SECTION 10 LOOKING FORWARD

10.1 Anticipated Impacts of Control Programs on Emissions in 2011

As presented in this 2010 EI report, the Port-related mobile source emissions have continued to decrease over the last several years in part due to the reduced cargo throughput (reflective of global economic conditions) as well as the implementation of the CAAP and regulatory programs affecting these sources. For 2011, the trend in TEU throughput is expected to increase as evidenced from the TEU throughput levels in the first quarter of 2011. Although the anticipated increase in throughput level in 2011 may offset some of the emissions reductions seen in 2010, the implementation of the CAAP measures and regulatory programs will continue to provide emissions benefits in 2011 and later years. The 2011 EI will reflect the Port’s actual throughput level in 2011 and the net emissions benefits associated with these programs and strategies. In addition, consistent with the Port’s EI development process, the latest available emission factors and methods as well as methodological improvements will be incorporated in the 2011 EI.

The following is a brief description of the anticipated impacts of control programs and measures in 2011 for each source category, which will result in further reduction of emissions from these port-related sources:

**OGV**
In 2011, continued implementation of the CAAP measures, including the use of shore power for vessels at berth and the Port’s vessel speed reduction program, will result in significant emission benefits. In addition, CARB’s marine fuel regulation requiring the use of lower sulfur fuel (0.5% sulfur) in main and auxiliary engines and auxiliary boilers within 24 nm of the California coastline, which became effective on July 1, 2009 will continue in 2011. Further, the trend toward newer vessels complying with new IMO standards and incorporating emission reduction technologies is expected to continue offering additional emission benefits in 2011.

**Harbor Craft**
Under CARB’s regulation for commercial harbor craft, in-use, newly purchased, or replacement engines in ferries, excursion vessels, tug boats and tow boats must meet EPA’s most stringent emission standards per a compliance schedule set by CARB for in-use engines and from new engines at the time of purchase. For harbor craft with home ports in the SoCAB, the compliance schedule for in-use engine replacements began in 2010 with the oldest model year engines (1979 and earlier). In addition, existing older engines could be replaced with newer engines in advance of CARB’s regulation for affected engines or in vessels not subject to CARB’s regulation (e.g., crew boats, work boats) at company’s own expense and with the help of grants.
CHE
In 2011, the continued implementation of the CAAP measure for CHE and CARB’s in-use CHE regulation will result in emissions benefits due to the replacement of existing older equipment with newer and cleaner equipment powered by on-road engines or the cleanest engine available.

Rail
The 1998 MOU among the Class 1 railroads (UP and BNSF), CARB, and EPA requires the accelerated introduction of cleaner locomotives in SoCAB. Specifically, the MOU requires BNSF and UP to achieve fleet-wide average emission rates meeting EPA’s Tier 2 line haul emission standards for their locomotives operating in SoCAB by 2010. The averaging provisions included in the MOU, which allow the railroads to average line haul and switching emissions to achieve the Tier 2 line haul average, mean that the line haul locomotives may not average Tier 2 emission levels because of reductions achieved through the use of low-emission switching locomotives. However, additional reductions in 2011 and subsequent years are anticipated from line haul locomotives due to implementation of the MOU.

HDV
Under the Port’s Clean Trucks Program (CTP), following the first phase of the progressive ban of older trucks operating at the Port (banning pre-1989 trucks from port service) in October 2008, the second phase of the CTP was implemented in 2010. Specifically, as of January 1, 2010, all 1989-1993 model year trucks, as well as the non-retrofitted 1994-2003 model year trucks (i.e., not achieving CARB Level 3 PM reduction plus 25% NOx reduction), were banned from port service. Implementation of the CTP has resulted in significant emissions reductions due to turnover of older trucks with newer. Also, as of July 1, 2011, the port banned Class 7 trucks with 2003 engine model or older, from working at the Port. These smaller trucks were not originally part of the Clean Trucks Program. In 2011, the Port will continue the efforts to increase the population of alternatively-fueled trucks serving the Port.

10.2 Future Improvements to Emissions Inventory Methodologies

In an effort to improve the annual air emissions inventories, the methodologies to estimate emissions continue to evolve with the development and discovery of new data and information. This subsection describes the proposed improvements to methodologies for estimating emissions in future inventories, by category.
OGV
Improvements to the methodology to estimate OGV emissions will be considered in at least two areas: 1) engine modification technologies incorporated into new engines as standard practice and installed as retrofits in existing vessels. The ports will continue to work with engine manufacturers and shipping companies, and through the TWG process, to further refine the emissions benefits associated with slide valves (new engines and retrofits) as well as other technologies being implemented; 2) in an effort to continue to improve the auxiliary engine loads by vessel mode, a new approach will be considered, in consultation with TWG, based on VBP reported auxiliary loads (actual power of the engine used), by vessel class and by mode instead of using the average installed auxiliary engine power adjusted by applying load factor by vessel class and mode. Under the proposed approach, default loads for auxiliary engines by operating mode will be based on the average of loads for each vessel subclass recorded for vessels boarded. Load Factors will no longer be used as installed power, as this is not a scalable variable by vessel owner and class, which may result in potential over/under estimates of auxiliary engine load. Information from CARB surveys, if available, will also be used for filling any data gaps; 3) the proposed CARB boundary change for the OGV Fuel Regulation will be taken into consideration.

Harbor Craft
The Port will work closely with vessel operators which provide activity data for the entire domain to separate out port-related activity, if possible. The Port will also work with CARB to harmonize GHG emission factors for harbor craft. As a part of data collection enhancement, the Port will strive to obtain engine emission certification for the recently purchased or repowered engines that may be available at the time of purchase or repower.

CHE
CARB is currently working on changes to the statewide emissions inventory for CHE. Any changes CARB makes to the methodology will be reviewed and incorporated, if applicable, to next year’s CHE EI.

Rail
The Port expects to receive information from CARB on the Class 1 railroads’ methods of complying with the MOU requiring an average of Tier 2 emissions in 2010 and later years. This information is expected to include the percentage of line haul locomotives in each tier level, the fleet mix, among locomotives arriving and departing the SoCAB; this will allow the emission estimates to reflect local conditions rather than EPA’s nationwide fleet mix assumptions for the calendar year. The information may also include more specifics on the types of switching locomotives in use by the Class 1 railroads.

HDV
As part of the San Pedro Bay Ports’ Clean Trucks Programs, the container terminals have been collecting truck entry data using radio frequency identification (RFID) technology. This data is collected and correlated with truck-specific information contained in the Drayage Truck Registry (DTR) that has also been established as part of the truck programs. The RFID/DTR data may prove to be a valuable supplement to the OCR/DMV data in evaluating the model year distribution of future Port-related fleets.