Placer County
AIR POLLUTION CONTROL DISTRICT

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MEMORANDUM

TO: Board of Directors, Placer County Air Pollution Control District

FROM: Tom Christofk, Air Pollution Control Officer

AGENDA DATE: December 14, 2006

SUBJECT: Second Annual Progress Report Pertaining to Mitigation Measures and Monitoring Activities for the Roseville Rail Yard (Information)

Action Requested:

None. District staff will provide to the Board an update of the plans, projects and activities relative to the Union Pacific Railroad Company (UPRR) Roseville facility that resulted from the October 2004 Roseville Rail Yard Study and the ensuing Agreement between UPRR and the PCAPCD dated December 9, 2004. Staff will take the opportunity to update the Board on the three main areas of focus listed in the Agreement, to wit: the Mitigation Plan; the Grant Program; and the Monitoring Project.

Background:

Summary of District Railroad Related Information and Actions

On October 14, 2004, your Board received a report and presentation by the Air Resources Board (ARB) entitled Roseville Rail Yard Study (Study), which addressed diesel emissions at the facility and their related health risks. As you may recall, the District had requested the study to: (1) determine the level of risk to the public from the emissions at the rail yard; (2) what that risk meant in comparable terms to other sources of diesel emissions; (this was a fairly minor portion of the Roseville modeling report; the dispersion modeling efforts now underway as part of the 2005 MOU with CARB take into account sources within six miles of the rail yards. An overall perspective is then provided re: all DPM sources in the area) and (3) what could be done to reduce the emissions, and thereby reduce the risks. ARB had designated diesel particulate matter as a toxic air contaminant in August 1998. Diesel engines emit a complex mixture of air pollutants, composed of gaseous and solid material. The visible emissions in diesel exhaust are known as particulate matter, or PM, which includes carbon particles or "soot". The Study results indicated high concentrations of diesel PM in an area surrounding the rail yard. The level of health risk associated with these PM emissions depends on length of exposure and proximity to the yard.

On December 9, 2004 your Board approved Resolution #04-21 authorizing the Chairman and the APCO to sign an Agreement with UPRR regarding mitigation measures and air monitoring for the Roseville Rail Yard. The Agreement that was signed has three main components, which are referred to as follows: Mitigation Plan; Grant Program; and Monitoring Project.

On April 14, 2005, your Board received a briefing on the mitigation measures that were being evaluated for implementation at the rail yard. The mitigation measures were targeted for implementation over three calendar years (2005, 2006, 2007), and specific to the Agreement in §2A(iv) is the requirement that "*progress reports towards achieving the emissions reductions specified in section A (i) shall be presented to the District Board and community by the end of the calendar years 2005, 2006, and 2007*." The commitment is for at least a 10% reduction of particulate matter emissions by the end of 2007 from the baseline year (1999-2000).

This staff report documents the 2006 progress and status of the Mitigation Plan, the Grant Program and the Monitoring Project.

Discussion:

Mitigation Plan

The Mitigation Plan addresses rail yard diesel PM emission reductions as a percentage below the baseline year (1999-2000) which UPRR is committed to obtaining. The baseline year emission inventory (25 tons of DPM) is contained in the ARB documentation for the risk assessment. Since that time there has been an increase in rail related traffic through the facility, and the challenge will be to reduce the emissions by 10% from the baseline levels (about 2.5 tons of DPM) while the volume of traffic is increasing. This effectively means that the facility-wide emissions from locomotives shall not exceed 22.5 tons in a year, regardless of how many locomotives visit the yard. The 10% goal needs to be attained by the end of 2007, and methods to calculate the reductions to "bank" are proposed in this staff report. One tool to use in this assessment will be to scrutinize the data being obtained from the Air Monitoring Project, and determine what the trends are over the three-year period of the Agreement. That project will be discussed in more detail below, but 2006 was the second year's operation of the monitoring equipment. The data obtained might provide insights into emission trends, and the effectiveness of reductions.

The Mitigation Plan has four areas of focus, two of which coincide with measures contained in the Statewide Agreement. These four areas are:

1. Reduction of unnecessary idling;
2. Introduction of low-sulfur diesel fuel for locomotives;
3. Switcher locomotive fleet replacements/upgrades; and

4. Emission control from the service, test, and maintenance and repair locations using stationary source type of equipment (often referred to as the "hood").

The first two areas (idling and fuel) address emission reductions throughout the entire facility, wherever there are locomotives. The last two (switcher fleet upgrades and the hood) target the sources of emissions associated with the highest risks, according to the risk isopleths in the Study, which are generally those areas adjacent to the service/repair and hump/trim functions. This four-pronged mitigation strategy should reduce emissions throughout the entire facility over time, with an emphasis on knocking down the emission concentrations that drove the risk "peaks". More details on each of these four areas are provided below.

1) Reduction of Unnecessary Idling – The Roseville Rail Yard Study found that idling locomotives accounted for 45% of the total diesel particulate matter emission at the facility. Reduction of unnecessary idling is an area that will yield both emission reductions and fuel savings, and has been and will continue to be implemented using both hardware installations of idling reduction devices and operational policy changes, and is a program element of the 2005 CARB MOU.

- On the hardware front, there are several devices on the market that monitor the locomotive engine and shut it down when idling for more than 15 minutes. These devices also automatically start the engine when sensors indicate that it is necessary to maintain block temperature, brake pressure, and battery charging conditions. In our region to date, about 85% of the intrastate locomotives have been retrofitted with these devices. All new Tier II locomotives come equipped from the factory with these devices.
    - The 2005 CARB MOU requires that all *intrastate* locomotives, which are typically the switcher fleet, be retrofitted or outfitted with idling restriction devices by June 30, 2008 (with interim deadlines of 35% by mid 2006 and 70% by mid 2007). The rail companies must submit annual inventories of the intrastate fleet to ARB to verify installation of the devices by the deadlines. All locomotives (both intrastate and interstate) installed with idling reduction devices must limit non-essential idling to no more than 15 consecutive minutes. Essential idling is defined as idling necessary to maintain brake pressure or other safety related purpose, prevent freezing of engine coolant, engage in necessary maintenance activities, or to ensure compliance with other federal guidelines. UPRR is ahead of this schedule for the Roseville area.
    - The Statewide Agreement indicates that for all locomotives not equipped with idling reduction hardware devices, non-essential idling is limited to no more than 60 consecutive minutes. It also contains the requirement for the development of an Idling Reduction Training Program, complete with designated Program Coordinators

at each of the specified rail facilities, and the maintenance of training records and reporting requirements to ARB.

2) Low Sulfur Diesel Fuel Use - In November 2004 ARB passed a regulation that requires locomotives that operate 90% of their time in California (intrastate) to utilize low sulfur diesel fuel (with 15 ppm sulfur content and a 10% aromatic limit) effective January 1, 2007. This targeted both rail yard switchers and passenger trains operating within California, along with the numerous local or regional short haul operations. These types of intrastate locomotives currently consume about 15% of the total locomotive fuel dispensed in California. The use of low sulfur diesel fuel (as opposed to fuel with higher sulfur content) will result in a 10%-14% reduction in particulate matter and about a 6% reduction in NOx from each engine. Under current federal law, railroads are permitted to use federal nonroad diesel fuel in their engines with a sulfur limit of 5,000 ppm. In many parts of the country, the average sulfur content of this diesel fuel has been well over 3,000 ppm. Federal law phases in the use of low sulfur diesel fuel nationwide, as follows: for on-road applications (2006); off/non road (2010); and locomotive & marine (2012). By this schedule, the interstate line haul fleet would not be mandated to use the low sulfur fuel for another six years. The Statewide MOU addresses this situation, and under the agreement the two nationwide rail road companies have agreed to maximize the use of low sulfur diesel fuel by ensuring that by January 1, 2007 a minimum of 80% of the diesel fuel supplied to *all* locomotives fueled in California meets the low sulfur standard.

As of approximately June 1, 2006, all diesel fuel dispensed at Roseville has been CARB low sulfur fuel. This amounts to about 2,600,000 gallons per month. In addition, the diesel fuel brought into the state in the fuel tanks of locomotives fueled out-of-state is decreasing in sulfur content as more refineries out-of-state convert to low sulfur diesel for the on-road uses. An example of this is the fuel analysis performed as part of the hood testing where the Dash-8 locomotive was tested on EPA non-road fuel imported from Utah for the test. The fuel analysis showed the sulfur content to be 500 ppm.

3) Switcher Fleet Replacement/Upgrades - The switcher fleet operates throughout the facility, but most of the emissions occur from the hump and trim functions. These switcher locomotives are typically older, lower horsepower models, and upgrading this "captive" fleet to Tier II emission standards will provide significant emission benefits. Four locomotives are assigned to the hump operations and two handle trim duties, with two additional units as a backup. Both our district and Sacramento Air Quality Management District (SMAQMD) agree that it is in the public interest to utilize incentive funds to aid in upgrading this fleet, and have put together a project in concert with UPRR to commence this mitigation measure. The air districts of the Sacramento region operate a regional Carl Moyer Program by pooling resources, with SMAQMD administering it. Using incentive funds from the Carl Moyer Program, four Gen-Set Switcher Locomotives will have been co-funded with UPRR to be used in the hump and trim operations. The first locomotive delivery to Roseville is scheduled for Spring of 2007, followed by an additional three locomotives for

delivery later in the year, although there appears to be production and delivery slippages from the manufacturer due to unforeseen issues. The old switcher locomotives being replaced will be retired or removed from California.

The anticipated annual emissions reduced from this project are 64 tons/NOx, 2.4 tons/PM10, and 5.3 tons/HC or in terms of percent reduced, 82% NOx, 63% PM10, and 88% HC.

4) Emissions Collection Hood - The maintenance functions (diagnosis, service, repair, and test) occur in an area of the facility where the locomotives are generally stationary for periods of time with their engines running (at times under load) which appears to lend itself to have the exhaust captured via a collection "hood" or bonnet and routed into air pollution control equipment. This concept was submitted by staff for funding for a proof of concept demonstration project under the EPA's West Coast Diesel Collaborative. The Collaborative is an initiative of EPA Region IX & X, and is "*a public-private partnership to reduce diesel emissions*". Staff formed a team comprised of PCAPCD (project lead), Sacramento Metropolitan Air Quality Management District, Union Pacific Railroad, Advanced Cleanup Technologies (ACTI), and submitted the "hood" concept in response to a solicitation from EPA for projects in March 2005 and was awarded a grant in August. Subsequently, ARB, the South Coast Air Quality Management District and the City of Roseville have been added to the team. Each party is contributing either dollars, or "in-kind" services, or both. Total project cost including the cost of "in-kind" contributions is estimated at $1.7 million.

Hood Demonstration Project Status: This project was a demonstration using stationary air pollution control equipment to capture and treat emissions from locomotives that are idling or undergoing engine load tests. The purpose of the project was to demonstrate the feasibility of this type of equipment and to develop the cost and operating information to better understand all issues related to possible use of this type of control equipment at the rail yard.

As reported to your Board in the October, 2006 meeting, the installation and testing at the rail yard was completed in September. The emissions data obtained from the test program appears to be reasonable and in the range of what was expected for emissions reductions prior to the testing. Currently, the data is being checked and the final report is being put together. The final report will detail the performance of the control equipment in cleaning up diesel locomotive exhaust, present a detailed life-cycle cost analysis, and suggest next steps in proceeding to implementation of one or more hood systems at the Roseville yard. The final report is expected to be finished in January, 2007.

The potential for emissions and health risk reduction from the Roseville rail yard due to installation and use of two ALECS systems strategically placed near the diesel shop and in the service track area has been estimated. PM_{10} reduction amounts to 4.4 tons/year, yielding a 38% reduction in health risk from the entire rail yard. NOx reductions are estimated at 205 tons/year.

Grant Program

The Grant program is focused on achieving a one-ton diesel particulate matter reduction in the "background" air around the facility from other sources of emissions, such as heavy duty on and off road equipment. During the three years of the Agreement, UPRR has agreed to make grants totaling no less that $150,000 to achieve a one-ton diesel particulate matter reduction in the Roseville area. Diesel particulate matter is expensive to reduce, as compared to nitrogen oxides reductions. The cost effectiveness parameter used by ARB in the Carl Moyer Grant program is $14,300 to reduce one ton of nitrogen oxide and/or reactive organic gas and experience shows that it may cost as much as 20 times that to reduce a ton of diesel PM.

For 2005, the District staff applied the $50,000 received from UPRR towards our annual Clean Air Grant program cycle and used the funds to retrofit four Roseville City refuse trucks with emission control systems that will reduce both NOx and PM. The City had an existing grant application filed with staff for these devices, and it was logical to increase the award amount by the $50,000 to allow for these additional systems at $12,500 each. For purposes of project emissions calculations, it is estimated that these vehicles have a seven-year service life, and the four trucks with these devices installed will reduce 0.029 tons of per year of diesel PM for a total of 0.2 tons over their lifetime (0.029 X 7). As an additional benefit, there will be 2.73 tons of nitrous oxide reduced over this same time period.

For 2006, the District received the second increment of $100,000 provided by UPRR for the annual Clean Air Grant Program cycle. The District staff used the funds to replace an old existing 1977 school bus with a new 2006 low-emission school bus for Roseville Joint Union High School District. The existing old bus will be rendered inoperable. For purposes of project emission calculations, it is estimated that this new school bus has a twenty-year life. Therefore, this replacement project would reduce 0.023 tons per year of diesel PM for a total of 0.47 tons over the lifetime (0.023 X 20). As an additional benefit, there will be 7.38 tons of nitrous oxide reduced over this same time period. This replacement project will greatly improve the air that children and school staff breathe on a daily basis.

According to the estimates, the total amount of $150,000 provided by UPRR would achieve a total of 0.67 tons over the funded project lifetime, which may purchase approximately 70% of one ton of diesel PM reduction initially identified in the Agreement. In order to achieve one ton of diesel PM reduction, 0.33 additional tons of diesel PM will need to be reduced.

This is estimated to require an additional $77,000 by the UPRR based upon the historical cost effectiveness of reducing diesel PM. The District staff will work with UPRR to increase the grant amount in order to compensate for this shortfall and apply those funds to the 2007 Clean Air Grant Program.

Air Monitoring Project

The Roseville Railyard Air Monitoring Project (RRAMP) has a three-year cycle associated with the UPRR mitigation plan (2005~2007). The goal of the RRAMP is to use field monitoring equipment and the latest monitoring technologies to measure the air impacts, primarily diesel, emanating from the Roseville Railyard facility in order to 1) determine whether air pollutant impacts from the emissions at the UPRR facility can be identified, 2) observe changes in ambient concentrations that may be indicative of the effectiveness of mitigation measures (over time) proposed by UPRR, and 3) provide feedback to the public in regard to air quality conditions related to objectives (1) and (2).

First Year Monitoring - The first-year of intensive air monitoring took place between July and October 2005 during the seasonal period when winds most typically favor upwind/downwind conditions. At the conclusion of monitoring, the collected data set was forwarded to the Desert Research Institute (DRI) to conduct a comprehensive data analysis. The final analysis report of the first-year monitoring data has been accomplished by DRI, reviewed by the project's Technical Advisory Committee (TAC), and then submitted to your Board in April 2006. The analysis report showed generally good agreement with no significant biases between paired instruments. The first-year data set provides a baseline for the trend analysis which will be conducted at the end of the third-year of sampling in 2007.

In the analysis, downwind sites show statistically significant impacts of BC, NO, NOx, and PM2.5. The fact that downwind sites are dominated by fresh NO emissions while upwind sites are more indicative of aged NO emissions strongly suggests that the downwind sites are indeed picking up the emissions from the rail yard facility. For BC, that influence is about 1.5 micrograms per cubic meter, while for PM2.5, it is about 7 to 12 micrograms per cubic meter. The data analysis also shows the differences between upwind/downwind sites are stronger when time-averaging the data over periods of six hours or more when the wind blows directionally from the upwind to the downwind sites.

According to the findings in the first-year data analysis, the TAC reviewed the wind data collected during the 2005 sampling period and then decided to modify the sampling period for filter-based samplers on a 7-hour basis (between 10:00pm to 5:00am) diurnal time period where the winds are from upwind to downwind monitoring sites. Using such an enhanced upwind/downwind monitoring strategy, the TAC expects to detect the

differences between upwind and downwind measurements that could represent the maximum impact from the Railyard alone.

EPA Grant - In August 2005 the District submitted an application under EPA's "Local-Scale Air Toxic Ambient Monitoring" grant solicitation to request funding for year two of the RRAMP. On April 18, 2006 the EPA Regional 9 Office awarded the requested funding including diesel particulate matter monitoring and other air toxics, in the amount of $218,101. In the grant proposal the District proposed to augment the measurements from the RRAMP by including VOC and carbonyl toxic analyses at one pair of upwind/downwind sites as well as DPM in the second year monitoring period.

In addition to the augmentative measurements, the District also proposed the technical analysis of samples collected from one pair of upwind/downwind sites by University of California-Davis Dr. Thomas Cahill's additional in-kind support during the first year study (2005). As part of that support, samples were stored, but not analyzed due to lack of funding. The proposed funding from this grant will be used to analyze those samples, thereby adding value to a more comprehensive scope of air toxic analyses. This would help to add confidence to the characterization of those emissions emitted from the locomotive diesel engines. The District expects to receive the draft analysis results in early March of next year.

Second Year Monitoring - The second-year monitoring of the project began on June 15 and was scheduled to end September 30, 2006. Two weeks were added to the project due to the air quality impact of the Ralston Fire. The actual end date was October 15, 2006. The same pairs of upwind/downwind sites (Denio-Pool and Church St.-Vernon St.) were used. Both pairs of upwind/downwind sites functioned during the entire second-year monitoring period. The two weeks extension was due to the significant particle impacts resulting from Ralston fire incident in Roseville area. The data collected during the two weeks period of the fire incident will be excluded in the future data analysis to ensure the concentration measurements would reflect the impacts from the rail yard alone.

Consistent with last year, each RRAMP monitoring site consisted of the following instruments: continuous monitors for PM2.5, black carbon [BC] (indicative of diesel particulates), and nitrogen oxides [NOx]; filter-based samplers for PM2.5 mass, organic and elemental carbon; and meteorological and ancillary equipment. Continuous monitors and meteorological equipment provide hourly average concentration measurements and can be analyzed with respect to specific wind conditions. Filter-based samplers, on the other hand, collect PM samples over a range of wind conditions for 7-hours period, which is the period that winds blow from upwind toward downwind sites. The meteorological monitors measure wind speed and wind direction.

During the second-year monitoring period, ARB staff performed site audits twice for all of the RRAMP sites at the beginning (on July 5 and 6) and at the end of the study (on

October 23, 24, & 30, 2006). The audit included a station survey and an instrumental examination at the sites. Both of the audit results concluded that all instruments functioned and were operated perfectly except two PM2.5 samplers used at the Pool site were found that the O-rings in the filter holders were deformed. New O-rings have been ordered and installed into the samplers based on the ARB's staff recommendation.

Data Analysis and Report – DRI was selected as the data analysis contractor for the RRAMP. The purpose of data analysis is to conduct appropriate statistical data analyses and interpretations after each year of sampling to determine the impacts from the UPRR facility as measured as the differences between upwind and downwind monitoring site pairs. DRI will also accomplish the trend analysis to determine any discernible trends in reduced impacts over a three-year period as a result of emissions mitigations implemented by UPRR at the end of third-year of sampling in 2007.

The TAC met on November 16, 2006 to review the second-year monitoring project and discuss the methodology to enhance the analysis results for the second year monitoring data. After the TAC meeting, the District staff and the project's consultant, Dr. Richard Countess, met with Dr. Eric Fujita and Dave Campbell at DRI in Reno the following day to discuss all data processing issues and then would report back to the TAC with a proposal addressing data screening, data validation, and data analysis procedures. The final data analysis procedures approved by the TAC will be used by DRI to analyze the second year data. DRI is planning to provide a draft report and a presentation to the TAC for review and comments in February 2007. The final report for the second year data will be submitted to the Board in April 2007.

It should be noted that this project is being supported by several entities, in addition to Placer County and UPRR. Specifically, Sacramento Metro AQMD has provided staff support and funding for some of the equipment; CARB has provided expertise and the field audit; South Coast AQMD has provided laboratory support for the filter analyses; EPA Region IX has provided a grant funding to assist with expense for the second-year study; and the University of California, Davis Delta Group, under the auspices of Dr. Thomas Cahill, has provided adjunct particulate sampling which will enhance the results of the study.

Emission Reduction

It is staff's opinion that there has been significant progress towards implementation of the elements of our local Agreement. That said, the ability currently to quantify emissions reductions associated with mitigation measures being implemented is difficult and staff cannot determine at this time the exact progress (in total percentage) that has been made to reduce overall facility emissions from those that formed the baseline profile for the ARB Roseville Rail Yard Study (1999-2000). The Study found the PM emissions to be 25 tons/year. A 10 % reduction would be a decrease of 2.5 tons/year to

22.5 tons/year for the total PM emissions from locomotives from the yard.

One factor that makes the 10% reduction more challenging is that activity at the rail yard has increased substantially since the baseline years. This is the result of a rising national economy and significant increases in transportation fuel costs. The healthy economy and rapidly increasing volume of imported goods has caused a substantial increase of rail cargo, and especially overseas cargo containers. With rising fuel costs, goods movement has been migrating from over-the-road trucking to rail due to lower cost per ton. Any increased emissions due to this increased activity must be offset in addition to the 10% reduction from the baseline.

Progress is being made in a number of areas toward emission reduction, including reduction of unnecessary idling, moving some repair activity to Stockton, on-going implementation of low sulfur diesel fuel, switcher fleet replacement, and general upgrading of the line-haul locomotive fleet that rotates through Roseville.

The benefits of reduction of unnecessary idling have not been quantified in terms of total emission reduction, but progress has been made in reducing idling through incorporation of idling reduction devices on 85% of intrastate locomotives visiting Roseville, general upgrading of the interstate fleet with Tier 2 locomotives equipped with these devices, maturing of the Idling Reduction Training Program, and inspections by ARB for non-essential idling.

In an effort to reduce the level of emissions from the locomotive repair area of the rail yard, some repair work has been diverted to a repair facility in Stockton. The quantity of the emissions reductions due this diversion will be estimated for the final year of the agreement (2007).

Real progress has been made in reducing the sulfur level in the diesel fuel used in locomotives in Roseville. Back in the baseline years, the sulfur content of diesel fueled out-of-state was running about 2,500 to 3,000 ppm and CARB diesel was about 140 ppm. At the end of 2006, all fuel dispensed at the rail yard is 15 ppm and out-of –state fuel is running about 500 ppm. This progression toward lower sulfur yields approximately a 10% reduction in particulate emissions over the baseline years. A more detailed analysis will be performed for next year's annual report to the Board.

The replacement of four switcher locomotives used in the hump and trim operation with the new Gen-Set Switchers will reduce particulate matter by an estimated 2.4 tons/year. These new switchers are not in place yet, but may be operational near the end of 2007 or early 2008.

The line-haul fleet of locomotives passing through Roseville is continually being upgraded as new Tier 2 locomotives are being added to the fleet and the older, dirtier

locomotives are not being routed into California. For example, in the baseline years, the most common locomotive type was the GP-4X. This locomotive has one of the highest particulate emission factors of all the locomotive types in the Study. Currently, very few of this type of locomotive are seen at Roseville.

Fiscal Impact:

As implementation of the three major elements of our local Agreement unfolds, a key component is the continuing availability of financial and technical resources through the three-year cycle. UPRR has and continues to fulfill their financial obligations in a timely manner and the District's FY 2006/2007 Budget contains funding to support both mitigation measures and the monitoring project, which has been and will likely continue to be needed as leverage to secure other financial commitments. As has been reported throughout this update, staff has been successful in obtaining support from a myriad of public and private entities to date and District management will continue to seek opportunities to further the overall program objectives through use of both regional incentive funds and grant opportunities.

Recommendation:

None. This is an informational item to provide an overall status to your Board on the actions and activities related to the Agreement between the District and UPRR.

It is staff's opinion that there has been significant progress towards implementation of the elements of our local Agreement. That said, the ability currently to quantify emissions reductions associated with mitigation measures being implemented is difficult and staff cannot determine at this time what progress has been made to reduce overall facility emissions by 10% from those that formed the baseline profile for the ARB Roseville Railyard Study (1999-2000). One tool that may assist in this endeavor in the future will be utilization of the monitoring data at the conclusion of year 2. It should also be noted that the bulk of mitigation measures will be coming on line over the next several years, and that our Agreement is to achieve at least a 10% reduction by the end of 2007. ARB staff have estimated that they anticipate that the Statewide Agreement will result in a 20% reduction of emissions from rail yards by the end of June 2008 from existing levels.

For the end of 2007 assessment, staff plans on a more detailed analytical treatment of emissions that will estimate increases in yard emissions due to increased traffic by comparing the number of locomotives used on incoming and outgoing trains and the total number of locomotives serviced and repaired to those of the baseline period. Emissions reductions will be estimated from idling restrictions, implementation of low sulfur diesel fuel, switcher fleet replacement, and general upgrading of the line-haul locomotive fleet that visits Roseville.

Staff plans on providing this same update to the Roseville community in January via the standing City/UPRR Committee. Staff will continue to update your Board throughout 2007 and provide a detailed year-end summary at your December 2007 Board meeting.