

AB 617 Emission Inventory Shafter – Community Questions

Letter dated March 20, 2019, Tom Frantz and Gustavo Aguirre, Jr.

Re: AB 617 Shafter Emission Inventory Requests

Received on March 29, 2019

	Question	Topic/Category	Response
1.	Let's start off with cooking emissions. These are listed as emitting 6.9 tpy of PM2.5, is the total from restaurants only or a combination of home cooking and restaurant cooking? What proportion is from each category?	Cooking	<p>CARB has developed DRAFT area source emissions for the approved Shafter boundary by individual categories to show relative contributions.</p> <p>Based a preliminary results, the PM2.5 emissions are as follows: Commercial cooking: 10.69 tpy Residential cooking: 0.09 tpy</p>
2.	Missing information from the 7 mile radius area are factory dairy related emissions. NOx, Ammonia and VOC emissions should be given for each dairy. All ten dairies in the cluster west of Shafter should be included because, if they influence air pollution in Shafter in any way, then all ten of them are important, even though 3 of them may be slightly outside the 7 mile radius. The air district has mentioned only five dairies so far with no emission	Dairy	<p>CARB can provide area-wide emission estimates for all dairy sources in the community, but information specific to individual dairies is unavailable. CARB/District developed area source emission methodologies are available at https://www.arb.ca.gov/ei/areasrc/areameth.htm CARB/District methodologies for farming operations are available here: https://www.arb.ca.gov/ei/areasrc/arbmiscproclivestock.htm The above link includes a link to SJVAPCD's Dairy VOC Emission Factors Report.</p> <p>CARB is currently working with the District to review CARB's areawide emissions for dairy sources in the community to ensure dairies are included in the emission inventory.</p> <p>In the future, CARB and the district are committed to collecting dairy-specific information through the Criteria and Air Toxics Reporting Regulation and AB 2588 Hot Spots updates, respectively.</p>

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	<p>information from any of them. The furthest of the ten is only 8.5 miles from Shafter. Also, these ten dairies are all within 5 miles of Maple School which has a very large number of pupils who reside within the City of Shafter. Please note, when determining the distance of a dairy, the crop land directly around a dairy, where manure and lagoon water are spread, is part of the dairy.</p>		
3.	<p>Ammonia from these ten dairies should be included as a toxic air contaminant. The same for hydrogen sulfide and methanol. An estimate of these emissions from these ten dairies should be made and included as TAC emissions as well as listing ammonia as a criteria air pollutant and precursor to PM2.5.</p>	Dairy - Toxics	<p>CARB can provide areawide ammonia emissions for the dairies in the community, as well as speciate toxics using areawide Total Organic Gas (TOG) estimates. However, information specific to individual dairies is currently unavailable. Please see response 2 for more information on CARB and District efforts to update this information.</p>
4.	<p>There is also a cattle feedlot on Burbank and Scaroni</p>	Feedlot - Toxics	<p>Regarding the feedlot located at Burbank and Scaroni, based on a recent site inspection conducted by District staff, there are no animals at this location. Should the situation change, an Authority to Construct (ATC) application with the District</p>

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	which should be included for all these types of emissions.		would be required prior to bringing animals on site. Through the District permitting process, the District will assess applicable Best Available Control Technology (BACT), New Source Review, and prohibitory rules requirements, and will conduct a health Risk Management Review (RMR) to ensure the operation does not result in a significant health risk to local receptors.
5.	What is the total heavy truck traffic associated with these ten dairies? Include milk trucks, harvest trucks, and feed trucks. What percent of this truck traffic goes through the Shafter city limits on Lerdo Hwy or Hwy 43?	Dairy – Truck activity	CARB is responsible for mobile source emissions inventories. CARB does not have vehicle activity data at specific facility locations. CARB is beginning to work with District staff, the community, and industry groups to better characterize this emission source. For example, we are exploring the use of automated license plate readers as a mechanism to understand the age distribution of trucks.
6.	The Shafter Wasco Almond Huller, also called Shafter Wasco Ginning, receives how many truckloads from almond harvesting in an average year? They send out how many truckloads of hulled almonds, hulls and shells in an average year? How many hours do yard tractors move trailer loads around the huller property in an average year? What about forklifts? What are the emissions from all this traffic	Almond Huller/ Ginning – Truck/Off-road Equipment	See Response 5.

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	both on and off-road in the Shafter area?		
7.	The quantity of secondary PM2.5 (ammonium nitrate and ammonium sulfate) in the Shafter area, over the winter months, needs to be estimated. In order to see the relative importance of each precursor emission of PM2.5, what is the ratio of NH3 to NOx or SOx when forming ammonium nitrate or ammonium sulfate?	Air Quality	<p>CARB is in the process of summarizing PM2.5 mass and speciation data for all monitoring sites in the Central Valley. Bakersfield has the closest speciated PM2.5 monitor to Shafter, and given that PM2.5 is a regional pollutant, looking at Bakersfield monitor data can give a sense for the PM2.5 concentrations in winter months. To view preliminary (real-time) and official air quality and meteorological data, please visit CARB’s Air Quality and Meteorological Information System (AQMIS) webpage at https://www.arb.ca.gov/aqmis2/aqmis2.php.</p> <p>CARB’s comprehensive analysis in Appendix G of the District’s 2018 PM2.5 Plan determined that ammonia emissions do not contribute significantly to PM2.5 levels in the San Joaquin Valley.</p> <p>For more details, please use the following link: http://www.valleyair.org/pmplans/documents/2018/pm-plan-adopted/G.pdf.</p>
8.	Some emissions are steady throughout the year and others are very seasonal. Giving emissions in tons per year is not as useful as seeing the same information in tons per month. This is especially important for the peak ozone season of June through October, the peak PM2.5 season of October through	Temporal Emissions	<p><u>District Permitted Sources:</u> The annual emissions inventory data received from permitted facilities can include information regarding facility monthly activity level when emissions are not uniform throughout the year. District staff will utilize facility monthly activity level information contained in the emission inventory database, when available, to provide estimated monthly emissions inventories for each of the facilities. This information should be available in the next few weeks.</p> <p><u>CARB Area Sources:</u> CARB can provide monthly totals for top area source categories. Using established temporal data annual area source emissions can be resolved by month, week, day and hour. Temporal data are stored in CARB’s emission inventory database. Each local air district assigns temporal data for all processes at each</p>

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	<p>February, and the peak PM10 season of August through November. For the top ten sources of all pollutants and precursors, NOx, VOC, PM2.5, SOx, PM10, and Ammonia, please give monthly totals.</p>		<p>facility in their district to represent when emissions at each process occur. CARB or district staff also assign temporal data for each area source category by county/air basin/district.</p>
<p>9.</p>	<p>The emissions of permitted sources do not include JP Oil located on the south side of Shafter and within the 7 mile boundary. This information needs to be included. For JP Oil, flaring emissions per year for the past five years should be included. CRC emissions from flaring should also be a separate category by year and type of emission for the past five years.</p>	<p>Flaring – JP Oil</p>	<p>JP Oil has multiple operational sites in the Shafter 7-mile radius area. Under the annual emissions inventory program, the District consolidates under the main facility emissions inventory data from the different sites, located in the area. The District is currently working to prepare a report of the emissions inventory data from JP Oil under the specific sites located within the Shafter 7-mile radius area.</p> <p>CRC actual annual emissions from permit units containing flare and located within the Shafter community and 7-mile radius area are compiled in the table below.</p>

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			<p><u>Permit Units</u></p> <table border="1"> <thead> <tr> <th data-bbox="858 354 1066 410">Permit Unit</th> <th data-bbox="1066 354 1919 410">Permit Unit Description</th> </tr> </thead> <tbody> <tr> <td data-bbox="858 410 1066 581">157</td> <td data-bbox="1066 410 1919 581">63,000 GALLON FIXED ROOF WASH TANK (T-01) WITH VAPOR CONTROL SHARED WITH S-1737-158, '-159, '-160, '-161, AND OPTIONAL PORTABLE TANKS S-1737-181, '-182, '-183, AND/OR '-184 VENTING TO GAS SALES LINE, 41.7 MMBTU/HR COANDA TIP FLARE, FLARES S-1737-167 AND '-180 AND/OR 2.0 MMBTU/HR PRODUCTION HEATER (S-1737-160)</td> </tr> <tr> <td data-bbox="858 581 1066 667">167</td> <td data-bbox="1066 581 1919 667">14.6 MMBTU/HR PRODUCED GAS FLARE WITH COANDA EFFECT TIP AND PILOT AUTHORIZED TO BE USED AT VARIOUS UNSPECIFIED LOCATIONS WITHIN THE LIGHT OIL CENTRAL STATIONARY SOURCE</td> </tr> <tr> <td data-bbox="858 667 1066 837">178</td> <td data-bbox="1066 667 1919 837">25 FOOT TALL MACTRONIC AIR-ASSISTED PROCESS GAS FLARE SERVING VAPOR CONTROL SYSTEM LISTED ON S-1737-172, WITH 2 INCH DIAMETER FLARE GAS LINE, 6 INCH DIAMETER FLARE STACK, ELECTRONIC IGNITOR, AND FLAME ARRESTOR SERVED BY 20 BBL GAS-LIQUID SEPARATOR; 3 EACH, 3 BBL KNOCKOUT VESSELS; AND AN H2S SCAVENGER</td> </tr> <tr> <td data-bbox="858 837 1066 951">180</td> <td data-bbox="1066 837 1919 951">49 MMBTU/HR FLARE APPROVED FOR USE IN WELL TESTING, TANK AND WELL VENT CONTROL, EQUIPMENT SHUTDOWN, EMERGENCIES AND OTHER SITUATIONS REQUIRING A SAFETY FLARE AT VARIOUS UNSPECIFIED LOCATIONS</td> </tr> </tbody> </table>	Permit Unit	Permit Unit Description	157	63,000 GALLON FIXED ROOF WASH TANK (T-01) WITH VAPOR CONTROL SHARED WITH S-1737-158, '-159, '-160, '-161, AND OPTIONAL PORTABLE TANKS S-1737-181, '-182, '-183, AND/OR '-184 VENTING TO GAS SALES LINE, 41.7 MMBTU/HR COANDA TIP FLARE, FLARES S-1737-167 AND '-180 AND/OR 2.0 MMBTU/HR PRODUCTION HEATER (S-1737-160)	167	14.6 MMBTU/HR PRODUCED GAS FLARE WITH COANDA EFFECT TIP AND PILOT AUTHORIZED TO BE USED AT VARIOUS UNSPECIFIED LOCATIONS WITHIN THE LIGHT OIL CENTRAL STATIONARY SOURCE	178	25 FOOT TALL MACTRONIC AIR-ASSISTED PROCESS GAS FLARE SERVING VAPOR CONTROL SYSTEM LISTED ON S-1737-172, WITH 2 INCH DIAMETER FLARE GAS LINE, 6 INCH DIAMETER FLARE STACK, ELECTRONIC IGNITOR, AND FLAME ARRESTOR SERVED BY 20 BBL GAS-LIQUID SEPARATOR; 3 EACH, 3 BBL KNOCKOUT VESSELS; AND AN H2S SCAVENGER	180	49 MMBTU/HR FLARE APPROVED FOR USE IN WELL TESTING, TANK AND WELL VENT CONTROL, EQUIPMENT SHUTDOWN, EMERGENCIES AND OTHER SITUATIONS REQUIRING A SAFETY FLARE AT VARIOUS UNSPECIFIED LOCATIONS
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10.	Stationary internal combustion (IC) engines used in agriculture and oil production are required to be permitted so provide a separate list of these engines	IC Engines in Ag, Oil Production (CRC)	<p>Ag engine emissions are currently consolidated under the CARB area source emissions inventory. CARB can provide estimated areawide emissions associated with Ag IC engines for the community. Facility specific reported emissions are currently not available. CARB/District area source methodologies for IC engines in the agricultural sector and oil and gas production sector are available here: https://www.arb.ca.gov/ei/areasrc/index1.htm</p>																																																																																																																																		

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	<p>with locations and the associated quantity of emissions. CRC has several IC engines pumping oil. JP Oil has many more. Many farmers in the 7 miles also use IC engines for pumping water.</p> <p>Also include all other stationary IC engines in the area. What are the emissions associated with drilling and possibly fracking a new oil well, similar to existing ones, by either of these oil companies in the Shafter 7-mile radius? How many permits do they currently hold for drilling new wells in this area?</p>		<p>Please see response 2 for more information on CARB and District efforts to update this information. Also, CARB is working on how to leverage the Portable Equipment Registration Program (PERP) to support community inventories.</p> <p>Information on newly drilled wells in the Shafter region can be found on the DOGGR website: https://www.conservation.ca.gov/dog/maps/Pages/GISMapping2.aspx. This information is updated daily and represents the most up to date data on drilling activities.</p>
11.	<p>Please provide the acres of open field burning of almond trees, vineyards, and other orchards, and the associated PM2.5, NOx and VOC emissions during the past five years within the 7 mile radius.</p>	<p>Ag Burning</p>	<p>The San Joaquin Valley, in adherence with applicable state laws instituted under SB705 (2003 Florez), has the toughest restrictions on agricultural burning in the state. The District regulations no longer allow the burning of all field crops (with the exception of rice), almost all prunings, and almost all orchard removals. With the recent exceptional drought and the demise of the biomass power industry there has been an increase in the open burning of agricultural wood waste materials since 2014. The District manages the open burning of agricultural wood waste through our comprehensive Smoke Management System, which only allows burning to take place</p>

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			<p>on days with favorable meteorology and in amounts that will not cause a significant impact on air quality.</p> <p>The first of its kind Smoke Management System was developed in 2004 and is utilized to limit emissions to levels below the federal ambient air quality standards and to better distribute emissions temporally and spatially to minimize the impact of burning on public health. The District sets daily emissions allocations for each of the approximately 100 burn zones across the Valley based on projected meteorological and air quality conditions. When setting the allocations, District staff carefully assesses all available data to ensure that there will be no possibility of violating air quality standards. The amount of burning allowed in a given zone on a specific day is based on factors such as the local meteorology, the air quality conditions, the atmospheric holding capacity, the amount of burning already approved or happening in a given area, and the potential impacts on downwind populations. Once allocation is set, a permit holder submits a request to burn. The system calculates the emissions from the burn request and compares this against the set emissions allocation for that zone. If there is available allocation, the authorization is approved and if there is not enough allocation, it may allow them to request a reduced amount of burning, otherwise the burn request is placed on a waiting list for when emissions are allocated for the applicable burn zone in the future.</p> <p>Through the Smoke Management System, the District also balances the impacts of agricultural burning, wildfires, and prescribed burning. When impacts from wildfire smoke are expected to impact an area within the Valley, no agricultural burning is authorized. Likewise, the District’s stringent residential wood burning regulation has also had a significant impact on reducing agricultural burning during the peak PM2.5 season (November through February) as agricultural open burning is also prohibited in a county on fireplace curtailment days.</p>

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			<p>The following tables summarize the requested acres authorized to be burn and associated conservatively estimated emissions within the 7-mile zone surrounding the City of Shafter since 2014. Please note that 2017 – 2019 include acreage associated with almond orchard removals. Effective June 1, 2007, the open burning of material from almond orchard removals was prohibited consistent with SB 705. During that time biomass power plants have served as the primary alternative to burning for orchard removal material. With the closure of most of the Valley’s biomass power plants, the burning of orchard removal has been allowed under an abatement order where other technologically and economically feasible alternatives are not available. The District is actively working with stakeholders to identify and deploy feasible alternatives to open burning in light of the declining biomass power industry. For example, in November 2018, the District opened a first of its kind incentive program for the soil incorporation of chipped materials from orchard removal projects. To date, the District has funded over \$1 million in projects and additional \$1 million was allocated to the program in April 2019.</p>

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12.	Please provide an estimate of all predicted and actual emissions from the construction of High Speed Rail between Shafter and	High Speed Rail Emissions	Regarding estimated Project construction emissions, below are some links to High Speed Rail (HSR) related materials for reference. HSR CEQA Draft EIR: http://www.hsr.ca.gov/docs/programs/fresno-baker-eir/FBLGA_Draft_EIRS_Air_Quality_Technical_Report_June_2017.pdf																																																																																																																

	Question	Topic/Category	Response
	Wasco for 2018 and for the next five years.		<p>Sections to look at:</p> <ul style="list-style-type: none"> • Fresno to Bakersfield EIR/EIS: 3.3.9.1 CEQA and NEPA Level of Impact after Mitigation/Impacts Summary • Fresno to Bakersfield Air Technical Report: 7.10 Construction Impacts • Supplemental: 3.3.5.1 Summary of Analysis for the May 2014 Project, 3.3-5.2 Fresno to Bakersfield Locally Generated Alternative • Supplemental Air Technical Report: 7.10 Construction Impacts <p>HSR contact for community members: Antonia Tinoco (information officer for initial questions or assistance) Antonia.Tinoco@hsr.ca.gov</p> <p>Please note, that the EIR estimates Project related emissions on a segment level basis (regional construction portion of the HSR Project). The Shafter area belongs to the Fresno to Bakersfield segment, but the EIR for this segment does not specifically characterize Project related emissions projected in the Shafter or Wasco specific areas.</p>
13.	Plains LPG, on the south side of Shafter, has had numerous violations enforced by the air district for unpermitted leaks during the past several years. Please detail those violations since 2013 with information on dates, estimated quantity of emissions leaked, fines assessed and fines paid.	Facility Violations – Plains LPG	<p>The District has adopted a suite of stringent rules that regulate petroleum operations such as Plains LPG Services (Plains). In addition to local rules, there are also a number of state and federal regulations that the District enforces at petroleum operations. The District dedicates significant resources to deter noncompliance and ensure facilities that have not met regulatory requirements are brought back into compliance in an expedited timeframe to minimize impacts from such violations.</p> <p>Two of the rules affecting petroleum operations, District Rule 4455 and 4624, limit volatile organic compound (VOC) emissions from components used in the handling and transfer of organic liquids by establishing leak standards and requiring leak detection and repair (LDAR) programs be implemented at subject facilities. During inspections at these facilities, the District conducts thorough leak detection screenings and takes enforcement action where violations are discovered.</p>

	Question	Topic/Category	Response
			<p>When the District issues a Notice of Violation, the party alleged to be in violation is provided an opportunity to discuss the violation. The process provides a forum for finding an appropriate resolution to the case. This process generally includes a discussion of the severity of the violation relative to the factors required to be considered by the California Health and Safety Code, and all other relevant facts and circumstances. This process generally becomes the negotiation between the District and the responsible party that in most cases leads to a mutual settlement and case resolution.</p> <p>A key component of the settlement process is the determination of an appropriate penalty. Penalties are designed to remove any economic benefit gained through non-compliance and to deter any future violations. While maximum penalties are established by the California Health and Safety Code, the District evaluates the severity of each violation individually with respect to all known facts and circumstances including the eight statutory factors when negotiating settlements.</p> <p>The following table summarizes the requested violation enforcement for Plains since 2013. Please note that consistent with state law, the District only discloses limited information regarding enforcement actions while the case is still open/pending. Additionally, it is not possible to precisely calculate the actual quantity of excess emissions from leaking components. For the purpose of responding to this request, the District estimated the emissions using the Correlation Equation Method specified in California Implementation Guidelines for Estimating Mass Emissions of Fugitive Hydrocarbon Leaks at Petroleum Facilities, which was published jointly by the California Air Pollution Control Officers Association and California Air Resources Board. This method returns conservatively estimated mass emissions in pounds of total hydrocarbons (THC). VOCs emissions, which are regulated by District Rules 4455 and 4624, are a subset of THC; and therefore, would only represent a fraction of the estimated emissions in the table.</p>

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14.	The district presented some figures on total area-wide emissions for the City of	General: Areawide	CARB presented updated emissions for area and mobile sources at the May 13 CSC meeting in Shafter.																																																																																								

	Question	Topic/Category	Response
	<p>Shafter. These numbers need to be provided for the 7 mile radius. Basically, all the chart data in the attached photo below need to be updated to reflect the 7 mile radius.</p>		
15.	<p>Include wood smoke from fireplaces and wood stoves as a separate category in the areawide emissions. Please give the number of violations and warnings cited in Shafter the past five years for fireplace and wood stove burning on no-burn days. How many fines have been paid? How much are the fines? Have any fines been assessed and not collected?</p>	<p>Wood Smoke Emissions and Violations</p>	<p>CARB has developed DRAFT area source emissions for the Shafter 7-mile radius by individual categories to show relative contributions.</p> <p>The updated PM2.5 emissions for residential wood combustion is below: Residential wood combustion – fireplaces: 1.19 tpy Residential wood combustion – wood stoves: 1.10 tpy</p> <p>CARB will be present this information at the May 13 CSC meeting in Shafter.</p> <p>Given the significant localized health impacts associated with residential wood smoke, the District has the toughest and most effective residential wood burning strategy in the nation. The District’s Rule 4901 (<i>Wood Burning Fireplaces and Wood Burning Heaters</i>), in conjunction with the District’s Burn Cleaner grant program and robust public outreach efforts, have proven to be extremely effective in advancing the District’s objectives to attain the PM2.5 federal standards and protect public health. A combined regulatory and incentive based strategy is designed to improve public health by reducing toxic wood smoke emissions in Valley neighborhoods during the peak PM2.5 winter season (November through February).</p> <p>To optimize rule effectiveness and reduce the public health impact of wood smoke, the District dedicates extensive staffing resources to enforce the requirements of Rule 4901. On each curtailment day, the District dedicates significant staffing resources to conducting surveillance in neighborhoods and responding to complaints</p>

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			<p>from members of the public to ensure compliance with the rule. Due to the vast geographic area covered by the District, the public plays a vital role in ensuring compliance with the curtailment requirements of Rule 4901. The District receives hundreds of complaints regarding residential wood burning during the winter season and the District responds to each complaint. To effectively and equitably enforce the provisions of the rule and to better respond to public complaints received at night and on weekend curtailment days, the District assigns staff hours for weekend and nighttime surveillance.</p> <p>When violations of the Rule 4901 curtailment provisions are documented, a Notice of Violation is issued which carries a \$100 penalty for first-time violations. Residents cited under the rule may either pay the \$100 penalty or pay \$50 and attend the District’s residential wood burning “Smoke School”. Smoke school focuses on the challenges and goals of the District as well as providing additional education about the Rule 4901 requirements and how to ensure compliance moving forward. The majority of the violations of this rule are first-time offenses. For residents who incur repeat violations of the rule, the monetary penalties issued by the District are significantly escalated to deter future non-compliance.</p> <p>The following table provides a summary of requested Rule 4901 enforcement metrics over this past few years.</p> <p>Rule 4901 Violations:</p> <table border="1" data-bbox="869 1211 1841 1382"> <thead> <tr> <th></th> <th>2014</th> <th>2015</th> <th>2016</th> <th>2017</th> <th>2018</th> <th>2019</th> </tr> </thead> <tbody> <tr> <td>Violations</td> <td>1</td> <td>0</td> <td>1</td> <td>5</td> <td>4</td> <td>2</td> </tr> <tr> <td>Penalties Paid</td> <td>\$0</td> <td>\$0</td> <td>\$100</td> <td>\$650</td> <td>\$300</td> <td>\$100</td> </tr> <tr> <td>Pending Cases</td> <td>0</td> <td>0</td> <td>0</td> <td>0</td> <td>1</td> <td>1</td> </tr> </tbody> </table>		2014	2015	2016	2017	2018	2019	Violations	1	0	1	5	4	2	Penalties Paid	\$0	\$0	\$100	\$650	\$300	\$100	Pending Cases	0	0	0	0	1	1
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16.	Give more detail on what farming practices make the 9.9 tpy of PM2.5 in the areawide source list. How much NOx and PM2.5 come directly from agricultural equipment in the fields?	Farming	<p>CARB has developed DRAFT area source emissions for the Shafter 7-mile radius by individual categories to show relative contributions. For example:</p> <p>The estimated PM2.5 emissions for farming operations is 114.6 tpy. The emission activities include: Harvest operations – dust: 87.03 Livestock – agricultural waste: 6.16 Tilling – dust: 21.38</p> <p>Overall Agricultural equipment: 111.6 tpy of NOx, 6.1 tpy of PM2.5</p>
17.	What are the levels of PM10 in Shafter during the harvest season from August 1 through October 31? 24 hour averages for this season need to be measured in Shafter. How much of PM10 from dust is PM2.5? We request that PM10 levels should be monitored along with the new PM2.5 monitor at the Shafter DMV location.	Monitoring	<p>CARB’s air monitor has not historically collected PM2.5 or PM10 in Shafter. The District has begun to collect PM2.5, which will expand in the Shafter community through implementation of the community monitoring plan under AB617. Based on recent studies, 12.5% of PM10 emissions from almond-related harvest activities are comprised of PM2.5.</p>
18.	Please give an estimate for the currently estimated level of NOx emissions from agricultural soils in the area. What do recent studies say these emissions might be?	Soil NOx	<p>CARB staff are currently working on analyzing soil NOx emissions. Preliminary results (presented last month at the California Climate and Agriculture Network, CalCAN), indicate that soil NOx emission from nitrogen sources such as chemical fertilizers and dairy manure is not significant, compared to mobile sources. For Kern County, the estimated annual average soil NOx emission is about 1.2 tons per day, which is about 1% of the total NOx emission (111 tons per day) in Kern County. The work is still</p>

	Question	Topic/Category	Response
	What are the estimated NOx emissions from dairy manure in the area?		ongoing, we will provide an update when it's finalized. CARB staff are available to discuss this further.
19.	The Frito Lay plant is just outside the 7 mile radius. Please give its emissions of criteria air pollutants and indirect trucking emissions. There is also a new facility immediately east of Plains LPG and immediately south of Simplot. It is called Patriot Wastewater on Creek Road. Do they have any significant emissions either directly or indirectly from trucking?	Facility Specific Truck Activity	See Response 5.
20.	At the Rosedale Rio Bravo Water District ponding basins, a couple miles southeast of the center of Shafter, where oil field produced water is percolated into the ground together with canal water, please give an estimate of the VOC emissions from this practice for the past several years.	Oil Field VOC Emissions	<p>CARB currently does not have numbers that would account for these facilities/locations. However, as part of SNAPs there was air monitoring at around similar evaporative ponds, and the report detailing the findings should be released later this year.</p> <p>District Rule 4402, Crude Oil Production Sumps, contains requirements that may apply to the storage of oilfield produced water. In particular, Rule 4402 requires that open ponds storing produced water can only store clean produced water (produced water with a VOC content of less than 35 mg/liter).</p>

	Question	Topic/Category	Response
21.	<p>For the Wonderful Logistics/Industrial Park please list the current and proposed facilities and all the direct and indirect (mobile source) associated emissions. Don't just say these facilities are from the City of Shafter as the map currently shows but give the name of each one. Also, give the details on how each facility has complied with the air district's ISR regulation since the regulation was first passed.</p>	<p>Facility Specific -Industrial Park</p>	<p>The District Indirect Source Review Rule (ISR, Rule 9510) is the first regulation in California to require mitigation of emissions from development projects, such as warehouses and residential developments, that do not directly emit emissions, but which indirectly cause mobile source emissions. The rule was adopted in 2006, was amended in 2017, and remains the only rule in the state to directly require mitigation of emissions from these important sources.</p> <p>Information about the proposed full buildout of the Wonderful Industrial Park can be found on their website: http://www.wonderfulindustrialpark.com/ The following information captures data relevant to the projects of which the District is aware. The District will not yet have information on individual future projects, as the project proponents are not required to comply with Rule 9510 until applying for approval from the City of Shafter. However, projects approved by the city at the Wonderful Industrial Park after December 2017 will generally be subject to ISR.</p> <p>Target, State Farm, Hillman, MRC Global, Formica – Approvals by the City of Shafter granted prior to adoption of ISR Rule in 2006, and were not subject to ISR. Since not subject to ISR rule, District has no information about emissions (also see answer to number 5, above).</p> <p>American Tire, FedEx, DMSI, Weatherford, Wonderful Lot 15, Wonderful Lot 17, Wonderful Lot 29 – Approvals by City of Shafter granted prior to 2017 amendments to ISR rule, and therefore grandfathered, not subject to rule. Since not subject to ISR rule, District has no information about emissions (also see answer to number 5, above).</p> <p>Ross: 1,700,000 sq-ft warehouse, subject to ISR Annual emissions before mitigation: 138 tons of NOx/yr, 67 tons PM10/yr Mitigation: Clean truck fleet (no trucks over five years old), so emissions start off lower than similar sources and decline over time as</p>

	Question	Topic/Category	Response
			<p>truck emissions are required to be reduced over time. Will achieve at least 33.3% reduction in NOx, and 50% reduction in PM10, as required by the rule.</p> <p>Wonderful Lot 16: 1,004,000 sq-ft warehouse, subject to ISR Annual emissions before mitigation: 39 tons of NOx/yr, 4.6 tons PM10/yr Mitigation: Payment of \$1,035,000 in emission reduction fee, invested by district in clean air technologies (clean trucks, tractors, fireplaces, etc.) that achieve at least 33.3% reduction in NOx, and 50% reduction in PM10, as required by the rule.</p>
22.	<p>Finally, please give a synopsis of wind direction data for Shafter. What percent or fraction of each day does the wind come from each quadrant on the windrose? How does windrose data vary by season?</p>	Air Quality	<p>The closest weather station is the Meadows Field Airport (BFL), about 13 miles Southeast of Shafter, on the northern edge of Bakersfield. CARB has analyzed meteorological data for the whole year of 2018 and the wind roses for the whole year, winter, spring, summer and fall seasons are below:</p> <p style="text-align: right;"><i>Continued on next page</i></p>

	Question	Topic/Category	Response
			<p style="text-align: center;">Meadows 2018 Allyear 10-m wind rose (m/s)</p> <p>NE winds: 15.6% SE winds: 22.1% SW winds: 7.0% NW winds: 55.3%</p>

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	Question	Topic/Category	Response
			<p style="text-align: center;">Meadows 2018 winter 10-m wind rose (m/s)</p> <p style="text-align: right;">NE winds: 19.4% SE winds: 31.3% SW winds: 10.2% NW winds: 39.1%</p> <p style="text-align: right;"><i>Continued on next page</i></p>

	Question	Topic/Category	Response
			<p style="text-align: center;">Meadows 2018 spring 10-m wind rose (m/s)</p> <p style="text-align: right;"> NE winds: 15.1% SE winds: 16.5% SW winds: 6.7% NW winds: 61.8% </p>

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	Question	Topic/Category	Response
			<p style="text-align: center;">Meadows 2018 summer 10-m wind rose (m/s)</p> <p style="text-align: right;">NE winds: 10.1% SE winds: 12.9% SW winds: 4.4% NW winds: 72.6%</p> <p style="text-align: right;"><i>Continued on next page</i></p>

	Question	Topic/Category	Response
			<p style="text-align: center;">Meadows 2018 fall 10-m wind rose (m/s)</p> <p style="text-align: right;">NE winds: 18.6% SE winds: 29.5% SW winds: 7.4% NW winds: 44.5%</p>