BENICIA AIR MONITORING AND IMPROVEMENTS TO COMMUNITY EMERGENCY NOTIFICATIONS

Josh Chadwick
Fire Chief
January 5, 2021

PURPOSE

To provide an update on the status of improvements to...

Benicia Air Monitoring

Community Emergency Notifications

BENICIA AIR MONITORING

- **Access has vastly improved over the last few years**
  - ➢ New State and Regional regulations
  - ➢ Amendment Valero/Good Neighbor Steering Committee Agreement
  - ➢ City of Benicia – Valero Cooperation Agreement

- **Over the next 12 to 24 months**
  - ➢ Even more air monitoring data will become available
  - ➢ 4 new components to the current network of monitors

Benicia Air Monitoring - Prior to 2018

- **Limited access to quality, real time air data**

- **Many monitors throughout Valero (Stacks, Ground Level, Personal)**
  - ➤ Residents had no real-time access to these measurements
  - ➤ The data was used by Valero and regulatory agencies
  - ➤ Would become publicly available in historical reports
  - ➤ Did not provide real time data to the community

- **Community members requested real time measurements**

Benicia Air Monitoring - 2018 to Present

- **For the last 2 years, residents have had access to real-time air data**

  ➢ Fenceline monitors installed in 2018
    - Started with BAAQMD's Regulation 12, Rule 15
    - Through separate agreements with the City, Valero implemented ahead of regulatory requirements

  ➢ Three pre-existing ground level monitors integrated

  ➢ Public website developed with live data from the monitors

Benicia Air Monitoring - 2018 to Present

- **The Benicia Fire Department now deploys multiple highly sensitive portable gas and vapor detection monitors**

  ➤ Provided as a component of the City of Benicia – Valero Cooperation Agreement

  ➤ Fire Department staff trained to evaluate readings and make determinations of potential threats to the community

Benicia Air Monitoring
Over the Next 12 to 24 Months

Additions and Improvements coming to the current network

1. BCAMP Community Air Monitor

2. BAAQMD Community Air Monitor

3. H2S Open Path Technology

4. Path-4 to Valero's Open Path Fenceline Monitors

#1
BCAMP Community Air Monitor

BCAMP - Background

Benicia Community Air Monitoring Program (BCAMP) will install a Community Air Monitor

Included in the Second Amendment Valero/Good Neighbor Steering Committee Agreement
- Valero agreed to provide $460,000 to BCAMP
- Valero agreed to give BCAMP existing air monitoring instrumentation and trailer

**#1
BCAMP
Community Air
Monitor**

BCAMP – Progress

- Became incorporated
- Formed a Board of Directors
- Developed bylaws
- Received nonprofit 501(c)(3) designation
- Initiated hiring of air-monitoring contractor
- Secured permanent location on Bayshore Road
- Upgraded monitors and weather equipment
- Purchased solar panels and batteries
- Installed new meter for backup power

#1
BCAMP
Community Air Monitor

BCAMP – Goal

Measure the concentration of gases typically found in urban air

Major Sources	Components Monitored
• Automobiles	• Sulfur Dioxide
• Ships	• Benzene
• Trains	• Toluene
• Port of Benicia	• Ethylbenzene
• Refineries	• Xylene
• Industrial sites	• Black Carbon
• Brackish wetlands	• Ozone
	• VOCs
	• PM2.5

BCAMP – Timeline

**#1
BCAMP
Community Air
Monitor**

BCAMP is unable to provide a specific date, but expects the station will be operational and and the website will be functional for public use sometime in 2021

#2

BAAQMD Community Air Monitor

BAY AREA AIR QUALITY MANAGEMENT DISTRICT

A HEALTHY BREATHING ENVIRONMENT FOR EVERY BAY AREA RESIDENT

Bay Area Air Quality Management District (BAAQMD) will install a Community Air Monitor

- **April 27, 2020 Meeting**
  - City Staff, Air District and, School District
  - BAAQMD recommended Robert Semple
  - The School District expressed concerns

- **July 28, 2020 Meeting**
  - The School District discussed site issues
    - student safety, access, existing plans
  - City Fire Chief suggested BAAQMD consider City-owned properties

#2
BAAQMD Community
Air Monitor (cont.)

BAY AREA AIR QUALITY
MANAGEMENT DISTRICT

A HEALTHY BREATHING ENVIRONMENT FOR EVERY BAY AREA RESIDENT

- **August 20, 2020 Meeting**
  - Fire Chief and BAAQMD staff
  - Discussed BAAQMD site requirements
  - Fire Department staff obtained a list of 29 potential City-owned properties

- **September 1, 2020 Meeting**
  - Fire staff provided BAAQMD a property list including maps, security info, access to power, surrounding obstructions, and elevation

- **November 2nd and 3rd**
  - Fire Department staff provided site visits of all 29 properties

#2
BAAQMD Community
Air Monitor (cont.)

BAY AREA AIR QUALITY
MANAGEMENT DISTRICT

A HEALTHY BREATHING ENVIRONMENT FOR EVERY BAY AREA RESIDENT

Next Steps

- BAAQMD is currently analyzing the site information

- Upon completion, BAAQMD will present the City with a refined list of sites

- BAAQMD will host a public meeting to present their recommendation(s)

- Once the location is selected, BAAQMD will begin installing the system

#3
Addition of H2S Open Path Technology

Valero to incorporate Hydrogen Sulfide (H2S) at their fenceline monitoring system

- Regulation 12, Rule 15 included a requirement for fenceline air monitoring

- It also set H2S detection at extremely low limits

- Valero agreed to install their fenceline monitors ahead of regulatory requirements

- Open path H2S monitoring technology of such low detection limits has not yet been fully developed

#3
Addition of H2S Open Path Technology

- **BAAQMD has acknowledged the complex challenges of open path H2S air monitoring**

- **BAAQMD has extended the implementation date for this system on eight occasions**

- **All eight extension letters state...**
  "The District anticipates that a method for open path monitoring of H2S will be validated in the next few months."

- **The most recent letter extends the required operation date to December 21, 2021.**

**#3
Addition of H2S Open Path Technology**

According to BAAQMD staff, H2S open path technology is in the final trial stage by a manufacturer. If successful, the technology will be available to Bay Area refineries in 2021.

While open path fenceline H2S technology is catching up, it is important to remember the community currently has access to ground level H2S monitors. Additionally, there are hundreds of additional H2S monitors in the refinery and Valero is required to notify they City of hazardous releases.

#4   Addition of Path-4 to Valero's Open Path Fenceline Air Monitors

Valero to add fenceline monitoring along northwest border

- Valero completed installation of BAAQMD-approved fenceline air monitors in 2018

- This gave Benicia important new access to air monitoring data

- There was concern that, due to a wind analysis, the approved plan left the northwest border of Valero unmonitored

#4   Addition of Path-4 to Valero's Open Path Fenceline Air Monitors

Second Amendment to the Valero/Good Neighbor Steering Committee Agreement included language that…

➢ Valero would expand fenceline monitoring to address the northwest boundary

- This section has been dubbed, "Path-4."

- Valero estimated the expenditure for this expansion to be $1.5 million

#4 Addition of Path-4 to Valero's Open Path Fenceline Air Monitors

- Construction of Path-4 is delayed awaiting the manufacturer's completion of open path H2S technology

- BAAQMD expects a method for open path monitoring of H2S to be available in early 2021

- Once finalized, Valero anticipates beginning construction of Path-4

Community Notifications Background

- Access to air monitoring data is informative, but does not alone directly improve the safety of our community

- Timely notifications are needed to communicate potential acute hazards in our air

- Benicia's system of emergency notifications has also improved in recent years

- The Benicia Fire Department has implemented numerous platforms to keep the public informed and plans to expand the program even further

21
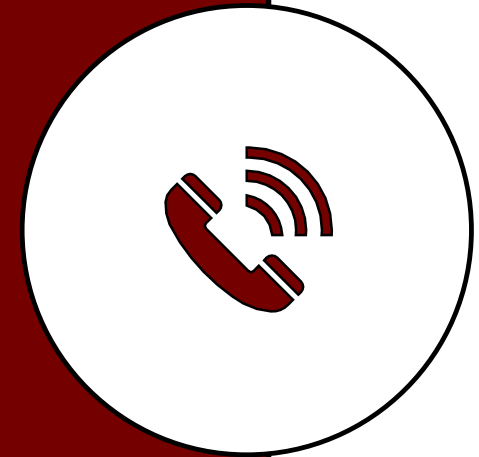
Community Notifications History of Alerts in Benicia

- Much like the City's strides in air monitoring capability, critical emergency notifications have also advanced in recent years

- Originally, Benicia emergency officials had few options to provide emergency notifications to the community
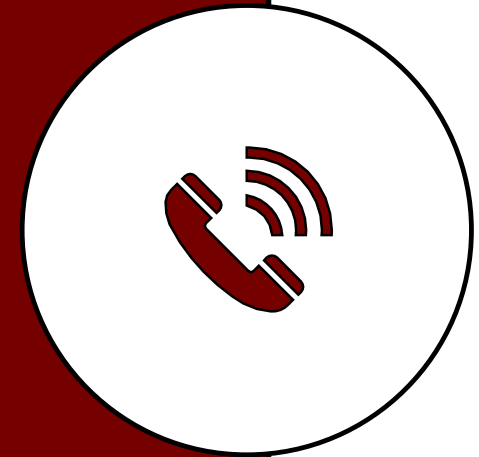
Community Notifications
# 2001 – Siren System Installed

- 7 large sirens strategically placed throughout the community

- Activated when emergency officials needed to communicate critical information

- Residents were taught to tune in to an AM radio or local TV for instructions

- The system had challenges
  - Not everyone could hear the sirens from inside their homes
  - Complications updating radio and TV messages
  - Power failure issues
  - No information to anyone away from their TV or radio

23

Community Notifications
2016 – Everbridge Implementation

- Fire Dept. partnered with Everbridge to create AlertBenicia

- Enabled emergency officials to send detailed messages and instructions to targeted areas

- Allowed the community to register for emergency alerts
  - mobile phone
  - land line phone
  - SMS text
  - Email
  - Everbridge app
  - TTY / TTD devices

- Wireless Emergency Alerts (WEA)
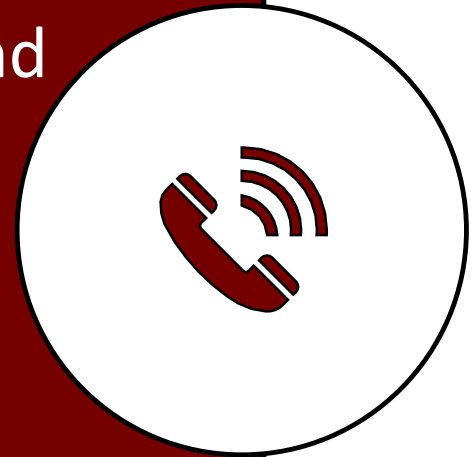
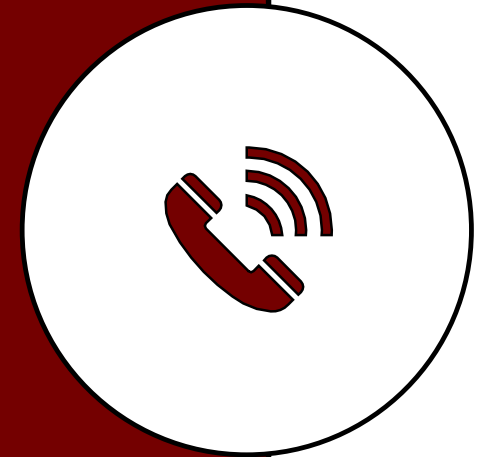# Community Notifications Everbridge (cont.)

- AlertBenicia system launched in September 2016

- In 2018, Solano County adopted Benicia's Everbridge system

- AlertBenicia transitioned to AlertSolano

- As of December 2020, there are 19,991 contacts in Benicia who receive AlertSolano notifications
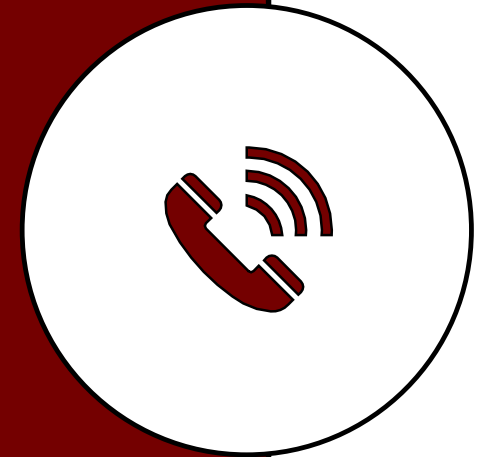
Community Notifications
Social Media

- Social media has become a prevalent tool for sharing information

- The City has developed social media accounts to disseminate emergency and non-emergency information
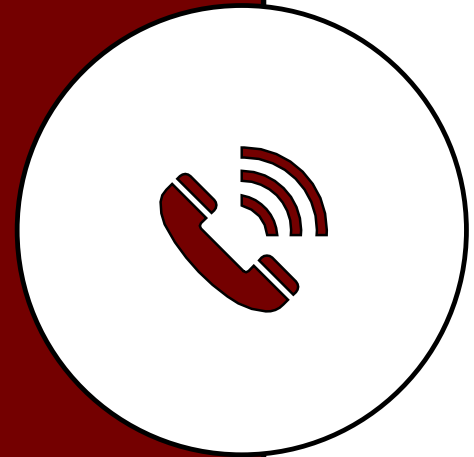
Community Notification Challenges

- Balance
  - ➤ Keeping the public informed
  - ➤ Overwhelming with too many notifications
- Most citizens want to know if there is a safety concern
- Others want to be informed about every incident
- Emergency officials must remain cognizant of sending so many messages that the public begins to tune them out

Community Notification Standard Practice

- Fire Department performs a risk analysis

- Issue alerts when there is a threat to public safety

- Some community members request alerts for all situations
  - Regardless of the risk analysis

- New non-emergency notification system
  - Sign up to receive emails or texts
  - www.ci.benicia.ca.us/publicinfobank

- Will post emergency and non-emergency situations on social media

Community Notifications Improvements in 2021

- Enhancement to Public Information Annex of the City Emergency Operation Plan
- Standardization of issuing community alerts
  - Establish trigger points for common compounds
  - Alerts based on established parameters
- Benicia experienced significant impacts from wildfire smoke
  - To standardize notifications and recommended actions, staff developed a "Wildfire Smoke – Air Quality Annex"
  - Fire Department will develop a similar document for air hazards caused by situations other than wildfire smoke

NEXT STEPS

Monitor progress made by BCAMP, BAAQMD, and Valero to improve air monitoring

Improve the quality of community notifications

Incorporate Air Quality Annexes into the City's Emergency Operations Plan

QUESTIONS