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AIR POLLUTION CONTROL DISTRICT

March 30, 2014 and April 1, 2014 Exceptional Event (EE) Documentation

Addendum

The Clean Air Act (CAA) recognizes that it may not be appropriate to use monitoring data influenced by "exceptional" events collected by the ambient air quality monitoring network when making certain regulatory determinations. As such, in place regulation[1] allows for the exclusion of monitoring data that has exceeded or violated the National Ambient Air Quality Standard (NAAQS) for particulate matter less than 10 microns (PM_{10}). In 2007, the United States Environmental Protection Agency (USEPA) promulgated regulation that set forth requirements that needed to be met by air agencies requesting exclusion of event influenced exceedances or violations of the PM_{10} NAAQS. The 2007 requirements embodied seven specific elements; the development of a conceptual model, addressing the not reasonably controllable or preventable criteria, analyzing the historical fluctuations, providing the clear causal relationship, describing how the event affected air quality, defining by evidence whether the event was a natural event and finalizing with an analysis of a “but-for” determination.

The October 3, 2016 revisions to CFR sections 50.1 and 50.14 "Treatment of air quality monitoring data influenced by exceptional events" returns to three core statutory elements that align closely with the CAA section 319(b). These core elements (listed below) are supported within this document and have been broken down by sub-elements below to demonstrate compliance with the revisions to the rule “Treatment of air quality monitoring data influenced by exceptional events”.

1. That the event affected air quality in such a way that there exists a clear causal relationship between the specific event and the monitored exceedance or violation.

2. The event was not reasonably controllable or preventable

3. The event was caused by human activity that is unlikely to recur at a particular location or was a natural event.

The March 30, 2014 and April 1, 2014 EE Demonstration was originally constructed under the 2007 rule therefore it is very important to demonstrate that this EE demonstration meets any new requirements imposed by the October 2016 revision. In an effort to assure that the EE Demonstration for March 30, 2014 and April 1, 2014 meets any new requirement imposed by the October 2016 revision, the Air District has identified the code sections that either where revised or are new below. In addition, the Air District has provided the section or sections where the current EE Demonstration contains language that specifically addresses the revised or new requirement. Where language is contained in several sections, the Air District has included a

[1] “Treatment of Data Influenced by Exceptional Events; Final Rule “, 72 FR 13560, March 22, 2007

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brief summary explaining the connection. Those sections that are in italics represent revisions to the rule that cannot be applied because the original demonstration process followed the prior rule, these are marked New Process (NP). To help explain the impact of the March 30, 2014 and April 1, 2014 events upon the monitors that existed during 2014 in Imperial County a brief monitor measurement background is included below.

Finally, the current guidance, "Interim Guidance on the Preparation of Demonstrations in Support of Requests to Exclude Ambient Air Quality Data Affected by High Winds under the Exceptional Events Rule" dated May 2013, has not been revised to reflect the revisions to the new EE Rule. Where there is a conflict between the existing May 2013 guidance and the revised regulation the regulation supersedes.

Monitor Measurement Background

In 2014 the Imperial County air monitoring network included five Federal Reference Method (FRM) Size-Selective Inlet (SSI) high volume samplers and two Beta Attenuation Monitor Model 1020 (BAM 1020) measuring PM_{10}. FRM samplers or filter based sampling, run on a preset schedule of 1:6 days. The State and Local Air Monitoring Sites (SLAMS) in El Centro, Westmorland and Calexico did not measure PM_{10} because March 30, 2014 and April 1, 2014 was a non-scheduled run day.[2] In addition, there were two BAM 1020 continuous monitors measuring concentrations in Niland and Brawley. It is important to note that for the March 30, 2014 and April 1, 2014 events the location of these monitors contributed to the different level of impact of particulate matter upon the monitors.

TABLE 1-1
CONCENTRATIONS OF PM_{10} ON MARCH 30 AND APRIL 1, 2014

DATE	MONITORING SITE	AQS ID	POC(s)	HOURS	24-HOUR CONCENTRATION µg/m³	PM_{10} NAAQS µg/m³
3/30/2014	**Brawley**	**06-025-0007**	**1**	**24**	**220**	**150**
4/1/2014	**Brawley**	**06-025-0007**	**3**	**24**	**160.5**	**150**
3/30/2014	Calexico	06-025-0005	1	24	64	150
3/30/2014	El Centro	06-025-1003	2	24	57	150
3/30/2014	Brawley	06-025-0007	3	24	150.5	150
3/30/2014	Niland	06-025-4004	1	24	84	150
3/30/2014	Niland	06-025-4004	3	24	80.7	150
3/30/2014	Westmorland	06-025-4003	1	24	102	150
4/1/2014	Niland	06-025-4004	3	24	101.9	150

The March 30, 2014 and April 1, 2014 EE Demonstration provides a National Oceanic and Atmospheric Administration (NOAA) HYSPLIT back-trajectory (**Figure 2-11; pg. 16**) and a time sequence analysis showing the movement of the low-pressure system through the region (**Figure 5-1**) that supports the significant impact to the Brawley monitor. The March 30, 2014 and April 1, 2014 EE Demonstration provides evidence that strong and gusty westerly winds impacted all

[2] Figure 2-5 of the March 30, 2014 and April 1, 2014 EE Demonstration provides the location of the monitoring sites in Imperial County.

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of southeastern California and Arizona. In particular, these strong, gusty westerly winds, as measured by both "upwind" and "downwind" sites disturbed dry PM_{10} within the mountain ranges, which divide Imperial County from San Diego County and Riverside County (**Figure 5-1)**. Essentially, both the Niland and Brawley continuous monitors were impacted and both exceeded. Topography and wind direction played significant roles.

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TITLE 40 CFR PART 50 § 50.14

(a) Requirements - (1) Scope (i)

This section applies to the treatment of data showing exceedances or violations of any national ambient air quality standard for purposes of the following types of regulatory determinations by the Administrator:

A. Designation (CCA Section 107(d)(1)) or redesignation (CCA Section 107(d)(3))

This section of the Exceptional Event (EE) Demonstration for March 30, 2014 and April 1, 2014 explains the 3 year and 12 month submittal requirements. While the three 3 year and 12 month requirement was removed with the October 2016 revision the requirement to disclose the impact of a regulatory decision with the submittal of the EE demonstration still is required. The submittal of the March 30, 2014 and April 1, 2014 is expected to have a regulatory implication upon the submittal of the PM_{10} State Implementation Plan (SIP) in 2017. (**Page 3 section I.2.d**)

B. Assignment/Re-Assignment Classification category to a nonattainment area - comparison to design values N/A
C. Determination that a nonattainment area attained the level of appropriate NAAQS by a specified deadline N/A
D. Determination that an area has data for the specific NAAQS which qualify the area for an attainment date extension – N/A
E. Determination under CAA section 110(k)(5) that SIP is inadequate under the requirements of CAA section 110 – N/A
F. Other actions case-by-case basis determined by the Administrator – N/A

(b) Determinations by the Administrator (5) High wind dust events. (i)

The Administrator shall exclude data from use in determinations of exceedances and violations, where a State demonstrates to the Administrator's satisfaction that emissions from a high wind dust event caused a specific air pollution concentration in excess of one or more national ambient air quality standards at a particular air quality monitoring location and otherwise satisfies the requirements of this section provided that such emissions are from high wind dust events. **(Pages 12-17 section II.3)**

Title 40 part 50.1 defines a "high wind dust event" as an event that includes the high-speed wind and the dust that the wind entrains and transports to a monitoring site. The March 30, 2014 and April 1, 2014 EE demonstration compiles evidence that demonstrates that as early as the early morning of March 30, 2014 wind speeds associated with a low pressure system impacted the Brawley monitor resulting in an exceedance on March 30, 2014. Then, around the early morning and late evening hours of April 1, 2014, wind speeds associated with the low pressure system again impacted the Brawley monitor, resulting in another exceedance. Appendix A of the March 30, 2014 and April 1, 2014 EE demonstration contains copies of the National Weather Service Urgent Message and Wind Advisory predicting west winds with gusts has high as 45 mph. (**Appendix A**)

The EE demonstration for March 30, 2014 and April 1, 2014 contains sections that in its entirety provide evidence that the "high wind dust event" affected air quality. Both the historical norm section, which discusses the historical concentration data, and the clear causal section bring together the argument that the "high wind dust event" impacted the Brawley monitors causing an exceedance on both days. The analysis contained in the March 30, 2014 and April 1, 2014 demonstration contains analyses and statistics showing how the observed event concentration compares to the distribution or time series of historical concentrations of PM_{10}. The March 30, 2014 and April 1, 2014 demonstration contains graphs, time series, and visibility graphs, measurements from regulatory and non-regulatory monitoring stations, satellite imagery and appendices with special weather statements and advisories, graphs showing wind direction and the path of the emissions from the identified source area. (**Pages 12-20 section II.3; Pages 21-41 section III & V; Appendix's B and C**)

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In addition, the March 30, 2014 and April 1, 2014 demonstration provides evidence that the event was a "natural event" that was not reasonably controllable and preventable. Finally, the March 30, 2014 and April 1, 2014 EE demonstration provides evidence that all known anthropogenic sources, upwind of the affected monitor, were controlled but where overwhelmed by the "natural event". (**Pages 25-30 section IV; Appendix D**)

(b) Determinations by the Administrator (5) High wind dust events. (ii)
The Administrator will consider high wind dust events to be natural events in cases where windblown dust is entirely from natural undisturbed lands in the area or where all anthropogenic sources are reasonably controlled as determined in accordance with paragraph (b)(8) of this section. **(Pages 22-26 section IV)**

Title 40 part 50.1 defines a "natural event" as an event and its resulting emissions, which may recur at the same location, in which human activity plays little or no direct causal role. The definition further explains that anthropogenic sources that are reasonably controlled are considered to not play a direct role in causing emissions. As explained below, the March 30, 2014 and April 1, 2014 EE demonstration compiles evidence that demonstrates that all known anthropogenic sources in Imperial County applied reasonable measures but where overwhelmed by the "natural event". The Introduction and the Conceptual Model sections of the March 30, 2014 and April 1, 2014 EE demonstration provides the background topographical and climatologically information surrounding the impacted area and provides trajectory information identifying the areas impacted by the "natural event". (**Pages 25-30 section IV**)

(b) Determinations by the Administrator (5) High wind dust events. (iii)
The Administrator will accept a high wind threshold of a sustained wind of 25 mph for areas in the States of Arizona, California, Colorado, Kansas, Nebraska, Nevada, New Mexico, North Dakota, Oklahoma, South Dakota, Texas, Utah, and Wyoming provided this value is not contradicted by evidence in the record at the time the State submits a demonstration. In lieu of this threshold, States can identify and use an Administrator-approved alternate area-specific high wind threshold that is more representative of local or regional conditions, if appropriate. **(Pages 12-17 section II.3)**

Title 40 part 50.1 defines a "high wind threshold" as the minimum wind speed capable of causing particulate matter emissions from natural undisturbed lands in the area affected by the "high wind dust event". Current guidance indicates that EPA will accept that high winds "could be the cause of a high 24-hour average PM_{10} or $PM_{2.5}$ concentration" if there is at least one full hour where the hourly average wind speed is above the area-specific high wind threshold.[3] EPA further recognizes that sources of wind speed data employ "short-period" averages generally accepting that the hourly average wind speed was above the threshold if the reported short-period wind speed was above the threshold. In addition, current guidance indicates that wind speed data need not necessarily have to be at the location of the exceedance but the data should represent the source area generating the emissions. Finally, guidance states that EPA generally recommends using National Weather Service data or the National Climate Data Center.

The March 30, 2014 and April 1, 2014 EE demonstration provides evidence from Airport, regulatory and non-regulatory meteorological stations that as early as the morning of March 30, 2014 elevated winds, in some cases in excess of 25mph, suspended particulate matter into the air. Because winds continued to be elevated through April 1, 2014, elevated particulate matter impacted the Brawley Station on two occasions, which resulted in the exceedances. Appendix B contains QCLCD reports for the Imperial County Airport and the Naval Air Facility Airport as well as other surrounding airports in Riverside County.

(b) Determinations by the Administrator (5) High wind dust events. (iv)

[3] USEPA, "Interim Guidance on the Preparation of Demonstration in Support of Requests to Exclude Ambient Air Quality Data Affected by High Winds under the Exceptional Events Rule", May 2013

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In addressing the requirements set forth in paragraph (c)(3)(iv)(D) of this section regarding the not reasonably preventable criterion, the State shall not be required to provide a case-specific justification for a high wind dust event. **(Pages 13-19 section II.3)**

The March 30, 2014 and April 1, 2014 EE demonstration provides evidence that a "high wind event" occurred as early as the morning of March 30, 2014 and continued through April 1, 2014 impacting the Brawley monitor. The March 30, 2014 and April 1, 2014 EE demonstration provides evidence that a "high wind event" occurred as a result of a low-pressure system that moved through southern California as early as the morning of March 30, 2014. Appendix A of the March 30, 2014 and April 1, 2014 EE demonstration provides copies of Zone and Area Forecast which includes an Urgent Message and high wind advisory as they were issued by the San Diego and Phoenix weather offices. As a result, the meteorological event, the low-pressure system and the resulting high winds were not preventable. (**Appendix A**)

(b) Determinations by the Administrator (5) High wind dust events. (v)
With respect to the not reasonably controllable criterion of paragraph (c)(3)(iv)(D) of this section, dust controls on an anthropogenic source shall be considered reasonable in any case in which the controls render the anthropogenic source as resistant to high winds as natural undisturbed lands in the area affected by the high wind dust event. The Administrator may determine lesser controls reasonable on a case-by-case basis.

Both permitted and non-permitted sources are required to comply with Regulation VIII requirements that address fugitive dust emissions. The identified permitted sources are Aggregate Products, Inc., US Gypsum Quarry, Val-Rock, Inc., Granite Construction, US Gypsum Plaster City, Laidlaw Environmental Services, and various agricultural operations.

Non-permitted sources include the wind farm known as Ocotillo Express, and a solar facility known as CSolar IV West. In addition, the desert region is under the jurisdiction of the Bureau of Land Management and the California Department of Parks. All these sources are required to comply with Regulation VIII at all times. Regulation VIII was approved as BACM by EPA with an effective date of May 22, 2013. Therefore, as the HYSPLIT Model found on page 16 of the demonstration demonstrates, the exceedance experienced by the Brawley FEM monitor was due to dust particles transported from desert regions and agricultural lands controlled by Regulation VIII. (**Attached Figs ADD-1 and ADD-2 Maps; Pages 25-30 section IV**)

(b) Determinations by the Administrator (5) High wind dust events. (vi)
For large-scale and high-energy high wind dust events, the Administrator will generally consider a demonstration documenting the nature and extent of the event to be sufficient with respect to the not reasonably controllable criterion of paragraph (c)(3)(iv)(D) of this section provided the State provides evidence showing that the event satisfies the following:
(A) The event is associated with a dust storm and is the focus of a Dust Storm Warning
(B) The event has sustained winds that are greater than or equal to 40 miles per hour
(C) The event has reduced visibility equal to or less than 0.5 miles.
(Section does not apply to the March 30, 2014 and April 1, 2014 EE demonstration)

(b) Determinations by the Administrator (8) Determinations with respect to the not reasonably controllable or preventable criterion. (i)
The not reasonably controllable or preventable criterion has two prongs that the State must demonstrate: prevention and control.

An event is considered not reasonably preventable if reasonable measures to prevent the event were applied at the time of the event. Similarly, an event is considered not reasonably controllable if reasonable measures to control the impact of the event on air quality were applied at the time of the event. The final guidance issued October 2016 explains that when addressing the "not reasonably controllable or preventable" criterion air agencies should identify the natural and anthropogenic sources of emissions causing and contributing to the monitored exceedances. Identify the relevant SIP or other enforceable control measures in place for the

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identified sources as well as the implementation status of the controls and if applicable, provide evidence of effective implementation and enforcement of reasonable controls.

(b) Determinations by the Administrator (8) Determinations with respect to the not reasonably controllable or preventable criterion. (ii)
The Administrator shall determine that an event is not reasonably preventable if the State shows that reasonable measures to prevent the event were applied at the time of the event.

An event is not reasonably preventable if reasonable measures to prevent the event were applied at the time of the event. However, for "high wind events" when PM_{10} concentrations are due to dust raised by high winds from desert areas whose sources are controlled with Best Available Control Measures (BACM) then the event is a "natural event" where human activity played little or no direct causal role and thus not preventable. The March 30, 2014 and April 1, 2014 EE demonstration provides evidence that a large low-pressure system moved into southern California March 30, 2014 suspending particulate matter and keeping the dust in the air well through April 1, 2014. Thus, this event was not preventable. (**Attached Figs ADD-1 and ADD-2 Maps; Pages 25-30 section IV**)

(b) Determinations by the Administrator (8) Determinations with respect to the not reasonably controllable or preventable criterion. (iii)
The Administrator shall determine that an event is not reasonably controllable if the State shows that reasonable measures to control the impact of the event on air quality were applied at the time of the event.

An event is not reasonably controllable if reasonable measures to control the impact of the event on air quality are applied at the time of the event. Both permitted and non-permitted sources are required to comply with Regulation VIII requirements that address fugitive dust emissions. The identified permitted sources are Aggregate Products, Inc., US Gypsum Quarry, Val-Rock, Inc., Granite Construction, US Gypsum Plaster City, and Laidlaw Environmental Services. Non-permitted sources include the wind farm known as Ocotillo Express, and a solar facility known as CSolar IV West. In addition, the desert region is under the jurisdiction of the Bureau of Land Management and the California Department of Parks. All these sources are required to comply with Regulation VIII at all times. Regulation VIII was approved as BACM by EPA with an effective date of May 22, 2013. (**Attached Figs ADD-1 and ADD-2 Maps; Pages 25-30 section IV**)

(b) Determinations by the Administrator (8) Determinations with respect to the not reasonably controllable or preventable criterion. (iv)
The Administrator shall assess the reasonableness of available controls for anthropogenic sources based on information available as of the date of the event.

According to the October 2016 revision, the EPA would consider enforceable control measures that were approved by the EPA as part of a State Implementation Plan. The demonstration must be submitted within 5 years of the date of approval and must address the event-related pollutant and all sources necessary for fulfill the requirements of the Clean Air Act (CAA) with respect to all anthropogenic sources that may have contributed to the event-related emissions. The Imperial County Air Pollution Control District adopted Regulation VIII October of 2012 with approval by EPA of the adopted rules as BACM. The effective date of the rule approval was May 22, 2013. Regulation VIII addresses the desert open areas managed by BLM, California Department of Parks, Construction, Open Areas, Track Out, Paved and Unpaved roads and Agricultural Operations. All stationary sources are required to keep dust emissions controlled.

The March 30, 2014 and April 1, 2014 EE demonstration identifies the Sonoran desert to the west of the Brawley monitor as the primary source of dust emissions. This addendum includes a Map where identified stationary sources are identified. Non-stationary sources include renewable energy facilities, one wind farm and a solar farm. The remaining area is comprised of managed lands by the Bureau of Land Management, the California Department of Parks, and the United States Military. Regulation VIII as approved by EPA with an effective date of May 22, 2013 applies to all these sources and is in force on any given day. The March 30, 2014 and April 1,

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2014 EE demonstration contains a section with the results of the review of sources either permitted or not permitted. The section identifies any complains and resolutions. For the March 30, 2014 and April 1, 2014 EE demonstration one complaint was filed on April 1, 2014. The complaint asserted that dust was impacting a residence across from a vacant lot in Imperial. The follow up investigation by certified personnel concluded the dust emissions were due to strong winds at the area and not from the vacant lot. No violation was issued. (**Attached Figs ADD-1 and ADD-2 Maps; Pages 25-30 section IV**)

(b) Determinations by the Administrator (8) Determinations with respect to the not reasonably controllable or preventable criterion. (v)

Except where a State, tribal or federal air agency is obligated to revise its state implementation plan, tribal implementation plan, or federal implementation plan, the Administrator shall consider enforceable control measures implemented in accordance with a state implementation plan, tribal implementation plan, or federal implementation plan, ***approved by the EPA within 5 years of the date of the event****, that address the event-related pollutant and all sources necessary to fulfill the requirements of the Clean Air Act for the state implementation plan, tribal implementation plan, or federal implementation plan to be reasonable controls with respect to all anthropogenic sources that have or may have contributed to the monitored exceedance or violation.*

According to the October 2016 revision, the EPA would consider enforceable control measures that were approved by the EPA as part of a State Implementation Plan. The demonstration must be submitted within 5 years of the date of approval and must address the event-related pollutant and all sources necessary for fulfill the requirements of the Clean Air Act (CAA) with respect to all anthropogenic sources that may have contributed to the event-related emissions. The Imperial County Air Pollution Control District adopted Regulation VIII October of 2012 with approval by EPA of the adopted rules as BACM. The effective date of the rule approval was May 22, 2013. Regulation VIII addresses the desert open areas managed by BLM, California Department of Parks, Construction, Open Areas, Track Out, Paved and Unpaved roads and Agricultural Operations. All stationary sources are required to keep dust emissions controlled in accordance to Regulation VIII. The Imperial County Air Pollution Control District is not obligated to revise or adopt a State Implementation Plan (SIP).

While the March 30, 2014 and April 1, 2014 EE demonstration identifies that the submission of the EE demonstration would be used for regulatory purposes, the submittal of a PM_{10} SIP in 2017, there is currently no legal requirement or obligation, such as a SIP call, for the Imperial County Air Pollution Control District to submit a PM_{10} SIP.
(**Attached Figs ADD-1 and ADD-2 Maps; Pages 25-30 section IV**)

(b) Determinations by the Administrator (8) Determinations with respect to the not reasonably controllable or preventable criterion. (vi)

Where a State, tribal or federal air agency is obligated to revise its state implementation plan, tribal implementation plan, or federal implementation plan, the deference to enforceable control measures identified in paragraph (b)(8)(v) of this section shall remain only until the due date of the required state implementation plan, tribal implementation plan, or federal implementation plan revisions. However, where an air agency is obligated to revise the enforceable control measures identified in paragraph (b)(8)(v) of this section in its implementation plan as a result of an action pursuant to Clean Air Act section 110(k)(5), the deference, if any, to those enforceable control measures shall be determined on a case-by-case basis.
(Section does not apply to the March 30, 2014 and April 1, 2014 EE demonstration)

(b) Determinations by the Administrator (8) Determinations with respect to the not reasonably controllable or preventable criterion. (vii)

The Administrator shall not require a State to provide case-specific justification to support the not reasonably controllable or preventable criterion for emissions-generating activity that occurs outside of the State's jurisdictional boundaries within which the concentration at issue was monitored. In the case of a tribe treated as a state under 40 CFR 49.2 with respect to exceptional events requirements, the tribe's jurisdictional boundaries for purposes of requiring or directly implementing emission controls apply. In the case of a federal land manager

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or other federal agency submitting a demonstration under the requirements of this section, the jurisdictional boundaries that apply are those of the State or the tribe depending on which has jurisdiction over the area where the event has occurred.
(Section does not apply to the March 30, 2014 and April 1, 2014 EE demonstration)

(b) Determinations by the Administrator (8) Determinations with respect to the not reasonably controllable or preventable criterion. (viii)
In addition to the provisions that apply to specific event types identified in paragraphs (b)(3)(ii) and (b)(5)(i) through (iii) of this section in addressing the requirements set forth in paragraph (c)(3)(iv)(D) of this section regarding the not reasonably controllable or preventable criterion, the State must include the following components:

(A) *Identification of the natural and anthropogenic sources of emissions causing and contributing to the monitored exceedance or violation, including the contribution from local sources*

The March 30, 2014 and April 1, 2014 EE demonstration identifies the Sonoran desert to the west of the Brawley monitor as the primary source of dust emissions. This addendum includes a Map where identified stationary sources are identified. Non-stationary sources include renewable energy facilities, one wind farm and a solar farm. The remaining area is comprised of managed lands by the Bureau of Land Management, the California Department of Parks, and the United States Military. (**Attached Figs ADD-1 and ADD-2 Maps**)

(B) *Identification of the relevant state implementation plan, tribal implementation plan, or federal implementation plan or other enforceable control measures in place for the source identified in paragraph (b)(8)(vii)(A) of this section and the implementation status of these controls.*

The Imperial County Air Pollution Control District adopted Regulation VIII October of 2012 with approval by EPA of the adopted rules as BACM. The effective date of the rule approval was May 22, 2013. Regulation VIII addresses the desert open areas managed by BLM, California Department of Parks, Construction, Open Areas, Track Out, Paved and Unpaved roads and Agricultural Operations. All stationary sources are required to keep dust emissions controlled. The Imperial County Air Pollution Control District is not obligated to revise or adopt a State Implementation Plan (SIP). (**Pages 25-30 section IV**)

(C) *Evidence of effective implementation and enforcement of the measures identified in paragraph (b)(8)(vii)(B)*

The March 30, 2014 and April 1, 2014 EE demonstration contains a section with the results of the review of sources either permitted or not permitted. The section identifies any complains and resolutions. For the March 30, 2014 and April 1, 2014 EE demonstration one complaint was filed on April 1, 2014. The complaint asserted that dust was impacting a residence across from a vacant lot in Imperial. The follow up investigation by certified personnel concluded the dust emissions were due to strong winds at the area and not from the vacant lot. No violation was issued. (**Pages 28 section IV.1.c**)

(D) *The provisions in this paragraph shall not apply if the provisions in paragraph (b)(4), (b)(5)(vi), or (b)(6) of this section apply.*

The March 30, 2014 and April 1, 2014 EE demonstration is a "high wind" demonstration and not a Wildfire, Large-scale and high-energy high wind dust event, or a Stratospheric Intrusion.

(c) Schedules and procedures. (2) Initial notification of potential exceptional event. (i)
A State shall notify the Administrator of its intent to request exclusion of one or more measured exceedances of an applicable national ambient air quality standard as being due to an exceptional event by creating an initial event description and flagging the associated data that have been submitted to the AQS database and by engaging in the Initial Notification of Potential Exceptional Event process as follows:

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(A) *The State and the appropriate EPA Regional office shall engage in regular communications to identify those data that have been potentially influenced by an exceptional event, to determine whether the identified data may affect a regulatory determination and to discuss whether the State should develop and submit an exceptional events demonstration according to the requirements in this section.*

The March 30, 2014 and April 1, 2014 EE demonstration discussed the initial notification process by the Imperial County Air Pollution Control District. The initial notification was submitted to the California Air Resources Board May 28, 2015 under the provisions of the 2007 rule this was in advance of the revision, which occurred October 2016. However, the Imperial County Air Pollution Control District had consultations with the California Air Resources before moving forward. Under the prior 2007 rule the Imperial County Air Pollution Control District did submit an initial EE demonstration for comment and review to both USEPA and CARB

(B) *For data that may affect an anticipated regulatory determination or where circumstances otherwise compel the Administrator to prioritize the resulting demonstration, the Administrator shall respond to a States' Initial Notification of Potential Exceptional Event with a due date for demonstration submittal that considers the nature of the event and the anticipated timing of the associated regulatory decision;*

The March 30, 2014 and April 1, 2014 EE demonstration discussed the initial notification process by the Imperial County Air Pollution Control District. The initial notification was submitted to the California Air Resources Board May 28, 2015 under the provisions of the 2007 rule this was in advance of the revision, which occurred October 2016. However, the Imperial County Air Pollution Control District had consultations with the California Air Resources before moving forward. Under the prior 2007 rule the Imperial County Air Pollution Control District did submit an initial EE demonstration for comment and review to both USEPA and CARB

(C) *The Administrator may waive the Initial Notification of Potential Exceptional Event process on a case-by-case basis.*

The March 30, 2014 and April 1, 2014 EE demonstration discussed the initial notification process by the Imperial County Air Pollution Control District. The initial notification was submitted to the California Air Resources Board May 28, 2015 under the provisions of the 2007 rule this was in advance of the revision, which occurred October 2016. However, the Imperial County Air Pollution Control District had consultations with the California Air Resources before moving forward. Under the prior 2007 rule the Imperial County Air Pollution Control District did submit an initial EE demonstration for comment and review to both USEPA and CARB

(c) Schedules and procedures. (3) Submission of demonstrations (iv)
The demonstration to justify data exclusion must include:

(A) *A narrative conceptual model that describes the event(s) causing the exceedance or violation and a discussion of how emissions from the event(s) led to the exceedance or violation at the affected monitor(s);*

The March 30, 2014 and April 1, 2014 EE demonstration contains a section, which discusses the Conceptual model, which describes the event that caused the exceedance. The Introduction and the Conceptual Model sections of the March 30, 2014 and April 1, 2014 EE demonstration provides the background topographical and climatologically information surrounding the impacted area and provides trajectory information identifying the areas impacted by the "natural event". In addition, the section contains graphs and figures that provide time sequence analysis and concentration related impacts. (**Pages 1-20 sections I thru II.3**)

(B) *A demonstration that the event affected air quality in such a way that there exists a clear causal relationship between the specific event and the monitored exceedance or violation*

(C) *Analysis comparing the claimed event-influenced concentration(s) to concentration(s) at the same monitoring site at other times to support the requirement at paragraph (c)(3)(iv)(B) of this section. The Administrator shall not require a State to prove a specific percentile point in the distribution of data;*

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(D) *A demonstration that the event was both not reasonably controllable and not reasonably preventable; and*

The March 30, 2014 and April 1, 2014 EE demonstration provides evidence that a "high wind event" occurred elevating PM_{10} concentrations from desert areas whose identified sources were controlled with Best Available Control Measures (BACM). Such "high wind events" are not preventable as they are meteorological systems. In the March 30, 2014 and April 1, 2014 EE demonstration a low-pressure system moved through southern California as early as the morning of March 30, 2014 and continued through April 1, 2014. The weather system brought strong westerly winds across the mountains and deserts and was then a "natural event". In addition because the identified sources where reasonably controlled with BACM then it is reasonable to conclude that human activity played little or no direct causal role and thus the event was not preventable or controllable.

(E) *A demonstration that the event was a human activity that is unlikely to recur at a particular location or was a natural event.*

The March 30, 2014 and April 1, 2014 EE demonstration provides evidence that a "high wind event" occurred elevating PM_{10} concentrations from desert areas whose identified sources were controlled with Best Available Control Measures (BACM). Such "high wind events" are not preventable as they are meteorological systems. In the March 30, 2014 and April 1, 2014 EE demonstration a large low-pressure system moved through southern California as early as the morning of March 30, 2014 and continued through April 1, 2014. The weather system brought strong westerly winds across the mountains and deserts and was then a "natural event". In addition because the identified sources where reasonably controlled with BACM then it is reasonable to conclude that human activity played little or no direct causal role and thus the event was not preventable or controllable.

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FIGURE ADD-1
IDENTIFIED SOURCES

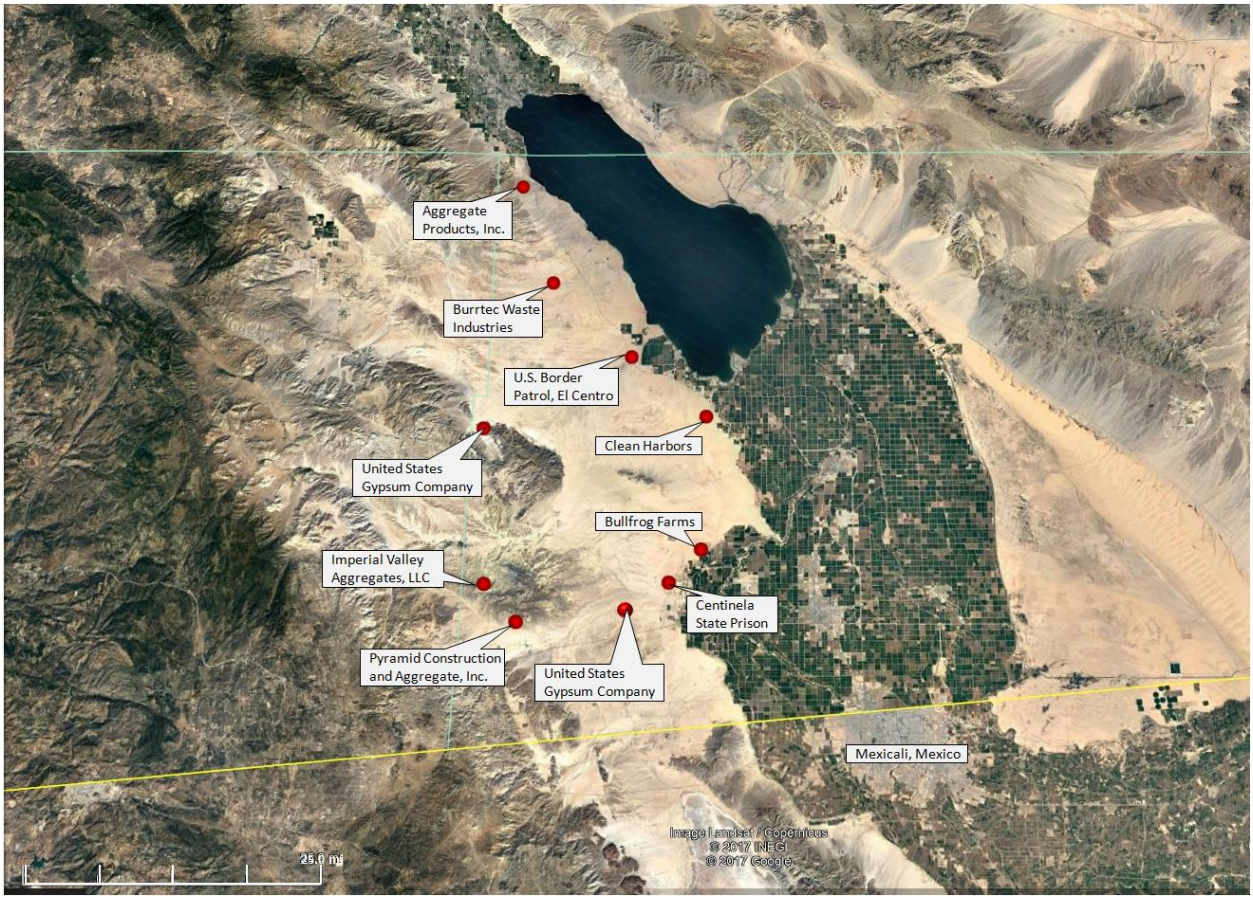

Fig ADD-1: The above map identifies those permitted sources located west, northwest and southwest of the Brawley monitor. The green line to the north denotes the political division between Imperial and Riverside counties. The yellow line below denotes the international border between the United States and Mexico. The green checker-boarded areas are a mixed use of agricultural and community parcels. In addition, either the Bureau of Land Management or the California Department of Parks manages the desert areas

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FIGURE ADD-2
IDENTIFIED POWER SOURCES

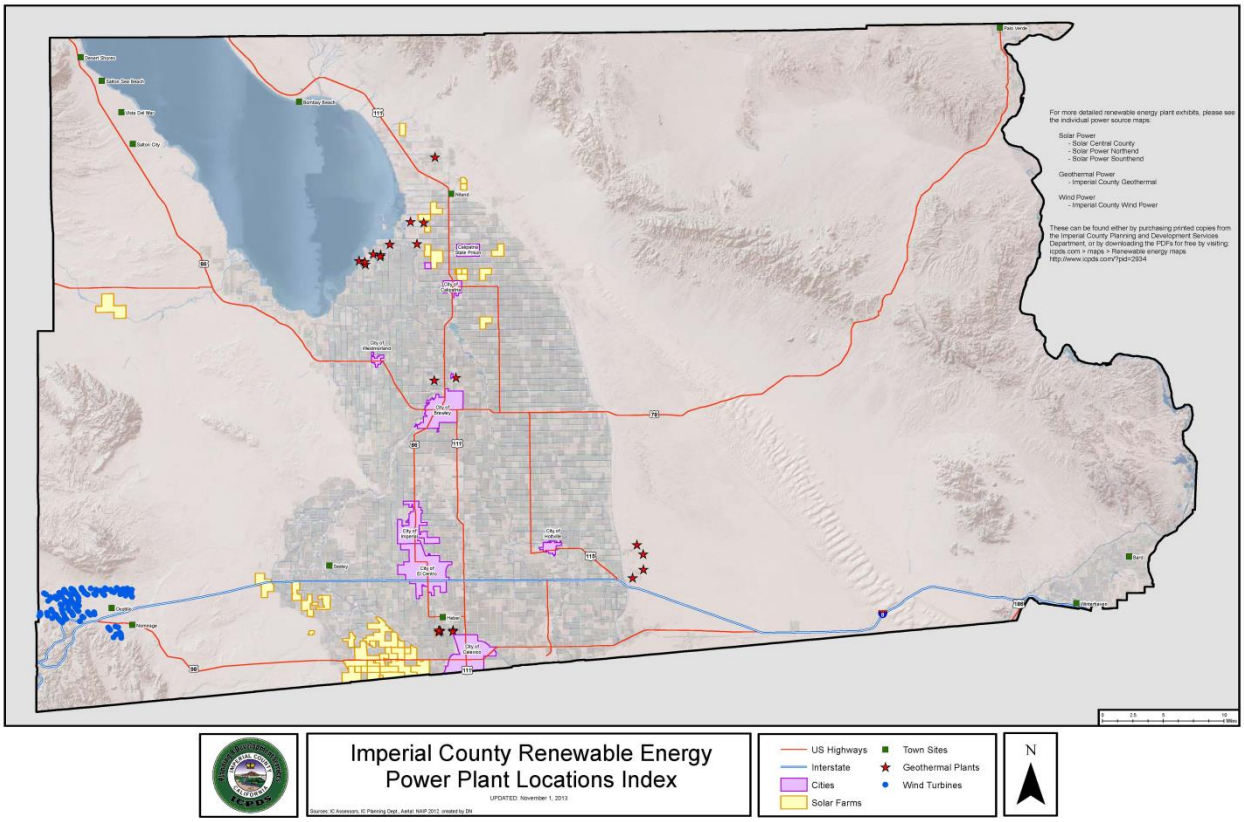

Fig ADD-2: The above map identifies those power sources located west, northwest and southwest of the Brawley monitor. Blue indicate the Wind Turbines, Yellow are the solar farms and stars are geothermal plants

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TABLE ADD-1
BRAWLEY WIND SPEED TABLE MARCH 30, 2014

EL CENTRO NAF (KNJK)				IMPERIAL CO AIRPORT (KIPL)				CAMPO				BRAWLEY FEM	
													3/30/2014
HOUR	W/S	W/G	W/D	HOUR	W/S	W/G	W/D	HOUR	W/S	W/G	W/D	HOUR	PM_{10} (µg/m³)
56	25		270	53	15		280	52	0		0	0	29
156	20		240	153	17		260	152	0		0	100	50
256	25		240	253	22	29	250	252	8		230	200	93
356	32	40	230	353	16	24	240	352	6		280	300	159
456	26	38	240	453	23	32	270	452	9		240	400	
556	10		260	553	24	34	260	552	7		VR	500	
656	15	24	250	653	17	28	260	652	5		220	600	584
756	6		310	753	8		280	752	9		260	700	741
856	11		200	853	15		280	852	9		320	800	105
956	16		260	953	6		VR	952	10		250	900	284
1056	17		300	1053	9		240	1052	17	23	270	1000	142
1156	21		300	1153	16	24	310	1152	16	21	260	1100	142
1256	17	25	310	1253	15	21	310	1252	16	23	280	1200	145
1356	17		300	1353	13	23	310	1352	14	22	280	1300	56
1456	13		300	1453	10	20	270	1452	11		260	1400	75
1556	10		320	1553	10		320	1552	8		250	1500	78
1656	9		270	1653	3		330	1652	11		260	1600	53
1756	22	28	240	1753	15		250	1752	9		290	1700	43
1856	13		250	1853	13		260	1852	8		290	1800	48
1956	17		250	1953	11		270	1952	3		300	1900	230
2056	13		260	2053	10		260	2052	0		0	2000	152
2156	11		260	2153	10		250	2152	5		20	2100	47
2256	5		200	2253	10		270	2252	3		50	2200	27
2356	15		250	2353	9		280	2352	6		40	2300	29

Table ADD-1: Wind speed, wind gust, and wind direction tables for El Centro NAF, Imperial County Airport, and Campo Airfield comparative to the concentration of the Brawley FEM Monitor on March 30, 2014. Values indicated in red are wind speed values coincident with the Brawley FEM Monitor measured PM_{10} concentrations above 100 µg/m³. Collected meteorological observations are from a variety of sources with varying equipment and exposure. **Appendix B** contains additional information regarding meteorological observations

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TABLE ADD-2
NILAND WIND SPEED TABLE MARCH 30, 2014

EL CENTRO NAF (KNJK)				IMPERIAL CO AIRPORT (KIPL)				CAMPO				NILAND FEM 3/30/2014	
HOUR	W/S	W/G	W/D	HOUR	W/S	W/G	W/D	HOUR	W/S	W/G	W/D	HOUR	PM_{10} (µg/m³)
56	25		270	53	15		280	52	0		0	0	40
156	20		240	153	17		260	152	0		0	100	36
256	25		240	253	22	29	250	252	8		230	200	52
356	32	40	230	353	16	24	240	352	6		280	300	140
456	26	38	240	453	23	32	270	452	9		240	400	
556	10		260	553	24	34	260	552	7		VR	500	370
656	15	24	250	653	17	28	260	652	5		220	600	123
756	6		310	753	8		280	752	9		260	700	99
856	11		200	853	15		280	852	9		320	800	66
956	16		260	953	6		VR	952	10		250	900	40
1056	17		300	1053	9		240	1052	17	23	270	1000	53
1156	21		300	1153	16	24	310	1152	16	21	260	1100	42
1256	17	25	310	1253	15	21	310	1252	16	23	280	1200	45
1356	17		300	1353	13	23	310	1352	14	22	280	1300	60
1456	13		300	1453	10	20	270	1452	11		260	1400	84
1556	10		320	1553	10		320	1552	8		250	1500	94
1656	9		270	1653	3		330	1652	11		260	1600	59
1756	22	28	240	1753	15		250	1752	9		290	1700	109
1856	13		250	1853	13		260	1852	8		290	1800	88
1956	17		250	1953	11		270	1952	3		300	1900	63
2056	13		260	2053	10		260	2052	0		0	2000	74
2156	11		260	2153	10		250	2152	5		20	2100	46
2256	5		200	2253	10		270	2252	3		50	2200	36
2356	15		250	2353	9		280	2352	6		40	2300	37

Table ADD-2: Wind speed, wind gust, and wind direction tables for El Centro NAF, Imperial County Airport, and Campo Airfield comparative to the concentration of the Niland FEM Monitor on March 30, 2014. Values indicated in red are wind speed values coincident with the Niland FEM Monitor measured PM_{10} concentrations above 100 µg/m³. Collected meteorological observations are from a variety of sources with varying equipment and exposure. **Appendix B** contains additional information regarding meteorological observations

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TABLE ADD-3
BRAWLEY WIND SPEED TABLE APRIL 1, 2014

EL CENTRO NAF (KNJK)				IMPERIAL CO AIRPORT (KIPL)				CAMPO				BRAWLEY FEM 4/1/2014	
HOUR	W/S	W/G	W/D	HOUR	W/S	W/G	W/D	HOUR	W/S	W/G	W/D	HOUR	PM_{10} (µg/m³)
56	26	34	240	53	14	23	250	52	15		240	0	52
156	24	38	230	153	17	21	250	152	15	23	240	100	35
256	15		250	253	11		280	252	18		230	200	498
356	10		240	353	11		270	352	14		230	300	92
456	13		220	453	10		250	452	14		230	400	96
556	14		220	553	10		240	552	15	22	230	500	93
656	16	23	240	653	10		240	652	16		230	600	98
756	20		250	753	16		260	752	18	25	230	700	32
856	25	32	230	853	25	30	240	852	16	24	240	800	20
956	22	28	240	953	16	28	260	952	18	29	230	900	19
1056	9		260	1053	9	18	270	1052	14	26	260	1000	21
1156	16		230	1153	15	20	250	1152	18	28	250	1100	21
1256	28		220	1253	23	33	250	1252	20	30	250	1200	16
1356	28	37	240	1353	25	34	250	1352	13	23	250	1300	292
1456	29	34	230	1453	22	33	260	1452	21	31	240	1400	195
1556	24	32	230	1553	22	29	260	1552	21	24	250	1500	116
1656	24	33	240	1653	17	26	250	1652	16	26	260	1600	57
1756	22		240	1753	20		250	1752	16	24	250	1700	48
1856	24		250	1853	21	29	250	1852	13		250	1800	76
1956	23		240	1953	18	26	250	1952	11		250	1900	76
2056	23	29	240	2053	17		270	2052	8		250	2000	55
2156	21		250	2153	20	28	260	2152	10		240	2100	709
2256	18		250	2253	11		260	2252	13	23	270	2200	400
2356	15		270	2353	17	24	260	2352	16	22	250	2300	723

Table ADD-3: Wind speed, wind gust, and wind direction tables for El Centro NAF, Imperial County Airport, and Campo Airfield comparative to the concentration of the Brawley FEM Monitor on April 1, 2014. Values indicated in red are wind speed values coincident with the Brawley FEM Monitor measured PM_{10} concentrations above 100 µg/m³. Collected meteorological observations are from a variety of sources with varying equipment and exposure. **Appendix B** contains additional information regarding meteorological observations

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TABLE ADD-4
NILAND WIND SPEED TABLE APRIL 1, 2014

EL CENTRO NAF (KNJK)				IMPERIAL CO AIRPORT (KIPL)				CAMPO				NILAND FEM	
													4/1/2014
HOUR	W/S	W/G	W/D	HOUR	W/S	W/G	W/D	HOUR	W/S	W/G	W/D	HOUR	PM_{10} (µg/m³)
56	26	34	240	53	14	23	250	52	15		240	0	144
156	24	38	230	153	17	21	250	152	15	23	240	100	154
256	15		250	253	11		280	252	18		230	200	39
356	10		240	353	11		270	352	14		230	300	33
456	13		220	453	10		250	452	14		230	400	28
556	14		220	553	10		240	552	15	22	230	500	13
656	16	23	240	653	10		240	652	16		230	600	16
756	20		250	753	16		260	752	18	25	230	700	28
856	25	32	230	853	25	30	240	852	16	24	240	800	85
956	22	28	240	953	16	28	260	952	18	29	230	900	12
1056	9		260	1053	9	18	270	1052	14	26	260	1000	27
1156	16		230	1153	15	20	250	1152	18	28	250	1100	14
1256	28		220	1253	23	33	250	1252	20	30	250	1200	179
1356	28	37	240	1353	25	34	250	1352	13	23	250	1300	188
1456	29	34	230	1453	22	33	260	1452	21	31	240	1400	144
1556	24	32	230	1553	22	29	260	1552	21	24	250	1500	88
1656	24	33	240	1653	17	26	250	1652	16	26	260	1600	61
1756	22		240	1753	20		250	1752	16	24	250	1700	110
1856	24		250	1853	21	29	250	1852	13		250	1800	171
1956	23		240	1953	18	26	250	1952	11		250	1900	140
2056	23	29	240	2053	17		270	2052	8		250	2000	150
2156	21		250	2153	20	28	260	2152	10		240	2100	274
2256	18		250	2253	11		260	2252	13	23	270	2200	293
2356	15		270	2353	17	24	260	2352	16	22	250	2300	55

Table ADD-4: Wind speed, wind gust, and wind direction tables for El Centro NAF, Imperial County Airport, and Campo Airfield comparative to the concentration of the Niland FEM Monitor on April 1, 2014. Values indicated in red are wind speed values coincident with the Niland FEM Monitor measured PM_{10} concentrations above 100 µg/m³. Collected meteorological observations are from a variety of sources with varying equipment and exposure. **Appendix B** contains additional information regarding meteorological observations