5.5 Air Quality

This section evaluates the potential impacts of the SV 50K/Moosa 50K Alternative on air quality. This evaluation includes an assessment of the direct, indirect, construction-related, long-term, and cumulative effects of the SV 50K/Moosa 50K Alternative on air quality within the San Diego Air Basin (SDAB). The evaluation is based on the air quality technical report prepared by Scientific Resources Associated (SRA, 2007), which is included as Appendix B to this EIR/EIS. Potential effects resulting from the release of “greenhouse gases” (primarily carbon dioxide) and the relationship of these gases to global climate change can be found in Chapter 8.7 (Potential Effects on Global Warming) of this EIR/EIS.

5.5.1 Affected Environment

The SV 50K study area would be a subset of the larger SV 100K study area, and the Moosa 50K study area would be a subset of the larger Moosa 100K study area. Therefore, the following discussion refers to Section 3.5.1 (Air Quality for the Proposed Action) and Section 4.5.1 (Air Quality for the Moosa 100K Alternative) of this EIR/EIS for information on the Affected Environment as it applies to the SV 50K/Moosa 50K Alternative.

5.5.1.1 Environmental Setting

The environmental setting for the SV 50K component of the SV 50K/Moosa 50K Alternative would be the same as described in Section 3.5.1.1 (Air Quality for the Proposed Action) of this EIR/EIS, and the setting for the Moosa 50K component would be the same as described in Section 4.5.1.1 (Air Quality for the Moosa 100K Alternative) of this EIR/EIS.

5.5.1.2 Regulatory Setting

Refer to Section 3.5.1.2 (Air Quality for the Proposed Action) of this EIR/EIS for a discussion of the regulatory setting that applies to both the SV 50K and Moosa 50K components of this alternative.

5.5.2 Project Design Features

General Conditions and Standard Specifications that will be included in the project construction documents to reduce air quality impacts associated with the SV 50K/Moosa 50K Alternative are summarized in Section 1.9.2 (Introduction, Air Quality) of this EIR/EIS. The SV 50K/Moosa 50K Alternative would incorporate the same project design features to minimize impacts on air quality as those described in Section 3.5.2 (Air Quality for the Proposed Action) of this EIR/EIS.
5.5.3 Direct and Indirect Effects

5.5.3.1 Thresholds of Significance

Thresholds used to evaluate potential air quality impacts for the SV 50K/Moosa 50K Alternative are the same as those used to evaluate impacts for the Proposed Action and the Moosa 100K Alternative. The thresholds are based on applicable criteria in the State CEQA Guidelines (CCR §§15000-15387), Appendix G; and the San Diego APCD regulations. A significant impact on air quality would occur if the SV 50K/Moosa 50K Alternative would:

1. Conflict with or obstruct implementation of the applicable air quality plan.
2. Violate any air quality standard or contribute substantially to an existing or projected air quality violation.
3. Expose sensitive receptors (e.g., schools, day care centers, hospitals, resident care facilities, retirement homes) to substantial pollutant concentrations.
4. Create objectionable odors affecting a substantial number of people.
5. Exceed the pollutant emission thresholds shown in Table 5.5-1.
6. Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors).

<table>
<thead>
<tr>
<th>Pollutant</th>
<th>Pounds/hr</th>
<th>Pounds/day</th>
<th>Tons/year</th>
</tr>
</thead>
<tbody>
<tr>
<td>Volatile Organic Compounds (VOC)</td>
<td>-</td>
<td>137</td>
<td>15</td>
</tr>
<tr>
<td>CO</td>
<td>100</td>
<td>550</td>
<td>100</td>
</tr>
<tr>
<td>NOx (2)</td>
<td>25</td>
<td>250</td>
<td>40</td>
</tr>
<tr>
<td>Oxides of Sulfur (SOx) (3)</td>
<td>25</td>
<td>250</td>
<td>40</td>
</tr>
<tr>
<td>PM10</td>
<td>-</td>
<td>100</td>
<td>15</td>
</tr>
<tr>
<td>PM2.5 (2)</td>
<td>-</td>
<td>55</td>
<td>10</td>
</tr>
</tbody>
</table>

(1) The evaluation of O3 is based on the standard practice of evaluating emissions of VOC and NOx, which are O3 precursors.
(2) This screening criterion is derived from the SCAQMD significance thresholds.
(3) SDAB has been in attainment of SOx standard due to sulfur-free natural gas for electricity generation and lack of heavy industrial/manufacturing uses in the region.
Source: City of San Diego CEQA Significance Determination Thresholds, 2004
5.5.3.2 Impact Analysis

Methodology

The methodology used to evaluate impacts on air quality at the SV 50K footprint is the same as described in Section 3.5.3.2 (Air Quality for the Proposed Action) of this EIR/EIS, and the methodology used to evaluate impacts on air quality at the Moosa 50K footprint is the same as described in Section 4.5.3.2 (Air Quality for the Moosa 100K Alternative) of this EIR/EIS.

Threshold 1: Conflict with or obstruct implementation of the applicable air quality plan

SIP and RAQs Conformity

The following evaluation is provided to identify potential conformity issues if the SV 50K/Moosa 50K Alternative were chosen.

SV 50K /Moosa 50K Combined Impacts

Along with the Proposed Action, project alternatives, if selected, would be subject to San Diego APCD Rule 1501, Conformity of General Federal Actions. Therefore, an evaluation of the applicability of the rule to the SV 50K/Moosa 50K Alternative was conducted. The maximum annual construction scenario was identified based on an evaluation of the construction schedule to determine which construction phases would be constructed in a single year. The Year 2010 was identified as the maximum construction scenario for both the on-site quarry options and the off-site quarry option. The emissions from the on-site quarry options represented the maximum annual emissions scenario. A summary of the estimated annual construction emissions for the project construction, along with an evaluation of construction emissions versus the federal de minimis thresholds for nonattainment and maintenance pollutants in the SDAB (i.e., CO, NOₓ, and VOCs) is presented in Table 4-32 of Appendix B to this EIR/EIS.

Emissions of nonattainment pollutants are below the de minimis thresholds for VOCs, but above the de minimis threshold for CO and NOₓ. Furthermore, emissions associated with the SV 50K/Moosa 50K Alternative would be higher than for the Proposed Action. Accordingly, a conformity determination is required to demonstrate that emissions of CO and NOₓ for the SV 50K/Moosa 50K Alternative would conform with the SIP.

To develop the SIP emissions budget for construction equipment and on-road vehicles, the San Diego APCD relies on output from the CARB’s OFFROAD model (for construction equipment) and the San Diego Association of Governments’ (SANDAG’s) estimates of on-road traffic. Based on the 2010 estimated annual emissions reported for the San Diego APCD, off-road diesel-powered construction equipment NOₓ emissions are estimated at 18.15 tons per day, and on-road vehicle emissions are estimated at 82.74 tons per day. The total heavy construction equipment emissions for the maximum simultaneous construction scenario are 450.23 tons/year or 1.29 tons per day assuming 350 days per year, which amounts to 7.1 percent of the off-road emissions budget in the current SIP. The total vehicular emissions for the maximum
simultaneous construction scenario are 6.25 tons/year or 0.018 tons per day assuming 350 days per year, which amounts to 0.022 percent of the vehicular emissions budget in the current SIP. The emissions are thus a small portion of the total SIP emissions budget for off-road equipment and on-road vehicles and are well within the budget for these sources. The NO\textsubscript{x} emissions are therefore accounted for in the SIP budget estimates for construction, and the SV 50K/Moosa 50K Alternative would be consistent with the SIP.

Based on the 2010 estimated annual emissions reported for the SDAB, off-road diesel-powered construction equipment CO emissions are estimated at 9.15 tons per day, and on-road vehicle emissions are estimated at 438.05 tons per day. The total heavy construction equipment emissions for the maximum simultaneous construction scenario are 194.33 tons/year or 0.56 tons per day assuming 350 days per year, which amounts to 6.1 percent of the off-road emissions budget in the current SIP. The total vehicular emissions for the maximum simultaneous construction scenario are 25.96 tons/year or 0.074 tons per day assuming 350 days per year, which amounts to 0.017 percent of the vehicular emissions budget in the current SIP. The emissions are thus a small portion of the total SIP emissions budget for off-road equipment and on-road vehicles and are well within the budget for these sources. The CO emissions are, therefore, accounted for in the SIP budget estimates for construction and the SV 50K/Moosa 50K Alternative would be consistent with the SIP. Therefore, the SV 50K/Moosa 50K Alternative would be consistent with the SIP, and conflicts with this applicable air quality plan would be less than significant.

Stationary sources would comply with the San Diego APCD Rules and Regulations and would thus meet the requirements for stationary source control measures required by the RAQS. Therefore, the SV 50K/Moosa 50K Alternative would be consistent with the RAQS, and conflicts with this applicable air quality plan would be less than significant.

Construction emissions associated with the SV 50K/Moosa 50K Alternative would not conflict with or obstruct implementation of the SIP and the RAQS. Therefore, impacts of the SV 50K/Moosa 50K Alternative would be less than significant.

**Threshold 2: Violate any air quality standard or contribute substantially to an existing or projected air quality violation**

**Construction Impacts**

**SV 50K**

Construction for the SV 50K component of SV 50K/Moosa 50K Alternative would be accomplished in the same manner as for the Proposed Action. Construction impacts would include emissions associated with heavy equipment exhaust, construction truck traffic, worker travel to/from the site, and fugitive dust created by grading and truck travel on dirt roads.

**On-Site Quarry.** The construction stages for the on-site quarry options for the SV 50K component under “P2” would be the same as for the Proposed Action, and would include the following:
• mobilization
• RCC test section
• foundation treatment
• dam crest demolition and surface preparation
• quarry operations
• RCC placement
• dam seepage control
• outlet facilities
• bypass pipeline diversion/terminal structure
• clearing/grubbing
• demobilization/reclamation

According to the estimated construction schedule for the SV 50K component of this alternative, the maximum construction activity for the on-site quarry options would occur in Year 2010. Table 5.5-2 provides a summary of the estimated maximum daily construction emissions associated with the SV 50K component (under the on-site quarry options), which would exceed the quantitative significance thresholds for CO, NO\textsubscript{x}, PM\textsubscript{10}, and PM\textsubscript{2.5}.

<table>
<thead>
<tr>
<th>Construction Phase</th>
<th>CO</th>
<th>VOCs</th>
<th>NO\textsubscript{x}</th>
<th>SO\textsubscript{x}</th>
<th>PM\textsubscript{10}</th>
<th>PM\textsubscript{2.5}</th>
</tr>
</thead>
<tbody>
<tr>
<td>Foundation Treatment</td>
<td>63.67</td>
<td>16.20</td>
<td>127.21</td>
<td>0.26</td>
<td>6.38</td>
<td>5.45</td>
</tr>
<tr>
<td>Quarry Operations</td>
<td>412.91</td>
<td>14.54</td>
<td>205.51</td>
<td>0.36</td>
<td>423.70</td>
<td>92.72</td>
</tr>
<tr>
<td>RCC Placement</td>
<td>183.26</td>
<td>42.76</td>
<td>347.32</td>
<td>1.05</td>
<td>58.31</td>
<td>23.52</td>
</tr>
<tr>
<td>Outlet Facilities</td>
<td>72.21</td>
<td>20.19</td>
<td>162.01</td>
<td>0.31</td>
<td>16.92</td>
<td>7.23</td>
</tr>
<tr>
<td>Bypass Pipeline Diversion Structure</td>
<td>73.57</td>
<td>19.71</td>
<td>163.63</td>
<td>0.31</td>
<td>8.26</td>
<td>6.89</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>805.62</strong></td>
<td><strong>113.40</strong></td>
<td><strong>1005.68</strong></td>
<td><strong>2.29</strong></td>
<td><strong>513.57</strong></td>
<td><strong>135.81</strong></td>
</tr>
<tr>
<td>Significance Threshold</td>
<td>550</td>
<td>137</td>
<td>250</td>
<td>250</td>
<td>100</td>
<td>55</td>
</tr>
</tbody>
</table>

**Above Thresholds?**

- Yes
- No

(1) Assuming implementation of standard dust control BMPs (refer to Section 3.5.2 of this EIR/EIS).
Source: SRA, 2007

**Off-Site Quarry Option.** The construction stages for the off-site quarry option for the SV 50K component would generally be the same as for the on-site quarry options, except that the aggregate supply materials would be supplied by an off-site entity and would be brought to the construction site in heavy-duty trucks. The construction phases under “P2) addressed in this analysis for the off-site quarry option include the following:

• mobilization
• RCC test section
• foundation treatment
• dam crest demolition and surface preparation
• quarry operations
RCC placement
• dam seepage control
• outlet facilities
• bypass pipeline diversion/terminal structure
• clearing/grubbing
• demobilization/reclamation

With the exception of the aggregate supply construction phase, emission estimates for the construction phases listed above would be the same as for the on-site quarry options. According to the estimated construction schedule for the SV 50K component of this alternative, the maximum construction activity would occur in year 2010. Table 5.5-3 presents a summary of the estimated maximum daily construction emissions associated with the SV 50K component (under the off-site quarry option), which would exceed the quantitative significance thresholds for NOx, and PM10.

Table 5.5-3. Worst-Case (Simultaneous) Maximum Construction Emissions:
SV 50K Component, Off-Site Quarry Option (lbs/day) (1)

<table>
<thead>
<tr>
<th>Construction Phase</th>
<th>CO</th>
<th>VOCs</th>
<th>NOx</th>
<th>SOx</th>
<th>PM10</th>
<th>PM2.5</th>
</tr>
</thead>
<tbody>
<tr>
<td>Foundation Treatment</td>
<td>32.47</td>
<td>7.71</td>
<td>59.47</td>
<td>0.12</td>
<td>3.19</td>
<td>2.61</td>
</tr>
<tr>
<td>Aggregate Supply</td>
<td>37.19</td>
<td>38.34</td>
<td>71.45</td>
<td>0.21</td>
<td>61.75</td>
<td>15.82</td>
</tr>
<tr>
<td>RCC Placement</td>
<td>234.69</td>
<td>56.27</td>
<td>464.36</td>
<td>1.47</td>
<td>63.69</td>
<td>28.31</td>
</tr>
<tr>
<td>Outlet Facilities</td>
<td>22.73</td>
<td>5.86</td>
<td>42.49</td>
<td>0.08</td>
<td>4.39</td>
<td>2.31</td>
</tr>
<tr>
<td>Bypass Pipeline Diversion Structure</td>
<td>38.23</td>
<td>9.77</td>
<td>78.76</td>
<td>0.15</td>
<td>4.34</td>
<td>3.40</td>
</tr>
<tr>
<td>Turnout/Bifurcation Structures</td>
<td>24.73</td>
<td>6.44</td>
<td>55.21</td>
<td>0.09</td>
<td>3.09</td>
<td>2.29</td>
</tr>
<tr>
<td>Total</td>
<td>390.04</td>
<td>124.39</td>
<td>771.74</td>
<td>2.12</td>
<td>140.45</td>
<td>54.74</td>
</tr>
</tbody>
</table>

Significance Threshold

<table>
<thead>
<tr>
<th>Above Thresholds?</th>
<th>CO</th>
<th>VOCs</th>
<th>NOx</th>
<th>SOx</th>
<th>PM10</th>
<th>PM2.5</th>
</tr>
</thead>
<tbody>
<tr>
<td>No</td>
<td></td>
<td></td>
<td>250</td>
<td>250</td>
<td>100</td>
<td>55</td>
</tr>
</tbody>
</table>

(1) Assuming implementation of standard dust control BMPs (refer to Section 3.5.2 of this EIR/EIS).
Source: SRA, 2007

Moosa 50K
As discussed above, construction for the Moosa 50K component of this alternative would be accomplished in the same manner as for the Moosa 100K Alternative. Construction impacts would include emissions associated with heavy equipment exhaust, construction truck traffic, worker travel to/from the site, and fugitive dust created by grading and truck travel on dirt roads.

According to the estimated construction schedule for the Moosa 50K component of this alternative, the maximum construction activity would occur in year 2010. Table 5.5-4 presents a summary of the estimated maximum daily construction emissions associated with these construction activities, which would exceed the quantitative significance thresholds for CO, NOx, PM10, and PM2.5.
Table 5.5-4. Worst-Case (Simultaneous) Maximum Construction Emissions: Moosa 50K Component (lbs/day)\(^{(1)}\)

<table>
<thead>
<tr>
<th>Construction Phase</th>
<th>CO</th>
<th>VOCs</th>
<th>NO(_x)</th>
<th>SO(_x)</th>
<th>PM(_{10})</th>
<th>PM(_{2.5})</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Moosa Dam</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Earthwork</td>
<td>408.32</td>
<td>14.75</td>
<td>263.65</td>
<td>0.22</td>
<td>131.08</td>
<td>34.81</td>
</tr>
<tr>
<td>Clearing</td>
<td>72.07</td>
<td>14.15</td>
<td>175.88</td>
<td>0.21</td>
<td>11.40</td>
<td>8.06</td>
</tr>
<tr>
<td>Foundation</td>
<td>155.69</td>
<td>30.85</td>
<td>341.19</td>
<td>0.53</td>
<td>17.42</td>
<td>15.05</td>
</tr>
<tr>
<td>Outlet</td>
<td>37.49</td>
<td>7.84</td>
<td>73.28</td>
<td>0.15</td>
<td>5.11</td>
<td>3.73</td>
</tr>
<tr>
<td><strong>Drain/Fill Pipeline from Moosa Dam to Second Aqueduct</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Clearing</td>
<td>44.72</td>
<td>8.15</td>
<td>97.24</td>
<td>0.18</td>
<td>4.59</td>
<td>3.86</td>
</tr>
<tr>
<td>Excavation</td>
<td>47.89</td>
<td>4.11</td>
<td>98.94</td>
<td>0.16</td>
<td>54.28</td>
<td>14.31</td>
</tr>
<tr>
<td>Pipe Installation</td>
<td>77.12</td>
<td>9.03</td>
<td>159.61</td>
<td>0.29</td>
<td>10.79</td>
<td>7.29</td>
</tr>
<tr>
<td><strong>Pump Station at Moosa Creek</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Excavation</td>
<td>52.80</td>
<td>4.70</td>
<td>111.74</td>
<td>0.19</td>
<td>5.23</td>
<td>4.43</td>
</tr>
<tr>
<td>Electric Power</td>
<td>9.12</td>
<td>0.71</td>
<td>14.75</td>
<td>0.02</td>
<td>0.60</td>
<td>0.54</td>
</tr>
<tr>
<td><strong>Relocation of First Aqueduct west of Moosa Dam</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Excavation</td>
<td>50.38</td>
<td>4.60</td>
<td>110.40</td>
<td>0.19</td>
<td>55.20</td>
<td>14.89</td>
</tr>
<tr>
<td>Pipe Installation (Trenching)</td>
<td>71.77</td>
<td>6.74</td>
<td>146.72</td>
<td>0.26</td>
<td>10.18</td>
<td>6.70</td>
</tr>
<tr>
<td>Tunneling</td>
<td>78.33</td>
<td>6.20</td>
<td>151.76</td>
<td>0.23</td>
<td>6.55</td>
<td>5.83</td>
</tr>
<tr>
<td><strong>Pump Station and Water Line for VCMWD (North)</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pumps</td>
<td>12.78</td>
<td>1.17</td>
<td>14.01</td>
<td>0.04</td>
<td>1.00</td>
<td>0.27</td>
</tr>
<tr>
<td>Installation of Pipeline</td>
<td>37.44</td>
<td>3.59</td>
<td>75.99</td>
<td>0.14</td>
<td>3.48</td>
<td>0.42</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>1155.92</td>
<td>116.59</td>
<td>1835.16</td>
<td>2.81</td>
<td>316.91</td>
<td>120.19</td>
</tr>
<tr>
<td>Significance Threshold</td>
<td>550</td>
<td>137</td>
<td>250</td>
<td>250</td>
<td>100</td>
<td>55</td>
</tr>
</tbody>
</table>

\(^{(1)}\) Assuming implementation of standard dust control BMPs (refer to Section 3.5.2 of this EIR/EIS). Source: SRA, 2007

**Combined Impacts**

The total construction emissions for the SV 50K/Moosa 50K Alternative by component are shown in Table 5.5-5. These calculations include implementation of the General Conditions and Standard Specifications listed in Section 1.9.2 (Introduction, Air Quality) of this EIR/EIS and the standard dust control BMPs listed in Section 3.5.2 (Air Quality Project Design Features for the Proposed Action) of this EIR/EIS, which would reduce PM\(_{10}\) emissions by approximately 24 percent and PM\(_{2.5}\) emissions by approximately 35 percent.

As shown in Table 5.5-5, the total estimated maximum daily construction emissions for the SV 50K/Moosa 50K Alternative for year 2010 worst-case construction period under the off-site quarry option for the SV 50K component would exceed the quantitative significance thresholds for CO, VOCs, NO\(_x\), PM\(_{10}\), and PM\(_{2.5}\).
Table 5.5-5. Combined Worst Case (Simultaneous) Maximum Construction Emissions: SV 50K/Moosa 50K Alternative (lbs/day)\(^{(1)}\)

<table>
<thead>
<tr>
<th>Construction Phase</th>
<th>CO</th>
<th>VOCs</th>
<th>NO(_x)</th>
<th>SO(_x)</th>
<th>PM(_{10})</th>
<th>PM(_{2.5})</th>
</tr>
</thead>
<tbody>
<tr>
<td>San Vicente Dam</td>
<td>805.62</td>
<td>113.4</td>
<td>1005.68</td>
<td>2.29</td>
<td>513.57</td>
<td>135.81</td>
</tr>
<tr>
<td>Moosa Dam</td>
<td>1155.92</td>
<td>116.59</td>
<td>1835.16</td>
<td>2.81</td>
<td>316.91</td>
<td>120.19</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td><strong>1961.54</strong></td>
<td><strong>229.99</strong></td>
<td><strong>2840.84</strong></td>
<td><strong>5.10</strong></td>
<td><strong>830.48</strong></td>
<td><strong>256.00</strong></td>
</tr>
<tr>
<td>Significance Threshold</td>
<td>550</td>
<td>137</td>
<td>250</td>
<td>250</td>
<td>100</td>
<td>55</td>
</tr>
<tr>
<td>Above Thresholds?</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>No</td>
<td>Yes</td>
<td>Yes</td>
</tr>
</tbody>
</table>

\(^{(1)}\) Assuming implementation of standard dust control BMPs (refer to Section 3.5.2 of this EIR/EIS).
Source: SRA, 2007

CO “Hot Spots”

Projects involving traffic impacts may result in the formation of locally high concentrations of CO, known as CO “hot spots.” As discussed in Section 5.16 (Traffic/Circulation) of this EIR/EIS, the SV 50K/Moosa 50K Alternative would result in additional traffic to the area; therefore, a CO “hot spots” analysis was conducted, consistent with the evaluation identified in Section 3.5.3.2 (Air Quality for the Proposed Action) of this EIR/EIS.

**SV 50K and Moosa 50K**

As described in Sections 3.5.3 (Air Quality for the Proposed Action) and 4.5.3 (Air Quality for the Moosa 100K Alternative) of this EIR/EIS, the Proposed Action and Moosa 100K Alternative would not result in significant impacts related to CO “hotspots.” For the SV 50K and Moosa 50K components, CO impacts would be the same or slightly lower than the Proposed Action and Moosa 100K Alternative, respectively, due to the slightly lower traffic volumes anticipated at both locations. Because the higher traffic levels did not indicate a CO “hot spot” at any of the affected intersections, impacts for the SV 50K and Moosa 50K components of this alternative would not result in CO “hot spots” due to construction traffic. Therefore, air quality impacts associated with CO concentrations from construction-related traffic volumes at affected intersections for the SV 50K and Moosa 50K components would be less than significant.

**Combined Impacts**

For the SV 50K/Moosa 50K Alternative, impacts would be the same or slightly lower at each component site than the Proposed Action and Moosa 100K Alternative, due to the slightly lower traffic volumes anticipated, although impacts could occur to intersections in two locations of San Diego County. Because the higher traffic levels did not indicate a CO “hot spot” at any of the affected intersections for the Proposed Action or the Moosa 100K Alternative, impacts for the SV 50K and Moosa 50K components would not result in CO “hot spots” due to construction traffic. Therefore, combined air quality impacts associated with CO concentrations from construction-related traffic volumes at affected intersections of the SV 50K and Moosa 50K components would be less than significant.
Operational Impacts

Once a reservoir is fully operational, potential air quality impacts would include impacts associated with routine maintenance and operation of the reservoir, and impacts associated with recreational use at the site. Motor vehicles and boats would be the primary source of emissions associated with reservoir operations.

Operational and maintenance activities for the SV 50K/Moosa 50K Alternative would consist of similar activities to those anticipated for the Proposed Action and Moosa 100K Alternative at each site, including monitoring reservoir level and outlet and spillway discharges, monitoring dam instrumentation, maintaining appropriate records, and maintaining mechanical and electrical equipment according to the equipment manufacturers’ requirements. All of these activities would result in emissions associated with worker trips to both reservoirs. Operation and maintenance activities were anticipated to result in a combined four trips per day. Emissions associated with these trips would be negligible.

Recreational activities at both reservoirs would include boating and fishing opportunities. It was assumed that these activities for the SV 50K/Moosa 50K Alternative would be similar to those evaluated for the Proposed Action and the Moosa 100K Alternative, and that boating traffic would be split between the two reservoirs due to a lower surface area for recreational use available under this alternative.

SV 50K and Moosa 50K
As described in Sections 3.5.3 (Air Quality for the Proposed Action) and 4.5.3 (Air Quality for the Moosa 100K Alternative) of this EIR/EIS, operation of the Proposed Action and Moosa 100K Alternative would not exceed pollutant emission thresholds, violate air quality standards, or contribute substantially to an existing or projected air quality violation. The total estimated air emissions from vehicles and boats would not exceed the quantitative significance thresholds for any criteria pollutants. Therefore, air quality impacts associated with reservoir operations at the SV 50K and Moosa 50K components would be less than significant.

Combined Impacts
As described above, operation of the SV 50K and Moosa 50K components would not exceed pollutant emission thresholds, violate air quality standards, or contribute substantially to an existing or projected air quality violation. The components are in two different areas of the County and the total estimated air emissions from vehicles and boats for the SV 50K/Moosa 50K Alternative would not exceed the quantitative significance thresholds for any criteria pollutants. Therefore, air quality impacts associated with combined reservoir operations for the SV 50K and Moosa 50K components would be less than significant.

Construction of the SV 50K/Moosa 50K Alternative would exceed pollutant emission thresholds and have the potential to violate air quality standards for CO, VOC, NOx, PM10, and PM2.5, and contribute substantially to an existing or projected air quality violation for O3, as represented by its precursors NOx and CO. Therefore, the temporary construction-related direct air quality impacts of the SV 50K/Moosa 50K Alternative would be significant (Impact SV/M/AQ 1).
Construction-related traffic volumes associated with the SV 50K/Moosa 50K Alternative (under either the on-site quarry options or the off-site quarry option for aggregate supply) would not cause CO “hot spots” or CO emission thresholds to be exceeded at affected intersections. Therefore, impacts of the SV 50K/Moosa 50K Alternative would be less than significant.

Operation of the SV 50K/Moosa 50K Alternative would not exceed pollutant emission thresholds, violate air quality standards, or contribute substantially to an existing or projected air quality violation. Therefore, impacts of the SV 50K/Moosa 50K Alternative would be less than significant.

Threshold 3: Expose sensitive receptors to substantial pollutant concentrations

Construction of the SV 50K/Moosa 50K Alternative could result in TAC emissions, which are considered to have long-term carcinogenic and non-carcinogenic health effects to sensitive receptors, including schools, day care centers, hospitals, resident care facilities, and retirement homes. The emissions would be mainly associated with diesel heavy equipment exhaust during construction activities.

SV 50K and Moosa 50K

Results of a field reconnaissance and a directed web search of schools, day care centers, hospitals, resident care facilities, and retirement homes confirm that none of these sensitive receptors are located within one mile of the SV 50K and Moosa 50K study areas. Therefore, construction of the SV 50K and Moosa 50K components of this alternative would not expose sensitive receptors to substantial pollutant concentrations, and the impacts would be less than significant.

Combined Impacts

As indicated above, results of a field reconnaissance and a directed web search of schools, day care centers, hospitals, resident care facilities, and retirement homes confirm that none of these sensitive receptors are located within one mile of either of the component sites of the SV 50K/Moosa 50K Alternative. Construction of the SV 50K and Moosa 50K components would not expose sensitive receptors to substantial pollutant concentrations. Therefore, the combined impacts of the SV 50K and Moosa 50K components would be less than significant.

Construction of the SV 50K/Moosa 50K Alternative would not expose sensitive receptors to substantial pollutant concentrations. Therefore, impacts of the SV 50K/Moosa 50K Alternative would be less than significant.

Threshold 4: Create objectionable odors affecting a substantial number of people

Project construction could generate minor amounts of odor compounds associated with diesel heavy equipment exhaust during construction activities that would affect sensitive receptors, including schools, day care centers, hospitals, resident care facilities, and retirement homes.
However, the construction equipment would be operating at various locations throughout the sites, which are isolated and not near a substantial number of people.

**SV 50K**

Results of field reconnaissance and a directed web search of schools, day care centers, hospitals, resident care facilities, and retirement homes confirm that none of these sensitive receptors are located within one mile of the SV 50K component.

As evaluated in Section 3.17.3.2, drawdown of the reservoir could, for the SV 50K portion of this alternative, expose nutrient-rich hypolimnion causing an increase in the frequency and density of algal blooms. Therefore, the release of nutrients during drawdown could result in increased occurrences of nuisance odors. However, the reservoir would be closed to recreational use throughout the construction period, and a substantial number of people would not be exposed to these potential episodes of nuisance odors during construction of the SV 50K component. Furthermore, in terms of long-term operations, the deeper volume and annual turnover of the expanded reservoir would limit the frequency of algal blooms and associated episodes of nuisance odors after completion of construction. Therefore, impacts of the SV 50K component would be less than significant.

**Moosa 50K**

Results of field reconnaissance and a directed web search of schools, day care centers, hospitals, resident care facilities, and retirement homes confirm that none of these sensitive receptors are located within one mile of the Moosa 50K study area. Therefore, impacts of the Moosa 50K component would be less than significant.

**Combined Impacts**

Results of field reconnaissance and a directed web search of schools, day care centers, hospitals, resident care facilities, and retirement homes confirm that none of these sensitive receptors are located within one mile of the SV 50K and Moosa 50K components. For the SV 50K component, the release of nutrients during drawdown of the existing San Vicente Reservoir could result in increased occurrences of nuisance odors. However, the reservoir would be closed to recreational use throughout the construction period, and a substantial number of people would not be exposed to these potential episodes of nuisance odors during construction of the SV 50K component. The SV 50K and Moosa 50K components would not result in objectionable odors affecting a substantial number of people. Therefore, combined impacts of the SV 50K and Moosa 50K components would be less than significant.

*The SV 50K/Moosa 50K Alternative would not cause objectionable odors that would affect a substantial number of people. Therefore, impacts of the SV 50K/Moosa 50K Alternative would be less than significant.*
Threshold 5: Exceed pollutant emission thresholds

The pollutant emission thresholds in Table 5.5-5 are the same as those in the evaluation of Threshold 2. Please refer to the discussion under Threshold 2 above.

Construction of the SV 50K/Moosa 50K Alternative would exceed pollutant emission thresholds and have the potential to violate air quality standards for CO, VOC, NOx, PM10, and PM2.5 and contribute substantially to an existing or projected air quality violation for O3 as represented by its precursor NOx. Therefore, the temporary construction-related direct air quality impacts of the SV 50K/Moosa 50K Alternative would be significant (Impact SV/M/AQ 1).

Construction-related traffic volumes associated with the SV 50K/Moosa 50K Alternative (under either the on-site quarry options or the off-site quarry option for aggregate supply) would not cause CO “hot spots” or CO emission thresholds to be exceeded at affected intersections. Therefore, impacts of the SV 50K/Moosa 50K Alternative would be less than significant.

Threshold 6: Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is in non-attainment under applicable federal or state ambient air quality standard

As discussed above, the SDAB is classified as a nonattainment area for the federal standard for O3 (for which VOCs and NOx are precursors), and the state standard for O3 and PM10. The SDAB has also been recommended by the CARB in November 2006 for designation as a nonattainment area for the state PM2.5 standard. As evaluated under Threshold 2 above, because construction of the SV 50K/Moosa 50K Alternative would have a significant direct impact on air quality with regard to emissions of PM10 and NOx, it would also contribute to a significant cumulative air quality impact.

Construction of the SV 50K/Moosa 50K Alternative would result in a cumulatively considerable net increase of criteria pollutants VOC, NOx, and PM10 for which the SDAB is listed or proposed as non-attainment under applicable federal and state air quality standards. Therefore, impacts of the SV 50K/Moosa 50K Alternative would be significant (Impact SV/M/AQ 1C).

5.5.3.3 Mitigation Measures

The project construction documents will incorporate the General Conditions and Standard Specifications listed in Section 1.9.2 (Introduction, Air Quality) of this EIR/EIS and the standard dust control BMPs listed in Section 3.5.2 (Air Quality Project Design Features for the Proposed Action) of this EIR/EIS to reduce CO, NOx, PM10, and PM2.5 emissions during construction of the SV 50K/Moosa 50K Alternative (Impact SV/M/AQ 1). These measures were included in the construction emissions calculations presented in Table 5.5-5. Implementation of standard dust control BMPs would reduce PM10 emissions by approximately 24 percent, and reduce PM2.5 emissions by approximately 35 percent. However, these emissions would remain above the significance thresholds (Table 5.5-5). Dust control BMPs would not reduce construction-related emissions of CO or NOx, which would therefore remain above significance thresholds. There are
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5.5.3.4 Residual Impacts after Mitigation

Even with implementation of General Conditions and Standard Specifications listed in Section 1.9.2 (Introduction, Air Quality) and the project design features listed in Section 3.5.2 (Air Quality for the Proposed Action) of this EIR/EIS, the maximum daily construction emissions of CO, VOC, NOx, PM_{10}, and PM_{2.5} would remain above the quantitative significance thresholds, and the construction-related direct and cumulative air quality impacts associated with the SV 50K/Moosa 50K Alternative (Impacts SV/M/AQ 1 and SV/M/AQ 1C) would be significant and unmitigable. These significant impacts on air quality would cease upon the completion of construction for the SV 50K/Moosa 50K Alternative. Therefore, a Statement of Overriding Considerations would be necessary for project approval.

5.5.4 Cumulative Effects

5.5.4.1 Other CIP Projects

CIP projects that would contribute to cumulative air quality impacts of the SV 50K/Moosa 50K Alternative would include those projects that would also impact the Proposed Action and the Moosa 100K Alternative identified in Sections 3.5.4.1 and 4.5.4.1 of this EIR/EIS, respectively. The PEIR for the Regional Water Facilities Master Plan concluded that construction of CIP facilities, such as Slaughterhouse Terminal Reservoir, could generate vehicle emissions and fugitive dust that could have an adverse, but short-term impact on sensitive receptors. Based on these emissions, CIP construction activities could contribute to non-attainment conditions for O_3 and PM_{10}, but these air quality impacts would also be temporary and short-term in nature. In addition, CIP construction activities could result in a cumulatively considerable net increase of any criteria pollutant for which the project region is in non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for O_3 precursors). These direct and cumulative air quality impacts were determined to be less than significant with implementation of specific mitigation measures identified in the Master Plan PEIR. Therefore, assuming the Slaughterhouse Terminal Reservoir project would be constructed concurrently with the SV 50K component of this alternative, its contribution to cumulative air quality impacts in conjunction with the SV 50K component of this alternative would be significant. This conclusion is incorporated into the cumulative air quality analyses in Section 5.5.4.3.

5.5.4.2 ESP Projects

ESP projects that would be in the vicinity of the SV 50K component would include the San Vicente Pipeline, the San Vicente Pump Station, and the San Vicente Surge Control Facility. ESP project components that would be in the vicinity of the SV 50K component would include...
the San Vicente Pipeline, the San Vicente Pump Station, and the San Vicente Surge Control Facility. According to the ESP EIR/EIS and the Subsequent EIR for the San Vicente Pipeline, the construction activities at the San Vicente Pipeline tunnel portal and the operation of pumps at the San Vicente Pump Station Facility could have cumulatively considerable contributions to significant air quality impacts in conjunction with the SV 50K component of this alternative. This conclusion is incorporated into the cumulative air quality analyses in Section 5.5.4.3.

5.5.4.3 Other Planned Projects with CIP and ESP Projects

This section evaluates the cumulative air quality impacts of the SV 50K/Moosa 50K Alternative when considered in conjunction with the other planned projects listed in Table 5.2-1, and incorporates the cumulative air quality impacts associated with the ESP projects described in the above section. The following cumulative air quality analysis addresses each of the six significance thresholds listed in Section 5.5.3 above.

Cumulative Threshold 1: Conflict with or obstruct implementation of the applicable air quality plan

Construction emissions associated with the SV 50K/Moosa 50K Alternative would not conflict with or obstruct implementation of the SIP and the RAQS. The construction emissions would be below the federal de minimis thresholds for VOC for determining SIP conformity, but above the de minimis threshold for CO and NOx. The projected NOx emissions would represent a small portion of the total SIP emissions budget for off-road equipment and on-road vehicles. With regard to cumulative impacts associated with ozone precursors, in general provided a project is consistent with the community and general plans, it has been accounted for in the ozone attainment demonstration contained within the SIP and would not cause a cumulatively significant impact on the ambient air quality for ozone. When combined with the generation of these air pollutants from concurrent construction and/or operation of the CIP, ESP, and other planned cumulative projects listed in Table 5.2-1, the SV 50K/Moosa 50K Alternative’s contribution to these air pollutants would not be cumulatively considerable. The SV 50K/Moosa 50K Alternative is consistent with the emission inventories and emission projections contained within the RAQS. Therefore, the cumulative construction-related air quality impacts of the SV 50K/Moosa 50K Alternative relative to conformance with applicable air quality plans would be less than significant.

Cumulative Threshold 2: Violate any air quality standard or contribute substantially to an existing or projected air quality violation

Construction of the SV 50K/Moosa 50K Alternative (under the SV 50K on-site quarry options for aggregate supply) would exceed pollutant emission thresholds and violate air quality standards for NOx, PM10, and PM2.5, and contribute substantially to an existing or projected air quality violation for O3 as represented by its precursor NOx. In addition, construction of the SV 50K/Moosa 50K Alternative (under the SV 50K on-site quarry options) would exceed pollutant emission thresholds and have the potential to violate air quality standards for CO. When combined with the generation of these air pollutants from concurrent construction and/or
operation of the CIP, ESP, and other planned cumulative projects listed in Table 5.2-1, the SV 50K/Moosa 50K Alternative’s contribution to these air pollutants would be cumulatively considerable. Therefore, the cumulative construction-related air quality impacts of the SV 50K/Moosa 50K Alternative relative to violation of air quality standards would be significant (Impact SV/M/AQ 1C).

As described in Sections 3.5 and 4.5 for the Proposed Action and Moosa 100K Alternatives, respectively, there would not be significant impacts related to CO “hotspots.” For the SV 50K/Moosa 50K Alternative, impacts would be the same or slightly lower at each component site than the Proposed Action and Moosa 100K Alternative, due to the slightly lower traffic volumes anticipated. Because the higher traffic levels did not indicate a CO “hot spot” at any of the affected intersections for the Proposed Action or the Moosa 100K Alternative, impacts for the SV 50K/Moosa 50K Alternative would not result in CO “hot spots” due to construction traffic. When combined with the CO emissions from traffic associated with concurrent construction and/or operation of the CIP, ESP, and other planned cumulative projects listed in Table 5.2-1, the contribution of the SV 50K/Moosa 50K Alternative to these emissions would not be cumulatively considerable. Therefore, the cumulative construction-related air quality impacts of the SV 50K/Moosa 50K Alternative relative to CO “hot spots” would be less than significant.

Operation of the SV 50K/Moosa 50K Alternative would not exceed pollutant emission thresholds, violate air quality standards, or contribute substantially to an existing or projected air quality violation. When combined with the generation of air pollutants from concurrent operation of the CIP, ESP, and other planned cumulative projects listed in Table 5.2-1, the SV 50K/Moosa 50K Alternative’s contribution to these air pollutants would not be cumulatively considerable. Therefore, the long-term cumulative air quality impacts of the SV 50K/Moosa 50K Alternative relative to generation of air pollutants from operations would be less than significant.

**Cumulative Threshold 3: Expose sensitive receptors to substantial pollutant concentrations**

Construction and operation of the SV 50K/Moosa 50K Alternative and other planned projects with CIP and ESP projects listed above would not expose sensitive receptors to substantial pollutant concentrations. Sensitive receptors in the vicinity of the CIP, ESP, and other planned cumulative projects listed in Table 5.2-1 (assumed to be under construction and/or operation concurrent with the SV 50K/Moosa 50K Alternative) could be exposed to substantial pollutant concentrations; however, the SV 50K/Moosa 50K Alternative’s contribution to these impacts would not be cumulatively considerable. Therefore, the construction-related and long-term cumulative air quality impacts of the SV 50K/Moosa 50K Alternative relative to exposure of sensitive receptors to substantial pollutant concentrations would be less than significant.

**Cumulative Threshold 4: Create objectionable odors affecting a substantial number of people**

Construction and operation of the SV 50K/Moosa 50K Alternative would not expose a substantial number of people to objectionable odors. Other planned cumulative projects listed in
Table 5.2-1 (assumed to be under construction and/or operation concurrent with the SV 50K/Moosa 50K Alternative and other planned projects with CIP and ESP projects) could expose a substantial number of people to objectionable odors; however, the SV 50K/Moosa 50K Alternative and other planned projects with CIP and ESP projects contribution to these impacts would not be cumulatively considerable. Therefore, the construction-related and long-term cumulative air quality impacts of the SV 50K/Moosa 50K Alternative relative to exposure of substantial population to objectionable odors would be less than significant.

**Cumulative Threshold 5: Exceed pollutant emission thresholds**

Refer to the cumulative air quality analysis in Threshold 2. As concluded in that analysis, when combined with the generation of CO, NO\(_x\), PM\(_{10}\), and PM\(_{2.5}\) emissions from concurrent construction and/or operation of the CIP, ESP, and other planned cumulative projects listed in Table 5.2-1, the SV 50K/Moosa 50K Alternative’s contribution to these air pollutants would be cumulatively considerable. Therefore, the construction-related cumulative air quality impacts of the SV 50K/Moosa 50K Alternative relative to exceedance of pollutant emission thresholds would be significant (*Impact SV/M/AQ 1C*).

**Cumulative Threshold 6: Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is in non-attainment under applicable federal or state ambient air quality standard**

The cumulative air quality analyses in Threshold 6 of Section 5.5.3.2 and in Threshold 2 of this section (5.5.4.3) address the cumulative impacts of the Proposed Action with respect to emissions of O\(_3\) (specifically, its precursor NO\(_x\)), PM\(_{10}\), and PM\(_{2.5}\), pollutants for which the SDAB is listed or proposed as “non-attainment” by the applicable federal and state air quality plans. As concluded in these analyses, when combined with the generation of these air pollutants from concurrent construction and/or operation of the CIP, ESP, and other planned cumulative projects listed in Table 5.2-1, the SV 50K/Moosa 50K Alternative’s contribution to these air pollutants would be cumulatively considerable. Therefore, the construction-related cumulative air quality impacts of the SV 50K/Moosa 50K Alternative relative to exceedance of air quality standards for non-attainment criteria pollutants would be significant (*Impact SV/M/AQ 1C*).

Even with implementation of General Conditions and Standard Specifications listed in Section 1.9.2 (Introduction, Air Quality) of this EIR/EIS and the standard dust control BMPs listed in Section 3.5.2 (Air Quality Project Design Features for the Proposed Action) of this EIR/EIS, the maximum daily construction emissions of CO, NO\(_x\), PM\(_{10}\), and PM\(_{2.5}\) would remain above the quantitative significance thresholds. Therefore, the construction-related cumulative air quality impacts associated with the SV 50K on-site quarry options and the off-site quarry option would be significant and unmitigable during construction, but would cease upon completion of construction.

*The cumulative construction-related air quality impacts of the SV 50K/Moosa 50K Alternative relative to conformance with the SIP and the RAQS would be less than significant.* The SV
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50K/Moosa 50K Alternative would result in significant direct air quality impacts during construction (Impact SV/M/AQ 1). These impacts were determined to be unmitigable. Therefore, the construction-related cumulative air quality impacts of the SV 50K/Moosa 50K Alternative, when combined with air pollutant emissions from concurrent construction and/or operation of the CIP, ESP, and other planned cumulative projects listed in Table 5.2-1, would be significant for the duration of construction (Impact SV/M/AQ 1C). No feasible measures, in addition to the General Conditions and Standard Specifications listed in Section 1.9.2 (Introduction, Air Quality) of this EIR/EIS and the standard dust control BMPs listed in Section 3.5.2 (Air Quality Project Design Features for the Proposed Action) of this EIR/EIS, are available to mitigate the cumulative construction-related air quality impacts of the SV 50K/Moosa 50K Alternative. A Statement of Overriding Considerations would be necessary for project approval.

The cumulative impacts would cease upon completion of construction. Long-term cumulative operational air quality impacts of the SV 50K/Moosa 50K Alternative would be less than significant.
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