Las Brisas Energy Center, LLC
Air Quality Impact Summary

Chase Power Development, LLC, filed an air permit application with the Texas Commission on Environmental Quality (TCEQ) for a petroleum coke fueled power plant along the north side of the Corpus Christi Ship Channel, the Las Brisas Energy Center, LLC. Texas A&M University-Kingsville (TAMUK) was commissioned to do an impact analysis on the air quality in the Corpus Christi Airshed. A copy of the final report is attached. The following is a brief summary of the results of that study.

TAMUK was to determine the impact of the Las Brisas plant on the ozone attainment of the airshed, particularly considering the reduction in the ozone standard enacted by U.S. EPA in March 2008. The standard was reduced from 0.08 ppm (84 ppb) to 0.075 ppm (75 ppb). The new standard is facing a court challenge. Additionally, TAMUK included analyses of the plant's impact on oxides of nitrogen, NOx, and oxides of sulfur, SOx.

The impact analyses were performed utilizing various computer simulations of atmospheric dispersion and photochemical reactivity as described in the report. The model base included the "typical" meteorological conditions conducive to elevated ozone levels in the area, which only occur 4 to 5 days in a year, typically. This modeling event simulates an episode that occurred in September 1999.

The ozone model was an impact analysis for the Las Brisas emissions. The run, including the Las Brisas emissions, was compared with a base case without those emissions, and the difference calculated. The results are reported in Figures 11, 12, and 13 in the report. As indicated in those plots, the fresh NOx emissions caused a dual impact. Near the vicinity of the projected power plant, a small reduction in ozone level was observed extending south and west from the plant, and over the metropolitan area of Corpus Christi.

An increase in ozone level occurs further downwind of the source and is predicted to be up to 1.1 ppb. The predicted increase does not become evident until the plume has migrated north and west into western San Patricio County and Jim Wells County. The plume of increased ozone levels then dissipates quickly as it moves further downwind. The impact on the surface ozone concentrations is shown in Figures 12(a) and 12(b). Figure 12(b) provides a zoomed in view of the data in the two-county urban airshed region. The positive difference shows the increase in the predicted ozone levels, while negative values show the decrease in predicted surface ozone levels.

These figures predict no impact on CAMS 04, but predict CAMS 21 to be within the area of ozone reduction. This effect is demonstrated by the time plot, Figure 13. The Las Brisas case predicts a lower ozone concentration at the peak ozone levels at CAMS 21 on both high days. This would indicate that the area's attainment status, which is determined by the concentrations measured at CAMS 04 and CAMS 21, wouldn't be adversely affected.

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