLE STANDARDS

Standard Description
CO 1-hour 1971
Lead 3-Month 2009
Lead 3-Month PM10 Surrogate 2009
NO2 Annual 1971
Ozone 1-hour 1979
PM10 24-hour 2006
PM25 Annual 2012
SO2 1-hour 2010

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
AIR QUALITY SYSTEM
DATA COMPLETENESS REPORT

Mar. 28, 2024

MONITORS NOT REPORTING

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
AIR QUALITY SYSTEM
DATA COMPLETENESS REPORT

Mar. 28, 2024

MONITORS REPORTING

DATE RANGE: JAN. 01, 2017 THRU DEC. 31, 2017
REGION: (09) SAN FRANCISCO
STATE: Hawaii
REP ORG: Hawaii State Department Of Health
MONITOR TYPE: SLAMS

SITE ID / CITY / ADDRESS	PARAMETER		POC	DURATION / METHOD	OBSERVATIONS NUMBER / PERCENT JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	YEAR
15-003-4001	42401	Sulfur dioxide	1	1	673	662	715	668	718	694	729	732	709	734	707	734	8475
				560	90%	99%	96%	93%	97%	96%	98%	98%	98%	99%	98%	99%	97%
PALEHUA ROAD																	
15-003-4001	42401	Sulfur dioxide	7	H	8162	7811	8551	8029	8536	8216	8649	8685	8396	8694	8368	8702	100799
				560	91%	97%	96%	93%	96%	95%	97%	97%	97%	97%	97%	97%	96%
PALEHUA ROAD																	

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
AIR QUALITY SYSTEM
DATA COMPLETENESS REPORT

Mar. 28, 2024

REPORT SUMMARY

DATE RANGE: JAN. 01, 2017 THRU DEC. 31, 2017
REGION: (09) SAN FRANCISCO
STATE: Hawaii
REP ORG: Hawaii State Department Of Health
MONITOR TYPE: SLAMS

PARAMETER	ACTIVE MONITORS	# NOT REPORTING	# MONITORS > 75%	MONITORS AVG COMPLETENESS
42401 Sulfur dioxide	2	0	2	96.5%
MT SUMMARY: SLAMS	2	0	2	96.5%
RO SUMMARY: Hawaii State Department Of Health	2	0	2	96.5%
STATE SUMMARY: Hawaii	2	0	2	96.5%
REGION SUMMARY: (09) SAN FRANCISCO	2	0	2	96.5%
REPORT SUMMARY:	2	0	2	96.5%

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

User ID: XGSWU

DATA COMPLETENESS REPORT

Report Request ID: 2176474 Report Code: AMP430 Mar. 28, 2024

GEOGRAPHIC SELECTIONS

Tribal Code	State	County	Site	Parameter	POC	City	AQCR	UAR	CBSA	CSA	EPA Region
	15	003	4001	42401							

PROTOCOL SELECTIONS

Parameter Classification	Parameter	Method	Duration
CRITERIA			

SELECTED OPTIONS

Option Type	Option Value
OZONE EVALUATION	SEASONAL-HOURLY
MERGE PDF FILES	YES
AGENCY ROLE	REPORTING

SORT ORDER

Order	Column
1	EPA_REGION
2	STATE_CODE
3	MONITOR_TYPE
4	COUNTY_CODE
5	SITE_ID
6	PARAMETER_CODE
7	POC

DATE CRITERIA

Start Date	End Date
2018 01	2018 12

APPLICABLE STANDARDS

Standard Description
CO 1-hour 1971
Lead 3-Month 2009
Lead 3-Month PM10 Surrogate 2009
NO2 Annual 1971
Ozone 1-hour 1979
PM10 24-hour 2006
PM25 Annual 2012
SO2 1-hour 2010

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
AIR QUALITY SYSTEM
DATA COMPLETENESS REPORT

Mar. 28, 2024

MONITORS NOT REPORTING

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
AIR QUALITY SYSTEM
DATA COMPLETENESS REPORT

Mar. 28, 2024

MONITORS REPORTING

DATE RANGE: JAN. 01, 2018 THRU DEC. 31, 2018
REGION: (09) SAN FRANCISCO
STATE: Hawaii
REP ORG: Hawaii State Department Of Health
MONITOR TYPE: SLAMS

SITE ID / CITY / ADDRESS	PARAMETER		POC	DURATION / METHOD	OBSERVATIONS NUMBER / PERCENT JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	YEAR
15-003-4001	42401	Sulfur dioxide	1	1	734	658	736	704	736	705	734	736	710	724	711	729	8617
				560	99%	98%	99%	98%	99%	98%	99%	99%	99%	97%	99%	98%	98%
PALEHUA ROAD																	
15-003-4001	42401	Sulfur dioxide	7	H	8624	7735	8649	8281	8649	8299	8626	8648	8347	8564	8355	8579	101356
				560	97%	96%	97%	96%	97%	96%	97%	97%	97%	96%	97%	96%	96%
PALEHUA ROAD																	

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
AIR QUALITY SYSTEM
DATA COMPLETENESS REPORT

Mar. 28, 2024

REPORT SUMMARY

DATE RANGE: JAN. 01, 2018 THRU DEC. 31, 2018
REGION: (09) SAN FRANCISCO
STATE: Hawaii
REP ORG: Hawaii State Department Of Health
MONITOR TYPE: SLAMS

PARAMETER	ACTIVE MONITORS	# NOT REPORTING	# MONITORS > 75%	MONITORS AVG COMPLETENESS
42401 Sulfur dioxide	2	0	2	97.0%
MT SUMMARY: SLAMS	2	0	2	97.0%
RO SUMMARY: Hawaii State Department Of Health	2	0	2	97.0%
STATE SUMMARY: Hawaii	2	0	2	97.0%
REGION SUMMARY: (09) SAN FRANCISCO	2	0	2	97.0%
REPORT SUMMARY:	2	0	2	97.0%

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

User ID: XGSWU

DATA COMPLETENESS REPORT

Report Request ID: 2176479 Report Code: AMP430 Mar. 28, 2024

GEOGRAPHIC SELECTIONS

Tribal Code	State	County	Site	Parameter	POC	City	AQCR	UAR	CBSA	CSA	EPA Region
	15	003	4001	42401							

PROTOCOL SELECTIONS

Parameter Classification	Parameter	Method	Duration
CRITERIA			

SELECTED OPTIONS

Option Type	Option Value
OZONE EVALUATION	SEASONAL-HOURLY
MERGE PDF FILES	YES
AGENCY ROLE	REPORTING

SORT ORDER

Order	Column
1	EPA_REGION
2	STATE_CODE
3	MONITOR_TYPE
4	COUNTY_CODE
5	SITE_ID
6	PARAMETER_CODE
7	POC

DATE CRITERIA

Start Date	End Date
2019 01	2019 12

APPLICABLE STANDARDS

Standard Description
CO 1-hour 1971
Lead 3-Month 2009
Lead 3-Month PM10 Surrogate 2009
NO2 Annual 1971
Ozone 1-hour 1979
PM10 24-hour 2006
PM25 Annual 2012
SO2 1-hour 2010

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
AIR QUALITY SYSTEM
DATA COMPLETENESS REPORT

Mar. 28, 2024

MONITORS NOT REPORTING

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
AIR QUALITY SYSTEM
DATA COMPLETENESS REPORT

Mar. 28, 2024

MONITORS REPORTING

DATE RANGE: JAN. 01, 2019 THRU DEC. 31, 2019
REGION: (09) SAN FRANCISCO
STATE: Hawaii
REP ORG: Hawaii State Department Of Health
MONITOR TYPE: SLAMS

SITE ID / CITY / ADDRESS	PARAMETER		POC	DURATION / METHOD	OBSERVATIONS NUMBER / PERCENT JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	YEAR
15-003-4001	42401	Sulfur dioxide	1	1	734	658	736	705	733	626	725	729	710	731	710	723	8520
				560	99%	98%	99%	98%	99%	87%	97%	98%	99%	98%	99%	97%	97%
PALEHUA ROAD																	
15-003-4001	42401	Sulfur dioxide	7	H	8636	7739	8650	8293	8633	7373	7504	8586	8350	8633	8353	8517	99267
				560	97%	96%	97%	96%	97%	85%	84%	96%	97%	97%	97%	95%	94%
PALEHUA ROAD																	

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
AIR QUALITY SYSTEM
DATA COMPLETENESS REPORT

Mar. 28, 2024

REPORT SUMMARY

DATE RANGE: JAN. 01, 2019 THRU DEC. 31, 2019
REGION: (09) SAN FRANCISCO
STATE: Hawaii
REP ORG: Hawaii State Department Of Health
MONITOR TYPE: SLAMS

PARAMETER	ACTIVE MONITORS	# NOT REPORTING	# MONITORS > 75%	MONITORS AVG COMPLETENESS
42401 Sulfur dioxide	2	0	2	95.5%
MT SUMMARY: SLAMS	2	0	2	95.5%
RO SUMMARY: Hawaii State Department Of Health	2	0	2	95.5%
STATE SUMMARY: Hawaii	2	0	2	95.5%
REGION SUMMARY: (09) SAN FRANCISCO	2	0	2	95.5%
REPORT SUMMARY:	2	0	2	95.5%

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

User ID: XGSWU

DATA COMPLETENESS REPORT

Report Request ID: 2176481 Report Code: AMP430 Mar. 28, 2024

GEOGRAPHIC SELECTIONS

Tribal Code	State	County	Site	Parameter	POC	City	AQCR	UAR	CBSA	CSA	EPA Region
	15	003	4001	42401							

PROTOCOL SELECTIONS

Parameter Classification	Parameter	Method	Duration
CRITERIA			

SELECTED OPTIONS

Option Type	Option Value
OZONE EVALUATION	SEASONAL-HOURLY
MERGE PDF FILES	YES
AGENCY ROLE	REPORTING

SORT ORDER

Order	Column
1	EPA_REGION
2	STATE_CODE
3	MONITOR_TYPE
4	COUNTY_CODE
5	SITE_ID
6	PARAMETER_CODE
7	POC

DATE CRITERIA

Start Date	End Date
2020 01	2020 12

APPLICABLE STANDARDS

Standard Description
CO 1-hour 1971
Lead 3-Month 2009
Lead 3-Month PM10 Surrogate 2009
NO2 Annual 1971
Ozone 1-hour 1979
PM10 24-hour 2006
PM25 Annual 2012
SO2 1-hour 2010

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
AIR QUALITY SYSTEM
DATA COMPLETENESS REPORT

Mar. 28, 2024

MONITORS NOT REPORTING

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
AIR QUALITY SYSTEM
DATA COMPLETENESS REPORT

Mar. 28, 2024

MONITORS REPORTING

DATE RANGE: JAN. 01, 2020 THRU DEC. 31, 2020
REGION: (09) SAN FRANCISCO
STATE: Hawaii
REP ORG: Hawaii State Department Of Health
MONITOR TYPE: SLAMS

SITE ID / CITY / ADDRESS	PARAMETER		POC	DURATION / METHOD	OBSERVATIONS NUMBER / PERCENT JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	YEAR
15-003-4001	42401	Sulfur dioxide	1	1	729	668	733	706	731	704	734	717	710	728	705	731	8596
				560	98%	96%	99%	98%	98%	98%	99%	96%	99%	98%	98%	98%	98%
PALEHUA ROAD																	
15-003-4001	42401	Sulfur dioxide	7	H	8596	7861	8633	8303	8619	8299	8635	8451	8354	8280	8298	8597	100926
				560	96%	94%	97%	96%	97%	96%	97%	95%	97%	93%	96%	96%	96%
PALEHUA ROAD																	

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
AIR QUALITY SYSTEM
DATA COMPLETENESS REPORT

Mar. 28, 2024

REPORT SUMMARY

DATE RANGE: JAN. 01, 2020 THRU DEC. 31, 2020
REGION: (09) SAN FRANCISCO
STATE: Hawaii
REP ORG: Hawaii State Department Of Health
MONITOR TYPE: SLAMS

PARAMETER	ACTIVE MONITORS	# NOT REPORTING	# MONITORS > 75%	MONITORS AVG COMPLETENESS
42401 Sulfur dioxide	2	0	2	97.0%
MT SUMMARY: SLAMS	2	0	2	97.0%
RO SUMMARY: Hawaii State Department Of Health	2	0	2	97.0%
STATE SUMMARY: Hawaii	2	0	2	97.0%
REGION SUMMARY: (09) SAN FRANCISCO	2	0	2	97.0%
REPORT SUMMARY:	2	0	2	97.0%

Appendix C

Request to Relocate the Naalehu (NA28) $PM_{2.5}$ SPMS Air Monitoring Station (150013028) to the Naalehu (NA33) SPMS Air Monitoring Station (150013033) – Package Submitted 4/2/2024

JOSH GREEN, M.D.
GOVERNOR OF HAWAI'I
KE KIA'ĀINA O KA MOKU'ĀINA 'O HAWAI'I

KENNETH S. FINK, MD, MGA, MPH
DIRECTOR OF HEALTH
KA LUNA HO'OKELE

STATE OF HAWAII
DEPARTMENT OF HEALTH
KA 'OIHANA OLAKINO
P.O. Box 3378
HONOLULU, HAWAII 96801-3378

In reply, please refer to:
File:
24-132M&A CAB

March 26, 2024

Ms. Dena Vallano, Ph.D.
Manager
Monitoring and Analysis Section (AIR 2-3)
U.S. EPA, Region 9
75 Hawthorne Street
San Francisco, California 94105

Dear Ms. Vallano:

SUBJECT: Request to Relocate the Naalehu (NA28) $PM_{2.5}$ SPMS Air Monitoring Station (150013028) to the Naalehu (NA33) SPMS Air Monitoring Station (150013033)

The State of Hawaii is requesting approval from the U.S. EPA to relocate the Naalehu (NA28) $PM_{2.5}$ SPMS Air Monitoring Station (150013028) to the Naalehu (NA33) SPMS Air Monitoring Station (150013033). According to 40 CFR 58.14(b), the state may request for relocation of a SLAMS station on a case-by-case basis if relocation requirements are met. Attached is the relocation request including justification and supporting information.

If there are any questions concerning the attached, please contact Ms. Lisa Young of my staff at (808) 586-4200.

Sincerely,

MARIANNE ROSSIO, P.E.
Manager, Clean Air Branch

LY/GW:rkb

Attachments

c: Julia Carlstad, Air Quality Analysis Office, U.S. EPA, Region 9

Request to Relocate the Naalehu (NA28) $PM_{2.5}$ SPMS Air Monitoring Station (150013028) to the Naalehu (NA33) SPMS Air Monitoring Station (150013033)

The State of Hawaii is requesting EPA approval to permanently relocate the $PM_{2.5}$ monitor that was operating at the Naalehu Fire Station (NA28) ambient air monitoring station (150013028) to the nearby Naalehu Elementary School (NA33) station (150013033). The NA28 temporary SPMS station began collecting $PM_{2.5}$ data in June 2018.

The main purpose of the station was to provide supplemental air quality monitoring on the south side of Hawaii Island due to the 2018 Kilauea volcano Lower East Rift Zone eruption. It began collecting data in June 2018.

Due to resource and budgetary considerations, and to streamline operations, a decision was made to relocate the $PM_{2.5}$ monitor to the elementary school, to the same location where an SO_2 monitor has been operating since September 6, 2018. The $PM_{2.5}$ monitor at the fire station was shut down on January 31, 2022, and was moved to the school location on December 5, 2022.

The NA28 station operated for more than three years and the data may be used for NAAQS comparison. According to 40 CFR 58.14(b), the state may request for relocation of a SLAMS station on a case-by-case basis if:

- the relocation does not compromise data collection needed for implementation of the NAAQS;
- relocating to a nearby location with the same scale of representation; and
- requirements of Appendix D to Part 58 continues to be met.

The State of Hawaii is in attainment for all NAAQS and therefore, NA28 is not specifically required for any attainment, non-attainment, or maintenance plan.

Support information for similar scale of representation is provided in Attachment 1, with the most current detailed site descriptions for the respective stations included. As seen in Figure 1 below, the elementary school is approximately 0.5 miles to the east of the fire station, in similar terrain with the same scale of representation.

Figure 1. Naalehu Monitoring Stations

Hawaii Island is not a part of a Metropolitan Statistical Area and therefore is not required to have any $PM_{2.5}$ monitors. Relocating the NA28 air monitoring station will not affect compliance with the requirements of 40 CFR Part 58 Appendix D, "Network Design Criteria for Ambient Air Quality Monitoring," as the number of $PM_{2.5}$ monitors in the network will remain the same.

The NA28 station meets the requirements of 40 CFR 58.14(b) for relocation. The State of Hawaii is requesting approval from EPA to permanently relocate this station.

Attachment 1

Detailed Site Descriptions

NA28 Naalehu Temporary $PM_{2.5}$ (150013028) and NA33 Naalehu (150013033)

(NA28) NAALEHU – Temporary $PM_{2.5}$			
AQS: 150013028	Type: SPMS	County: Hawaii	MSA: Not in a MSA
Address: Naalehu Volunteer Fire Station, Kaalaiki Road, Naalehu, HI 96772			
Latitude: 19.061379	Longitude: -155.586748		Elevation: 207.9 m MSL
Location Description: This station is located at the Naalehu Volunteer Fire Station. During normal trade-winds, volcanic emissions are carried into this rural community. This station has been operating since June 19, 2018, monitoring for $PM_{2.5}$ and will need to relocate to the final selected long-term site. Relocation is to be completed at a date to be determined.			

NA TRAFFIC DESCRIPTION		
Type of Roadway	Kaalaiki Road	Mamalahoa Highway
Freeway		
Major Street or Highway		X
Local Street or Road	X	
Distance from air intake (m)	48	90
Direction from air inlet	E	S
Composition of roadway	asphalt	Asphalt
Number of traffic lanes	2	2
Average daily traffic	< 500 [1]	3,700 [2]
Average vehicle speed (est. mph)	25	25
Traffic one way or two	2	2
Street parking?	Yes	No
[1] Estimated only, local traffic only. [2] Source: State of Hawaii Department of Transportation (2016 count).		

For "Site Representativeness" in the following table:

[1]Site Types:
1) located to determine the highest concentrations;
2) located to measure typical concentrations in areas of high population density;
3) located to determine the impact of significant sources or source categories on air quality;
4) located to determine general background concentration levels;
5) located to determine extent of regional pollutant transport among populated areas and in support of secondary standards;
6) located to measure air pollution impacts on visibility, vegetation damage, or other welfare-based impacts.

[2] Purposes:
1) Provide air pollution data to the general public in a timely manner;
2) Support compliance with ambient air quality standards;
3) Support emissions strategy development and track trends in air pollution abatement control measures;
4) Support for air pollution research.

(NA28) Naalehu – Temporary $PM_{2.5}$ continued

NA28 MONITOR INFORMATION (N/A = Not Applicable)	
	$PM_{2.5}$
POC/FRM or FEM	1/FEM
Type of Monitor	SPMS
AQS parameter code	88101
Manufacturer	Met One
Model No.	BAM1022
AQS method code	209
Monitoring start date	6/19/2018
Monitoring frequency	Continuous
Probe material	N/A
Residence time (sec)	N/A
Distance between co-located monitors	N/A
Analytical laboratory	N/A
Location of probe	stand-alone shelter on ground
Shelter dimensions (H x W x D) (m)	N/A
Horizontal distance from supporting structure (m)	N/A
Vertical distance above supporting structure (m)	2.1
Height of probe above ground (m)	2.1
Distance (m) & direction from drip line of tree(s)	16.8 SW
Horizontal distance from edge of nearest traffic lane (m)	48
Horizontal distance from nearest parking lot (m)	51
Distance (m) & direction from obstructions on roof, vertical height above probe (m)	N/A
Distance (m) & direction from possible obstructions not on roof, vertical height (m)	N/A
Distance (m) & direction from furnace or incineration flues	N/A
Unrestricted airflow	180°
Located in paved (P) or vegetative (V) ground?	P/V
SITE REPRESENTATIVENESS	
Spatial scale	Neighborhood
Applicable NAAQS averaging time(s)	24-hr, annual
Sampling season	12 months
Site type[1]	3
Purpose of Monitor[2]	1, 2, 4
Suitable for comparison against the annual $PM_{2.5}$ NAAQS?	N
DATA QUALITY	
Last PEP	Not Done
Last NPAP	N/A
Date of last annual independent performance audit (CAB)	N/A
Frequency of flow rate verification (automated PM)	Monthly
Frequency of flow rate verification (manual $PM_{2.5}$)	N/A
Dates of last 2 semi-annual flow rate audits (PM)	4/30/20, 12/4/20
Frequency of 1-point flow rate verification (Pb)	N/A
Dates of last 2 semi-annual flow rate audits (Pb)	N/A
Precision & accuracy submitted to AQS	Quarterly
Frequency of 1-pt. QC check (gases)	N/A
Frequency of multi-point gas calibration	N/A
Annual data certification submitted	5/1/21
Changes in the next 18 months?	Relocation

(NA33) NAALEHU			
AQS: 150013033	Type: SPMS	County: Hawaii	MSA: Not in an MSA
Address: Naalehu Elementary School, 95-5547 Mamalahoa Highway., Naalehu, HI 96772			
Latitude: 19.060656	Longitude: -155.579167		Elevation: 196.3 m MSL
Location Description: This station is located at the USGS Seismograph building on the campus of Naalehu Elementary School. The SO_2 monitor has been operating since September 6, 2018. A $PM_{2.5}$ sampler was relocated to the station on December 2, 2022.			

NA TRAFFIC DESCRIPTION	
Type of Roadway	Mamalahoa HIghway
Freeway	
Major Street or Highway	X
Local Street or Road	
Distance from air intake (m)	180
Direction from air inlet	N
Composition of roadway	asphalt
Number of traffic lanes	2
Average daily traffic	3,700 [1]
Average vehicle speed (est. mph)	25
Traffic one way or two	2
Street parking?	No
[1] Source: State of Hawaii Department of Transportation (2016 count)	

For "Site Representativeness" in the following table:

[1]Site Types:
1) located to determine the highest concentrations;
2) located to measure typical concentrations in areas of high population density;
3) located to determine the impact of significant sources or source categories on air quality;
4) located to determine general background concentration levels;
5) located to determine extent of regional pollutant transport among populated areas and in support of secondary standards;
6) located to measure air pollution impacts on visibility, vegetation damage, or other welfare-based impacts.

[2] Purposes:
1) Provide air pollution data to the general public in a timely manner;
2) Support compliance with ambient air quality standards;
3) Support emissions strategy development and track trends in air pollution abatement control measures;
4) Support for air pollution research.

(NA33) Naalehu continued

NA33 MONITOR INFORMATION (N/A = Not Applicable)		
	SO_2	$PM_{2.5}$
POC/FRM or FEM	1/FEM	1/FEM
Type of monitor	SPMS	SPMS
AQS parameter code	42401	88101
Manufacturer	TECO	Met One
Model no.	43iQ	BAM1022
AQS method code	060	209
Monitoring start date	9/6/2018	12/2/2022
Monitoring frequency	Continuous	Continuous
Probe material	Teflon	N/A
Residence time (sec)	11.0	N/A
Distance between collocated monitors	N/A	N/A
Analytical laboratory	N/A	N/A
Location of probe	building wall	stand-alone shelter on ground
Shelter dimensions (H x W x D) (m)	2.4 x 3.7 x 3.1	N/A
Horizontal distance from supporting structure (m)	1	N/A
Vertical distance above supporting structure (m)	N/A	2.2
Height of probe above ground (m)	1.9	2.2
Distance (m) & direction from drip line of tree(s)	20 NW	20 NW
Horizontal distance from edge of nearest traffic lane (m)	114	114
Horizontal distance from nearest parking lot (m)	114	114
Distance (m) & direction from obstructions on roof, vertical height above probe (m)	N/A	N/A
Distance (m) & direction from possible obstructions not on roof, vertical height (m)	N/A	1 E/2.4
Distance (m) & direction from furnace or incineration flues	N/A	N/A
Unrestricted airflow	180°	360°
Located in paved (P) or vegetative (V) ground?	V	V
SITE REPRESENTATIVENESS		
Spatial scale	Neighborhood	Neighborhood
Applicable NAAQS averaging time(s)	1-hr, 3-hr; annual	24-hr, annual
Sampling season	12 months	12 months
Site type[1]	3	3
Purpose of monitor[2]	1, 2, 4	1, 2, 4
Suitable for comparison against the annual $PM_{2.5}$ NAAQS?	N/A	N
DATA QUALITY		
Last PEP	N/A	N/A
Last NPAP	Not Done	N/A
Date of last annual independent performance audit (CAB)	5/25/22	N/A
Frequency of flow rate verification (automated PM)	N/A	Monthly
Frequency of flow rate verification (manual $PM_{2.5}$)	N/A	N/A
Dates of last 2 semi-annual flow rate audits (PM)	N/A	12/7/22
Frequency of 1-point flow rate verification (Pb)	N/A	N/A
Dates of last 2 semi-annual flow rate audits (Pb)	N/A	N/A
Precision & accuracy submitted to AQS	Quarterly	Quarterly
Frequency of 1-pt. QC check (gases)	Weekly	N/A
Frequency of multi-point gas calibration	6 months	N/A
Annual data certification submitted	5/1/23	5/1/23
Changes in the next 18 months?	None	None