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Review of the Draft Environmental Impact Report (Draft EIR) for the Mitsubishi Cement Facility (MCC) Modification Project

The South Coast Air Quality Management District (SCAQMD) staff appreciates the opportunity to comment on the Draft EIR for the Mitsubishi Cement Facility (MCC) Modification Project.

The proposed Project includes expansion of the MCC facility at Berth F208 into the adjacent vacant property, construction of four additional cement storage and loading silos with a truck lane under each pair of silos, installation of a Dockside Catalytic Control System (DoCCS) to control at-berth NO_X vessel emissions, and upgrades to ship unloading equipment. MCC is proposing to construct the additional cement storage silos and truck loading equipment on the vacant property that is the location of the former warehouse. The warehouse has been demolished and the site is vacant. Upon completion of the new silos, a new ship unloader would be added, the larger existing unloader would be upgraded, and the smaller existing unloader would be decommissioned. The new cement storage silos would be connected to the existing warehouse and new ship unloaders via new piping. The 4.21 acre Project site would be expanded to 5.92 acres.

The existing SCAQMD permit limits the ship unloading throughput to 9.66 million short tons (8.76 million metric tons) per year and the truck loading throughput to 3.8 million short tons (3.45 million metric tons) per year. The permit also requires that all ships be in "cold iron status" while unloading (that is, they must use shore-to-ship power instead of onboard auxiliary generators). MCC was only able to achieve approximately 66 percent average shore-to-ship power use in 2006. In 2005, MCC obtained an Order for Abatement from SCAQMD that allowed limited on-vessel generator use for unloading activities. The last vessel to call at MCC was in 2008.

The proposed Project would not modify the permitted unloading and loading limits. However, in the interest of a conservative analysis, the Draft EIR analyzed the environmental impacts from MCC's maximum capacity throughput. At completion, the modifications would result a throughput increase to 4.6 million short tons (4.2 million

metric tons) of cement from 99 ships, resulting in 166,400 truck trips. MCC's existing SCAQMD permit will be modified to allow vessels that call at MCC facility to either use shore-to-ship electricity or use the proposed DoCCS at berth.

As part of the Project's Environmental Controls, in EC AQ-2, the Lead Agency will verify and enforce that OGVs that call at the MCC facility shall use shore-to-ship power no less than 66 percent of the time. Compliance will be demonstrated by annual reports submitted by MCC to the Port's Environmental Planning Division. However, there is no discussion as to the repercussions should MCC not be able to meet the 66 percent cold-ironing requirement. Please provide more information to clarify the Lead Agency's actions in the event that MCC is unable to meet this Project requirement.

SCAQMD staff has concerns about the modeling performed for this Project, which might have led to an under-estimation of the Project's air quality and health risk impacts. Additional details are included in the attachment.

Pursuant to Public Resources Code Section 21092.5, please provide the SCAQMD staff with written responses to all comments contained herein prior to the adoption of the Final EIR. Further, staff is available to work with the lead agency to address these issues and any other questions that may arise. Please contact me at (909) 396-3176, if you have any questions regarding the enclosed comments.

Sincerely,

Jillian Baker

Jillian Baker, Ph.D.
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Planning, Rule Development & Area Sources

Attachment

LAC141003-05
Control Number

SN:JB:JK:JC

AERMOD Modeling

1. The Draft EIR did not provide a clear documentation of the modeled sources and receptors. The Final EIR should include a table with text that identifies each source or group of sources corresponding to the activity/source included in the emission spreadsheets. For example, in the Health Risk Assessment (HRA), source H includes OGV hoteling, SCR and duct burner emissions for annual emissions, but seems to only include boilers in the annual emissions. Some sources are identified in the input files, but some are not. This documentation should be included in the Final EIR.

2. Although Table A-2-3 shows the temporal distribution of sources, it was unclear how those variable emissions were modeled and which scenarios it applied to. The hourly variable emission rates in the outer harbor AERMOD input files are not consistent with the variable emissions rates in the Excel file (RateFactors-AERMOD.xls). Upon SCAQMD staff request, the annual and hourly variable emission rates were provided in an Excel file (RateFactors-AERMOD.xls). However, no documentation was provided that detailed how the variable emission rates were assigned. For example, the OGV Fairway emissions were shown to occur between midnight and 1:00 am, OVG precautionary travel would occur between 1:00 am and 2:00 am, etc. It is unclear how those hours were assigned to ensure that the maximum impacts from the Project's peak day were properly analyzed. In another example, the hoteling values were set to zero for the peak NO_2 emissions scenario in the input file, but the Excel file (RateFactors-AERMOD.xls) shows that 20 hours of emissions should be emitted from these sources. Since variable emission rate for this source was set to zero, the criteria impacts from these sources were not modeled and are under estimated. The Final EIR should include documentation that describes the scenarios (annual and hourly) provided in the spreadsheet and explain why these scenarios appropriately capture the annual average and the peak hourly conditions.

3. There are two sets of receptor grids used in the AERMOD modeling - a coarse and fine receptor grid. Coarse grids were used to model NO_2, CO, PM_{10} and $PM_{2.5}$ concentrations. Fine grids were used only for $PM_{2.5}$ and PM_{10}. Both coarse and fine receptor grids were used in the HRA. The coarse receptor grid is comprised of a 250-meter grid spacing extending out to no further than 5,000-meters from the facility, and a 500-meter grid spacing extending out to no further than 11,000-meters from the facility. The fine receptor grid used a 50-meter grid spacing, extending out to 500-meters from within the facility. The Draft EIR indicated that this grid spacing was used to reduce the resources needed for the AERMOD modeling run time. However, this alone is not an adequate reason to reduce the number of receptors modeled. SCAQMD staff is concerned that by limiting the number of receptors, the Project's air quality impacts might have been under-estimated. For this project, SCAQMD staff recommends a coarse receptor grid with a 100-meter grid spacing extending out to 2,500-meters from the facility and a 250-meter grid spacing, extending out to 10,000-meters from the facility. This grid should be used to determine the locations of maximum impact for each averaging period. If the maximum impacts for any of the averaging periods are not adequately captured by the coarse grid, a fine receptor grid with a 50-meter spacing can be used in the area of the potential maximum impact to

ensure that the air quality impacts from the Project have been estimated correctly. The Final EIR should include figures showing the locations of the maximum impact for each averaging period and the placement of both the coarse and fine receptor grids.

4. While the receptor numbers match in the various output files, not all of the output files have the UTM coordinates. There are inconsistencies in the UTM coordinates between the output files and UTM coordinates in the Excel files used to post-process the concentrations. For example, in the HRA, the Project concentrations (FE) were subtracted from the CEQA baseline concentrations (CB) and listed as receptor number 488 in the Excel file (HRA-FE-Results-COARSE.xls). However, it appears that the receptor in the CEQA baseline corresponding to UTM 38800, 3738750 is receptor 476. When SCAQMD staff reran the HARP off ramp values provided with the Draft EIR, the health risk values generated were lower than those reported in the Excel files and Draft EIR. Since the values were not the same, SCAQMD staff could not validate that the proposed Project concentrations were subtracted from the CEQA baseline concentrations at the same receptor. SCAQMD staff could not reproduce the health risks reported in the Draft EIR and could not verify that the health impacts have been accurately disclosed. The Final EIR should include all spreadsheets used to determine the Project's incremental impacts (by subtracting the CB scenario from the FE scenario) and list the receptors both by receptor number and UTM coordinates.

5. Some of the receptors were placed within the volume source exclusion zone and their results would be invalid. Since there are modeled volume sources which extend beyond the Project boundary, care should be taken to ensure that no receptors are placed within the volume source exclusion zone.

6. Page A-2-7 of the Draft EIR indicates that 2006-2007 meteorological data from the Gull Park station (outer harbor) and Superblock station (inner harbor) was used for dispersion modeling for both criteria pollutants and toxic air contaminants (TACs). The meteorological data was processed using AERMET version 12345, which is outdated. The US EPA recommends that for on-site meteorological data, the most recent one-year be used for the purposes of air dispersion modeling. Therefore, SCAQMD staff recommends that the Lead Agency update the meteorological data with the latest year of available data and use AERMET version 14134 (or the most recent version available at the time of analysis) to process the data. Alternatively, SCAQMD staff has prepared AERMOD-ready meteorological data which could be used by the Lead Agency in its air quality analysis. The meteorological data is available for download here: http://www.aqmd.gov/home/library/air-quality-data-studies/meteorological-data/data-for-aermod.

Criteria Pollutant Analysis

7. Note C of Tables 3.2-12 through 3.2-25 of the Draft EIR implies that NO_X to NO_2 emission conversion rates (25.8 and 46.7 percent) from the SCAQMD LST Guidance were used to estimate NO_2 emissions. The use of the NO_X to NO_2 conversion ratios contained in the SCAQMD's LST Guidance are not appropriate for this Project. The NO_X to NO_2 conversion ratios listed in SCAQMD's LST Guidance were meant to be

used with ISCST3, which did not allow for the NO_X to NO_2 conversion within the model. Within AERMOD, the conversion from NO_X to NO_2 can be modeled either by using the Tier 1 (full conversion), Tier 2 (ARM), or Tier 3 (OLM or PVMRM). Upon SCAQMD staff review, it appears that no NO_X to NO_2 emission conversion rates were applied (Tier 1 analysis). The Final EIR should be updated to reflect this.

8. The Federal one-hour NO_2 NAAQS is the 3-year average of the 98th percentile of the yearly distribution of one-hour daily maximum NO_2 concentrations. Since only one year of meteorological data was used for air dispersion modeling, the project proponent used the maximum NO_2 concentration to represent the 3-year average of the 98th percentile of the yearly distribution of one-hour daily maximum NO_2 concentrations. This could have resulted in an over estimation of the NO_2 concentration since the highest concentrations may have occurred on the same day. However, multiple years of met data may reveal other peaks that are not captured by the single year that was used.

Health Risk Assessment

9. The TACs in Table A.3-105 (Hourly DPM Emission Simulations) and Table A.3.1-13 (Annual DPM Emissions Simulations) are not the same. For example, the annual emissions include TACs from the duct burner (benzene, ethyl benzene, etc.), but these emissions are not included in the hourly emissions even though they have acute health risk values (RELs). In addition, there are no hourly or annual ammonia emission rates for the hoteling sources, which include the SCR unit. It appears that the ammonia slip emissions from the SCR were not included in the HRA. Therefore, the health risk impacts from the Project are likely underestimated in the Draft EIR. The Final EIR should include revisions to the HRA to include these emissions.

10. The hourly variable emission rates in the outer harbor AERMOD input files are not consistent with the variable emissions rates in the Excel file (RateFactors-AERMOD.xls). The emission factors for the hoteling and Kovaco cement unloader+50 percent payloaders are zero for all hours, which would mean that the emissions from these sources were not modeled. The Excel file (RateFactors-AERMOD.xls) shows that 20 hours of emissions should be modeled from these sources. Since emissions from these sources were not modeled, the health risk impacts in the Draft EIR are likely under estimated. The Final EIR should include revisions to the HRA to include the emissions from these sources.

11. The acute TAC emissions are missing in HARP emission files (MCP_Outer_FE_Acute(08-04-14).ems, and MCP_Inner_FE_Acute (08-04-14).ems). Since acute health risks are reported in Table 3.2-14 of the Draft EIR, SCAQMD staff were unable to verify the acute impacts from the provided files. The Final EIR should include the appropriate acute emissions files used in HARP.

12. Maps should be included in the Final EIR that show the MICR, MICW, and maximum acute and chronic HIs identified by the coarse receptor grids. No fine receptor grids appear to be included in the HRA analysis included with the Draft EIR. Fine receptor grids should be placed around the MICR, MICW, and maximum acute

and chronic HIs identified by the coarse grid to refine the locations and concentrations of the MICR, MICW, and maximum acute and chronic HIs. Maps identifying the MICR, MICW, and maximum acute and chronic HIs determined by the fine receptor grids should also be included in the Final EIR. Since a fine receptor grids were not used it is unclear if the correct locations and concentrations of the MICR, MICW, and maximum acute and chronic HIs were identified in Draft EIR.

Mortality and Morbidity

13. On Page 3.2-31 of the Draft EIR, the Lead Agency determined that mortality and morbidity significance would be identified by air dispersion modeling where the incremental operational emissions would result in off-site 24-hour PM2.5 concentrations that exceed the SCAQMD significance criterion of 2.5 $\mu g/m^3$. The SCAQMD staff does not agree with using a screening threshold of an incremental increase of 2.5 $\mu g/m^3$ for determining mortality and morbidity. The SCAQMD's PM2.5 significance threshold of 2.5 $\mu g/m^3$ is designed to determine the significance of localized impacts on nearby receptors, and was made consistent to existing permitting requirements under our Rule 1303. The PM2.5 significance threshold of 2.5 $\mu g/m^3$ was not intended to be used as a screening tool to further analyze mortality and morbidity impacts. The PM mortality analysis in the Draft EIR should instead use the methods described in CARB's 2008 guidance document.[1]

[1] Methodology for Estimating Premature Deaths Associated with Long-term Exposure to Fine Airborne Particulate Matter in California, 10/24/2008.
http://www.arb.ca.gov/research/health/pm-mort/PMmortalityreportFINALR10-24-08.pdf