Appendix A
Energy Study
Energy Technical Supplement
Large Press Expansion Project

Prepared for:
City of Long Beach
Planning Department

Weber Metals Facility
Long Beach and Paramount, California

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LIST OF ACRONYMS

kV Kilovolt
MW Megawatt
MWh/yr Megawatt hours per year
MVA Mega volt amperes
Project Large Press Expansion Project
SCE Southern California Edison
1.0 INTRODUCTION

This report serves as a technical supplement to the Conceptual Site Review application submitted to the City of Long Beach for the proposed Large Press Expansion Project (Project) at the Weber Metals facility located in the cities of Long Beach and Paramount, California. This technical report describes:

- The existing electrical system that provides energy to meet the demands of current operations, and the current energy usage patterns at the Weber Metals facility (Section 2);
- The anticipated energy demand after installation of the proposed large press (Section 3); and
- Proposed substation modifications to fulfill the energy demands of the Project (Section 4).
This section summarizes the existing system used to provide energy for the Weber Metals facility, and summarizes the current energy demand (pre-Project).

Energy for current operations at the Weber Metals facility is provided by an electrical substation known as the WebCo substation. The substation is located on the northeastern portion of the facility. Incoming overhead 66 kilovolt (kV) Southern California Edison (SCE) power lines feed into a 15-megavolt-amperes 66 kV/4kV transformer. Based on historical aerial photographs and information from the Los Angeles County Assessor, the WebCo substation was installed in approximately 1972. A photograph of the WebCo substation is provided in Figure 1, and the substation layout is provided in Figure 2.

Figure 1 Photograph of Existing Electrical Substation
Figure 2  Existing Electrical Substation Layout
The current power demand at the Weber Metals facility is approximately 5 megawatts (MW). Under the current operational schedule (17 shifts per week—three shifts per weekday and two shifts on the weekend), annual electricity usage for 2014 was approximately 23,380 megawatt hours per year (MWh/yr).

While adequate to meet the current operational needs of the Weber Metals facility, Weber and SCE have determined that the aging infrastructure and safety systems of the existing substation should be upgraded as part of the Large Press Expansion project.
### 3.0 ANTICIPATED ENERGY DEMAND

The major equipment associated with the new hydraulic press and their power demands have been provided by the proposed manufacturer and are listed in Table 1.

#### Table 1  Power Loads of New Large Press Components

<table>
<thead>
<tr>
<th>60K Press Building Major Equipment</th>
<th>Quantity</th>
<th>Power Input (KW)</th>
<th>Total Power (KW)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Main Motor VFD</td>
<td>15</td>
<td>700</td>
<td>10500</td>
</tr>
<tr>
<td>Boost Motor VFD</td>
<td>10</td>
<td>112</td>
<td>1120</td>
</tr>
<tr>
<td>Cooling Motor VFD</td>
<td>2</td>
<td>112</td>
<td>224</td>
</tr>
<tr>
<td>Holding Pressure VFD</td>
<td>2</td>
<td>362</td>
<td>724</td>
</tr>
<tr>
<td>Control Pressure VFD</td>
<td>2</td>
<td>230</td>
<td>460</td>
</tr>
<tr>
<td>Filter Motor</td>
<td>2</td>
<td>22.4</td>
<td>44.8</td>
</tr>
<tr>
<td>Control Power</td>
<td>1</td>
<td>100</td>
<td>100</td>
</tr>
<tr>
<td>Die Preheating Furnace</td>
<td>4</td>
<td>46</td>
<td>184</td>
</tr>
<tr>
<td>Large Titanium Furnace</td>
<td>1</td>
<td>30</td>
<td>30</td>
</tr>
<tr>
<td>Small Titanium Furnace</td>
<td>2</td>
<td>30</td>
<td>60</td>
</tr>
<tr>
<td>Aluminum Furnace</td>
<td>2</td>
<td>120</td>
<td>240</td>
</tr>
<tr>
<td>Blasting Machine</td>
<td>1</td>
<td>42</td>
<td>42</td>
</tr>
<tr>
<td>Cooling Tower</td>
<td>2</td>
<td>50</td>
<td>100</td>
</tr>
<tr>
<td>Compressors</td>
<td>2</td>
<td>110</td>
<td>220</td>
</tr>
<tr>
<td>Freezers</td>
<td>3</td>
<td>65</td>
<td>195</td>
</tr>
<tr>
<td>Cranes (multiple)</td>
<td>5</td>
<td>97.6</td>
<td>488</td>
</tr>
<tr>
<td>Manipulators (on rails)</td>
<td>2</td>
<td>75</td>
<td>150</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>58</strong></td>
<td><strong>2304</strong></td>
<td><strong>14,882</strong></td>
</tr>
</tbody>
</table>

After completing the Large Press Expansion Project, Weber plans to expand its operations to include three work shifts each day of the week, including weekends, for a total of 21 shifts per week. The total electrical usage for that level of operation is projected to be approximately 15,330 MWh/yr. This represents an increase over current usage.

Factoring in the total connected load of the new press, ancillary press operation functions, building loads for the New Press Facility, and loads
associated with expansion in other areas of the Weber Metals facility, the anticipated additional power demand at the Weber Metals facility would be approximately 15 MW. As such, the existing WebCo substation will not provide adequate power to operate the planned New Press.
4.0 DESCRIPTION OF PROPOSED NEW SUBSTATION

To accommodate the additional energy demand, the Project includes construction and operation of a new SCE electrical substation. This substation would provide services to the facility to support the proposed expansion and would replace the aging infrastructure and outdated safety systems of the current dedicated substation. The substation design is being developed in coordination with SCE and will be reviewed and approved by the City of Paramount during the permitting process.

The proposed substation (known as WebCo Two) would be constructed on an approximately 26,600-square-foot portion of the existing industrial site located in the northern portion of the property. The property is bounded to the north by Harrison Avenue in the city of Paramount, and all adjoining properties are industrial and commercial in nature. The WebCo Two substation would include various aboveground transformers, switch gear, surge arrestors, voltage regulators, and associated equipment. The equipment would be stationed in outdoor areas and within on-site structures.

The substation facilities would be secured from public access and reduced from public view by an 8-foot-high block wall installed around the perimeter.

A drawing detailing the design of the proposed WebCo Two substation was submitted with the Conceptual Site Review application on 12 January 2015.