



Emergency Response Management Committee

Accomplishments Report for 2015

MEMBER AGENCIES

California Environmental Protection Agency

Air Resources Board

Department of Pesticide Regulation

Department of Resources Recycling & Recovery

Department of Toxic Substances Control

Office of Environmental Health Hazard Assessment

State Water Resources Control Board



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I. INTRODUCTION

California Environmental Protection Agency (CalEPA) Emergency Response and Management Committee (ERMaC) coordinates preparedness for responses to environmental emergencies in California under assigned statutory authorities. ERMaC is comprised of appointed representatives and alternates from each board, department and office (BDO) and is chaired by the Assistant Secretary for Emergency Response appointed by the Agency Secretary. ERMaC members have authority, within respective BDOs to activate and direct resources and personnel to affect timely and appropriate response to disasters and large-scale emergencies.

CalEPA complies with the National Incident Management System (NIMS) for emergency preparedness and operates as a state agency with specific jurisdiction under the Standardized Emergency Management System (SEMS), as coordinated by California Office of Emergency Services (CalOES).

ERMaC's mission is to manage environmental health consequences of emergency events through effective, coordinated agency-wide preparedness, response, recovery, and mitigation activities. ERMaC is responsible for emergency planning and training and coordinates all CalEPA entities in emergency preparedness, response, and recovery actions. It serves as the forum for developing and maintaining the CalEPA collective Administrative Orders and emergency response plans.

ERMaC is also responsible for the California Hazardous Materials and Oil Emergency Function Annex 10 (EF-10). The EF-10 Annex is a planning-specific addendum to the California State Emergency Plan (SEP) that establishes CalEPA as the lead for the organization, scope, and coordination of emergency management activities of the stakeholders and partners in an environmental disaster involving a large-scale oil and/or hazardous materials incident.

The EF-10 Annex provides for a coordinated response from agencies and governmental entities with jurisdictional and regulatory authority to conduct all phases of emergency management in the response to and recovery from a release of oil or hazardous materials. The primary and supporting agencies named in the EF-10 Annex work together within their respective authorities to effectively and efficiently mitigate, as well as prepare for, respond to, and recover from emergencies involving the release of oil and/or hazardous materials. As the EF-10 lead, CalEPA also closely coordinates with other EF leads in the face of all-hazards incidents. CalEPA recognizes that all-hazards incidents can quickly involve other EFs, such as EF-8 (Public Health and Medical Emergency Function Annex 8), which includes drinking water incidents.

II. INCIDENT RESPONSE & RECOVERY ACTIONS

A. Select 2015 Incident Response and Recovery Actions

Incident Name: **Refugio Beach Oil Spill, Santa Barbara (June 2015)**

On May 19, 2015, a 24-inch pipeline ruptured on the north side of Highway 101 near Refugio State Beach in Santa Barbara County, California. An estimated 21,000 gallons



of Outer Continental Shelf (OCS) Las Flores crude oil drained under Highway 101 and into the Pacific Ocean. Office of Environmental Health Hazard Assessment (OEHHA) recommended a fishing and shellfish harvesting closure for a coastal area near the spill to California Department of Fish and Wildlife (CDFW). OEHHA and CDFW's Office of Spill Prevention and Response (OSPR) staff developed a sampling and

analysis plan to establish the degree and geographic extent of the seafood contamination. A variety of finfish and invertebrate species, as well as kelp, were collected from the closure area on multiple occasions in order to inform fisheries closure decisions. The closure was lifted when contaminant levels were determined to be lower than the Level of Concern (LOC). Following a recommendation from OEHHA, CDFW lifted the existing closure area on June 29, 2015.

Air Resources Board (ARB) provided two "ppbRAE" handheld gas analyzers to Santa Barbara County Air Pollution Control District for monitoring hydrocarbon levels in communities downwind of the pipeline leak site. These analyzers were in service for the duration of the clean-up project.



Incident Name: **Shasta County Vehicle Accident- Pesticide Spill (June 2015)**

On June 11, 2015 Department of Pesticide Regulation (DPR) responded to the California State Warning Center Hazardous Spill Report Control Number 15-3282. This incident involved a vehicle that went into an active creek with water flow (Clear Creek) and the spill report indicated that the vehicle had chemicals on-board that are used to grow marijuana along with the usual petroleum products. The driver was not injured at the time of the accident. According to the spill report, he was in-route to a marijuana

growing site in Shasta County. DPR contacted the California Highway Patrol (CHP) office in Redding for more information. CHP informed DPR that they observed several one liter soda bottles in the cab of the vehicle, sealed and unbroken, and could not determine if they were pesticides. CHP observed a “sheen” in the creek, and informed DPR that this may have been antifreeze from the vehicle’s radiator, which received major damage in the crash. Shasta County Environmental Health and California Department of Fish and Wildlife (CDFW) responded to the accident site. DPR contacted Shasta County Agricultural Commissioner (CAC) to inform them of the accident and to request a follow up to determine if pesticides were in the vehicle. The Shasta County Agricultural Commissioner went to the tow yard where the vehicle was located after being retrieved from Clear Creek. The CAC informed DPR that the contents of the one liter soda bottles were ‘Tiki’ Torch fuel and the bottles were intact. Additionally, the CAC found one intact bottle of 50:1 fuel mix and several full bottles of drinking water. There were no pesticides found on the vehicle by the CAC. The Redding Office of the CHP was notified of the CAC findings.

Incident Name: Arvin Gas Leak (January-June 2015)

After a buried pipe with an oil well production gas leak forced an evacuation of residents in 2014, Kern County Environmental Health requested assistance from OEHHA Emergency Response to interpret the air and soil vapor monitoring results for several homes in Arvin, CA. OEHHA also provided cleanup recommendations, toxicological information on chemicals of concern, and residential screening levels. OEHHA emergency response team staff continued to work on the Arvin Gas Leak incident in 2015. Residents were allowed to return to their homes in late December of 2014 after remediation was completed. Further rebound testing was performed in 2015 to assure the homes were safe. OEHHA reviewed the soil vapor extraction system rebound assessment interim report. The rebound testing was performed on the homes previously contaminated by the gas leak. The soil vapor extraction system (SVE) results indicated that a closure plan could be submitted and the monitoring system dismantled.

Incident Name: Soil Removal in Mecca (June-July 2015)

Department of Toxic Substances Control (DTSC) Emergency Response staff oversaw the removal of several hundred yards of soil contaminated with copper, chromium, and arsenic from an abandoned vineyard near the town of Mecca. The soil was contaminated as a result of a large brush fire that destroyed several hundred grape stakes that were treated with copper-chromated arsenic. Riverside County

Environmental Health requested DTSC assistance based on their concern that contaminated soil would migrate to residential properties located near the vineyard. Due to the high temperatures in Mecca that time of year, removal activities began at midnight and concluded near sunrise each day. The response action was completed in two weeks. During the response action there were representatives from South Coast Air Quality Management District (SCAQMD) on-site to ensure that dust suppression measures were adequate to prevent off-site migration. Riverside County Environmental Health Department representatives were also on-site periodically as well.

Incident Name: Recommendations for Remediation of Contaminated Sites (March & July 2015)

OEHHA consulted with Kern County Environmental Health on a cleanup of volatile organic compounds (VOCs), specifically naphthalene, at a contaminated site in Kern County in March 2015. The contamination was discovered during excavation of a planned development project. OEHHA reviewed the data and compared them to soil-gas screening numbers and toxicological and health information to advise on remediation of the site.

OEHHA also consulted with Kern County Environmental Health for a contaminated site in Bakersfield in July 2015. OEHHA reviewed the vapor intrusion sampling data and compared them to soil gas screening numbers and health guidance values and provided recommendations.

Incident Name: Yuba County Mercury Spill (July 2015)

DTSC and California Department of Public Health (CDPH) responded to a request from the Yuba County Health Office regarding a mercury exposure incident. A five year-old child was admitted to UC Davis Medical Center with migrating joint pain, hypertension and a several month history of weight loss and rashes. The child had elevated levels of mercury in their urine. Three other children lived in the household with their grandfather, mother and stepfather. DTSC and CDPH conducted a mercury vapor survey at the residence addressing exposure related issues, mercury source identification and health guidance. Several beads of mercury were located under a bed at the residence. DTSC decontaminated the house in several subsequent visits. CDPH provided health related guidance and follow-up to Yuba County and the family.

B. Fire Response and Recovery 2015

The Northern California Complex fires consisted of multiple lightning strike fires scattered across Humboldt, Trinity, and portions of Del Norte and Siskiyou Counties. These fires were located in the northwest area of the state; however, smoke monitoring was necessary as far east as Susanville due to dispersion of the massive smoke plume. ARB's Office of Emergency Response (OER) maintained an extensive array of particulate monitors from early August to late October to track and report smoke impacts from these fires.

OER also responded to two extremely costly and damaging late-season fires: the Valley and Butte Fires. The Valley and Butte Fires were medium-size fires but destroyed many homes and properties. Due to the proximity to populated areas, extensive smoke monitoring was requested, particularly in Calaveras County for the Butte fire.

During the 2015 fire season, ARB provided real-time air monitoring data to 21 different wildfires that were eventually combined into 13 wildfires. In preparation for the 2015 season, due to severe drought conditions, OER planned for and obtained increased staffing and equipment levels to help with the expected increase in fires. ARB provided 194 days of monitoring and a total of 40,433 monitoring data hours for all deployed E-BAM monitors, an increase of 87% as compared to the 2014 season. The data supported critical public health decisions related to air quality, including evacuations, the establishment of clean air buildings with hepa-filtration, and health advisory warnings.

State Water Resources Control Board (SWRCB) responded to all wildfires where public water systems were potentially affected. During the fire response, SWRCB maintained communication and contact with affected and potentially affected public water systems and obtaining status information, and provided information updates to partners on conditions of public water systems. Through the Division of Drinking Water (DDW) Duty Officer system, they received incoming notifications and requests from the California State Warning Center, CDPH, and other entities, evaluated and triaged all incoming information, and forwarded it to the appropriate DDW district offices for handling. DDW conducted inspections of public water systems in the aftermath of the fire incidents to collect status information and provide guidance and assistance over recovery. DDW also collected drinking water samples, as necessary, for subsequent analysis at the CDPH laboratory in order to gain information on drinking water quality. SWRCB also assisted public water systems in their recovery efforts, reviewed water quality sampling results, and implemented Unsafe Water Alerts, which resulted in Boil Water Notices.

CalRecycle crews coordinated the cleanup of burned residential sites in the aftermath of the devastating wildfires: the Valley, Butte, Trinity County, Rocky, & Jerusalem Fires. Besides debris removal, CalRecycle was responsible for soil testing, the removal of

hazardous trees, and erosion control. Prior to the CalRecycle cleanup efforts, DTSC removed the Household Hazardous Waste (HHW) from each site.

Incident Name: Round Fire- Mono County (February 2015)

The Round Fire in Mono County began on February 6, 2015, and burned thousands of acres and destroyed over 40 structures including residences. The Governor of the State of California declared a state of emergency in Mono County on February 26, 2015. CalRecycle prepared and implemented the Debris Removal Operations Plan for the Round Fire in Mono



County, which identified the best management practices for undertaking the removal of debris from the residential structures to protect response personnel, the surrounding community, public health, and the environment. This included working with environmental contractors and consultants to evaluate and remove the debris from the homes subsequent to obtaining Right-of-Entry Permits from the individual property owners. The team removed 2,702 tons of ash, debris, and soil and recycled 6,503 tons of concrete and 164 tons of metal from the areas of operation. DTSC Emergency Response staff oversaw the removal of HHW and asbestos from the 40+ structures destroyed as a result of the Round Fire in Mono County. The response took DTSC and their contractor one week to complete

Incident Name: Rocky/Jerusalem Fire- Lake County (Summer 2015)

DTSC Emergency Response staff oversaw the removal of HHW and asbestos from 100+ properties impacted by the Rocky & Jerusalem Fire that occurred in Lake County. The response action took three weeks to complete, and due to the widespread destruction of both fires, logistics was very challenging. Site documentation was conducted by CalRecycle on all registered lots for the Rocky & Jerusalem Fires. Water crews pre-watered lots and roadways to control contaminated dust. Two debris removal divisions sorted and removed concrete and metals from ash debris on registered lots.

Incident Name: Forks Complex Fire- Trinity County (August 2015)



DTSC Emergency Response staff oversaw the removal of HHW and asbestos from the 50+ properties impacted by the Forks Complex Fire in Trinity County. Logistics for assessing properties was challenging because the affected properties were spread out over several hundred square miles. Also, the response action took place in an area that had active marijuana growing operations, thus interaction with property owners was critical to ensure a safe

work environment. The response action took seven days to complete. Debris removal and confirmation sampling conducted by CalRecycle was completed on all sites registered to-date. One locally available crew was on standby to mitigate any sites with flagged confirmation sample results. The Operations Chief worked with the arborist to identify trees for removal and assess erosion control needs for cleaned lots.

Incident Name: Butte Fire- Amador County (September 2015)

The Butte fire ignited on September 9th just east of the town of Jackson in Amador County and eventually destroyed 863 structures including 475 homes. The fire burned over 70,000 acres before it was fully contained on October 15th. OER deployed particulate matter (PM) monitors to nine sites in Calaveras County over the five-week course of the fire.

DTSC Emergency Response staff began assessment and removal activities of HHW and asbestos from the 800+ properties impacted by the Butte Fire. Response activities began October 1st with DTSC staff and contractors in the field until mid-December removing HHW discovered during debris removal activities as well as assessing new Right-Of-Entry forms that were submitted to Calaveras County.

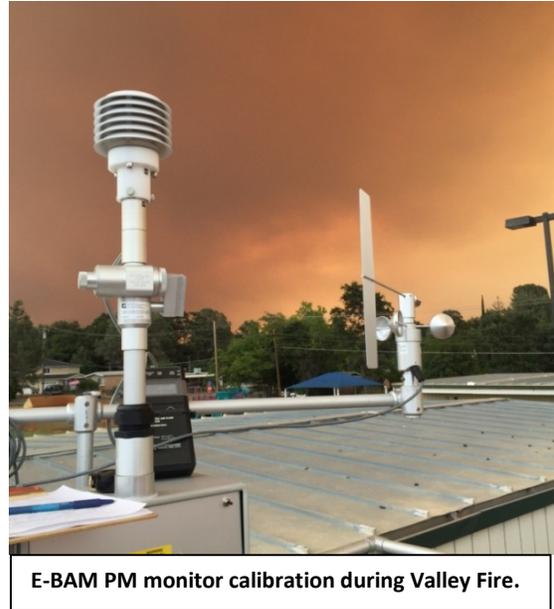
CalRecycle mobilized debris removal teams into the area on September 23 and continued operations until May 2016. At its peak, approximately 30 task force teams were removing debris from the operational area.



Incident Name: Valley Fire- Lake County (September 2015)

The Valley fire started on September 12th south of Clear Lake in Lake County. The fire burned 1,958 structures and 76,000 acres before it was fully contained on November 3rd. OER supplied PM monitors and data telemetry systems to the Lake County Air Pollution Control District (APCD) and the Bay Area Air Quality Management District (BAAQMD) to augment their monitoring capabilities in Lake and Napa Counties.

DTSC Emergency Response staff and their contractor began assessment and removal of HHW from the 1200+ properties impacted by the Valley Fire in Lake County. The response action commenced November 1st and proceeded until operations were discontinued in the latter part of January 2016. Due to weather conditions hazmat and debris removal operations were suspended until April/May 2016. At that time DTSC Emergency Response returned to the field to assist with the remaining assessment for HHW.



In addition to the HHW assessment, DTSC undertook the removal of an estimated 40 pounds of mercury discovered at one destroyed residence.



In regards to CalRecycle's response, 48 debris removal crews worked on the burned lots, with two crews working on community service projects like erosion control, lot scraping, and creek clean-out. Soil sampling was conducted in the lots where debris removal was completed. Erosion control measures and hydro-seeding were installed on the lots that met the clean-up goals. Three debris removal divisions continued to sort and remove concrete and metals from remaining ash debris on registered lots. The work is expected to continue well into 2016.

- Overview of ARB’s Office of Emergency Response Fire Response Operations

For the third consecutive year, ARB’s OER experienced a significantly increased demand for local community air monitoring during the 2015 wildfire season. OER monitored wildfires throughout California totaling 702,779 thousand acres, and provided community air monitoring at 60 sites for a total of 21 fires under 20 separate CalOES mission tasks. Due to this high level of air monitoring, OER technicians travelled over 21,300 miles to place and maintain the portable monitors, a 34% increase from 2014.

Table 1. ARB Support and Monitoring for 2015 Fire Season

Incident	Start Date	End Date	Jurisdiction
Corrine / Sky Fire	June 18th	July 8th	Mariposa County APCD & San Joaquin Valley APCD
Washington Fire	June 19th	July 7th	Great Basin Unified APCD
Wragg Fire	July 23rd	Aug 9th	Yolo-Solano AQMD
Kyburz Fire	July 24th	August 5th	El Dorado County AQMD
Lowell Fire	July 27th	August 13th	Placer County APCD, El Dorado County AQMD, Norther Sierra AQMD
Rough Fire	July 28th	Oct 6th	San Joaquin Valley APCD, & Mariposa County APCD,
Rocky Fire	July 29th	Aug 31st	Yolo-Solano AQMD & Lake County AQMD
Willow Fire	July 27th	October 5th	San Joaquin Valley APCD & Mariposa County APCD,
Northern California Complex Fires	August 5th	October 23rd	North Coast Unified AQMD, Lassen County APCD, Siskiyou County APCD,
Jerusalem Fire	August 8th	September 1st	Yolo-Solano AQMD, Lake County AQMD
Butte Fire	September 11th	October 15th	Amador County APCD, Calaveras County APCD,
Valley Fire	September 15th	November 3	Lake County AQMD, Bay Area AQMD

III. DRINKING WATER

A. Drought Update

California is facing serious water shortfalls in the driest year in recorded state history. The Governor has asked California residents and businesses to voluntarily reduce their water consumption by 20 percent. Continuing effects of the drought include: lowering water tables, drinking water wells not producing enough or not at all, regional land subsidence, lowering of water levels in surface water sources (lakes and dammed areas), and increasing competition among various needs on an increasingly scarce

resource. The current El Niño is not expected to make a serious dent in the long running drought.

B. SWRCB Role

SWRCB continues to assist public water systems that are economically impacted by dry conditions. SWRCB monitors the progress of public water systems' efforts to comply and achieve the mandated reductions in drinking water demand and use. Information on public water systems is collected to help identify those anticipating severe shortages or water outages. SWRCB also provides and encourages messaging to the public that recommends reduction of use and demand of drinking water and implementing conservation actions. Failure to achieve mandated reductions involves meetings with the public water system to evaluate their efforts and unsatisfactory efforts results in mandated fines being levied on the public water system. SWRCB participates in the periodic meetings with CalOES and partners (through the Drought Task Force) over the drought, trends and forecasts, and progress. Where applicable and available, SWRCB provides emergency funding and technical assistance.

SWRCB messages and encourages public water systems to:

- Keep records of their water system production and delivery activities through metering at the source and at customer connections.
- Adopt metered water rates that reflect the full cost of the water production and delivery and which encourage customers to minimize water use through progressively increasing water rates or other measures that penalize excessive water use.
- Take the steps necessary to obtain the funds needed to install meters and adopt effective metered rates.
- Adopt water conservation plans that minimize waste. Such plans should include voluntary and/or mandatory schedules for landscape irrigation, prohibitions on "gutter flooding", and may include restrictions on car washing and other uses if a severe water shortage is anticipated.
- Regularly measure and record the static and pumping water levels in their groundwater wells (at least monthly), watching for changes in the measurements. Declining water levels may result in reduced pumping capacity or a loss of suction in the pump if the water level drops below the pump bowls. Water level measuring tapes or sounding wires can be used in wells equipped with casing vents or sounding tubes. Alternatively, sonar water level indicators may be used on wells equipped without a casing vent or sounding tube.
- Regularly conduct evaluations of the water losses in their delivery systems. The difference in water produced versus the water sold to customers should be

tabulated and tracked at least on an annual basis. This information should be used to identify badly worn transmission and distribution system pipelines and storage facilities, which contribute to water loss.

- Complete the electronic annual report. SWRCB has added questions related to drought conditions which will greatly assist in identifying potential problems before they become a crisis.
- Consider adopting local ordinances concerning drought and/or water conservation.
- Those public water systems anticipating severe shortages or water outages due to drought conditions should immediately contact its DDW District Office to begin work on contingencies.

IV. REFINERY SAFETY TASK FORCE

A fire at the Chevron refinery in Richmond in August 2012 raised public concern about refinery safety and emergency response in California. Following a directive from the Governor's February 2014 report on "Improving Public and Worker Safety at Oil Refineries," CalEPA formed the Interagency Refinery Task Force (IRTF). The IRTF membership includes ten state agencies, United States Environmental Protection Agency (US EPA), and local agencies from areas of the state that contain refineries. The agencies work collaboratively to achieve the highest possible level of safety for refinery workers and local communities, and to prepare for and effectively respond to emergencies if they occur. State-wide safety forums and community outreach meetings were held in 2015.

In an effort to prevent major incidents at oil refineries, members of the IRTF drafted amendments to two key regulations: the California Accidental Release Prevention (CalARP) Program through CalOES and the Process Safety Management (PSM) regulations, proposed by Cal/OSHA, within the Department of Industrial Relations (DIR). Although the substance of both regulations is very similar, the PSM regulation is focused on minimizing risks to employees, whereas the CalARP regulation is designed to protect the safety and health of the community

ARB and California Air Pollution Control Officers Association (CAPCOA) continued their comprehensive statewide assessment of emergency air monitoring capabilities employed by California's sixteen oil refineries and the public health and safety agencies with jurisdiction over them. The air monitoring assessment project is an integral part of CalEPA's IRTF overall effort to improve employee and public safety around refineries.

After the capabilities inventory was published, ARB spent the balance of the year collaborating with air districts and California Unified Program Agencies (CUPAs) to develop and refine its report of findings, recommendations, and proposed implementation measures for improving emergency air monitoring at refineries.

OEHHA made a valuable contribution to this effort by providing a detailed inventory of toxic air contaminants associated with refinery operations and the associated potential health effects. As of year-end 2015, the ARB/CAPCOA draft report was submitted to the ARB executive team for review, preceding a broader review by air districts, CalEPA, and IRTF member agencies.

V. TRAINING, EXERCISES & PROJECTS

ERMaC representatives and their agency colleagues presented a number of emergency preparedness and response training sessions and participated in emergency exercises in 2015. These included the following:

A. Training

- February 18, 2015. *Foot and Mouth Disease-Avian Influenza*, Presentation, Dr. Annette Jones, California Department of Food and Agriculture (CDFA), at the Emergency Response and Management Committee meeting at CalEPA, Sacramento, CA.
- February 18, 2015. *California Earthquake Clearinghouse*, Presentation, Anne Rosinski, California Geological Survey, Department of Conservation, at the Emergency Response and Management Committee meeting at CalEPA, Sacramento, CA.
- April 15, 2015. *NIMS and SIMS*, Presentation, Paul Penn, CalEPA, at the Emergency Response and Management Committee meeting at CalEPA, Sacramento, CA.
- May 13-14, 2015. IASC/CARPA Workshop: *Managing Smoke Impacts*, Charles Pearson (ARB), Dar Mims (ARB), Karen Riveles (OEHHA), at California Air Resources Board/Monitoring and Laboratory Division, Sacramento, CA.
- July 28-29, 2015. Primary Quality Assurance Organization Training. *Module 3: Air Monitoring Instrument Operation*. Presented by Air Resources Board, Monitoring and Laboratory Division. at McClellan Wild Land Training Center, McClellan, CA.
- September 8-11, 2015. *The 26th Annual Continuing Challenge Hazmat Emergency Response Workshop*, at Red Lion Hotel Woodlake, Sacramento.

- September 9, 2015. *Remains of the Day: Hazards to Emergency Personnel from Contaminated Ash*. Karen Riveles, OEHHA, at The Continuing Challenge Hazmat Emergency Response Workshop, Red Lion Hotel Woodlake, Sacramento.
- September 10, 2015. *Ever Have an Incident and Everyone Showed Up? Lead Instructor: Karen Riveles (OEHHA)*. Other Lecturers: Paul Penn (CalEPA), Charles Pearson (ARB), Susan Klasing (OEHHA), Ann Hobbs (Placer County), Vicky Furnish (Kern County), Lori Chumney (CDFW), and Martin Serna (City of Torrance Fire), at The Continuing Challenge Hazmat Emergency Response Workshop, Red Lion Hotel Woodlake, Sacramento.
- October 21, 2015. *Wildfire Health Effects, Presentation*, Sumi Hoshiko, CDPH, at the Emergency Response and Management Committee meeting at CalEPA, Sacramento, CA
- November 4, 2015. *El Niño and Weather, Presentation*, Jim Bohon, CalEPA, at the Emergency Response and Management Committee meeting at CalEPA, Sacramento, CA.

B. Exercises

- May 11-14, 2015. California Capstone Exercise. CalEPA participated in the planning and conducting of a large multi-day functional exercise (with full scale components) based on a catastrophic Southern California earthquake. The CalEPA Emergency Operations Center (EOC) was activated and CalEPA personnel participated in their roles at the State Operations Center (SOC) and the Federal Emergency Management Agency (FEMA) Interim Operating Facility. The exercise was also known as Ardent Sentry by Department of Defense (DOD) and SoCal Ex 15 by FEMA. CalEPA worked with local, state, and federal partners during the exercise. Perhaps the strongest outcome of this exercise was the development of a strong relationship with the California Earthquake Clearinghouse and its emphasis on multi-agency collaboration and the use of XchangeCore and SpotOnResponse.

C. Projects

- Ash Fact Sheet and Sampling for 2015 Fire Response and Recovery

In late August, OEHHA was tasked to create a new fact sheet, "Protecting Public Health from Home and Building Fire Ash. This fact sheet was disseminated to communities impacted by the fires and placed as a resource on CalEPA's emergency response webpage. Ash from burned structures is generally more hazardous than forest ash, and contains tiny particles that can be deposited on surfaces and inhaled if the ash becomes airborne. Although ash is not classified as hazardous waste, it may contain traces of various hazardous chemicals such as metals, asbestos, perfluorochemicals, flame retardants, and caustic materials.

Health effects of ash include irritation to the skin, nose, and throat, and may cause coughing. Fine particles can be inhaled deeply into lungs and may aggravate asthma and make it difficult to breathe. Sensitive populations include people with asthma or other lung diseases, pregnant women, and the elderly.

<http://calepa.ca.gov/Disaster/Documents/FireAsh.pdf>.

DTSC was tasked by CalOES to sample the burn ash from the Butte and Valley Fires to determine if the burn ash posed a threat to public health. DTSC contracted with Geosyntec in October 2015 and initiated the sampling. A final sampling & analysis report was submitted in December 2015, which resulted in extensive cleanup actions.

- Argonaut Mine Remediation Support Project, Jackson CA.

The Argonaut Mine site is comprised of approximately 64 total acres of largely undeveloped land located in Jackson, CA. The site is located in an alluvial valley and consists of open space characterized by soil and mine tailings impounded behind several dams. These dams are very old and are in danger of failing. One of the dams is in such disrepair that it is barely holding back the 169,000 cubic yards of arsenic-contaminated tailings left over from decades of gold mining. Other toxic rare earth metals may also be present in the tailings. An earthen dike was built at some point as a secondary dam. The site is abutted by a relatively new single-family residential development to the northwest, northeast, and east, city and county offices and a public high school on the west and southwest, and open undeveloped areas on the north, south, and southeast.

In 2013-2014 US EPA and the Army Corps of Engineers were called to inspect the dam and surrounding area. It was determined that the site poses a potentially severe safety hazard if the dam collapses in a severe rainstorm. US EPA and the Army Corps of Engineers developed a site stabilization and remediation plan that includes certain meteorological event triggers.

ARB's OER was tasked by CalOES to deploy a remote automated weather station (RAWS) to the Argonaut Mine for monitoring of meteorological conditions and transmit hourly weather data to National Weather Service. The RAWS data is being evaluated by US EPA Region IX in a multi-agency toxic site stabilization and remediation project. The concern is that the higher-than-average precipitation anticipated for the 2015/16 winter season may lead to a failure of retention dams that protect the residential and commercial communities in the City of Jackson. OER deployed the RAWS on November 23, 2015 and monitoring will continue for

the duration of the rainy season. The remediation project is expected to take two to three years for construction of new retention structures and site cleanup.

ARB's site meteorological data can be viewed on the National MesoWest Meteorological Data network at:

http://mesowest.utah.edu/cgi-bin/droman/meso_base_dyn.cgi?stn=ANUC1

- Guidelines for Establishing Preliminary Indoor Clearance Levels for Chemical Warfare Agents

OEHHA worked with the Department of Homeland Security, Lawrence Livermore Lab, and the US EPA on a research project from 2008 to 2013 on the development of guidelines for establishing preliminary clearance levels for chemical warfare agents. In March of 2015, the Department of Defense (DOD) Under Secretary of Defense for Policy, together with the Principal Deputy Under Secretary of Defense, released action memos that issued DOD-wide "Chemical Clearance Guidelines for Platforms and Materiel" for nerve agents and sulfur mustard as guidance to Secretaries of the Military Departments, Chairman of the Joint Chiefs of Staff, Under Secretaries of Defense, the General Counsel of the DoD and all Combatant Commanders and their staffs. Prior to publication of this new doctrine, there had been no guideline or measureable criteria for clearance decontamination decision-making following release of acutely toxic materials. Issuance of these guidelines for the first time establishes concentration limits for clearance of equipment, clothing, weapons, vehicles, and all forms of aircraft or watercraft, and opens the way for the same logic to be applied to clearance guideline development for toxic industrial compounds (TICs). The California Guidelines were cited as the example to follow for these guidelines.

- Australian Environment Protection Authority Informational Visit

From June 16th - 19th 2015, ERMaC agencies hosted a representative from the Australian Environment Protection Authority, Victoria. Dr. Paul Torre, who is a Principal Expert in Air Quality and a Senior Applied Scientist, was interested in gaining knowledge on the variety of approaches and methods California employs when managing air quality impacts created by wildfire smoke.

Similar to California, Victoria experiences frequent wildfires, and the EPA Victoria is tasked to respond to these events and provide local health departments with air quality data from the affected areas, which is then used to create recommended protective action messages for the impacted communities. EPA Victoria, in coordination with their local government departments and emergency service

partners, is currently in the process of developing an emergency air quality monitoring network and assessment program.

Dr. Torre believes many of the techniques demonstrated in California will be beneficial to the creation of their program in Victoria. California continues to communicate with Dr. Torre to support his efforts, to provide scientific advice, and to share information on emergency air monitoring techniques, smoke impact modeling, health effects information, public messaging and community notification.

- ARB Primary Quality Assurance Organization Training

ARB presented federally-mandated statewide training on air monitoring instrument operation, including portable emergency monitoring instruments, on July 28-29, 2015 at the U.S. Forest Service Wildland Training Center, McClellan, California. Hosted by the ARB Monitoring and Laboratory Division, the event drew 197 air monitoring technicians and operators from around California. A total of forty-nine topics related to air monitoring instruments and operations were covered by numerous agency presenters, consultants and vendors during the course of the event.

The forty-nine topics included a wide variety of air monitoring information, from the theory and principles of various operations, to the general performance of a variety of instruments, to hands-on operation of numerous air monitoring devices. Vendors at the event provided live technical demonstrations as well as explained the operation and maintenance of their air monitoring instruments. Various agencies at the event presented their performance evaluations, audit procedure demonstrations, and general operations.

V. APPENDICES

APPENDIX A: ACRONYM GUIDE

APCD	Air Pollution Control District
AQMD	Air Quality Management District
ARB	Air Resources Board
BAAQMD	Bay Area Air Quality Management District
BDO	Board, Department, or Office
CA	California
CAC	County Agricultural Commissioner
CalARP	California Accidental Release Prevention
CalEPA	California Environmental Protection Agency
CalOES	California (Governor's) Office of Emergency Services
Cal/OSHA	California Division of Occupational Safety and Health
CalRecycle	Department of Resources, Recycling, and Recovery
CAPCOA	California Air Pollution Control Officers Association
CARPA	California Air Response Planning Alliance
CDFA	California Department of Food and Agriculture
CDFW	California Department of Fish and Wildlife
CDPH	California Department of Public Health
CEH	Center for Environmental Health
CESA	California Emergency Services Act of 2006
CHP	California Highway Patrol
CUPA	California Unified Program Agency
DDW	Division of Drinking Water
DEODC	Division of Environmental and Occupational Disease Control
DFW	Department of Fish and Wildlife

DIR	Department of Industrial Relations
DOD	Department of Defense
DPR	Department of Pesticide Regulation
DTSC	Department of Toxic Substances Control
DWP	Drinking Water Program
E-BAM	Environmental Beta Attenuation Monitor
EF-8	Public Health and Medical Emergency Function Annex 8
EF-10	Hazardous Materials and Oil Emergency Function Annex 10
EMB	Environmental Management Branch
EOC	Emergency Operations Center
EPT	Emergency Preparedness Team
ERMaC	Emergency Response Management Committee
ERP	Emergency Response Program
FEMA	Federal Emergency Management Agency
HazMat	Hazardous Materials
HHW	Household Hazardous Waste
IASC	Interagency Air and Smoke Management Council
IRTF	Interagency Refinery Task Force
IX	Nine
LEA	Local Enforcement Agency
LOC	Level of Concern
NIMS	National Incident Management System
NV	Nevada
OCS	Outer Continental Shelf
OEHHA	Office of Environmental Health Hazard Assessment
OER	Office of Emergency Response
OSC	On-Scene Coordinators

OSPR	Office of Oil Spill Prevention and Response
PM	Particulate Matter
PM _{2.5}	Particulate Matter 2.5 nanometers or smaller
PSM	Process Safety Management
RAPID	Railroad Accident Prevention and Immediate Deployment
RAWS	Remote Automated Weather Stations
SCAQMD	South Coast Air Quality Management District
SEMS	Standardized Emergency Management System
SEP	State Emergency Plan
SOC	State Operations Center
SVE	Soil Vapor Extraction
SWRCB	State Water Resources Control Board
TIC	Toxic Industrial Compound
TTX	Tabletop Exercise
VOC	Volatile Organic Compound
US EPA	United States Environmental Protection Agency

APPENDIX B: ERMaC Member and Supporting/Collaborating Agencies:

Member Agencies:

The California Environmental Protection Agency (CalEPA)

CalEPA, the Office of the Secretary coordinates and administers CalEPA's Emergency Response Management Committee (ERMaC), which requires the coordination between CalEPA's six Boards, Departments, and Offices (BDOs) emergency preparedness and response activities, the preparation of Agency and BDO emergency plans and coordination between other state, federal and local agencies to effectively mitigate, prepare for, and cohesively respond and rapidly recover from major disasters involving hazardous materials emergencies throughout State. The Office provides a Chairperson to ERMaC, and acts as the Lead Agency coordinator for oil and hazardous materials response and recovery actions under the Emergency Function 10 (EF-10) Hazardous Materials and Oil Emergencies Annex to the State Emergency Plan (SEP). The ERMaC was established to ensure that CalEPA's BDOs carry out emergency response planning, preparation, and incident response functions in a coordinated and effective manner.

Air Resources Board (ARB)

ARB's Office of Emergency Response (OER) is focused on protecting downwind communities in the event of an unanticipated airborne chemical release or other emergency that impacts air quality. OER provides technical assistance to federal, state, and local response partners including the collection and analysis of air monitoring and sampling data and providing meteorological and plume modeling forecasts. ARB is also a founding member of the California Air Response Planning Alliance (CARPA), an ad hoc governmental alliance with the mission of increasing California's capacity to respond effectively to toxic airborne release events.

Department of Pesticide Regulation (DPR)

The mission of DPR is to protect human health and the environment by regulating pesticide sales and use, and by fostering reduced risk pest management. DPR provides technical and investigative expertise for pesticide incidents and related events, with the assistance of County Agricultural Commissioners. DPR provides human and ecological toxicological data related to pesticide exposure; public and occupational health and safety information; and various California pesticide sales and use data.

Department of Resources Recycling & Recovery (CalRecycle)

CalRecycle is responsible for the regulation of solid waste facilities in California to include landfills, closed disposal sites, transfer stations and other solid waste processing facilities. CalRecycle's regulations are enforced by Local Enforcement Agencies (LEAs) which are generally County & City Environmental Health Programs. CalRecycle provides technical expertise to LEAs and other government agencies on the management of disaster debris including characterization, reduction/recycling processes, transportation and disposal. In some special cases (Governor's Office Direction), CalRecycle has managed debris removal operations (Angora, San Bruno) through its Solid Waste Clean-up Program contracts.

Department of Toxic Substances Control (DTSC)

The mission of DTSC's Emergency Response Program (ERP) is to provide statewide response to actual and potential releases of hazardous substances that pose an acute threat to public health and/or the environment, including clandestine drug labs. The ERP interacts with a number of other state, federal and local agencies in carrying out these emergency response activities. The Emergency Response Program responds statewide to calls requesting DTSC assistance for emergency removals from illegal/clandestine drug labs and other hazardous materials (HazMat) emergencies. Requests for assistance are handled by the ERP's Emergency Response Duty Officers.

Office of Environmental Health Hazard Assessment (OEHHA)

OEHHA provides toxicological expertise and public health recommendations during all phases of emergency management. OEHHA aids in emergency situations by providing emergency personnel with information on the health effects of chemical agents and characterizing the risk to the public and environment from chemical releases. OEHHA also identifies different exposure scenarios, their potential health effects, and exposure levels. OEHHA also provides information on re-entry, cleanup, and clearance levels after a hazardous materials incident.

State Water Resources Control Board (SWRCB)

The mission of SWRCB is to preserve and enhance the quality of California's water resources and ensure their proper allocation and efficient use for the benefit of present and future generations. The State Water Board works in coordination with the nine Regional Water Quality Control Boards to preserve, protect, enhance, and restore water quality. The SWRCB Division of Drinking Water works with California public water systems to ensure their provision of safe, clean, and wholesome drinking water, reliably

and adequately and in compliance with the Safe Drinking Water Act and associated laws and regulations.

ERMaC Supporting and Collaborating Agencies:

California Office of Emergency Services (CalOES)

CalOES promotes collaboration between CalEPA and other State agencies by offering insight to State-wide emergency response and emergency management perspectives in relation to planning, operations, training, reporting, and financial assistance.

California Department of Food & Agriculture (CDFA)

CDFA emergency preparedness and response functions address health-related incidents potentially effecting the state's food supply and commercial agricultural interests, including incidents effecting dairy, livestock, poultry, feed, and crop production. Agricultural emergencies involve disposal of livestock carcasses and food during natural disasters, livestock specific disasters, and other incidents involving disease or contamination. CDFA monitors these incidents, provides updated information to the involved agencies, and coordinates activities as necessary.

California Department of Fish & Wildlife (DFW) Office of Oil Spill Prevention & Response (OSPR)

Protecting fisheries and wildlife habitats, DFW wardens act as incident commanders and investigators on numerous oil spills and hazardous material incidents throughout California.

California Department of Public Health (CDPH)

Representatives of the CDPH Division of Environmental and Occupational Disease Control (DEODC) Emergency Preparedness Team (EPT) and the CDPH Center for Environmental Health (CEH) Environmental Management Branch (EMB) serve as liaisons between CalEPA and CDPH by providing insight into public health perspectives relative to oil and/or hazardous materials incidents.

US EPA Region IX

US EPA Region IX's Emergency Response Program – with federal on-scene coordinators (OSCs) based in San Francisco, Signal Hill, and Carson City, NV – responds to environmental disasters, hazardous materials releases, time-critical removals, and inland oil spills that threaten human health or the environment. OSCs

bring considerable federal authority and resources, as authorized under their governing statutes, to assist state and local agencies in emergency response, removal, and recovery incidents.

APPENDIX C: ERMaC HISTORY & AUTHORITIES

History

In its relatively brief history CalEPA has risen to the challenge of major environmental emergency events. The beginnings of its interdisciplinary approach to emergency response can be traced back to the year of the Agency's formation in 1991. That year, the Cantara Loop five miles north of Dunsmuir was the site of a tragic train derailment and toxic chemical spill into the upper Sacramento River. The public outcry for improved response from emergency responders to such incidents gave rise to the Railroad Accident Prevention and Immediate Deployment (RAPID) program. ERMaC owes its origin to RAPID. Though the RAPID program was eventually disbanded, ERMaC has evolved in its place as the interdisciplinary forum of choice for coordinating CalEPA's emergency response and recovery efforts.

In 1998, Gerald G. Johnston, CalEPA's then-Deputy Secretary for Law Enforcement and Counsel, called for Agency BDOs to designate representatives to the CalEPA Emergency Response Multi-Agency Coordinating Group. His memorandum provided the initial mission statement and objectives for ERMaC. Subsequent to Governor Davis's issuance of Executive Order D-3-99, the ERMaC focused on preparation for the Y2K calendar change.

With the Westley Tire Fire disaster in 1999, Undersecretary Brian Haddix refocused the working group on traditional disaster response scenarios. This iteration of ERMaC was known as the Emergency Response Management Advisory Committee. Later, under the leadership of Assistant Secretary Don Johnson, ERMaC focused on developing administrative orders and emergency plans for the BDOs with the assistance of CalOES. After several years of effective service and realizing a role that was far more than advisory, ERMaC was renamed as the Emergency Response Management Committee (ERMaC). It adopted its first operating charter in 2004. ERMaC is currently run by Assistant Secretary Jim Bohon, and Emergency Management & Refinery Safety Program Manager Paul Penn.

Statutory & Administrative Authorities

The California Emergency Services Act of 2006 (CESA) enacted a major update and consolidation of the State's pre-existing emergency preparedness and response laws and executive orders. It required that all State agencies carry out activities assigned by the Governor and CalOES. State agencies must cooperate with one another, CalOES and other political subdivisions to prepare for, respond to, and mitigate the effects of regional and statewide emergencies, as declared by the Governor. The statutory duties

of ERMaC members under CESA are aligned with their routine functional responsibilities for environmental protection.

APPENDIX D: Administrative Orders

The primary tools for defining CESA responsibilities are BDO-specific Administrative Orders. Administrative Orders refer to documents approved by CalEPA and CalOES describing the roles, responsibilities, and authorities of the respective agencies during State emergencies. Administrative Orders, prepared under the authority of the Governor's Executive Order W-9-91 and subsequent law, expand upon and consolidate emergency assignments of State agencies. CalEPA and its BDOs first developed collective Administrative Orders in 2002.

Each agency and BDO also develops an Emergency Response Plan that must be consistent with the provisions of the applicable Administrative Orders and the statutory authorities of the individual agency. CalOES also reviews and approves these plans, in accordance with California Standardized Emergency Management System and the National Response Framework, to accomplish assigned emergency management tasks. Agency plans may delegate authority and assign responsibilities to divisions, bureaus, field offices, or other elements of the agency. State agencies must ensure that all personnel assigned specific responsibilities in support of this plan are adequately trained and prepared to assume those responsibilities.

CalEPA and the BDOs chartered ERMaC in 2004 as the forum for developing and maintaining the CalEPA collective Administrative Orders and Emergency Response Plans. ERMaC's mission is to effectively manage the public health and environmental consequences of emergency events through coordinated, agency-wide preparedness, response, recovery, and mitigation activities. ERMaC is responsible for emergency planning and training, and coordinates all CalEPA entities responding to and recovering from emergencies.

In 2013, all of CalEPA's BDOs updated their Administrative Orders. These orders were submitted to CalOES in 2013.