Bay Area Air District

APPENDIX F

Mitigation Monitoring and Reporting Program for Rule 11-18

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BAY AREA AIR DISTRICT

Mitigation Monitoring and Reporting Program for the Final Addendum to the Environmental Impact Report for Regulation 11: Hazardous Pollutants, Rule 18: Reduction of Risk from Air Toxic Emissions at Existing Facilities

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BAY AREA AIR DISTRICT

Rule 11-18: Reduction of Risk from Air Toxic Emissions at Existing Facilities

1.0 MITIGATION MONITORING AND REPORTING PROGRAM

The Mitigation Monitoring and Reporting Program (MMRP) is a required component of the California Environmental Quality Act (CEQA) process, when mitigations are imposed on projects for which Environmental Impact Reports (EIRs) or Mitigated Negative Declarations have been prepared.

When a public agency conducts an environmental review of a proposed project in conjunction with approving it, the lead agency shall adopt a program for monitoring or reporting on the measures it has imposed to mitigate or avoid significant adverse environmental effects pursuant to the requirements of CEQA Guidelines §15097 and PRC §21081.6. PRC §21081.6 states in part that when making the findings required by §21081(a):

"... the public agency shall adopt a reporting or monitoring program for the changes made to the project or conditions of project approval, adopted in order to mitigate or avoid significant effects on the environment. The reporting or monitoring program shall be designed to ensure compliance during project implementation. For those changes which have been required or incorporated into the project at the request of a responsible agency or a public agency having jurisdiction by law over natural resources affected by the project, that agency shall, if so requested by the lead or responsible agency, prepare and submit a proposed reporting or monitoring program."

Enforcement of the mitigation, monitoring, and reporting requirements described in this program is primarily the responsibility of the Bay Area Air District (Air District) as the lead agency under CEQA. The mitigation measures discussed herein are primarily the responsibility of the project applicants to implement. To certify compliance, documentation that mitigation measures have been implemented will be maintained by the project applicants to ensure potential environmental impacts are mitigated in accordance with the performance standards in the FEIR.

2.0 MITIGATION MEASURES

During the preparation of the Final EIR for Rule 11-18, potentially significant impacts were identified for air quality, greenhouse gases (GHG), hazards and hazardous materials, and hydrology and water quality (water demand) impacts. The following mitigation measures were imposed.

2.1 AIR QUALITY IMPACTS AND MITIGATION MEASURES

Based on the evaluation of those air pollution control technologies that would most likely be used to reduce toxic air contaminant (TAC) emissions from affected facilities (if applicable) pursuant to proposed Rule 11-18, air quality impacts from construction activities associated with the proposed project could generate emissions that exceed the Air District's construction emission thresholds. Therefore, construction air quality impacts were concluded to be significant for ROG, NOx, PM10 and PM2.5 emissions. Air quality emissions were determined to be less than significant during the operational phases associated with implementation of Rule 11-18.

The following mitigation measures were imposed.

A-1 Develop a Construction Emission Management Plan for each affected facility to minimize emissions from vehicles including, but not limited to: consolidating truck deliveries; scheduling deliveries to avoid peak hour traffic conditions; describing truck routing; describing deliveries including logging delivery times; describing entry/exit points; identifying locations of parking; identifying construction schedule; and prohibiting truck idling in excess of five consecutive minutes or another timeframe as allowed by the California Code of Regulations, Title 13 §2485 - CARB's Airborne Toxic Control Measure to Limit Diesel-Fueled Commercial Motor Vehicle Idling. The Construction Emission Management Plan shall be submitted to Air District staff for approval prior to the start of construction. At a minimum, the Construction Emission Management Plan would include the following types of mitigation measures.

On-Road Mobile Sources:

A-2 The Construction Emission Management Plan shall include measures to minimize emissions from vehicles including, but not limited to, consolidating truck deliveries, prohibiting truck idling in excess of five minutes as contract conditions with carriers and by posting signs onsite, specifying truck routing to minimize congestion emissions, specifying hours of delivery to avoid peak rush-hour traffic, allowing ingress/egress only at specified entry/exit points to avoid heavily congested traffic intersections and streets, and specifying allowable locations of onsite parking.

Off-Road Mobile Sources:

A-3 Prohibit construction equipment from idling longer than five minutes at the facility under consideration as contract conditions with construction companies and by posting signs onsite.

A-4 Maintain construction equipment tuned up and with two- to four-degree retard diesel engine timing or tuned to manufacturer's recommended specifications that optimize emissions without nullifying engine warranties.

A-5 The facility operator shall survey and document the locations of construction areas and identify all construction areas that are served by electricity. This documentation shall be provided as part of the Construction Emissions Management Plan. Electric welders shall be used in all construction areas that are demonstrated to be served by electricity.

A-6 The facility operator shall survey and document the locations of construction areas and identify all construction areas that are served by electricity. This documentation shall be provided as part of the Construction Emissions Management Plan. Onsite electricity rather than temporary power generators shall be used in all construction areas that are demonstrated to be served by electricity.

A-7 If cranes are required for construction, cranes rated 200 hp or greater equipped with Tier 4 or equivalent engines shall be used. Engines equivalent to Tier 4 may consist of Tier 3 engines retrofitted with diesel particulate filters and oxidation catalysts, selective catalytic reduction, or other equivalent NOx control equipment. Retrofitting cranes rated 200 hp or greater with PM and NOx control devices must occur before the start of construction. If cranes rated 200 hp or greater equipped with Tier 4 engines are not available or cannot be retrofitted with PM and NOx control devices, the facility operator shall use cranes rated 200 hp or greater equipped with Tier 3 or equivalent engines. The facility operator shall provide documentation in the Construction Emissions Management Plan or associated subsequent status reports as information becomes available that cranes rated 200 hp or greater equipped with Tier 4 or equivalent engines are not available.

A-8 For off-road construction equipment rated 50 to 200 hp that will be operating for eight hours or more, the facility operator shall use equipment rated 50 to 200 hp equipped with Tier 4 or equivalent engines. Engines equivalent to Tier 4 may consist of Tier 3 engines retrofitted with diesel particulate filters and oxidation catalysts, selective catalytic reduction, or other equivalent NOx control equipment. Retrofitting equipment rated 50 to 200 hp with PM and NOx control devices must occur before the start of construction. If equipment rated 50 to 200 hp equipped with Tier 4 engines is not available or cannot be retrofitted with PM and NOx control devices, the facility operator shall use equipment rated 50 to 200 hp equipped with Tier 3 or equivalent engines. The facility operator shall provide documentation in the Construction Emissions Management Plan or associated subsequent status reports as information becomes available that equipment rated 50 to 200 hp equipped with Tier 4 or equivalent engines are not available.

2.2 GREENHOUSE GAS IMPACTS AND MITIGATION MEASURES

Based on the evaluation of those air pollution control technologies that would most likely be used to reduce TAC emissions from affected facilities (if applicable) pursuant to proposed Rule 11-18, GHG emission impacts could exceed the Air District's operational GHG emissions significance threshold of 10,000 $MTCO_2e$/yr. Therefore, because the analysis of GHG emission impacts is by

definition a cumulative impact analysis, cumulative operational GHG emission impacts for Rule 11-18 are concluded to be significant.

While potentially significant GHG emission impacts were identified, no feasible mitigation measures were identified. However, some GHG emissions may be offset under the California Cap-and-Trade Program (renamed to be called the Cap-and-Invest Program).

Under the Cap-and-Invest program, industrial sectors receive allowances. An allowance is a tradable permit to emit one metric ton of a carbon dioxide equivalent GHG emissions. Allowances are distributed among facilities based on their complexity and energy efficiency. The more energy efficient a facility is, the greater the allocation it receives. Further, the AB32 Cap and Trade Program requires that the facilities subject to the program offset any GHG emissions in excess of the total allowance obtained through the program. As the emissions cap is gradually reduced over time, and as additional sources are brought under the cap to include the vast majority of GHG emissions in the State, the program will ensure that California remains on track to continually reduce GHG emissions. Operational GHG emission increases would be offset if they occurred at facilities that are included in the Cap-and-Invest Program. However, since there is no specific information as to where the air pollution control equipment would occur it would be speculative to assume that GHG emissions would be offset under the AB 32 Cap-and-Invest Program at this time. Nonetheless, some or all of the GHG emissions that may be generated to comply with Rule 11-18 may be offset under the Cap-and-Invest Program.

2.3 HAZARDS AND HAZARDOUS MATERIALS IMPACTS AND MITIGATION MEASURES

Based on the evaluation of those air pollution control technologies that would most likely be used to reduce TAC emissions from affected facilities if required pursuant to proposed Rule 11-18, hazards and hazardous materials impacts from the use of baghouses and dry electrostatic precipitators to comply with Rule 11-18 are potentially significant.

The following mitigation measures were imposed.

Baghouses

HHM-1 Maintain a comprehensive dust control program, with hazard dust inspections, testing, housekeeping, and control initiatives.

HHM-2 Ground the filter elements using grounding wires, rods, etc., to prevent sparks that could be generated during cleaning.

HHM-3 Install additional explosion rupture panels and vent outdoors.

HHM-4 If the collector filters are to be replaced, the first procedure is to remove as much flammable or explosive dusts from the filters as possible. Reverse the exhaust fan's

direction to maintain a low flow and prevent dust from returning to the hood. Clean the collector one section at a time allowing time for the dust to settle into the collection hopper. After several complete cleaning cycles a large portion of the dust will be ejected, which is expected to lower the exposure of the worker in handling the filter elements.

HHM-5 Perform all hot work (welding, acetylene cutting, grinding, etc.) away from the collector, if possible.

HHM-6 Ensure that power tools and impact hand tools (such as hammers, chippers, etc.) used by maintenance personnel that could present a sparking hazard are not used in high dust concentrations. When such work is being performed on the structure itself, make certain the dust concentrations within the enclosure are well below combustible levels.

HHM-7 Ensure adherence to National Fire Protection Agency (NFPA) standards including, but not limited to, NFPA 499, Recommended Practice for the Classification of Combustible Dusts and of Hazardous (classified) Locations for Electrical Installations in Chemical Process Areas.

Dry Electrostatic Precipitators

HHM-8 Fire and explosion risks can be reduced by equipping dry ESPs with CO sensors that send a signal to a safety system to stop the process when CO concentrations exceed the critical limit. This solution reduces the risk dramatically.

HHM-9 Modern digital electronic controls shall be used to automate this process to assure the dry ESP operates at peak performance levels at all times.

HHM-10 The bottom and top of each wire should be covered with shrouds to help minimize sparking and metal erosion at these points.

HHM-11 To further reduce fire and explosion hazards, affected operators shall establish the inspection frequency of all dry ESP components through a formal inhouse maintenance procedure. Vendors' recommendations for an inspection schedule shall be followed and shall include at a minimum, the following procedures.

Daily: On a daily basis operation of hoppers and ash removal system should be checked; the control room ventilation system should be examined; any abnormal arcing in the ESP enclosure and ducts (typically caused by broken wires, which may swing freely causing shorting between discharge and collector electrodes) should be investigated; and electrodes should be checked.

Weekly: Air filters should be checked and cleaned on a weekly or more frequently.

Semianually: On a semiannual basis the operator should check the exterior for visual signs of deterioration, and abnormal vibration, noise, or leaks.

2.4 HYDROLOGY AND WATER QUALITY IMPACTS AND MITIGATION MEASURES

Based on the evaluation of those air pollution control technologies that would most likely be used to reduce TAC emissions from affected facilities (if applicable) pursuant to Rule 11-18, large wet gas scrubber(s) installed to comply with Rule 11-18 requirements could result in significant water demand impacts due to operation of new scrubbers.

The following mitigation measures were imposed.

HWQ-1 When air pollution control equipment is installed and water is required for its operation, the facility is required to use recycled water, if available, to satisfy the water demand for the air pollution control equipment.

HWQ-2 In the event that recycled water cannot be delivered to the affected facility, the facility is required to submit a written declaration with the application for a Permit to Construct for the air pollution control equipment, to be signed by an official of the water purveyor indicating the reason(s) why recycled water cannot be supplied to the project.

Table 1 below provides the information required in the MMRP for mitigation measures imposed by the Final EIR for Rule 11-18. The Rule was adopted to reduce health risks from all facilities whose emissions of toxic air contaminants may result in a significant risk to nearby residents and workers. Rule 11-18 applies to numerous facilities, including data centers, petroleum refineries, a cement kiln, chemical plants, to name a few. As discussed above, mitigation measures were identified for construction air quality impacts, hazard impacts, and water demand (hydrology and water quality).

TABLE 1-1

Mitigation Monitoring and Reporting Program for Air District Rule 11-18

Mitigation Measure Summary	Monitoring Action	Responsible Party/Agency	1. Enforcement Agency 2. Monitoring Entities 3. Monitoring Phase
Air Quality			
A-1: Develop a Construction Emission Management Plan for each affected facility to minimize emissions from vehicles.	Applicants are responsible for preparation of the Construction Emission Management Plan and maintaining records documenting implementation. Air District is responsible for reviewing and approving the Plan. Records shall be maintained for two years following the completion of construction activities.	Applicant to develop plan Air District to review/approve plan	1. Air District 2. Air District 3. Prior to start of construction and during construction
A-2: The Construction Emission Management Plan shall include measures to minimize emissions from vehicles including, but not limited to, consolidating truck deliveries.	Applicants are responsible for preparation of the Construction Emission Management Plan and maintaining records documenting implementation. Air District is responsible for reviewing and approving the Plan. Records shall be maintained for two years following the completion of construction activities.	Applicant to develop plan Air District to review/approve plan	1. Air District 2. Air District 3. Prior to start of construction and during construction
A-3: Prohibit construction equipment from idling longer than five minutes at the facility under consideration as contract conditions with construction companies and by posting signs onsite.	Prepare notification letter explaining idling limitation during construction, include in contract, remind contractors during shift meetings, and provide copy of letter to all contractors. Post signs on-site. Records shall be maintained for two years following the completion of construction activities.	Applicant to implement	1. Air District 2. Air District/Applicant 3. Prior to start of construction and daily during construction.
A-4: Maintain construction equipment tuned up and with two- to four-degree retard diesel engine timing or tuned to manufacturer's recommended specifications that optimize emissions without nullifying engine warranties.	Applicants to maintain records of vehicle maintenance activities. Records shall be maintained for two years following the completion of construction activities.	Applicant to implement	1. Air District 2. Air District/Applicant 3. During construction

TABLE 1-1

Mitigation Monitoring and Reporting Program for Air District Rule 11-18

Mitigation Measure Summary	Monitoring Action	Responsible Party/Agency	1. Enforcement Agency 2. Monitoring Entities 3. Monitoring Phase
Air Quality (cont.)			
A-5: The facility operator shall survey and document the locations of construction areas and identify all construction areas that are served by electricity. Electric welders shall be used in all construction areas that are demonstrated to be served by electricity.	Prepare site plan that identifies construction areas where electricity is not available and non-electric (gasoline or diesel) welders are permissible. If applicable, identify areas where safety prohibits the use of electric power tools. Maintain records of use of non-electric welders including location, date, duration of use, and fuel type. Records shall be maintained for two years following the completion of construction activities.	Applicant to implement	1. Air District 2. Air District/Applicant 3. Prior to start of construction and daily during construction.
A-6: The facility operator shall survey and document the locations of construction areas and identify all construction areas that are served by electricity. Onsite electricity rather than temporary power generators shall be used in all construction areas that are demonstrated to be served by electricity.	Prepare site plan that identifies construction areas where electricity is not available and non-electric (gasoline or diesel) temporary power generators are permissible. If applicable, identify areas where safety prohibits the use of electric power generators. Maintain records of use of non-electric generators including location, date, duration of use, and fuel type. Records shall be maintained for two years following the completion of construction activities.	Applicant to implement	1. Air District 2. Air District/Applicant 3. Prior to start of construction and during construction.
A-7: If cranes are required for construction, cranes rated 200 hp or greater equipped with Tier 4 or equivalent engines shall be used.	Maintain records of all crane with engines rated at more than 200 hp including 1) equipment description; 2) equipment ID; 3) dates operated on-site; 4) engine hp rating; 5) engine tier certification; 6) description of control technologies and CARB certification; and, 7) justification for use of equipment with less than Tier 4 engines, if Tier 4 engines are not available. Records shall be maintained for two years following the completion of construction activities.	Applicant to implement	1. Air District 2. Air District/Applicant 3. Prior to start of construction and during construction.

TABLE 1-1

Mitigation Monitoring and Reporting Program for Air District Rule 11-18

Mitigation Measure Summary	Monitoring Action	Responsible Party/Agency	1.Enforcement Agency 2.Monitoring Entities 3.Monitoring Phase
Air Quality (cont.)			
A-8: For off-road construction equipment rated 50 to 200 hp that will be operating for eight hours or more, the facility operator shall use equipment rated 50 to 200 hp equipped with Tier 4 or equivalent engines.	Maintain records of all diesel-fueled construction equipment with engines rated at more than 50 hp including 1) equipment description; 2) equipment ID; 3) dates operated on-site; 4) engine hp rating; 5) engine tier certification; 6) description of control technologies and CARB certification; and, 7) justification for use of equipment with less than Tier 4 engines, if Tier 4 engines are not available. Records shall be maintained for two years following the completion of construction activities.	Applicant to implement	1. Air District 2. Air District/Applicant 3. During construction
Hazards and Hazardous Materials			
HHM-1: Maintain a comprehensive dust control program, with hazard dust inspections, testing, housekeeping, and control initiatives.	Applicant to develop and implement dust control program for installation of new baghouses. Maintain records documenting inspections, testing, housekeeping and control initiatives. Compliance records shall be maintained for two years.	Applicant to implement	1. Air District 2. Air District/Applicant 3. Prior to and during operation
HHM-2: Ground the filter elements using grounding wires, rods, etc., to prevent sparks that could be generated during cleaning.	Applicant to maintain records of grounding. Compliance records shall be maintained for two years.	Applicant to implement	1. Air District 2. Air District/Applicant 3. Prior to and during operation
HHM-3: Install additional explosion rupture panels and vent outdoors.	Applicant to maintain records of installation of rupture panels and venting. Compliance records shall be maintained for two years.	Applicant to implement	1. Air District 2. Air District/Applicant 3. Prior to and during operation

TABLE 1-1

Mitigation Monitoring and Reporting Program for Air District Rule 11-18

Mitigation Measure Summary	Monitoring Action	Responsible Party/Agency	1.Enforcement Agency 2.Monitoring Entities 3.Monitoring Phase
Hazards and Hazardous Materials (cont.)			
HHM-4: If the collector filters are to be replaced, remove as much flammable or explosive dusts from the filters as possible. Reverse the exhaust fan's direction to maintain a low flow and prevent dust from returning to the hood. Clean the collector one section at a time allowing time for the dust to settle into the collection hopper.	Applicant to maintain records of installation of cleaning activities. Compliance records shall be maintained for two years.	Applicant to implement	1. Air District 2. Air District/Applicant 3. Prior to and during operation
HHM-5: Perform all hot work (welding, acetylene cutting, grinding, etc.) away from the collector, if possible.	Applicant to maintain records of installation of rupture panels and venting. Compliance records shall be maintained for two years.	Applicant to implement	1. Air District 2. Air District/Applicant 3. Prior to and during operation
HHM-6: Ensure that power tools and impact hand tools (such as hammers, chippers, etc.) used by maintenance personnel that could present a sparking hazard are not used in high dust concentrations. Make certain the dust concentrations within the enclosure are well below combustible levels.	Applicant to monitor and maintain records of dust concentrations prior to maintenance activities. Compliance records shall be maintained for two years.	Applicant to implement	1. Air District 2. Air District/Applicant 3. During operation
HHM-7: Ensure adherence to National Fire Protection Agency (NFPA) standards.	Applicant to monitor and maintain records associated with compliance with NFPA standards relating to hazards and hazardous materials. Compliance records shall be maintained for two years.	Applicant to implement	1. Air District 2. Air District/Applicant 3. During operation

TABLE 1-1

Mitigation Monitoring and Reporting Program for Air District Rule 11-18

Mitigation Measure Summary	Monitoring Action	Responsible Party/Agency	1.Enforcement Agency 2.Monitoring Entities 3.Monitoring Phase
Hazards and Hazardous Materials (cont.)			
HHM-8: Equip dry ESPs with CO sensors.	Applicant to maintain records of installation of CO sensors on new dry ESPs. Compliance records shall be maintained for two years.	Applicant to implement	1. Air District 2. Air District/Applicant 3. Prior to and during operation
HHM-9: Modern digital electronic controls shall be used to automate this process to assure the dry ESP operates at peak performance levels at all times.	Applicant to maintain records of installation of electronic controls on dry ESPs. Compliance records shall be maintained for two years.	Applicant to implement	1. Air District 2. Air District/Applicant 3. Prior to and during operation
HHM-10: The bottom and top of each wire should be covered with shrouds to help minimize sparking and metal erosion at these points.	Applicant to maintain records of installation of covered shrouds on wires. Compliance records shall be maintained for two years.	Applicant to implement	1. Air District 2. Air District/Applicant 3. Prior to and during operation
HHM-11: To further reduce fire and explosion hazards, applicant shall establish the inspection frequency of all dry ESP components through a formal inhouse maintenance procedure. Vendors' recommendations for an inspection schedule shall be followed and shall include: **Daily:** Check operation of hoppers and ash removal system; examine the control room ventilation system; investigate any abnormal arcing in the ESP enclosure and ducts (typically caused by broken wires); and check electrodes. (cont.)	Applicant to maintain records of all inspection activities. Compliance records shall be maintained for two years.	Applicant to implement	1. Air District 2. Air District/Applicant 3. During operation

TABLE 1-1

Mitigation Monitoring and Reporting Program for Air District Rule 11-18

Mitigation Measure Summary	Monitoring Action	Responsible Party/Agency	1.Enforcement Agency 2.Monitoring Entities 3.Monitoring Phase
Hazards and Hazardous Materials (cont.)			
Weekly: Check and clean air filters. **Semianually:** Check the exterior for visual signs of deterioration, and abnormal vibration, noise, or leaks.			
Hydrology and Water Quality			
HWQ-1: When air pollution control equipment is installed and water is required for its operation, the facility is required to use recycled water, if available, to satisfy the water demand for the air pollution control equipment.	Applicant to maintain water purchase records. Compliance records shall be maintained for two years.	Applicant	1. Air District 2. Air District/Applicant 3. Prior to and during operation
HWQ-2: In the event that recycled water cannot be delivered to the affected facility, the facility is required to submit a written declaration with the application for a Permit to Construct for the air pollution control equipment, to be signed by an official of the water purveyor indicating the reason(s) why recycled water cannot be supplied to the project.	If applicable, applicant to obtain and provide declaration from water purveyor and include as part of the application for air permits to the Air District.	Applicant	1. Air District 2. Air District/Applicant 3. Prior to and during operation