

# Great Basin Unified Air Pollution Control District

## AB 617 Grant Report Community Air Protection Program

### Annual Grant Report for G18-CAPP-11

Fiscal Grant Term 2019-2021 Grant  
Fiscal Year 18/19

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## **1.0 District's AB617 Annual Report – 2019-2021 Grant**

As described in the Community Air Protection Blueprint (October 2018), the Great Basin Unified Air Pollution Control District's (District) goal for the program is to conduct community-level air quality monitoring, especially in those communities where little or no air quality monitoring has been conducted in the past. The District, though low in population density (2 persons/square mile), nonetheless has concerns that the air pollution impacts to those rural communities need to be evaluated. The AB617 program grant award has provided the resources to address this need. This document constitutes the District's first annual report for the 2019-2021 grant covering from February to December 2019. The steps taken during this period while implementing the program are described in detail below.

## **2.0 Background**

In 2018, the District outlined a community monitoring program. The first step in the process of designing the monitoring portion of the community air protection program involved the identification of communities by District staff in which monitoring would be conducted. The next step was the development of a set of criteria that would be used to determine when monitoring would be conducted in a given community. The District developed a ranking system, based on the criteria, to aid in the decision-making process for monitor deployment. Communities identified as the highest priority were ranked as Tier 1 locations. The criteria developed by the District to aid in ranking the communities for monitor deployment are as follows:

- a) What communities have had little or no monitoring in the surrounding area?
- b) What communities have experienced the highest particulate matter (PM) impacts either from windblown dust and/or from wildfires?
- c) What communities have expressed concerns about those impacts?
- d) What communities have a public space, e.g., school, day-care center, fire station, where a PM monitor could be installed?
- e) What communities/public spaces have consistent line power and internet service for the PM monitor?
- f) What communities/public spaces are receptive to such an installation?

In 2018, the District deployed Purple Air PA-II PM sensors in the following community locations based on the District's criteria:

1. Benton, Mono County
2. Big Pine, Inyo County
3. Bishop, Inyo County
4. Markleeville, Alpine County
5. Woodfords, Alpine County

The Purple Air PA-II-SD sensors, which contain an SD card, were procured by the District for installation at existing District PM monitoring stations to use as quality control check sensors for the community monitoring network. Some of these locations are also within communities and provide additional data to permanent monitoring stations. These sensors have been deployed at the following sites:

1. Bishop/NCORE Monitoring Station, White Mountain Research Center, Inyo County
2. Keeler Monitoring Station, Keeler, Inyo County
3. Lee Vining Monitoring Station, Lee Vining, Mono County
4. Mammoth Monitoring Station, Mammoth Lakes, Mono County

### **3.0 Summary of Work Completed and Work in Progress**

From February 2019- December 2019 the following tasks associated with the Community Monitoring program were completed or work was started.

- **Communication and Public Outreach**

In 2018, District staff developed a webpage specific to the Community Air Protection Program and the District's use of low-cost sensors. The page provides an explanation of the purpose and limitations of low-cost sensors. Additionally, it has a link to all sensor data within the District boundaries. In 2019, District staff have shared this resource at Governing Board meetings, with other agencies' public information officers, and interested members of the public. Additionally, the sensor data are used in conjunction with permanent and portable District monitors and other resources for health advisories and in providing real time data to the public. District staff continues to work on a routine basis to ensure this webpage is up to date and that all of the District's sensors are active and reporting data.

- **Sensor Maintenance**

In 2019, several sensors required replacement or maintenance. Issues have ranged from complete failure, to divergence of sensor channels to connection and reporting issues. District staff was responsive to identifying and resolving all issues in 2019 to ensure the community monitors were active.

- **Development of Zero Air Test Kit and Quality Assurance Work**

District monitoring staff developed, tested and implemented a Zero Air Test Kit for use with the Purple Air sensors in response to issues with the divergence of the sensor channels from each other and after subsequent discussions with Air Quality researcher Jim Ouimette. The Test Kit allows for a basic level of quality assurance verification before sensor deployment or in responses to observed divergences in the channels within each sensor. Several sensors that displayed issues were tested and under zero air conditions still displayed a divergence in concentrations between channels and were then returned to the manufacturer. In the future, all sensors to be deployed will be tested prior to installation to ensure that the sensors to be deployed in community locations are ready to provide reliable data. Additional work has also occurred in 2019 to compare the low cost sensor data to the data collected from the District's FRM/FEM monitors.

- **Additional Monitoring Locations**

Staff identified additional communities where monitors have not yet been deployed that may be suitable candidates. More planning to develop plans and timelines will occur in the Spring of 2020, with additional sensor deployments occurring shortly thereafter.

#### 4.0 Program Costs February - December 2019

This document covers the time period from grant execution, February 2019, to December 2019. A grant disbursement request form is being submitted along with this report.

Task	Staff Time Worked (Feb- Dec 2019)	Cost
Staff hours (billed at \$72.6423 per hour for all staff) <ul style="list-style-type: none"> <li>• Sensor equipment and site maintenance</li> <li>• Development, Testing and Implementation of Zero Air test kit</li> <li>• Data management, analysis and FRM/FEM comparison</li> <li>• Website Updates/Revisions</li> <li>• Planning Meetings</li> </ul>	47	\$3414.19
Additional Expenses (Mounting equipment, installation materials, Zero air Test kit, Travel) etc.	n/a	\$ 300.15
Total Cost Performed by District for this period	--	\$3,714.34
<b>Invoiced to CARB</b>	--	<b>\$3,714.34</b>

The 2019-2021 grant has funds for \$36,994.00. This will be the first disbursement request. Following disbursement there will be \$33,279.66 remaining in the grant funds.