



## PESTICIDE REGISTRATION AND EVALUATION COMMITTEE (PREC)

Meeting Minutes –July 17, 2015

**\*AMENDED\* –November 20, 2015**

### **Committee Members/Alternates in Attendance:**

James Seiber, University of California, Department of Toxicology  
Jeff Fowles, Department of Public Health (CDPH) –via webcast  
Liz Pelham, Department of Pesticide Registration (DPR)  
Lori Lim, Office of Environmental Health Hazard Assessment (OEHHA)  
Lynn Baker, Air Resources Board (ARB)  
Rebecca Sisco, University of California, IR-4 Program  
Stella McMillin, Department of Fish and Wildlife (CDFW)

### **Visitors in Attendance:**

Anne Katten, California Rural Legal Assistance Foundation  
Brian Bret, Dow AgroSciences LLC  
Catherine Caraway, OEHHA  
James Nakashima, OEHHA  
Kim Hensley, Environmental Solutions Group, LLC  
Rachel Kubiak, Western Plant Health Association –via webcast

### **DPR Staff in Attendance:**

Amy Budahn, Environmental Monitoring Branch  
Andi Cameron, Pesticide Registration Branch  
Ann Hanger, Pesticide Registration Branch  
Ann Schaffner, Worker Health and Safety Branch  
Atac Tuli, Environmental Monitoring Branch  
Chris Collins, Environmental Monitoring Branch  
Colin Brown, Environmental Monitoring Branch  
David Duncan, Environmental Monitoring Branch  
Don Antonowich, Pesticide Registration Branch  
Edgar Vidrio, Environmental Monitoring Branch  
Eileen Mahoney, Pesticide Registration Branch  
Jeanne Martin, Enforcement Branch  
Jennifer Teerlink, Environmental Monitoring Branch  
Jolynn Mahmoudi-Haeri, Pesticide Registration Branch  
Kevin Solari, Worker Health and Safety Branch  
Leslie Crowl, Worker Health and Safety Branch  
Lisa Ross, Worker Health and Safety Branch  
Miglena Wilbur, Human Health Assessment  
Pam Wofford, Environmental Monitoring Branch  
Randy Segawa, Pesticide Programs Division  
Rosemary Neal, Environmental Monitoring Branch  
Russell Darling, Pesticide Registration Branch  
Shelley Lopez, Pesticide Registration Branch



**1. Introductions and Committee Business –Liz Pelham, Acting Chair, DPR**

- a. About thirty-six (36) people attended the meeting.
- b. No corrections to the minutes of the previous meeting held on May 15, 2015 identified.

**2. Research Authorization Regulations –Ann Hanger, DPR**

Research authorizations must be obtained from DPR prior to research on an unregistered use of a pesticide in California. Exceptions include when the registrant is a property operator or when college/university personnel are operating under an established pesticide use policy. DPR requires data such as certain efficacy and environmental fate data to reflect California use conditions. Research authorizations allow registrants to collect field data to support California registration of a new product or new use of a registered product.

Title 3 of the California Code of Regulations (3 CCR) §6262(a) lists the information required for a research authorization including information about the pesticide being applied, type of site/commodity and stage of growth at application, size of trials, number of trials, total area of trials, date of first and last applications, type of data sought, and planned disposition of treated commodity. DPR has authority to require additional data if necessary. DPR evaluates potential hazards to decide whether to issue the research authorization and determines any restrictions. Examples of restrictions include buffer zones or additional personal protective equipment.

Current regulations under 3 CCR § 6264(a) require a 24-hour notice to the County Agricultural Commissioner (CAC) before application. A copy of the approved research authorization must be submitted with the notice and if not submitted with the notice, a plot map of the exact location of the trial must be submitted to the CAC within seven days after the pesticide application. 3 CCR 6266(a) states an experimental trial report must be submitted to the CAC after final pesticide application and at least twenty-four hours prior to harvest or crop destruction. This report must include commodity/site treated, location, date of disposition, and method of disposition, etc. 3 CCR 6266(b) states an experimental pesticide use report must be submitted to DPR within two weeks after the expiration date of the research authorization. This report must include product information, commodity/site treated, rate of application, total amount of the active ingredient(s) used, total acres treated, counties, etc. Report contents are currently listed in regulation.

DPR proposes to incorporate the application, experimental trial report, and experimental use report forms by reference and no longer list out required elements in regulation. Instead, the regulations will reference the form numbers that are available on DPR's Web site. Additionally, DPR proposed to request additional clarifying information on the pesticide and application, revise notification requirements, and make minor, nonsubstantive changes to 3 CCR §6260. DPR wants to ensure DPR and CACs have all the necessary information to evaluate the research authorization and by amending the application form and making minor wording changes/clarifications to the experimental trial report and experimental pesticide use report. Amendments to the application form include requesting the product name and active ingredient(s) and adding clarifying questions e.g., email address, cell phone, fumigant, formulation type, multiple applications, trial completion date, etc. The proposed regulations state

if the active ingredient is not in any products registered at U.S. EPA or adjuvants registered with DPR, the applicant may supply the active ingredient in a separate confidential statement.

Furthermore, DPR proposes to change the notification requirements to: increase the notice to seventy-two hours, unless the CAC approves less notice; list out notice contents in 3 CCR §6264 instead of referring to the restricted materials notice of intent; require the location of each trial on plot map as part of the notice; require identification of sensitive sites on map/aerial photograph; and, require notification to DPR at same time as the CAC. DPR proposes these changes because the 24-hour notice may be first time the CAC is aware of the trial and twenty-four hours may not be adequate to assess potential impacts as well as contact DPR if there are concerns. The proposed changes will also ensure DPR has information at the same time as the CAC.

For more information regarding DPR's proposed regulation, please visit DPR's Web site at <<http://www.cdpr.ca.gov/docs/legbills/rulepkgs.htm>> or contact Senior Environmental Scientist (Specialist), Ann Hanger by e-mail at <[Ann.Hanger@cdpr.ca.gov](mailto:Ann.Hanger@cdpr.ca.gov)>. The comment period for the proposed regulation package began July 10 and will end August 24. Written comments about the proposed regulatory action, requests for a copy of the Initial Statement of Reasons and proposed text of the regulation, and inquiries regarding the rulemaking file may be directed to Regulations Coordinator, Linda Irokawa-Otani at <[Linda.Irokawa-Otani@cdpr.ca.gov](mailto:Linda.Irokawa-Otani@cdpr.ca.gov)>.

### **3. Revisions to Pesticide Safety Information Series Leaflets –Kevin Solari, DPR**

DPR developed the Pesticide Safety Information Series (PSIS) leaflets in the seventies and eighties. Handlers and farm workers use the leaflets as a training aid and regulation currently requires the PSIS leaflets to be part of pesticide handler and fieldworker training. The PSIS leaflets contain vital information for using pesticides safely and in accordance with pesticide labeling and regulatory requirements. The PSIS leaflets are available in English, Spanish, and Punjabi on DPR's Web site at <<http://www.cdpr.ca.gov/docs/whs/psisenglish.htm>>.

Currently, there are two series of the leaflets. The "A" Series contains ten leaflets and is for production agricultural uses (e.g., fruits, vegetables, grains, nuts, trees grown for lumber, commercially grown nursery stock, Christmas trees, and turf grown for sod). The "N" Series contains eight leaflets and is for non-production agricultural uses (e.g., structural pest control, landscape and maintenance firms, and rights-of-way maintenance organization). The PSIS leaflets were last revised in 2003/2004. DPR's Worker Health and Safety Branch, DPR's Enforcement staff, and DPR's Outreach Director, Paul Verke initiated the much needed revisions and updates in 2014. The language was updated to include recent regulatory changes (e.g., the Personal Protection Equipment regulation changes). DPR updated A-3 and N-3 leaflets to reflect very recent changes to personal protective equipment regulations. Additionally, DPR updated A-5 and N-5 leaflets to reflect more recent respiratory regulation changes. DPR further redesigned the leaflets with updated graphics and photos to improve accessibility and appeal. DPR has reformatted the leaflets for ease of readability on a tablet or smartphone. Additionally, DPR has reorganized the leaflets to enhance clarity without changing reading level and reordered the leaflets to remove gaps in numbering.

DPR will post the notice of revised leaflets for a forty-five day comment period starting July 20, 2015 and ending September 4, 2015. DPR anticipates the revised PSIS leaflets to be posted on DPR's Web site early October. The next round of updates to PSIS leaflets will reflect DPR's revised closed systems regulations and changes to the federal Worker Protection Standard. For more information regarding DPR's PSIS leaflets, please visit DPR's Web site at <<http://www.cdpr.ca.gov/docs/whs/psisenglish.htm>> or contact Senior Environmental Scientist (Supervisory), Kevin Solari by e-mail at <[Kevin.Solari@cdpr.ca.gov](mailto:Kevin.Solari@cdpr.ca.gov)>.

**4. 2014 Air Monitoring Network Results –Atac Tuli, DPR**

On February 2011, DPR implemented a long-term statewide Air Monitoring Network (AMN) for measuring pesticides in various agricultural communities. The AMN is the first long-term air monitoring study conducted by DPR. The objectives of the AMN is to identify common pesticides in air, compare air concentration with human health screening levels, track trends in air concentrations over time, estimate cumulative exposure to multiple pesticides, and correlate air concentrations with pesticide use and local weather patterns. AMN evaluated 226 California communities and reevaluated 1,267 communities in 2013. DPR were prioritized communities based on pesticide use (community, local and regional), demographic data, and availability of other exposure and health data. Additionally, DPR considered other factors such as sampling feasibility, weather patterns, and potential collaboration with other projects.

The AMN chose three communities: Ripon, Salinas, and Shafter. Ripon is located in San Joaquin County and the major crops include almonds, grapes, and other field crops. The station is located nearby city hall. Salinas is located in Monterey County and the major crops include strawberries, lettuce, and other field crops. The station is located at the center of the municipal airport. Shafter is located in Kern County and the major crops include almonds, grapes, and alfalfa. The station is located at the vicinity of high school and edge of town. The AMN selected pesticides based on pounds of use by area/region (indicator of exposure), volatility (indicator of exposure), and DPR risk assessment priority (indicator of toxicity) feasibility of including in multi-residue monitoring method. DPR previously developed and used sample methods and collection techniques through the 2006 Parlier pilot study since most of the pesticides monitored in AMN were included in 2006 Parlier pilot study. In 2014, AMN monitored a total of 32 pesticides and 5 pesticide breakdowns. AMN used four sampling methods for collection and examination of pesticides.

**Figure 1. Sampling methods for collection and examination of pesticides.**

	<b>Multi-pesticide</b>	<b>Volatile Organic Compound</b>	<b>Methyl Isothiocyanate (MITC)</b>	<b>Chloropicrin</b>
<b># of Pesticides</b>	32	3	1	1
<b>Sampling Media</b>	XAD-4	Air vacuum	Coconut Charcoal	XAD-4
<b>Flow Rate</b>	15 L/min	~3.5 mL/min	1500 mL/min	50 mL/min
<b>Analysis Type</b>	GC/MS & LC/MS	GC/MS	GC-NPD	GC-ECD

**Figure 2. Multi-pesticide analysis (XAD-4 resin).**

<b>Pesticide</b>	<b>Chemical Class</b>
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<b>Acephate</b>	Organophosphate
<b>Bensulide</b>	Organophosphate
<b>Chlorothalonil</b>	Chloronitrile
<b>Chlorpyrifos</b>	Organophosphate
<b>Chlorpyrifos Oxygen Analog</b>	
<b>Chlorthal-dimethyl</b>	Phthalate
<b>Cypermethrin</b>	Pyrethroid
<b>Diazinon</b>	Organophosphate
<b>Diazinon Oxygen Analog</b>	
<b>Dicofol</b>	Organochlorine
<b>Dimethoate</b>	Organophosphate
<b>Dimethoate Oxygen Analog</b>	
<b>Diuron</b>	Urea
<b>Endosulfan</b>	Organochlorine
<b>Endosulfan Sulfate</b>	
<b>Eptam (EPTC)</b>	Carbamate
<b>Iprodione</b>	Dicarboximide
<b>Malathion</b>	Organophosphate
<b>Malathion Oxygen Analog</b>	
<b>Methidathion</b>	Organophosphate
<b>Metolachlor (S-metolachlor)</b>	Chloracetanilide
<b>Naled as Dichlorvos (DDVP)</b>	Organophosphate
<b>Norflurazon</b>	Pyridazinone
<b>Oryzalin</b>	Dinitroaniline
<b>Oxydemeton-methyl</b>	Organophosphate
<b>Oxyfluorfen</b>	Diphenyl Ether
<b>Permethrin</b>	Pyrethroid
<b>Phosmet</b>	Organophosphate
<b>Propargite</b>	Organosulfite
<b>Simazine</b>	Triazine
<b>SSS-tributyl phosphorotrithioate</b>	Organophosphate
<b>Trifluralin</b>	Dinitroaniline

The sampling collection procedure included 24-hour samples every week at each of the three sites. DPR randomly selected sampling days and varied by week while sampling start times ranged from 9:00 am to 2:00 pm and ran for 24-hours. DPR developed health-screening levels for the monitored pesticides to place the results in a health-based context. Although not a regulatory standard, screening levels can be helpful in the process of evaluating air-monitoring results. Air concentration below the screening level would generally not undergo further evaluation. Air concentration above the screening level would indicate the need for a further and more refined evaluation.

In 2014, DPR collected 157 sets of samples (each set consist of four samples, totaling 628 samples). DPR conducted 5966 analyses on the air samples collected from all three sampling

locations from January 1, 2014 to December 31, 2014. Of the analyses, 498 analyses (8%) contained detectable concentrations (both quantifiable and trace detections) and 225 analyses (4%) contained quantifiable concentrations. Fourteen chemicals monitored were not detected at concentrations above the detection limit: acephate, bensulide, cypermethrin, diazinon, dimethoate, dimethoate oxygen analog (OA), sss-tributyl phosphorotrithioate, endosulfan sulfate, methidathion, metolachlor, norflurazon, oxydemeton methyl, phosmet, pp-dicofol.

**Figure 3. Number of detections of monitored chemicals.**

Location	Number of possible detections	Percent of possible detections*	Percent of quantifiable detections
Salinas	1976	6.3%	2.4%
Shafter	1976	11.1%	5.3%
Ripon	2014	7.7%	3.6%
<b>total</b>	<b>5966</b>	<b>8.3%</b>	<b>3.8%</b>

\*includes trace and quantifiable detections

**Figure 4. Highest 24-hour concentration for chemicals with quantifiable detections.**

Chemicals	Highest 24-hour Concentration in ng/m <sup>3</sup>			24-hour Acute Screening Level in ng/m <sup>3</sup>
	Salinas	Shafter	Ripon	
<b>1,3-Dichlorpropene</b>	440	<b>9,251</b>	<b>3,512</b>	160,000
<b>Carbon Disulfide</b>	691	548	370	1,550,000
<b>Chloropicrin</b>	<b>4,809</b>	ND	1,150	491,000
<b>Chlorothalonil</b>	Trace	118	Trace	34,000
<b>Chlorpyrifos</b>	Trace	423	Trace	1,200
<b>Chlorpyrifos OA</b>	ND	110	Trace	1,200
<b>Chlorthal-Dimethyl (Dacthal)</b>	10	ND	ND	23,500,000
<b>Diuron</b>	14	Trace	Trace	170,000
<b>EPTC</b>	Trace	216	ND	230,000
<b>Methyl Bromide</b>	3,063	963	2,329	820,000
<b>MITC</b>	72	113	203	66,000

\*Trace: detection above minimum detection limits but below limit of quantitation; ND: Not detected

**Figure 5. Subchronic exposure calculations using 4-week rolling concentration with quantifiable detections.**

Chemicals	Highest 4-week Rolling Concentration in ng/m <sup>3</sup>			Subchronic Screening Level in ng/m <sup>3</sup>
	Salinas	Shafter	Ripon	
<b>1,3-Dichlorpropene</b>	158	<b>4,077</b>	<b>1,740</b>	120,000
<b>Carbon Disulfide</b>	319	304	227	800,000
<b>Chloropicrin</b>	<b>2,162</b>	ND	578	2,300
<b>Chlorothalonil</b>	Trace	67	Trace	34,000
<b>Chlorpyrifos</b>	Trace	92	Trace	850
<b>Chlorpyrifos OA</b>	ND	32	Trace	850
<b>Chlorthal-Dimethyl (Dacthal)</b>	7	ND	ND	470,000
<b>Diuron</b>	8	Trace	Trace	17,000
<b>EPTC</b>	Trace	86	ND	24,000
<b>Methyl Bromide</b>	1,262	389	867	19,400
<b>MITC</b>	36	75	98	3,000

\*Trace: detection above minimum detection limits but below limit of quantitation; ND: Not detected

**Figure 6. Overall average concentration for chemicals with quantifiable detection.**

Chemicals	Overall Average Concentration in ng/m <sup>3</sup>			Chronic Screening Level in ng/m <sup>3</sup>
	Salinas	Shafter	Ripon	
<b>1,3-Dichlorpropene</b>	33	<b>909</b>	<b>302</b>	120,000
<b>Carbon Disulfide</b>	85	87	77	800,000
<b>Chloropicrin</b>	<b>291</b>	ND	146.2	1,800
<b>Chlorothalonil</b>	Trace	22	Trace	34,000
<b>Chlorpyrifos</b>	Trace	16	Trace	510
<b>Chlorpyrifos OA</b>	ND	7	Trace	510
<b>Chlorthal-Dimethyl (Dacthal)</b>	Trace	ND	ND	47,000
<b>Diuron</b>	Trace	Trace	Trace	5,700
<b>EPTC</b>	Trace	Trace	ND	5,700
<b>Methyl Bromide</b>	187	70	172	3,900
<b>MITC</b>	Trace	21	15	300

\*Trace: detection above minimum detection limits but below limit of quantitation; ND: Not detected

DPR estimated the cumulative exposure and risk using a hazard quotient and index approach. DPR evaluated the potential risk by determining the highest 24-hours concentrations for acute exposure, the highest 4-weeks rolling concentration for subchronic exposure, and one year-overall average concentrations for chronic exposure.

$$\text{Hazard Quotient (HQ)} = \frac{\text{air concentration detected (ng/m}^3\text{)}}{\text{screening level concentration (ng/m}^3\text{)}}$$

$$\text{Hazard Index (HI)} = \text{HQ}(\text{pesticide 1}) + \text{HQ}_2(\text{pesticide 2}) + \text{HQ}_3(\text{pesticide 3}) + \dots$$

DPR only calculated cumulative exposures for organophosphate pesticides. These were the only pesticides that have a common mode of action (cholinesterase inhibition) and were detected at quantifiable concentrations.

**Figure 7. Calculated cumulative exposures for organophosphate pesticides.**

Community	Acute Hazard Index	Subchronic Hazard Index	Chronic Hazard Index
Salinas	0.027	0.028	0.031
Shafter	0.387	0.159	0.067
Ripon	0.067	0.043	0.036

None of the hazard indices exceeded one, indicating that the screening levels were not exceeded for all organophosphates combined. Shafter had potential for a higher risk than Salinas and Ripon for all exposure periods. The acute risk was higher for Shafter and Ripon communities, in comparison to the subchronic and chronic risk.

**Figure 8. Overall maximum relative risk for chemicals and quantifiable concentrations.**

Chemical	% Acute Screening Level	% Subchronic Screening Level	% Chronic Screening Level
1 1,3-Dichlorpropene	5.78	7.71	0.76
2 Carbon Disulfide	0.04	0.05	0.01
3 Chloropicrin	0.98	93.98	16.18
4 Chlorothalonil	0.35	0.23	0.06
5 Chlorpyrifos	28.16	10.84	3.15
6 Chlorpyrifos OA	9.14	3.76	1.33
7 Chlorthal-demthyl (Decthal)	0.07	3.46	0.01
8 Diuron	0.01	0.05	0.05
9 EPTC	0.09	0.36	0.09
10 Methyl Bromide	0.37	0.65	4.79
11 MITC	0.31	3.25	6.89

\*Concentrations greater than 100% suggest the need for further evaluation.



In conclusion, of the 32 pesticides and 5 breakdown products in 2014, 23 pesticides were detected in at least one sample. However, AMN results documented low air concentrations for the pesticides and communities monitored. None of the pesticides exceeded their screening levels for any of the exposure periods, indicating potentially low health risk to people in the monitored communities. The pesticides detected at quantifiable concentrations were mostly fumigants (1,3-dichloropropene, carbon disulfide, methyl bromide, chloropicrin, and MITC) and only one organophosphate pesticide (chlorpyrifos and its breakdown product, chlorpyrifos OA). In 2014, the fumigants and organophosphate pesticide comprise 64% of detected quantifiable concentration. The hazard index (combined screening level) for organophosphates was less than one for all exposure periods, indicating a potential low risk from cumulative exposure. For more information regarding DPR's 2014 AMN Results please contact Environmental Scientist, Atac Tuli at (916) 324-4264 or by e-mail at <Atac.Tuli@cdpr.ca.gov>.

**5. Community Fumigant Monitoring for the Toxic Air Contaminant Program –Pam Wofford, DPR**

In 1983, the legislature created the framework for the evaluation and control of chemicals as Toxic Air Contaminant (TAC). DPR is required to identify and evaluate pesticides in ambient air. As part of the TAC program, DPR makes an annual request of the ARB for monitoring of pesticides for ambient air in communities and at application sites. DPR uses this data to determine the potential concentrations in air and estimate the potential exposure and health risk to humans. As part of the program, DPR made a request of ARB in 2010 to conduct community ambient air monitoring in two communities in areas of the highest use of the fumigants. DPR added a third site in November 2011. The communities included Oxnard in Ventura County, Santa Maria in Santa Barbara County, and Watsonville in Monterey County. The fumigants monitored included methyl bromide and 1,3-dichloropropene (1,3-D). In 2014, DPR requested chloropicrin be monitored for three months during the high use period.

The sample collection included 1,3-D and methyl bromide automated canister samplers with one 24-hr sample every six days. Reporting limits were 0.10 ppb for 1,3-D and 0.03 ppb for methyl bromide. Chloropicrin was sampled through a XAD-4 sorbent tube with a 100 cm flow and one 24-hr sample every three days. The reporting limit for chloropicrin was 0.003 ppb. A total of 808 air canister samples were collected for all sites for 2010 to 2014 for 1,3-D and methyl bromide. Twenty-five percent of the samples contained quantifiable concentrations of either active ingredient. In 2014, 83 sorbent tube samples were collected at all sites for chloropicrin during the high use period of August through October. Eight-six percent of the samples contained quantifiable concentrations.

**Figure 9. Total Number of Detections for Sampling Years 2010 – 2014.**

Location	Number of Possible Detections	Total Number of Quantifiable Detections	Percent of Quantifiable Detections (%)
<b>1,3-D</b>			
Camarillo / Oxnard	290	38	13.1
Santa Maria	304	54	17.8
Watsonville	214	32	15.0
<b>Methyl Bromide</b>			
Camarillo / Oxnard	290	96	33.1
Santa Maria	304	118	38.8
Watsonville	214	62	29.0

**Figure 10. Highest One-day Concentration for 2010 – 2014.**

Location	Highest 1-day Concentration (ppb)	Acute Screening Level (ppb)	Acute Regulatory Target (ppb)
<b>1,3-D</b>			
Oxnard	6.4	35	N/A
Santa Maria	5.0	35	N/A
Watsonville	2.8	35	N/A
<b>Methyl Bromide</b>			
Oxnard	8.7	N/A	210
Santa Maria	3.8	N/A	210
Watsonville	1.8	N/A	210

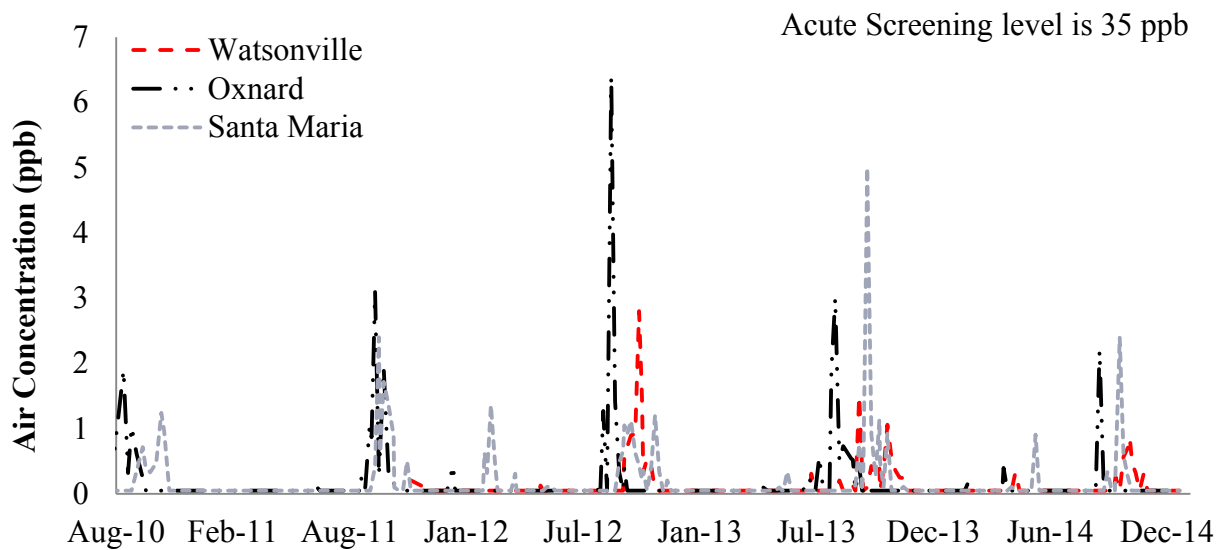
**Figure 11. Highest Rolling Four-week Concentrations for 2010 – 2014.**

Location	Highest 4-week Rolling Concentration (ppb)	Subchronic Screening Level (ppb)	Subchronic Regulatory Target (ppb)
<b>1,3-D</b>			
Oxnard	1.4	25	N/A
Santa Maria	1.3	25	N/A
Watsonville	1.3	25	N/A
<b>Methyl Bromide</b>			
Oxnard	1.7	N/A	5
Santa Maria	1.6	N/A	5
Watsonville	0.9	N/A	5

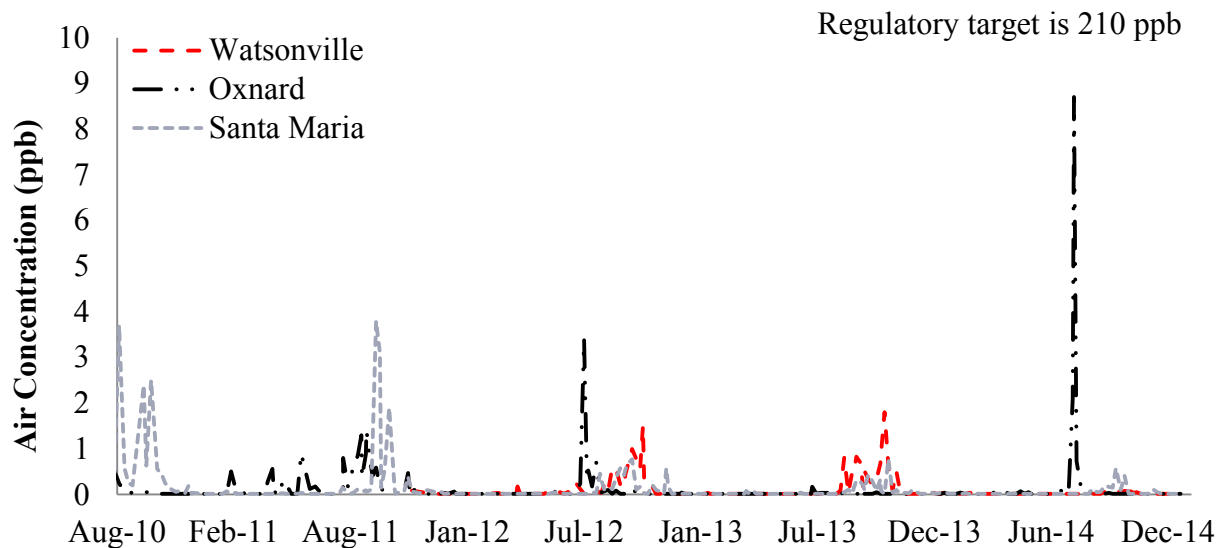
**Figure 12. Highest One-year for 2010 – 2014.**

Location	1-year Average Concentration (ppb)	Chronic Screening Level (ppb)
<b>1,3-D</b>		
Oxnard	0.09	25
Santa Maria	0.11	25
Watsonville	0.09	25
<b>Methyl Bromide</b>		
Oxnard	0.20	1.0
Santa Maria	0.05	1.0
Watsonville	0.03	1.0

Figure 13. 1,3-D 24-hour Concentrations.



**Figure 14. Methyl Bromide 24-hour Concentrations.**



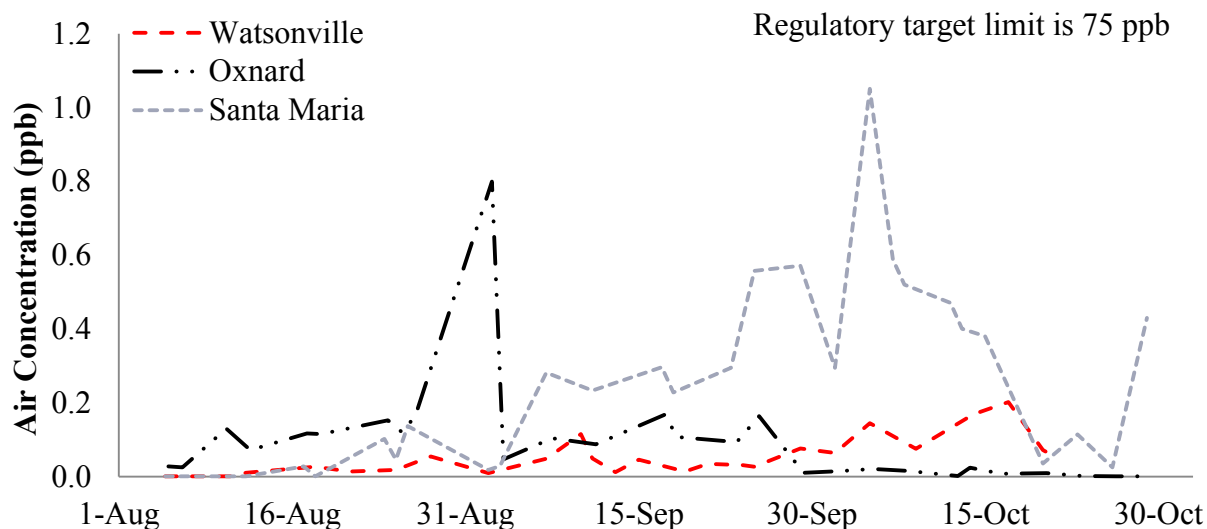
**Figure 15. Chloropicrin Concentrations.**

Location	Highest 1-day Concentration (ppb)	Acute Screening Level (ppb)	Acute Regulatory Target (ppb)
Oxnard	0.8	N/A	73
Santa Maria	1.1	N/A	73
Watsonville	0.2	N/A	73

Location	Highest 4-week Rolling Concentration (ppb)	Subchronic Screening Level (ppb)	Subchronic Regulatory Target (ppb)
Oxnard	0.2	0.35	N/A
Santa Maria	0.5*	0.35	N/A
Watsonville	0.1	0.35	N/A

\*Concentration occurred from September 23, 2014 to October 15, 2014.

**Figure 16. Chloropicrin 24-hour Concentrations.**



In January 2015, DPR implemented additional mitigation measures for the use of chloropicrin that includes acreage limitations, additional buffer zones etc. DPR has requested ARB to monitor for chloropicrin again this year during the similar period to help evaluate those mitigation measures.

**Figure 17. 1-year Average Comparison between Years (in parts per billion).**

Location	2010*	2011	2012	2013	2014	Average Concentration
<b>1,3-D</b>						
<b>Camarillo / Oxnard</b>		0.17	0.19	0.17	0.09	0.17
<b>Santa Maria</b>		0.16	0.19	0.19	0.11	0.17
<b>Watsonville</b>		**	0.16	0.13	0.09	0.13
<b>Methyl Bromide</b>						
<b>Camarillo / Oxnard</b>		0.22	0.10	0.03	0.20	0.13
<b>Santa Maria</b>		0.18	0.10	0.07	0.05	0.13
<b>Watsonville</b>		**	0.13	0.15	0.03	0.10

\*Sampling began on October 2010.

\*\*Sampling began on November 2011.

**Figure 18. 1,3-D Lifetime Exposure Risk.**

Location	2010-2014 Average Concentration (ppb)	Lifetime (70-year) Regulatory Target (ppb)	Average Cancer Risk Estimate
Camarillo / Oxnard	0.17	0.14	1.3E-05
Santa Maria	0.17	0.14	1.2E-05
Watsonville	0.13	0.14	8.7E-06

In conclusion, methyl bromide did not exceed its acute or sub-chronic regulatory targets or its chronic screening level. 1,3-D did not exceed any screening levels (acute, sub-chronic or chronic) but was detected at an average level that if continued for 70 years, would exceed DPR's regulatory target. Chloropicrin exceeded its sub-chronic screening level at the Santa Maria location. Reports for the ARB monitoring are located on DPR's Web site at <<http://www.cdpr.ca.gov/docs/emon/airinit/comspec.htm>>. For more information regarding DPR's Community Fumigant Monitoring for the TAC Program, please contact Environmental Program Manager I, Pam Wofford at (916) 324-4297 or by e-mail at <[Pam.Wofford@cdpr.ca.gov](mailto:Pam.Wofford@cdpr.ca.gov)>.

**6. Committee Comment**

James Seiber asked what the responsibility of the landowner in pesticide applications and if they need to be informed or respond to the PSIS leaflets. Kevin Solari stated the regulations focus on the employers in commercial production agriculture, applicators, and non-production agriculture (e.g., landscape). The landowner or the private applicator may be exempt from the regulations.

Rebecca Sisco inquired if DPR is considering translating the PSIS leaflets to additional languages and the priority languages. Kevin Solari stated DPR has had early discussions regarding translating the PSIS leaflets to additional languages. Lynn Baker stated DPR might want to consider Vietnamese as an additional language.

James Seiber inquired if the 2014 AMN Results will be peer reviewed and published. Atac Tuli stated DPR is waiting for the 2015 data and DPR is planning for the data to be peer reviewed and published. James Seiber further inquired if the data is currently available on DPR's Web site. Atac Tuli stated the information is available on DPR's Web site and is open for comments.

Lori Lim asked how close was the Salinas station in the 2014 AMN to the schools and residential areas and she further inquired how often the samples took place during the year. Atac Tuli stated the station was close to farmlands and the AMN randomly chose the sampling day on every week. DPR took several samples from each location once a week on randomly determined sampling day.

Lori Lim stated DPR should also be concerned with the peak values for acute exposure. Lynn Baker stated when DPR has evaluated an individual pesticide as a toxic air contaminant, they have requested ARB monitor the pesticide for four to six weeks in an area heavily impacted by the pesticide looking at acute exposure. The objective for the AMN leans more towards chronic and subchronic exposure, cumulative total to the exposure of multiple pesticides.

Jeff Fowles inquired to what extent DPR would consider the AMN results as representing worst-case versus typical expected air concentrations in these communities. Pam Wofford stated DPR selected these communities by use so overall these communities should be representative of rural and agricultural areas where there is a lot of pesticide use but may not be capturing the highest concentrations for an individual active ingredient.

Lynn Baker asked when the existing stock could be used until exhausted for methyl bromide. Pam Wofford stated The Critical Use exemptions for field applications of methyl bromide will end after 2016 and only existing stock could be used until it is exhausted.

Lori Lim inquired why the Community Fumigant Monitoring has set a regulatory goal of 1 excess cancer per 100,000 people (1.0E-05). Pam Wofford stated the Department set this goal.

James Seiber asked why methyl isothiocyanate (MITC) is not part of the Community Fumigant Monitoring for the TAC Program. Pam Wofford stated MITC was not part of ARB's Monitoring Network and a MITC measurement requires a tube for analysis. Lynn Baker stated DPR has had ARB do additional field specific application studies for MITC but has not requested MITC to be included in this specific monitoring.

## 7. **Public Comment**

Tulio Macedo inquired if there are any plans for application development for the leaflets (i.e., smart phone applications). Kevin Solari stated DPR might look into application development in the future; however, the current goal is mobile accessibility.

Anne Katten stated when DPR planned to do a follow up analysis with the 2014 AMN result, looking pesticides in close vicinities of the stations. Anne Katten stated she is concerned the data does not represent the highest exposure concentrations in these communities. Pam Wofford stated DPR is starting this analysis and starting with fumigants

Anne Katten asked when DPR plans to complete a follow-up analysis for the Community Fumigant Monitoring within a one mile radius of the sites. Pam Wofford stated DPR has started this analysis and DPR is looking at different distances from application sites to see if there is a correlation. Anne Katten further inquired when this follow-up would be available. Pam Wofford stated DPR anticipates the follow-up for 1,3-D to be completed by the end of 2015.

Anne Katten commented that randomization in the sampling days may be beneficial to the Community Fumigant Monitoring for the TAC Program. Lynn Baker stated the statewide toxics monitoring network is on a six-day schedule. Anne Katten further commented if there is room in the budget that DPR should consider monitoring for four to five months out of the year.

James Nakashima inquired if totally impermeable film (TIF) tarps have had any effect on the monitoring data. Pam Wofford stated TIF tarps should have a major impact on chloropicrin and 1,3-D in the future.

Catherine Caraway asked how the screening levels are developed. Pam Wofford stated the screening levels are developed by DPR and are then sent to OEHHA for review.

**8. Agenda Items for Next Meeting**

No agenda items identified for the next meeting.

The next meeting is scheduled for Friday, November 20, 2015 at 10:00 a.m. in the Sierra Hearing Room on the second floor of the Cal/EPA building, located at 1001 I Street, Sacramento, California.

**9. Adjourn**