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MARIN/SONOMA MOSQUITO AND VECTOR CONTROL DISTRICT

Public Review and Hearing of Draft Programmatic Environmental Impact Report (PEIR) For the Marin/Sonoma Mosquito and Vector Control District's Integrated Vector Management Program

SCH#2012052066

SAN RAFAEL COMMUNITY CENTER

618 B STREET

SAN RAFAEL, CALIFORNIA.

TUESDAY, SEPTEMBER 15, 2015

Reported by:

Julie Link



APPEARANCES

Philip D. Smith, District Manager Susan Hootkins, Senior Consultant Public Mary Fraser

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| 1 | SAN RAFAEL, CALIFORNIA |
| 2 | TUESDAY, SEPTEMBER 15, 2015 6:42 P.M. |
| 3 | 000 |
| 4 | MS. HOOTKINS: So at this point in the |
| 5 | meeting, I'm going to open it for the public |
| 6 | hearing, and Mary Fraser, would you please come |
| 7 | forward. |
| 8 | MS. FRASER: Hi, Good evening, ladies and |
| 9 | gentlemen. Is this on? I suppose you can hear me |
| 10 | anyway. |
| 11 | My name is Mary Fraser. I'm the mother of |
| 12 | three children, and as the mother I had the |
| 13 | unfortunate experience of having one of my |
| 14 | children spend 35 days in the intensive care unit. |
| 15 | Now, because of that experience I've become very |
| 16 | well educated on health risks to children, and one |
| 17 | of the areas that I've become very proficient in |
| 18 | is pesticides and herbicides in general. So I |
| 19 | want to share with you a little bit of my |
| 20 | knowledge about pesticides. |
| 21 | Now, pesticides is an umbrella term. It |
| 22 | includes under the umbrella insecticides, |
| 23 | herbicides, and fungicides, so that's the three |
| | |

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24 classes of life we have on this planet. And the

25 end root of pesticide, "cide" in Latin means

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- death, so we have death to plants, death to
- 2 animals, and death to fungi.
- 3 Many people think that a more apt term for
- 4 pesticides is ecocide, death to the environment.
- Now, pesticides are regulated by the EPA, 5
- 6 and pesticides have what are called active
- 7 ingredients and inert ingredients and adjuvants.
- 8 The only part of a formula of a pesticides that is
- 9 tested is the active ingredient. The inerts and
- 10 the adjuvants are not tested. So when you combine
- these together, you have a toxic formulation of 11
- 12 completely unknown toxicity because the complete
- formula has never been tested. 13
- So I'm here today to urge you to not use 14
- any herbicides or insecticides unless the complete 15
- 16 formulation has been tested, which to my knowledge
- 17 has never happened except with the case of
- 18 Roundup.
- 19 And Roundup, I'm not sure if you're
- familiar with it, but the main ingredient in 20
- 21 Roundup is glyphosate. The World Health
- Organization just declared glyphosate to be cancer 22
- 23 causing to animals. They labeled it their highest
- 24 classification, Classification 1. They labeled it
- 25 as a probable human carcinogen only because they

T-San Rafael 6 did not have enough data for humans. You know, it's unethical to conduct human trials to induce cancer, so they had to use the 3. 3 tests that were done, particularly on agricultural workers, and they said the data is just too fuzzy so we can only give it a classification of 2A. 7 Now, when pesticides are formulated with 8 the EPA, the inerts can be declared proprietary business information or trade secrets, so those ingredient do not have to be disclosed to the 10 public. And as I said before, the complete 11 formulation is not tested. 13 Once these formulations are created 14 they're oftentimes patented, and in order to test the patented formulation you have to get the 15 permission of manufacturer. Fat chance of doing 16 17 that. 18 With glyphosate, which is of real concern because it's been labeled a probable human 19 20 carcinogen and it does cause cancer in animals, 21 the patent has run out, and that complete 5 formulation has been tested by a group of scientists in France, and they've found that the 23 24 complete formulation was a thousand times more 25 toxic than the active ingredient alone,

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7

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- glyphosate.
- 2 So, you know, you have to ask, well,
- 3 what's a thousand times more toxic than cancer in
- animals? 4
- Well, the cancer rate we have in this 5
- country right now is one in two for men, one in
- 7 three for women. Cancer is now the number two
- killer of children. 8
- There was an article that came out today 9
- on the web that Harvard University has done a meta 10
- analysis on pesticides and they have conclusively 11
- 12 linked pesticide use to cancer in children.
- So I understand in your program you have 13
- 14 an option of no chemical use. I would highly
- 15 recommend that you do that to protect the health
- 16 of our children, to protect our own health.
- 17 I mean, glyphosate has been used in this
- 18 country for over 20 years. It completely
- 19 saturates our food.
- 20 Farmers have learned to use it on crops
- 21 right before harvest because what it does is it
- induces death in the plant in its last gasp for
- life, which is to procreate. It comes to full 23
- fruit. Because it's typically applied during the 24
- 25 harvest or right before harvest which is a couple

- days before it's actually harvested, the herbicide
- actually does not have a chance to get down to the
- 3 roots, it just goes into the fruit of the crop.
- 4 So what we're having is a huge increase in
- glyphosate residues in food, but unfortunately
- none of our government agencies test for that.
- 7 I find that really incredible since
- 8 glyphosate is the most heavily used herbicide in
- our country that no government agency tests for
- the residues in our food. 10
- 11 Now, glyphosate in its parent product,
- 12 Roundup, is used on genetically modified foods.
- 13 The crops are specifically designed to be Roundup
- 14 ready and that's typically corn, soy, canola,
- cottonseed, alfalfa, yellow squash, and now 15
- they've come up with genetically modified potatoes 16
- and apples. 17
- 18 The crops that are Roundup ready are
- 19 designed specifically to withstand heavy
- 20 applications of this herbicide, and that's
- particularly corn and soy. 21
- 22 So you find genetically modified
- ingredients in about 80 percent of the processed 23
- foods in this country, but we don't test for the 24
- residues of this cancer causing ingredient, which

I find just absolutely appalling.

10

11

- 2 So, you know, what you can do, actually,
- 3 is you can get yourself tested for glyphosate now.
- 4 There's a program through Moms Across America and
- Sustainable Pulse where for \$119 you can get
- yourself tested. I would recommend you do that,
- 7 especially if you're an applicator, because what
- 8 they're finding is that the higher the levels of
- glyphosate in your body, the more you have a
- tendency for chronic disease. 10
- 11 Now, cancer has a latency period typically
- 12 of 15 to 20 years, so it's difficult to tell, you
- 13 know, how soon your cancer may show up with your
- 14 exposure to glyphosate. There are scientific
- 15 studies that say that glyphosate induces cancer in
- 16 the range of parts per trillion, and someone
- 17 explained to me that a part per trillion was about
- one drop of water in two Olympic swimming pools.
- And again, we don't test for glyphosate in our 19
- 20 food.
- 21 So glyphosate is legal to be sprayed on
- 160 different crops. They're particularly using 22
- 23 it on wheat, so it's being sprayed on wheat right
- before harvest. 24
- 25 So what we're finding as a society is that

| | T-San Rafael |
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| | 10 |
| 1 | |
| 1 | we have a lot of celiac disease, or what people |
| 2 | consider gluten intolerance. |
| 3 | There are scientists out of MIT, |
| 4 | particularly Dr. Stephanie Seneff and Dr. Anthony |
| 5 | Samsel that will tell you that, no, you don't have |
| 6 | celiac disease or gluten intolerance, you're |
| 7 | actually being poisoned by glyphosate. |
| 8 | Dr. Nancy Swanson, a retired Navy |
| 9 | physicist, has done an analysis of the data of the |
| 10 | use of glyphosate on our main crops. She used |
| 11 | data from the CDC, from their hospital discharge |
| 12 | and death rates. She correlated it with the |
| 13 | amount of application of glyphosate on our crops, |
| 14 | which has continued to escalate every year, and |
| 15 | she has come up with a causation of 35 chronic |
| 16 | diseases and deaths. |
| 17 | Now, I spoke with Dr. Don Huber, who is a |
| 18 | professor emeritus of plant pathology at Purdue |
| 19 | University. He looked at this data, he uses it in |
| 20 | his slide show. He says this is not correlation, |
| 21 | this is causation when you see this kind of data. |
| 22 | So we are essentially poisoning ourselves T |
| 23 | with glyphosate. I would ask that any herbicides |
| 24 | that you use, because glyphosate is particularly 13 |
| 25 | used as an herbicide, not contain that ingredient. |
| _ | → The second of |
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- 1 Glyphosate is formulated in 700 different
- products, including AguaMaster, Roundup, there are 2
- many more that public agencies typically use. 3
- 4 I'm probably at the end of my three to
- 5 five minutes.
- I haven't had a chance to review the 532-6
- 7 page document. I do intend to do it and to submit
- 8 written comments in particular.
- 9 I guess I would like an opportunity to ask
- 10 some questions. One of the questions -- some of
- 11 the questions that I have is, are you going to be
- 12 doing aerial spraying?
- 13 Because I went to a fund raiser recently
- 14 for the people that sued over the Brown Apple Moth
- 15 spraying, if you remember that, several years ago.
- 16 And the lead attorney, Stephan Volker, in that
- 17 suit, stood up and publicly stated that when they
- went to trial and the state was asked to produce
- evidence of economic harm, which was the 19
- 20 justification for that program, the state could
- 21 not produce any.
- 22 So that was an intended aerial spraying
- throughout the Bay Area. It did happen down in 23
- Monterey County. Apparently there were several 24
- 25 people that suffered severe effects from the

| | | T-San Rafael | |
|-----|----|--|----------|
| | | 12 | |
| | 1 | spraying that did happen, including a baby, a | \ |
| | 2 | young woman, and several other people. | |
| | 3 | Now, because they settled those cases and | |
| 8 7 | 4 | in the settlement, you know, there are | 15 |
| | 5 | restrictions on not discussing these things | |
| | 6 | publicly, Mr. Volker was not at liberty to discuss | |
| | 7 | the details of those settlements. | |
| | 8 | So I am extremely suspicious of any aerial | Т |
| | 9 | spraying that you're going to do. What I'm | 70 |
| | 10 | finding is that there seems to be some kind of | |
| | 11 | I don't know, I think this is a terrible word to | |
| | 12 | use, but a conspiracy between chemical company, | |
| | 13 | pesticide applicators, people who spray aerially, | * |
| | 14 | that they find things to spray for, you know, | 16 |
| | 15 | particularly in the Brown Apple Moth spraying. | |
| | 16 | And one of the questions I have is about | |
| | 17 | this West Nile Virus is, are you going to be | |
| | 18 | spraying aerially for that? And what are you | |
| | 19 | going to be spraying? And has all the components | |
| | 20 | of that spray been tested completely by an | 2. |
| | 21 | independent laboratory? | l |
| | 22 | Because that's the other thing, that's the | T |
| | 23 | other dirty little secret about the EPA and | 17 |
| | 24 | pesticides, is that the active principal, when | |
| | 25 | it's tested it's only tested by the manufacturer, | |
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- 1 because the EPA has closed ten out of its twelve
- 2 labs.
- 3 The EPA doesn't do any independent
- 4 testing. That's complete bullshit.
- 5 So as you can tell, I'm fairly emotional
- 6 about this. I'm very passionate about it.
- 7 In my family -- and I do not come from a
- 8 farm worker family and I do not live in an
- 9 agricultural zone -- both of my parents have
- 10 cancer. Out of four nieces and nephews, two of
- 11 them have autism. The third one has chronic
- 12 digestive difficulties, which is an indication of
- 13 glyphosate poisoning. And all three of my
- 14 children have asthma. And I can relate pesticides
- 15 to all of those illnesses.
- So please, stop using pesticides, stop
- 17 using herbicides. Until we have a functioning EPA
- 18 that actually regulates them, that actually tests
- 19 them, that tests the complete formulation so that
- 20 we actually know what we're doing instead of
- 21 spraying toxic substances that are completely
- 22 unknown in their toxicity.
- I mean, we're finding pesticides in breast
- 24 milk now. We're finding it in urine.
- 25 U.S. Geological Survey did tests in

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| | T-San Rafael | |
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| 1 | Illinois, Mississippi, Iowa, and they found | |
| 2 | Roundup in 75 percent of the air and rain samples. | |
| 3 | That means it's raining pesticides. | |
| 4 | I just find that incredible in a democracy | |
| 5 | that I'm being unwillingly poisoned. Seventy-five | |
| 6 | percent of the air and water samples. | |
| 7 | They're finding it in urine, virtually in | |
| 8 | everyone's urine. | |
| 9 | They're finding it virtually all tap | |
| 10 | water. We're almost completely contaminated. | |
| 11 | And when you talk to Dr. Don Huber, whose | |
| 12 | spent his lifetime talking about glyphosate, | |
| 13 | looking at the problems with it, he says that in | |
| 14 | some soils it's got a 20-year lifespan, depending | |
| 15 | on the structure of the soil. | |
| 16 | Now, a lot of public agencies will use | |
| 17 | glyphosate and its attendant formulations as what | |
| 18 | they call fire control. They say, well, we need | |
| 19 | to reduce the weeds because they'll burn. | |
| 20 | Well, if you talk to the people who are | |
| 21 | specialists in this, they'll tell you that 20 | |
| 22 . | actually it increases the risk of fire, because | |
| 23 | what it does is it spreads through the root | |
| 24 | systems of the plants, and so it reduces the | |
| 25 | plant's ability to withstand drought, and so they $igvee$ | |
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- become more flammable.
- 2 Dr. Don Huber will tell you that it
- 3 increases sudden oak death.
- He was here recently. He's been in the 4
- Bay Area twice now to talk about glyphosate. 5
- next time I hope you all go to see him. 6
- 7 published a lot of information on the Web.
- I'd like to quote him for a minute, and I
- don't know that I'll get this quote exactly, but
- 10 what he says is he finds that historians when they
- 11 look back on this period of history, it won't be
- that they'll talk about the number of pounds of
- pesticides that we've sprayed, but how willing,
- 14 how utterly willing we were to sacrifice our
- 15 children for the profits of corporations.
- 16 Thank you.
- MS. HOOTKINS: Okay. Do we have anyone 17
- else who wishes to speak tonight, any more cards? 18
- 19 I'm looking for Don. No? Okay. Okay.
- 20 Well, I'm going to -- I'm not going to
- 21 completely close the public hearing because
- 22 someone might come in late, so we will suspend our
- presentation and discussion until we see if anyone 23
- 24 else comes by 8:00 o'clock tonight.
- 25 So we can take a break. Thank you.

```
(Off the record 6:58 p.m. to 7:30 p.m.)
1
            MS. HOOTKINS: Okay. It's 7:30 and no one
 2
 3 else is here to speak, so at this point the public
   hearing is adjourned.
                  (Adjourned at 7:30 p.m.)
                           --000--
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REPORTER'S CERTIFICATE

I do hereby certify that the testimony in the foregoing hearing was taken at the time and

place therein stated; that the testimony of said witnesses were reported by me, a certified electronic court reporter and a disinterested person, and was under my supervision thereafter transcribed into typewriting.

And I further certify that I am not of counsel or attorney for either or any of the parties to said hearing nor in any way interested in the outcome of the cause named in said caption.

IN WITNESS WHEREOF, I have hereunto set my hand this 28th day of September, 2015.

> Juliana Link CER-830

18

TRANSCRIBER'S CERTIFICATE

I do hereby certify that the testimony in the foregoing hearing was taken at the time and place therein stated; that the testimony of said witnesses were transcribed by me, a certified transcriber and a disinterested person, and was under my supervision thereafter transcribed into typewriting.

And I further certify that I am not of counsel or attorney for either or any of the parties to said hearing nor in any way interested in the outcome of the cause named in said caption.

IN WITNESS WHEREOF, I have hereunto set my hand this 28th day of September, 2015.

Vem Harper

Terri Harper Certified Transcriber AAERT No. CET**D-709

Hearing Transcript T-San Rafael

September 15, 2015 San Rafael, California

Response 1

Pesticides are selective in action. The intensive laboratory testing required by the USEPA is to determine and delineate the specific toxic effects to target plants and animals and the relative safety to other nontarget species.

Response 2

Inert is the definition of a material that is known to have no effect, especially no adverse effects. Although there are numerous adjuvants used in some pesticide formulations, most are surfactants (soaps, etc.) added to increase the ability to effectively treat the target. However, over the past years, many product formulations (both the active and inactive ingredients) have also been tested by USEPA, and the results are included in the Federal Register as they are developed.

Response 3

This statement is factually incorrect. The World Health Organization (WHO) classification for glyphosate is 2-A and even that designation is tenuous due to the lack of credible supporting information used to make this determination. See Response I-Fra3-2 and Response O-VOL-22 on the WHO report.

Response 4

While it is correct that some formulations that include inert ingredients are not listed completely, it is because these formulations are proprietary and the result of considerable research by the company producing the product. However, it is also true that only inert additives are used in these cases, as USEPA requires the identification of any known toxic materials used.

Response 5

This statement is factually incorrect. The WHO classification for glyphosate is 2-A and even that is a tenuous designation due to the lack of credible supporting information used to make this determination. The toxicity suggested here is for direct immersion exposure to petri dish cells. See Response I-Fra3-2 and Response O-VOL-22 on the WHO report.

Response 6

The causality of cancer is still unknown. It is not statistically possible to attribute causality to exposures for most reported incidents, as there are numerous confounding factors that are also involved in these reports. Anything can be correlated to incidence of cancer, but correlation is not causality. The dependence of exposure to pesticides to incidence of cancer in humans is nearly impossible to quantify in any scientifically defensible study. The report indicated is not listed for evaluation. However, this article was reviewed by Dr. Williams (see his resume as Attachment B to Response to O-VOL-15), who did not find it to be a convincing or adequately supported statement of effect. The article suggests that young children who are exposed to insecticides inside their homes may be slightly more at risk for developing leukemia or lymphoma during childhood, according to a meta-analysis, which does no more than identify a number of possible causes. The authors suggest that much more work needs to be done. http://www.hsph.harvard.edu/news/hsph-in-the-news/pesticide-exposure-in-childhood-linked-to-cancer/

Nothing in the cited article changes any of the analysis or conclusions in the Draft PEIR regarding the possible human health or ecological effects of the District's use of glyphosate.

Response 7

The No Chemical Program requires complete reliance on other methods that can be more disruptive to the environment than chemical control depending on the application site and habitat/species present. A "no chemical option" allows for unacceptable growth of unwanted vector populations with environmental consequences for human and animal health. A No Chemical Program alternative is addressed in Section 15.4.2 of the PEIR.

Response 8

These comments are factually incorrect statements. Glyphosate has been used safely for dozens of years to increase crop yields that support our population (and many others worldwide). The Food and Drug Administration (FDA) and other US and foreign agencies routinely test for residues in foodstuff and crop production and are tasked to report and remove any contaminated food items. This process also triggers a revision to tests required and proof by the manufacturer that the issue has been resolved before the product is allowed on the market. Although there have been no substantiated correlations to glyphosate exposure in foods to cancer in humans, the FDA has indicated that it will begin to add glyphosate to its current list of residue tests in major crops such as soybeans and corn. The District does not use, and does not propose to use, glyphosate on food crops. Further comments that raise concerns about glyphosate use on food crops are not relevant to the Program or PEIR analysis of the District's proposed use of glyphosate for vector control.

Response 9

These comments are also a factually incorrect series of statements. Glyphosate has been used safely for dozens of years to increase crop yields that include many products that are designated as genetically modified organisms (GMO) in which the crop is selectively developed for resistance to some pests and some pesticides. Because this provides a selective herbicide action to weeds when GMO crops are used, there is little to no adverse impact to the crop. Much of the public concern about the term GMO has been elicited by the media and others who do not understand the science or process of GMO. There have been genetically modified crops since the early botany experiments by Mendel in the 1880s. The FDA and other US and foreign agencies routinely test for many types of residues in many crops, including GMO crops.

Response 10

The latency of cancer after exposure, in most cases, is said to be several years, according to some researchers and based on possible modification of basic, but complex physiological and enzyme systems. These links, however, are not clear and are always accompanied by numerous other confounding factors that may contribute to the responses.

Response 11

There is no credible evidence that celiac disease and gluten intolerance are linked to pesticides. The research and articles by Stephanie Seneff and Anthony Samsel have been challenged by dozens of practicing scientists due to inappropriate correlative assumptions and invalid data evaluations. Their papers have been retracted due to a lack of credible conclusions. See Response I-Fra3-2.

Response 12

The statement that the work by Nancy Swanson provides a clear causation rather than correlation is faulty. The "confirmation" of causality by Don Huber at Purdue is based on his use of a secondary limited correlation in which he suggests that comparing national lists of diseases and deaths to national use information for glyphosate is not scientifically defensible. There is no way to determine what the actual

exposures to the individuals have been regardless of, or based on, the amount of chemical used. In scientific terminology, this type of correlation is an example of a false analogy.

Response 13

Given the magnitude of historic use of glyphosate products, it would seem likely that there would be relationships suggesting exposure results in adverse effects to humans, but this is not the case. Even in the data provided in support of the recent WHO designation of hazard, the most critical reviews of that finding by world renowned scientists and practicing toxicologists indicate no scientifically defensible causality between glyphosate and adverse effects or cancer. See Response I-Fra3-2 and Response O-VOL-22.

Response 14

Aerosol applications are explained in detail in Section 2.3.5.1 with subsections for mosquito larvicides and mosquito adulticides and specific explanations of fogging from the ground or possible spray applications from aircraft. Aerial spraying whether from the ground using backpack equipment or truck mounted equipment, or from watercraft or aircraft, is generally considered in response to potentially severe threats to the environment or public health from a large population of mosquitoes or when the treatment area is too large for the other chemical treatment or nonchemical treatment methods or when special-status species could be disrupted by walking into the wetlands or using motorized equipment in a relatively large area.

Response 15

The comment is on the LBAM eradication project by CDFA, not the District's PEIR. No response is required.

Response 16

Every product used by the District, regardless of the application technique, has been tested and approved (regulated) by the USEPA or other agency. WNV is controlled chemically by using larvicides in water where mosquito-breeding is determined from surveillance and by adulticides for knocking down the adult mosquito when treatment criteria are met regarding the size of the mosquito population and proximity to humans. These methods and the specific chemicals used for each are described in Section 2.3.5.1 of the PEIR and evaluated for ecological and human health impacts in Sections 6.2.7 and 7.2.7, respectively, based on Appendix B, Ecological and Human Health Assessment Report. It is the adult mosquito that actually transmits the WNV disease to humans, birds, and other animals. See Response 14 above.

Response 17

These statements are factually incorrect. USEPA conducts additional in-house reviews and additional inhouse and contracted testing of the products in the registration process to validate or challenge the results submitted by the manufacturer. In fact, the manufacturer has no control over the testing by USEPA and must completely revise or modify its proposed product if the USEPA determines the data cannot be corroborated. Dr. Williams (see resume) was director of a chemical and product testing laboratory for the USEPA during his tenure at the agency and provided numerous independent studies on chemicals in the registration process.

Response 18

The statements by the commenter are incorrectly attributing personal experience with diseases to glyphosate poisoning. There is no corroboration of these claims, and they are not supported by the body of scientific literature relating to health effects of glyphosate. The comments contain a number of inaccurate and/or unsubstantiated statements that are contrary to the evidence in the PEIR or cannot be evaluated, including the comments that the "pesticides are not tested", and "we do not know their toxicity" and that "75% of the air and rain samples in mid-western states contain Roundup", "all tap water contains glyphosate", and "it is in everyone's urine."

Response 19

Soil characteristics modify the lifespan of every chemical introduced to the soil. In most cases, the modification results in reduction of the toxicity of a chemical and renders it less toxic. Glyphosate breaks down in soils according to pH and several other soil characteristics.

Response 20

The District does not manage vegetation for fire control, thus this is statement is not relevant to the Program or PEIR. In any event, reduction of vegetative fuel available to support fires has been shown to reduce the impact of wildfires and urban fires associated with excess vegetation fuel.

MARIN/SONOMA MOSQUITO AND VECTOR CONTROL DISTRICT

Public Review and Hearing of Draft Programmatic Environmental Impact Report (PEIR) For the Marin/Sonoma Mosquito and Vector Control District's Integrated Vector Management Program

SCH#2012052066

WELLS FARGO CENTER FOR THE ARTS 50 MARK WEST SPRINGS ROAD SANTA ROSA, CALIFORNIA

THURSDAY, SEPTEMBER 17, 2015

Reported by: Julie Link



Mary Fraser

T-Santa Rosa

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APPEARANCES

Philip D. Smith, District Manager Susan Hootkins, Senior Consultant Public

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| 1 | SANTA ROSA, CALIFORNIA |
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| 2 | THURSDAY, SEPTEMBER 17, 2015 6:24 P.M. |
| 3 | 000 |
| 4 | MS. HOOTKINS: Okay. We're opening the |
| 5 | public hearing, and our first speaker is Mary |
| 6 | Fraser, F-r-a-s-e-r. |
| 7 | Mary. |
| 8 | MS. FRASER: Thank you. Good evening, |
| 9 | ladies and gentlemen. My name is Mary Fraser. I |
| 10 | am a licensed real estate broker, a resident of |
| 11 | Marin, and the mother of three children. |
| 12 | As the mother of three children, I had the |
| 13 | unfortunate of experience of having one child land |
| 14 | in the intensive care unit for 35 days. Because I |
| 15 | never, ever want to repeat that, I have educated |
| 16 | myself very well on public health and personal |
| 17 | health issues. |
| 18 | About three years ago I became very |
| 19 | interested in the issue of pesticides in human |
| 20 | health and I've been looking at it extensively. |
| 21 | I also come from a large family of |

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22 attorneys, so everything, virtually everything 23 that I'm going to say tonight is backed up by

24 scientific studies. And I brought a copy of just 25 some of the studies that I'm going to talk about.

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- 1 I did submit written comments, they were
- 2 emails that I sent in today. I did not get any
- 3 acknowledgement that they were received, so I came
- 4 today to make sure that the four emails that I
- 5 sent are on public record.
- 6 So I attended the presentation two nights
- 7 ago, and I wanted to talk about my concerns with
- 8 this process.
- 9 I do not think you've been given adequate
- 10 time or notice of these hearings and their
- 11 content. You published a legal notice only on
- 12 August 28th and you expect the public to be able
- 13 to read and prepare comments no later than
- 14 October 2nd on a document that's over 500 pages.
- 15 You made the document available in
- 16 libraries in CD form. Most libraries have
- 17 reservation systems in order to use a computer,
- 18 and time is limited to one hour per reservation,
- 19 and to print out any pages is a ten-cent fee per
- 20 page.
- 21 All of this combined makes for great
- 22 difficulty in reading and analyzing your draft
- 23 EIR.
- 24 I'm requesting that you extend the
- 25 official notification period to at least 120 days;

4

5

5

6

- 1 that you take out quarter-page display ads in
- 2 newspapers; and that you send notifications of the
- 3 draft PEIR to multiple NGOs and nonprofits.
- 4 I would also like you to supply copies of
- 5 the draft PEIR to interested individuals at no
- 6 charge. I understand you want \$500 for it.
- 7 I have not had adequate time to analyze
- 8 your PEIR as I am employed.
- 9 Now, I attended your public hearing on
- 10 September 12th [sic] and I watched a PowerPoint
- 11 presentation that I found a little bit misleading.
- 12 The presentation stated that you use
- 13 chemicals approved for organic food production and
- 14 that you consulted beekeepers.
- During a very brief review of the draft
- 16 PEIR, in my one-hour computer time allotted at the
- 17 public library, I found that you propose to use
- 18 glyphosate.
- 19 This is a chemical pesticide that is not
- 20 allowed in organic food production. The World
- 21 Health Organization, through its research arm, the
- 22 International Agency for Research on Cancer, has
- 23 declared glyphosate to be carcinogenic to animals,
- 24 and it gave glyphosate a '1' rating, which is
- 25 their highest rating for animals, and a '2A'

- rating for humans.
- 2 Now, in reviewing the draft PEIR, I noted
- 3 that the information on glyphosate is inaccurate
- 4 in the following ways.
- 5 Section 4.6.2.3, Human Toxicity. And I'm
- quoting here from your document. 6
- 7 "The shikimic acid pathway, which is
- 8 specific to plants and some microorganisms;
- therefore, glyphosate is thought to have very low
- 10 toxicity to mammals," and they quoted USEPA 1993.
- 11 This is very old information, it's 23
- 12 years old. Dr. Stephanie Seneff of MIT and
- 13 Anthony Samsel have found that the shikimic
- pathway is present in bacteria in the human gut. 14
- And I have supplied in my email a copy or a link 15
- 16 to their peer reviewed published paper.
- 17 Now, Dr. Seneff and Anthony Samsel have
- 18 published numerous other articles about
- 19 glyphosate, and I've attached four other articles,
- 20 including one that specifically deals with
- 21 wildlife and has a co-author by the name of Judy
- 22 Hoy.
- 23 Now, glyphosate is rarely used alone, it's
- 24 almost always used in combination with inerts and
- 25 adjuvants.

8

1 A team of independent scientists did studies on the complete formulation of Roundup, 2 which is the most widely used pesticide that has 3 4 glyphosate as its main ingredient or active principle. The testing found that the complete formulations had toxic levels that were up to a 7 thousand times more toxic, and I'm supplying the 8 links to two of those studies. 9 One is titled Major Pesticides are more 10 Toxic to Human Cells than their Declared Active 11 Principles. One of the lead scientists on that 12 team was Dr. Seralini. 13 The other article is entitled Ethozylated 14 Adjuvants of Glyphosate-based herbicides are 15 Active Principles of Human Cell Toxicity. 16 In Section 4.6.2.3 it's stated, 17 "Currently, no published scientific evidence indicates that glyphosate is carcinogenic or mutagenic." 19 20 I'm attaching a copy of the WHO report 21 that disputes this, and it labels glyphosate as carcinogenic to animals and a probable human 22

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I don't know why this PEIR -- or this

report from the World Health Organization has not

23

24

25

carcinogen.

9

10

- been included in the draft PEIR. The initial
- release was in March 2015 and the entire monograph
- was released in July 2015. There have been 3
- numerous media reports about the World Health 4
- 5 Organization finding.
- Now, in Section 4.6.2.1 there's a table of 6
- 7 the degradation of glyphosate. Monsanto, the
- 8 manufacturer of glyphosate, has been sued by both
- the State of New York and the country of France
- 10 over falsely advertising that their product,
- 11 Roundup, which has glyphosate as its active
- principle, is biodegradable.
- 13 The country of France won their case, even
- 14 though it was appealed to the highest court in
- 15 France, and the State of New York settled the case
- 16 with Monsanto.
- 17 The actual degradation of glyphosate is
- dependent on the chemical nature of the
- environment it is in. In some cases it can take 19
- 20 20 years or more to biodegrade. So your table in
- 21 there on the biodegradation of glyphosate is
- 22 inaccurate.
- I'm asking that you not use glyphosate at 23
- 24 all, and I want the directors of the District to
- 25 approve the no chemical option that's proposed in

11

T-Santa Rosa 10 your draft PEIR. I also supplied another email with a copy of a speech that I recently did called Why 3 4 Pesticides should be Banned. At the end of the speech I have included all of my references. I 12 think I have -- actually this didn't print out. 7 There should have been 13 references in this 8 thing. I guess I'll have to recopy that and send that to you again. 10 Now, another issue in terms of choosing the no chemical option for your draft PEIR is that 11 pesticides drift, so you cannot guarantee anyone 13 that they will not -- that you will not affect 14 them. 13 15 Pesticides get into our air and our water, 16 and in this email I attached a speech that I 17 recently wrote about pesticides drift and their threat to the \$45 million organic agricultural market in Marin. 19 20 And I want to share this graphic with you because not only is glyphosate -- not only has it 21 been sued by the country of France and the State 14 of New York, but now there's a class action lawsuit against it, and this is one of their 24 25 graphics. CALIFORNIA REPORTING LLC (415) 457-4417

| | . 11 | |
|----|--|----------|
| 1 | It's a little girl playing in the rain and | ^ |
| 2 | it's saying "It's raining Roundup." And underneath | |
| 3 | it says, "Monsanto's Roundup is found in 75 | |
| 4 | percent of air and rain samples." | |
| 5 | Now, this graphic comes from an official | |
| 6 | government study done by the United States | ile: |
| 7 | Geological Survey. They've done a number of | |
| 8 | studies. The lead author on most of the studies | 14 |
| 9 | is a Paul Capel. | |
| 10 | In my documents that I've submitted I | |
| 11 | believe I have referenced at least four of his | |
| 12 | studies because they've tested the air in at least | |
| 13 | four states and this is a consistent finding. And | |
| 14 | not only do they find Roundup in the air, they | |
| 15 | find atrazine, they find malathion, they find | |
| 16 | Diazinon and a number of other chemicals. | L |
| 17 | Again, I urge you to use the no chemical | Ţ |
| 18 | route. I'm going to go through your PEIR and see | |
| 19 | if you actually address physical alternatives to | 15 |
| 20 | using chemicals, and I will be sending you | |
| 21 | comments on that. | |
| 22 | And I sent you another email about where | T |
| 23 | pesticides, and in particular glyphosate, have | 40 |
| 24 | been banned because countries and municipalities | 16 |
| 25 | around the world are starting to ban it. | 1 |
| | * | |

12

| 1 | In Marin County the Marin Municipal Water | Ī |
|----|--|----------|
| 2 | District recently chose to exclude the use of | |
| 3 | pesticides from the 26,000 acres that they manage. | |
| 4 | This is a continuation of a nine-uear hiatus in | 17 |
| 5 | the use of pesticides, because no one wants | |
| 6 | pesticides in our water supply. Unfortunately, | |
| 7 | they're already there in many places. | |
| 8 | Now, Richmond, California has banned | T |
| 9 | pesticides. This effort was led by two doctors, | |
| 10 | one of whom is the retired chief of cardiology at | |
| 11 | Kaiser Permanente. His name is Dr. Jeff | |
| 12 | Ritterman. He wrote and published an extensive | |
| 13 | article outlining the public health reasons for | 18 |
| 14 | banning pesticides. | |
| 15 | I had the privilege to hear Dr. Ritterman | |
| 16 | speak recently. He started his talk by saying | |
| 17 | that the compelling evidence against pesticide use | |
| 18 | was the birth defects that are showing up in South | |
| 19 | America. We're talking about babies born with no | |
| 20 | skulls or half a skull, babies born with no arms | |
| 21 | and no legs, babies born with one big Cyclops eye. | 1 |
| 22 | These are defects that are nearly | |
| 23 | identical to the ones that happened in Vietnam | T |
| 24 | after we defoliated that country with Agent Orange | 19 |
| 25 | during the war. And we have yet to ban the entire | 1 |
| | | |
| | | |

22

- formula of Agent Orange. We've only banned 2,4-T;
- we still use 2,4-D on our agriculture.

3 So in Argentina, because the health

- 4 consequences have been so severe, 30,000 doctors
- have called for a ban on pesticides -- 30,000
- doctors.
- 7 In El Salvador, 20,000 men have died in
- 8 the last five years because they started using
- pesticides in the sugar cane fields. So in El
- Salvador they've banned 32 different pesticides. 10
- 11 Sri Lanka has the same issue. Thousands
- are dying from end stage kidney disease, and one
- 13 of the reasons that they have such terrible kidney
- disease is because they have serpentine soil. And
- 15 we have serpentine soil in Marin. So Sri Lanka
- has banned a number of pesticides. 16
- France has banned them. The Netherlands 17
- has banned non-commercial use. German ministers
- are calling for a ban in the entire European 19
- 20 Union. All of these countries operate on the
- 21 precautionary principle where chemicals have to be
- proven safe before they can be used.
- 23 In America we have the opposite policy.
- 24 Chemicals undergo minimal testing by the
- manufacturer, and then the public has to prove

| | T-Santa Rosa | |
|-----|--|------|
| | 14 | |
| 1 | that a chemical is unsafe before it can be forced | 1 |
| 2 | off of the market. This can take decades and has | 22 |
| 3 | untold consequences. | |
| 4 | So again, I'm asking you to use the no | Т |
| , 5 | chemical option in your EIR. | 23 |
| 6 | And I've attached a list of all the other | Ť |
| 7 | places where pesticides have been banned or | |
| 8 | restricted, including the City of Fairfax, | |
| 9 | California; the City of Belvedere, California; the | |
| 10 | City of Sausalito, California, where pesticides | |
| 11 | are under review; the Reed School District in | |
| 12 | Tiburon, California where pesticides are not used | 24 |
| 13 | on school district grounds; the Larkspur Corte | |
| 14 | Madera School District in Corte Madera; the Mill | |
| 15 | Valley School District; Connecticut, where | |
| 16 | pesticides are banned on municipal playgrounds; | |
| 17 | New York, where again they're banned on school | |
| 18 | grounda; Bermuda, Brazil, where the chief | |
| 19 | prosecutor wants glyphosate banned; | 1 |
| 20 | And the country of Columbia. They've | T |
| 21 | banned the spraying of glyphosate for use on | |
| 22 | illicit crops. They used to spray for the crops | 25 |
| 23 | that created cocaine, but the health damages were | |
| 24 | so severe that they've stopped doing that. | 1 |
| 25 | Besides Richmond, California, we have | J 26 |
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15

26

27

28

- 1 Chicago, Illinois; Tacoma Park, Maryland; Laguna
- 2 Hills, California; Durham, Connecticut; Paris,
- 3 France; the University of Vermont Law School; and
- 4 Emory University campuses; Santa Barbara,
- 5 California; Plainville, Connecticut; Santa Fe, New
- 6 Mexico; and San Francisco has had an 85 percent
- 7 reduction in the use of pesticides based on their
- 8 IPM Policy.
- 9 So now I want to talk a little bit about
- 10 bees because bees are pollinators, mosquitoes are
- 11 pollinators.
- 12 We're spraying for mosquitoes. You cannot
- 13 discriminate between pollinators in your pesticide
- 14 applications.
- I was looking through some old files the
- 16 other day -- or today actually, because I've been
- 17 interested in bees for quite awhile, and I came
- 18 across a file from 2013, the Winter Loss Survey
- 19 done by a group called The Bee Informed
- 20 Organization, and they had a graphic here that I
- 21 want to submit.
- Where in 2013 they had a 30 percent
- 23 mortality rate on honeybees over the winter. In
- 24 their graphic they say that an acceptable range, a
- 25 sustainable range is 15 percent.

16

```
1
             Now, we're at 50 percent loss.
                                             So in two
    years we've gone from 30 percent loss to 50
2
                                                          28
    percent loss in our honeybees. These are just in
3
 Δ
    the pollinators that we really count.
 5
             Pollinators pollinate almost 90 percent of
    the plants in this world. If we lose our
7
    pollinators, we lose most of our food crops.
8
    We're left with corn, wheat, rice, a few other
9
    things that are pollinated by the wind.
10
             We can't survive on that because there are
11
   not enough essential amino acids.
12
             I mean, to have a 20 percent increase in
                                                          29
13
    two years. I have read a statement by a bee
    scientist that said that we are one hard winter
    away from not having any food. We do not have
15
    food security in this country.
16
17
             I find that absolutely unbelievable and
    unacceptable. And for you to spray to kill
18
19
    pollinators when we have this kind of critical
20
    situation in this country is absolutely
21
   unjustifiable. Absolutely unjustifiable.
22
            Now, in your presentation you say you
   consult with beekeepers. I want to quote from a
23
24
   book that was written by a Dr. Evangelos
                                                          30
25
  Vallianatos. He was with the EPA for 25 years.
```

17

30

31

- 1 This is a whistleblowing book, it's called The
- 2 Secret History of Pollution and the EPA, it's
- 3 entitled Poison Spring. It just came out
- 4 recently.
- 5 I had the privilege to be the driver for
- 6 Dr. Vallianatos recently, and we talked
- 7 extensively about pesticides and the EPA, and he's
- 8 the one, and his book, that talked to me
- 9 extensively about the fact that inerts are never
- 10 tested along with the active principle, it's in
- 11 his book here.
- 12 But really what I want to talk about is
- 13 beekeepers. He says, "For several decades honey
- 14 producers in the United States have worried that
- 15 protesting the death of their bees would bring
- 16 down the wrath of industrial farmers who will
- 17 either wipe them out with sprays or ruin them by
- 18 suggesting that honey and pollen may be full of
- 19 tiny capsules of nerve gas and numerous other
- 20 poisons.
- 21 "This explains a depressing Catch-22.
- 22 Even as their bees continue to die, honey
- 23 producers have been largely silent. They're
- 24 willing to lose some of their hives as the price
- 25 for the social contract they have with the farmers

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MSMVCD

T-Santa Rosa 18 whose insecticides kill their bees." 2 Apparently, there are number of pesticides that are microencapsulated. They're still on the 3 4 market. The bees will pick up the pesticides in 32 their microencapsulation and take them back to the 5 hives. So you buy commercial honey, you may be 7 buying a product full of pesticides. 8 Here's another quote from the book. was a woman, D. Lusby, who sent letters about this to the EPA, and the author Dr. Vallianatos says, 10 11 and I quote from his book, "I talked to Lusby in July of 1989. She told me that beekeepers who 12 33 13 complain about pesticide poisoning paid a price. Farmers would spray bomb their hives, sometimes 15 killing all the bees. Such was the cost of this war that few beekeepers dared to go public with 16 17 their grief and loss. This remains true today." So the last time I spoke I talked about 18 19 the cancer rate, because I think that's the real public health issue here. It's not malaria. I 20 don't think it's the West Nile Virus. I think 21 34 it's the cancer rate. 23 Because according to the American Cancer Society, we have a 2015 rate of one in two for men 24 25 and one in three for women. I just find that CALIFORNIA REPORTING LLC (415) 457-4417

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19

- astronomical.
- 2 We used to have a one in ten rate, and now
- we have one in three and one in two. 3
- pretty unbelievable. That's the real public
- health issue.
- 6 Let me go back to glyphosate for a minute
- because one of the documents I submitted was a 7
- 8 study done by Dr. Nancy Swanson and other
- 9 scientists. It was published in the Journal of
- 10 Organic Systems. It's called Genetically
- 11 Engineered Crops; Glyphosate and the Deterioration
- 12 of Health in the United States of America.
- 13 The abstract says, "A huge increase in the
- 14 incidence and prevalence of chronic diseases has
- been reported in the United States over the last 15
- 20 years. The herbicide glyphosate was introduced 16
- 17 in 1974 and its use is accelerating with the
- advent of herbicide tolerant genetically
- 19 engineered crops.
- 20 "Evidence is mounting that glyphosate
- 21 interferes with many metabolic processes in
- animals and plants, and glyphosate residues have 22
- 23 been detected in both.
- 24 "Glyphosate disrupts the endocrine system
- 25 and the balance of gut bacteria. It damages DNA

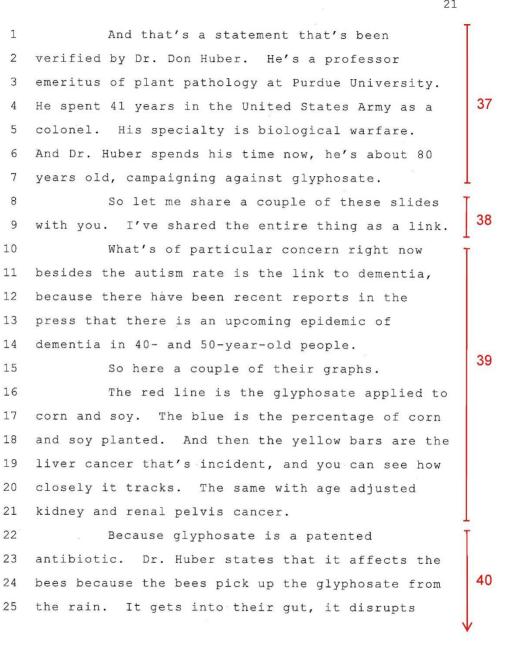
36

20

36

| 1 | and is a driver of mutations that lead to cancer." |
|----|--|
| 2 | Now, the endocrine system is our hormonal |
| 3 | system, and this is particularly damaging to |
| 4 | children who have critical windows of development, |
| 5 | and what we're finding is huge increases in |
| 6 | chronic diseases in children. |
| 7 | We now have an autism rate that's |
| 8 | somewhere between one in fifty and one in sixty- |
| 9 | eight, and Dr. Swanson and Dr. Seneff have |
| 10 | directly tied glyphosate to autism. |
| 11 | So in this paper that Dr. Swanson did with |
| 12 | three other scientists, they published a number of |
| 13 | graphs on the chronic diseases, and I believe |
| 14 | there's something like 32 of them. |
| 15 | Let's see; stroke, diabetes, obesity, |
| 16 | lipoprotein metabolism disorder, Alzheimer's, |
| 17 | senile dementia, Parkinson's, Multiple Sclerosis, |
| 18 | autism, inflammatory bowel disease, intestinal |
| 19 | infections, end stage renal disease, acute kidney |
| 20 | failure, cancers of the thyroid, liver, bladder, |
| 21 | pancreas, kidney, and myeloid leukemia. |
| 22 | And they published these graphs and they |
| 23 | find a correlation that they say in the end that |
| 24 | it's not correlation, that statistically when you |
| 25 | look at this it's actually causation. |

21



T-Santa Rosa 22 their gut biome, and so they literally starve to 2 death. 3 So again I ask you not to use chemical 40 4 warfare against pollinators. We need our food, we need our children. We need our health. 5 6 Cancer is the big public issue. 7 So once I review your entire PEIR, I will 8 be submitting additional documents, additional 9 data. 10 I intend to send your PEIR to Pesticide 11 Action Network, to Beyond Pesticides. 12 And let me just close with one other study 13 that I find really interesting, and this gets a lot of attention from men. 15 Published in the Asian Pacific Journal of 16 Reproduction. It's called Potential pathways of 17 pesticide action on erectile function. A contributory factor in male infertility. 41 19 And the abstract says, "One of the 20 important objectives of this manuscript is to focus on the place of erectile dysfunction as an 21 important factor for infertility. The review is 22 23 about correlating the indiscriminate use of pesticides and to find out and highlight the 24 evidences from mechanism of action of these

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T-Santa Rosa

23

- pesticides for erectile dysfunction, and find out
- the most used and most dangerous pesticide from an
- 3 erectile dysfunction point of view.
- 4 "The review suggests that erectile
- dysfunction is having a significant place as a
- causal factor for infertility. 6
- 7 "The study infers that pesticides are
- 8 having multiple mechanisms of action through which
- 9 they cause erectile dysfunction."
- So I didn't send the link for this, I will 10
- 11 just leave it with my written comments.
- There are a number of other studies which 12
- 13 I will provide about male impotence, infertility.
- Dr. Huber told me in private conversation 14
- that the fertility rate in this country has 15
- dropped 30 percent in the last five years. 16
- 17 My daughter worked at a fertility center.
- She was the egg donor coordinator. She quit the 18
- job. She told me, "Mom, we can't find enough egg 19
- 20 donors. The girls aren't healthy enough. They're
- still showing up to donate their eggs, but they're 21
- 22 just not healthy enough."
- 23 My goal in life is to have healthy
- 24 grandchildren. I can't do that if you all
- 25 continue to put toxic chemicals into the air and

43

42

24

| | 1 | the water to kill our pollinators. | 1 43 |
|---|------|---|------|
| | 2 | Thank you. | |
| | 3 | MS. HOOTKINS: Okay. Well, I think we're | |
| | 4 | going to go ahead and we'll wait. (inaudible) | |
| | 5 | because some of these people want to have | |
| | 6 | something to eat. (inaudible). | |
| * | 7 | Yeah, let's put the public hearing in | |
| | 8 | suspense until yeah. | |
| | 9 | (Off the record 6:49 p.m. to 7:15 p.m.) | |
| | 10 | MR. SMITH: Seeing no further attendees, | |
| | 11 | we'll close at 7:15. | |
| | 12 | MS. HOOTKINS: The public hearing is | |
| * | 13 | closed. | |
| | 14 | MR. SMITH: 7:15, yeah, nobody here. | |
| | 15 | (Adjourned at 7:15 p.m.) | |
| | 16 | 000 | |
| | 17 | | |
| | 18 | | |
| | 19 | | |
| | . 20 | | |
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REPORTER'S CERTIFICATE

typewriting.

I do hereby certify that the testimony in the foregoing hearing was taken at the time and place therein stated; that the testimony of said witnesses were reported by me, a certified electronic court reporter and a disinterested person, and was under my supervision thereafter transcribed into

And I further certify that I am not of counsel or attorney for either or any of the parties to said hearing nor in any way interested in the outcome of the cause named in said caption.

IN WITNESS WHEREOF, I have hereunto set my hand this 28th day of September, 2015.

> Juliana Link CER-830

TRANSCRIBER'S CERTIFICATE

I do hereby certify that the testimony in the foregoing hearing was taken at the time and place therein stated; that the testimony of said witnesses were transcribed by me, a certified transcriber and a disinterested person, and was under my supervision thereafter transcribed into typewriting.

And I further certify that I am not of counsel or attorney for either or any of the parties to said hearing nor in any way interested in the outcome of the cause named in said caption.

IN WITNESS WHEREOF, I have hereunto set my hand this 28th day of September, 2015.

Vem Harper

Terri Harper Certified Transcriber AAERT No. CET**D-709

Hearing Transcript T-Santa Rosa

September 17, 2015 Santa Rosa, California

Response 1

Comment noted. No response is needed.

Response 2

The four emails are included in the Final PEIR as Comments I-Fra1 through I-Fra4. The same ones provided as hard copy are included as I-Fra6.

Response 3

The comments on the CEQA review process were also made in written comments I-Fra3. See Response I-Fra3-1 (i.e., comment letter I-Fra3, response 1).

Response 4

The extension of time to 120 days was not granted. See Response I-Fra3-1.

Response 5

See Response I-Fra3-2 on the District's use of materials for vector control that are compatible with organic farming. District staff work cooperatively with the Beekeeper's Association and individual beekeepers. Staff take appropriate precautions in conducting District operations to minimize any potential for negative impacts to bee populations.

Response 6

The commenter makes several points about glyphosate. We agree it is not approved for use on organic farms. Concerning the WHO report, see Response I-Fra3-2.

Response 7

The commenter suggests that the PEIR's information on glyphosate is inaccurate and relies on old information. The fact that a study was performed in 1993 does not make it invalid. Moreover, the body of information for the registration of glyphosate has been submitted to the USEPA in dozens of studies, first by the manufacturer and its university and contractor scientists. The suite of studies required for approval include dozens and dozens of potential acute and chronic tests to detect possible effects to mammals (as surrogates for humans as well as for wildlife), birds, invertebrates, and bees. The research test data submitted to the USEPA is an ongoing process required for its Re-registration Eligibility Decision (RED) in which label changes and use patterns are reviewed and updated.

The studies cited for Seneff and for Samsel are generally based on meta-analysis computer models that compare effects and pesticide uses at the national or regional level. These studies are not relevant to the District's use of glyphosate in specific applications for vector control. Other reports by these authors have been discounted, and some have been retracted due to negative review and critique.

See Responses I-Fra3-3 and other responses to your email (comment I-Fra3) addressing the articles provided.

There are numerous pesticide products that include inert and/or chemically different additives to enhance the spray characteristics, adhesion properties, and efficacy. Many of those products have been specially tested for toxicity and registered with the USEPA for specific vector control purposes (National Park Service 2016). Although some of these mixture products have been associated with increased toxicity, numerous studies have demonstrated that the increase in toxicity may be due to a surfactant additive. In most instances, these special formulations of pesticide products are intended to reduce the potential for adverse effects or to specifically be used for aquatic environments, e.g., a glyphosate product, Accord, is a formulation of glyphosate which has been shown to be safer to aquatic wildlife than some of the other formulations of glyphosate (Brodman et al. 2010). Many of the studies that report increased toxicity with adjuvants are conducted at the cellular level, which is not relevant to District uses. See Response I-Fra3-4.

Each of the active ingredients and adjuvants applied by the District were evaluated individually with consideration of pesticide's mode of action, persistence in the environment, toxicity, and environmental fate. Furthermore, the District's methods for application of the material, such as ULV techniques, were also considered. Based on this evidence and expert analysis, the Draft PEIR concludes that the vector control chemicals would have less-than-significant impacts to surface water and groundwater when applied consistent with the vector control application techniques, label requirements, and BMPs implemented by the District. See also Response O-VOL-29.

Response 9

The commenter is referring to Section 4.6.2.3 in Appendix B, which was prepared in June 2013. Since then, additional studies have been reviewed including the WHO report, which was published in 2015. The WHO report is the result of a "panel discussion" by the International Agency for Research on Cancer (IARC) about the potential for selected chemicals and products that have achieved some level of public interest and concern but may or may not be supported by the data and information available. In fact, the IARC has been challenged by dozens of technical experts who evaluated the process used by the panel to list glyphosate as a probable carcinogen. It has been demonstrated that IARC rejected the 800 studies / 3,000 documents that gave glyphosate a positive safety result, basing their decision of "probably carcinogenic" on only eight studies, of which three actually included results, and these results were arquably insignificant. See Response I-Fra3-5.

After the WHO publication listing glyphosate as a probable carcinogen, dozens of practicing scientists in the mainstream scientific community (including European Food Safety Administration, the German Federal Institute for Risk Assessment (BfR) and the lead author of one of the studies used by IARC to draw its conclusions) have criticized and disputed the results of the IARC for using a poor methodology and conducting inadequate research. The conclusions drawn by the IARC about the potential adverse effects of glyphosate were based on studies that are not relevant to actual, potential exposures and on studies that were based on high exposures to cells in petri dishes and in vitro laboratory conditions. See also Response O-VOL-22.

Response 10

For decades, scientists have demonstrated and validated that every organic chemical has a physical/chemical degradation characteristic termed "half-life" (a metric used to describe the elapsed time for a chemical to reach ½ of its initial activity). Each organic chemical, whether toxic or not, decays in both activity and toxicity over time. For some chemicals, the half-life can be hours, days, or weeks. By design, few chemicals used as pesticides1 have half-lives greater than a week and are further degraded by the

¹ The term "pesticides" includes herbicides used for destroying weeds and other unwanted vegetation.

environmental conditions of the application area. When pesticides get into soil, or water, or are taken up by plants and animals, their half-life characteristics are altered. The environmental fate of pesticides depends on the physical and chemical properties of the pesticide, particularly the pH of the medium, modifying how likely it is to travel through soil (soil mobility), how well it dissolves in water (water solubility), and how likely it is to become airborne (volatility).

Once a pesticide has been released into the environment, it can be broken down by exposure to sunlight, (photolysis), exposure to water (hydrolysis), exposure to other chemicals (oxidation and reduction), microbial activity (bacteria, fungi, and other microorganisms), and other plants or animals (metabolism). Glyphosate is an herbicide that is relatively stable to chemical and photo decomposition. The primary pathway of glyphosate degradation is soil microbial action, which yields the minimally toxic breakdown product AMPA and glyoxylic acid. Both products are further degraded to carbon dioxide. Glyphosate adsorbs tightly to soil so that its residues are relatively immobile in soil (USEPA 1993). This characteristic results in the chemical (when it is in the soil) being less available as a route of exposure and would require direct ingestion of the soil or sediment, which is not a likely route of uptake by associated biota.

See Response I-Fra3-5 on the degradation of glyphosate and also Response O-VOL-21.

Response 11

The commenter asks that no chemicals be used; she supports the No Chemical Program. This comment will be considered by the District's Board of Trustees in its consideration whether to approve the Program as proposed, or with modifications.

Response 12

The commenter references a speech she gave to Toastmasters that was provided separately and called Comment I-Fra2 in this Final PEIR. See Response I-Fra2-2.

Response 13

The email she references is included in this Final PEIR and identified as Comment I-Fra1. The District minimizes the potential for drift from larvicide and adulticide applications by following the best management practices listed in Response I-Fra1-1 in addition to meeting all label requirements. Also see Response I-Fra1-2 and Response O-VOL-24.

Response 14

The reports cited in this comment are addressed in Response I-Fra2-3. The reports include monitoring of air and rain associated with agricultural crop pesticide applications in Mississippi and other states. The data are not relevant to the District's pesticide applications.

Response 15

See Response 11 above.

Response 16

The commenter provided a speech that she gave to the Marin County Board of Supervisors in which she argued against the use of various pesticides, followed by lists of places where glyphosate or other pesticides are restricted (an email Comment I-Fra4 in this Final PEIR). Comments are noted and considered, although they are not directed to the District or its PEIR. See Response I-Fra4-2.

Comment noted. See Response I-Fra4-2. No further response necessary.

Response 18

The reference cited is a recollection of a talk given by a third party and cannot be reviewed without the scientific basis for the claims by the cited person.

Response 19

This comment pertains to the effects caused by "agent orange," (2,3,7,8, TCDD or dioxin) a material that is not typical of the classes of pesticides used by the District. Every chemical has specific effects to biota and the impacts are based on the large variations in stereotypy, classification of action, active sites, and physiochemical characteristic at the time of exposure, among others. Dioxin is not used or proposed for use by the District.

Response 20

The comment cites information about diseases and deaths in various countries and suggests that the cause of the mortality and morbidity is a result of pesticide use in these countries. The comment also states that pesticides are being banned in South America and Sri Lanka, and other nations. Without the publications and specific information, no further comment can be made about these statements, which do not address pesticide use by the District for vector control. It should be noted, however, that in South America and many other nations, there are few restrictions on the use of pesticides, so it is difficult to put these claims in perspective compared to the rigorous regulations and safety testing imposed on uses of pesticides here in the US.

Response 21

Pesticides must undergo rigorous laboratory testing (and field trials) prior to registration for use in the USA. The commenter asserts that the countries cited use the Precautionary Principle to prove that chemicals are safe, which is said to be the opposite of the US. This is factually incorrect and uses a faulty concept to suggest that the chemicals are not safe. In fact, the Precautionary Principle is a flawed approach to any scientific evaluation, as it requires that one prove that no response to an action will occur. This is virtually impossible and is rejected by the credible scientific community. To those with scientific training, this suggests that one must "prove a negative," which is essentially impossible in any statistical sense of a defensible scientific process. See also Response O-VOL-22.

Response 22

This comment on testing and use is not a true statement. The USEPA requires that all pesticides undergo rigorous laboratory testing (and field trials) prior to registration for use in the US. Continuous review is conducted of pesticides listed in the EPA registry; and if/when an issue is identified, the chemical must reenter the registration process and satisfy the testing requirements that address the specific issue identified. This is the Re-Registration Decision (RED) and is provided for public review when completed.

Response 23

See Response 11 above.

The commenter lists cities and locales (including schools) that have banned pesticides. Concerning Marin County, see Response I-Fra4-2. The District cooperates closely with school districts and individual schools when conducting vector control operations in the vicinity of school premises.

Response 25

Commenter lists another locale that has banned pesticide use on illicit crops. No response is necessary, because this example is not relevant to District pesticide applications.

Response 26

See Response 25 above.

Response 27

The commenter suggests that the District cannot prevent inadvertent contamination of bees as a result of its use of pesticides for vector control. Of the many products available, those used by the District are applied using strict BMPs that reflect an understanding of and adherence to guidance designed to minimize effects on bees. These procedures include additional recommendations limiting pesticide use only within the wind speed parameters on the product labels conditions. The guidance and the BMP approach is tailored to minimize the potential for direct bee exposure to any of the pesticides used for vector control by the District. Furthermore, the District uses the following BMP H12 for pesticide applications that is contained in Table 2-6 in Section 2.9: which states that:

"Do not apply pesticides that could affect insect pollinators in liquid or spray/fog forms over large areas (more than 0.25 acres) during the day when honeybees are present and active or when other pollinators are active. Preferred applications of these specific pesticides are to occur in areas with little or no honeybee or pollinator activity or after dark. These treatments may be applied over smaller areas (with hand held equipment), but the technician will first inspect the area for the presence of bees and other pollinators. If pollinators are present in substantial numbers, the treatment will be made at an alternative time when these pollinators are inactive or absent."

See also Response O-VOL-26.

Response 28

The commenter cites generally inaccurate statistics on the number of bees and bee colonies that are active in the US. Although several articles about the bee populations and the impact of pesticides on bees have appeared in the media, most are inaccurate, unvalidated claims without actual supporting data. Recently, the media reports about pesticide impacts to bees have focused on the neonicotinoid class of pesticides, which have been blamed for bee deaths and colony collapse disorder. Although the District does not use neonicotinoid products, a discussion of the potential contribution of these products to cumulative impacts on pollinators, including possible Colony Collapse Disorder, was included in the PEIR because it is relevant to their potential role in a cumulative impact discussion. Similar arguments that support the lack of toxicity of many pesticides to bees and other pollinators also pertain to the use of glyphosate. See also Response O-VOL-26.

The commenter provides statements that the food supply will dwindle without pollinators/bees. Of course this is correct in concept, as bees and other pollinators are an integral part of the ecosystem process and have an important niche in the food production and crop status in every country. However, the District does not "spray to kill pollinators." In fact, data suggest that bee numbers are stable, and bee colonies are not adversely impacted to dangerous levels as asserted in the comment (NASS 2016).

Response 30

The District has routinely consulted with beekeepers in response to public service requests. There are numerous pesticide products that include inert and/or chemically different additives to enhance the spray characteristics, adhesion properties, and efficacy. Many of those products have been specially tested for toxicity and registered with the USEPA for specific vector control purposes (National Park Service 2016). Although some of these mixture products have been associated with increased toxicity, numerous studies have demonstrated that the increase in toxicity may be due to a surfactant additive. In most instances, these special formulations of pesticide products are intended to reduce the potential for adverse effects or to be used specifically for aquatic environments, e.g., a glyphosate product, Accord, is a formulation of glyphosate which has been shown to be safer to aquatic wildlife than some of the other formulations of glyphosate (Brodman et al. 2010). Many of the studies that report increased toxicity with adjuvants are conducted at the cellular level, which is not relevant to District uses.

Each of the active ingredients and adjuvants applied by the District were evaluated individually with consideration of pesticide's mode of action, persistence in the environment, toxicity, and environmental fate. Furthermore, the District's methods for application of the material, such as ULV techniques, were also considered. Based on this evidence and expert analysis, the Draft PEIR concludes that the vector control chemicals would have less-than-significant impacts to surface water and groundwater when applied consistent with the vector control application techniques, label requirements, and BMPs implemented by the District. See also Response 8 above and Response O-VOL-29.

Response 31

The commenter states that bee keepers are afraid to complain about their loss of bees and hives. In fact, much of the bee production has shifted to mobile hives that are used to service specific crops and fruits for a fee and are then moved to a new location. This has made it difficult for the USDA to monitor the status of bees and bee colonies. Bees are an integral part of the ecosystem process and have an important niche in the food production and crop status in every country. See Response 29 above.

Response 32

Encapsulated pesticides are generally incorporated into the soil furrows as the chemical is applied. This comment is not relevant to the District's chemical control operations.

Response 33

These stories of war between farmers and bee keepers are not typical, and no verification is provided. See Response 31 in which the use of hives for rent is now a large business. This comment is not relevant to the District's chemical control operations.

The commenter addresses a clear public health issue about cancer but does not address the PEIR. The District has important responsibilities to protect human and animal health from existing and future vectorborne diseases such as WNV and Lyme disease, and from discomfort including allergic reactions, within the two-county Service Area. Another commenter on the PEIR indicated the following (Comment I-Spe):

"I would like you to take whatever steps necessary to keep the mosquito populations in this area to a minimum. I feel that your studies will yield solutions that have the lowest environmental impact - you are the experts. I support your recommendations. I do NOT support keeping all chemicals out of West Marin at the expense of not being able to leave my house six months out of the year due to an excessive mosquito population."

Response 35

The commenter suggests that glyphosate interferes with metabolic processes to result in sublethal or chronic diseases and relates the national use of glyphosate to a general increases in diseases.

Although the term sublethal effect is often misused outside the scientific community, it defines the effects of a stressor (pesticide in this case) that is less than mortality. It includes evaluation of the potential effects on physiological and behavioral systems that may occur over time or result in a deficit of a physiological function. Although important in the determination of the potential adverse impacts of the pesticide, it is the "endpoint" most susceptible to confounding, outside, environmental factors. Adverse effects that are categorized as sublethal are also often confused with the concept of chronic effects, which include low level effects that are continued over long periods of time and usually associated with constant exposures to a stressor. Because this condition is not typical of District vector control applications of chemical products (generally single or intermittent localized applications), it is not relevant to the evaluation of District use of pesticides or herbicides. Unless the relationships of exposure and disease onset are directly shown in individuals, this comment is not valid scientifically.

Response 36

The comment states that glyphosate disrupts the endocrine system and then provides several "possible" links to chronic diseases and other health effects. Although glyphosate is one of the hundreds of chemicals on the USEPA list of chemicals to be evaluated as a potential endocrine disruptor, this designation has not been finalized. Thus, it is not reasonable to declare that adverse health impacts are likely from glyphosate acting as an endocrine disruptor. Therefore, the comment is not supported by our current understanding of any potential for glyphosate endocrine effects.

Response 37

Comment noted. The commenter's statement that Dr. Don Huber is campaigning against glyphosate does not provide support to the cited work by Dr. Nancy Swanson.

Response 38

Comment noted. The link was not spelled out and was not provided at the hearing. No response necessary.

Response 39

The graphic is not available to review as it is part of the commenter's verbal presentation. The correlations assumed by her statements, however, do not provide actual causality. Correlation is not causality unless a direct link to an individual is provided. The only handouts provided to District staff at the hearing were a study of pesticides and erectile dysfunction (included previously as Comment I-Fra7), copies of emails addressed as Comments I-Fra1 through I-Fra4, a graphic entitled "It's raining Roundup!." and a graphic with a quotation from Prof. Huber. The hard copy emails and the two graphics were combined into Comment I-Fra6.

Response 40

The connection between glyphosate and bee injury mentioned in this comment is not verified, although the pathway of exposure is potentially complete. Dr. Huber is providing a hypothesis without verification. It is a flawed connection and correlation not supported by any data provided to the District; therefore, no further response is possible.

Response 41

The paper referenced here was published by the Asian Pacific Journal of Reproduction, and is focused on erectile dysfunction and provided in this Final PEIR as Comment I-Fra7. The only reasonable conclusion made by the authors is that they demonstrated that erectile dysfunction is a problem (with no conclusions about causality).

The authors submit an extensive summary of their suggestion that erectile dysfunction is important in fertility. They then proceed to correlate the "indiscriminant use of pesticides" with this dysfunction and then narrow the hypothesis to a few chemicals associated with pesticides. The paper provides an exhaustive discussion of the possible causes of infertility with numerous examples of the dozens of ways it may be impacted. The list of factors that "may" contribute to infertility is focused on erectile dysfunction (not fertility as the focus), which exemplifies the unstructured and indefensible argument in their prime hypothesis. The authors inadvertently make a strong case for the impact of dozens of direct and indirect "confounding factors" on fertility.

Although the paper outlines more than a dozen physiologic and metabolic processes that may be involved in fertility, they inappropriately attempt to link "possible" causality to dozens of the processes discussed, and they fail to provide any substantive support to the secondary and tertiary links to pesticides. In fact, the authors do not provide defensible arguments to primary exposures to pesticide or the links to the dozen mechanisms and processes they discuss. Throughout the paper they use words and phrases such as "infer", "suggests", "possible", "quite likely" and numerous other unsubstantiated terms that fail to link their hypothesis to direct or confirmed pesticide exposure. After five pages of discussion they state as their summary that "The review successfully highlights the indiscriminate regional use of pesticides," which does not even remotely link causality to their hypothesis.

Moreover, the active ingredients cited in the paper are not proposed for use in the District's Integrated Vector Management Program (IVMP). See also responses to email Comment I-Fra7.

Response 42

This statement by the commenter is not substantiated or verified and, although an interesting observation, is not supported by the data provided in the article cited in Response 41 above or any evidence relevant to the PEIR or the District's IVMP.

Response 43

The commenter suggests that her goal is to have healthy grandchildren. Comment noted.

Additional References

Brodman, R., W.D. Newman, K. Laurie, S. Osterfeld, and N. Lenzo. 2010. Interaction of an aquatic herbicide and predatory salamander density on wetland communities. Journal of Herpetology 44(1):69-82

National Park Service. 2016. Invasive Plant Management Plan for Yosemite National Park ESA.

National Agriculture Statistics Service (NASS). 2016. Honey Bee Surveys and Reports. Available online at https://www.nass.usda.gov/Surveys/Guide to NASS Surveys/Bee and Honey/#bee honey.

MARIN/SONOMA MOSQUITO AND VECTOR CONTROL DISTRICT

Public Review and Hearing of Draft Programmatic Environmental Impact Report (PEIR) For the Marin/Sonoma Mosquito and Vector Control District's Integrated Vector Management Program

SCH#2012052066

PETALUMA COMMUNITY CENTER 320 N. MCDOWELL BLVD. PETALUMA, CALIFORNIA

MONDAY, SEPTEMBER 21, 2015

Reported by:

Julie Link



None

T-Petaluma

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APPEARANCES

Philip D. Smith, District Manager
Susan Hootkins, Senior Consultant
Public

PAGE

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4

| 1 | PETALUMA, CALIFORNIA |
|----|--|
| 2 | MONDAY, SEPTEMBER 21, 2015 6:38 P.M. |
| 3 | 000 |
| 4 | MS. HOOTKINS: Okay. At this point, I'm |
| 5 | going to open the public hearing. Julie will |
| 6 | start to transcribe. |
| 7 | MALE VOICE: Maybe you can mention that |
| 8 | they will need to come up so that we can |
| 9 | (inaudible). |
| 10 | MS. HOOTKINS: Yes. If anyone wishes to |
| 11 | speak, I'd like you to fill out a speaker card and |
| 12 | you will be coming up here to address us all. |
| 13 | And be sure and speak into this microphone |
| 14 | so that it is recorded by the court reporter. |
| 15 | At this point does anyone wish to speak |
| 16 | tonight? All right. |
| 17 | I'll tell you what. I think what we'll do |
| 18 | is we'll put the hearing part into suspension. We |
| 19 | might still have someone come and want to speak, |
| 20 | so we'll hang out for a little while. |
| 21 | So at this point I'm not going to close |
| 22 | the public hearing, it is just going into |
| 23 | suspension. |
| 24 | So thank you. |
| 25 | (Off the record 6:39 p.m. to 7:22 p.m.) |

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1
           MR. SMITH: Seeing no further commenters,
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   it's 7:22 p.m. and we close the public hearing.
 3
                   (Adjourned at 7:22 p.m.)
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REPORTER'S CERTIFICATE

I do hereby certify that the testimony in the foregoing hearing was taken at the time and place therein stated; that the testimony of said witnesses were reported by me, a certified electronic court reporter and a disinterested person, and was under my supervision thereafter transcribed into typewriting.

And I further certify that I am not of counsel or attorney for either or any of the parties to said hearing nor in any way interested in the outcome of the cause named in said caption.

IN WITNESS WHEREOF, I have hereunto set my hand this 28th day of September, 2015.

Juliana Link CER-830

7

TRANSCRIBER'S CERTIFICATE

I do hereby certify that the testimony in the foregoing hearing was taken at the time and place therein stated; that the testimony of said witnesses were transcribed by me, a certified transcriber and a disinterested person, and was under my supervision thereafter transcribed into typewriting.

And I further certify that I am not of counsel or attorney for either or any of the parties to said hearing nor in any way interested in the outcome of the cause named in said caption.

IN WITNESS WHEREOF, I have hereunto set my hand this 28th day of September, 2015.

Vem Harper

Terri Harper Certified Transcriber AAERT No. CET**D-709

Hearing Transcript T-Petaluma

September 21, 2015 Petaluma, California

There were no oral comments or written comments handed in at the hearing. No responses are required.