## Jacobsen Declaration Exhibit E

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<?xml version="1.0"?>
<!DOCTYPE decoder-config SYSTEM "decoder-config.dtd">
<!-- Copyright (C) JMRI 2005 All rights reserved -->
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<!-- $Id: QSI_Electric.xml,v 1.1 2005/06/17 03:03:33 innkeeper Exp $ -->
<decoder-config>
  <version author="Howard G. Penny" version="1" lastUpdated="20050616"/>
<!-- version 1 - modified for OSI CV.PI.SI format - Howard -->
<decoder>
  <family name="QSI Electric" mfg="QSIndustries" lowVersionID="3" highVersionID="6">
    <model model="BLI GG-1" lowVersionID="3" highVersionID="6" productID="200"/>
  </family>
  programming direct="yes" paged="yes"
                       register="yes" ops="yes"></programming>
    <variable label="Primary Address" CV="1" comment="Short address"</pre>
      item="Short Address" default="03">
<shortAddressVal/></variable>
    <variable label="Vstart" CV="2" default="32"</pre>
              tooltip="QSI uses this only if speed tables are used"
              comment="A value of 255 corresponds to 100%">
      <decVal/></variable>
    <variable label="Acceleration Rate" CV="3" item="Accel" >
      <decVal max="31"/></variable>
    <variable label="Deceleration Rate" CV="4" item="Decel">
      <decVal max="31"/></variable>
    <variable label="Max Volts" CV="5" item="Vhigh" default="1"</pre>
              tooltip="range 2-255, 1 = not used">
      <decVal min="1" max="255"/></variable>
    <variable label="Manufacturer Version No" CV="7" readOnly="yes"</pre>
              item="Decoder Version"><decVal/></variable>
    <variable label="Manufacturer ID" CV="8" readOnly="yes"</pre>
              item="Manufacturer" default="113"><decVal/></variable>
    <variable label="Packet Time-out Value" CV="11">
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    <variable label="Extended Address" CV="17" item="Long Address" >
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        <enumChoice choice="Reversed"></enumChoice>
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              tooltip="F1 = Bell; Recommendation: Lead = ON, Mid = OFF, End = OFF">
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    <variable label="Consist Address Active For F2" CV="21" mask="XXXXXXVX"</pre>
              tooltip="F2 = Horn / Whistle; Recommendation: Lead = ON, Mid = OFF, End = OFF">
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        <enumChoice choice="Respond to Consist Address"/>
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              tooltip="F3 = Coupler Clash (default); Recommendation: Lead = OFF, Mid = OFF, End = ON">
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    <variable label="Consist Address Active For F4" CV="21" mask="XXXXVXXX"</pre>
              tooltip="F4 = Blower Hiss / Fan (default); Recommendation: Lead = ON, Mid = ON, End = ON">
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        <enumChoice choice="Respond to Consist Address"/>
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    <variable label="Consist Address Active For F5" CV="21" mask="XXXVXXXX"</pre>
              tooltip="F5 = Dynamic Brakes (default); Recommendation: Lead = ON, Mid = ON, End = ON">
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        <enumChoice choice="Respond to Consist Address"/>
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    <variable label="Consist Address Active For F6" CV="21" mask="XXVXXXXX"</pre>
              tooltip="F6 = Doppler (Startup) (default); Recommendation: Lead = ON, Mid = ON, End = ON">
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<variable label="Consist Address Active For F8" CV="21" mask="VXXXXXXX"</pre>
         tooltip="F8 = Audio Mute (default); Recommendation: Lead = ON, Mid = ON, End = ON">
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<variable label="Consist Address Active For FL in Forward" CV="22" mask="XXXXXXXV"</pre>
          tooltip="FL(f) = Directional Lighting; Recommendation: Lead = ON, Mid = OFF, End = OFF">
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<variable label="Consist Address Active For FL in Reverse" CV="22" mask="XXXXXXXX"</pre>
          tooltip="FL(r) = Directional Lighting; Recommendation: Lead = ON, Mid = OFF, End = OFF">
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<variable label="Consist Address Active For F9" CV="22" mask="XXXXXVXX"</pre>
          tooltip="F9 = Cruise Ctrl (Shut Down) (default); Recommendation: Lead = ON, Mid = ON, End = ON">
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          tooltip="F11 = Number Board Lights (default); Recommendation: Lead = ON, Mid = ON, End = ON">
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<!-- need to make this work for indexed CVs as well - TBD -->
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<!-- QSI CV.PI.SI formatted items -->
<!-- Sound control -->
<ivariable label="System Volume" CVname="51.0" CV="51" PI="0" default="127" comment="QSI" item="CV51.0">
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    <ienumChoice choice="Reverse Light"/>
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'cienumChoice choice="Directional Headlight + Directional Mars Light" value="107"/>
<ienumChoice choice="Directional Headlight + Directional Ditch Lights"/>

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    <ienumChoice choice="Directional Mars Light"/>
    <ienumChoice choice="Mars Light"/>
    <ienumChoice choice="Strobe Mars Light"/>
    <ienumChoice choice="Number Board Lights"/>
    <ienumChoice choice="Directional Headlight + Directional Mars Light" value="107"/>
<ienumChoice choice="Directional Headlight + Directional Ditch Lights"/>
    <ienumChoice choice="Directional Ditch Lights"/>
    <ienumChoice choice="Ditch Lights"/>
    <ienumChoice choice="Stobe Ditch Lights"/>
    <ienumChoice choice="Start Up" value="144"/>
    <ienumChoice choice="Shut Down"/>
    <!enumChoice choice="Scale mph Report and Status Report" value="178"/>
<ienumChoice choice="Coupler Effect" value="211"/>
    <ienumChoice choice="Pumps" value="217"/>
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    <ienumChoice choice="Short Air Let-off"/>
    <ienumChoice choice="Mute" value="64"/>
    <ienumChoice choice="Doppler Shift"/>
    <ienumChoice choice="Headlight" value="98"/>
    <ienumChoice choice="Dim Headlight"/>
    <ienumChoice choice="Reverse Light"/>
    <ienumChoice choice="Automatic Cab Lights"/>
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    <ienumChoice choice="Directional Ditch Lights"/>
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    <ienumChoice choice="Cruise Control" value="177"/>
    <ienumChoice choice="Scale mph Report and Status Report"/>
    <ienumChoice choice="Coupler Effect" value="211"/>
    <ienumChoice choice="Squealing Brakes" value="215"/>
    <ienumChoice choice="Squealing Brakes + Air Brakes"/>
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    <ienumChoice choice="Mars Light"/>
    <ienumChoice choice="Strobe Mars Light"/>
```

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    <ienumChoice choice="Ditch Lights"/>
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    <ienumChoice choice="Short Air Let-off"/>
    <ienumChoice choice="Mute" value="64"/>
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    <ienumChoice choice="Headlight" value="98"/>
    <ienumChoice choice="Dim Headlight"/>
    <ienumChoice choice="Reverse Light"/>
    <ienumChoice choice="Automatic Cab Lights"/>
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    <ienumChoice choice="Mars Light"/>
    <ienumChoice choice="Strobe Mars Light"/>
    <ienumChoice choice="Number Board Lights"/>
    <ienumChoice choice="Directional Headlight + Directional Mars Light" value="107"/>
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    <ienumChoice choice="Ditch Lights"/>
    <ienumChoice choice="Stobe Ditch Lights"/>
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    <ienumChoice choice="Scale mph Report and Status Report"/>
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<ienumChoice choice="Squealing Brakes + Air Brakes"/>
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    <ienumChoice choice="Short Air Let-off"/>
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    <ienumChoice choice="Stobe Ditch Lights"/>
    <ienumChoice choice="Start Up" value="144"/>
    <ienumChoice choice="Shut Down"/>
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    <ienumChoice choice="Dim Headlight"/>
    <ienumChoice choice="Reverse Light"/>
    <ienumChoice choice="Automatic Cab Lights"/>
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    <ienumChoice choice="Strobe Mars Light"/>
    <ienumChoice choice="Number Board Lights"/>
```

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    <ienumChoice choice="Directional Headlight + Directional Ditch Lights"/>
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    <ienumChoice choice="Ditch Lights"/>
    <ienumChoice choice="Stobe Ditch Lights"/>
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    <ienumChoice choice="Coupler Effect" value="211"/>
<ienumChoice choice="Squealing Brakes" value="215"/>
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    <ienumChoice choice="Directional Mars Light"/>
    <ienumChoice choice="Mars Light"/>
    <ienumChoice choice="Strobe Mars Light"/>
    <ienumChoice choice="Number Board Lights"/>
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    <ienumChoice choice="Directional Headlight + Directional Ditch Lights"/>
    <ienumChoice choice="Directional Ditch Lights"/>
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    <ienumChoice choice="Stobe Ditch Lights"/>
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    <ienumChoice choice="Shut Down"/>
    <ienumChoice choice="Scale mph Report and Status Report" value="178"/>
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    <ienumChoice choice="Strobe Mars Light"/>
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<
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  </ienumVal>
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    <ienumChoice choice="Short Air Let-off"/>
    <ienumChoice choice="Mute" value="64"/>
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    <ienumChoice choice="Automatic Cab Lights"/>
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    <ienumChoice choice="Strobe Mars Light"/>
    <ienumChoice choice="Number Board Lights"/>
    <ienumChoice choice="Directional Headlight + Directional Mars Light" value="107"/>
<ienumChoice choice="Directional Headlight + Directional Ditch Lights"/>
    <ienumChoice choice="Directional Ditch Lights"/>
```

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<!-- CV 56.129 Engine ID Access (for ops mode) - TBD -->
<!-- CV 56.254 About Ouantum Decoder -->
    <ivariable label="Product Model High Byte" CVname="56.254.4" CV="56" PI="254" SI="4"</pre>
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     <ifactReset label="Reset QSI Configuration" CVname="56.128.56" CV="56"</pre>
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