```
<?xml version="1.0" encoding="UTF-8" ?>
- <SCL xmlns="http://www.iec.ch/61850/2006/SCL"</pre>
   xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
   xsi:schemaLocation="http://www.iec.ch/61850/2006/SCL SCL.xsd">
 - <Header id="1">
     <Text>DataTypeTemplate de la parte hidráulica del regulador de
      velocidad</Text>
   - <History>
      <Hitem when="21/10/2010" revision="1" version="1.0">Este ICD fue
        iniciado a partir de la version 1.2 revisión 3 del ICD del tanque
        principal.
       <Hitem when="21/10/2010" revision="2" version="1.0">TODO: Falta
        corregir los números de instancias de cada nodo lógico. TODO: Falta
        eliminar los DataTypeTemplates que no se usan aqui.</Hitem>
     </History>
   </Header>
 - <Communication>
   - <SubNetwork name="SN1">
     - <ConnectedAP iedName="IED_MAIN_TNK" apName="AP1">
      - <Address>
          <P type="IP">192.168.10.1</P>
          <P type="IP-SUBNET">0.0.0.0</P>
          <P type="IP-GATEWAY">0.0.0</P>
        </Address>
       </ConnectedAP>
     </SubNetwork>
   </Communication>
 - <IED name="IEDcmprsAirPlant" configVersion="1" desc="IED de la planta de aire
     comprimido" manufacturer="David">
   - <Services>
       <DynAssociation />
       <GetDataObjectDefinition />
       <DataObjectDirectory />
       <GetDataSetValue />
       <SetDataSetValue />
       <DataSetDirectory />
       <ConfDataSet max="50" maxAttributes="250" />
       <GetDirectory />
       <ReadWrite />
       <ConfReportControl max="7" />
       <GetCBValues />
       <ReportSettings intgPd="Dyn" trgOps="Dyn" bufTime="Dyn" optFields="Dyn"</pre>
        rptID="Dvn" datSet="Fix" cbName="Fix" />
       <GSESettings appID="Fix" cbName="Fix" dataLabel="Dyn" datSet="Fix" />
       <GOOSE max="5" />
       <FileHandling />
       <ConfLNs fixLnInst="true" fixPrefix="true" />
     </Services>
   - <AccessPoint name="AP1">
     - <Server>
        <Authentication />
      - <LDevice inst="1" IdName="LD1tank" desc="Air oil pressure-tanks">
          <LN0 InType="LLN0_1" inst="" InClass="LLN0" />
```

```
<LN InType="ZMOTa" inst="4" InClass="ZMOT" prefix="Pa "</pre>
          desc="(AF) Motor for the compressor unit AF" />
        <LN InType="KVLV_relief" inst="24" InClass="KVLV" prefix="Pa_"</pre>
          desc="(24) Relief valve" />
        <LN InType="TPRS_gauge" inst="10" InClass="TPRS" prefix="Pa_"</pre>
          desc="(25) Pressure-gauge" />
        <LN InType="TPOS_prs_sw" inst="29" InClass="TPOS" prefix="Pa_"</pre>
          desc="(DE) Pressure switch" />
        <LN InType="TPOS_prs_sw" inst="30" InClass="TPOS" prefix="Pa_"</pre>
          desc="(DF) Pressure switch" />
        <LN InType="TPOS_prs_sw" inst="31" InClass="TPOS" prefix="Pa_"</pre>
          desc="(DG) Pressure switch" />
        <LN InType="TPOS_prs_sw" inst="32" InClass="TPOS" prefix="Pa_"
          desc="(LM) Pressure switch" />
        <LN InType="TPOS_e" inst="33" InClass="TPOS" prefix="Gv_"</pre>
          desc="(EC) Wicket-gate displacement sensor" />
        <LN InType="FLIM_" inst="2" InClass="FLIM" prefix="Gv_"</pre>
          desc="(LA) Limit to reach the overspeed (speed limit)" />
        <LN InType="FSPT_for_flim" inst="1" InClass="FSPT" prefix="Gv_"</pre>
          desc="(LA) Speed limit set-point" />
       </LDevice>
     </Server>
   </AccessPoint>
 </IED>
- <DataTypeTemplates>
 - <LNodeType id="LLN0_1" InClass="LLN0">
     <!-- Common logical node information -->
     <DO name="Mod" type="Mod 1" />
     <DO name="Beh" type="Beh_1" />
     <DO name="Health" type="Health_1" />
     <DO name="NamPlt" type="NamPlt_1" />
   </LNodeType>
 - <LNodeType id="FLIM" InClass="FLIM" desc="Wicket gate closure travel</p>
     limit">
     <!-- Common logical node information -->
     <DO name="Mod" type="Mod_1" />
     <DO name="Beh" type="Beh_1" />
     <DO name="Health" type="Health_1" />
     <DO name="NamPlt" type="NamPlt 1" />
     <!-- Status information -->
     <DO name="HiLim" type="xLim_1" desc="High Limit reached" />
     <DO name="LoLim" type="xLim_1" desc="Low Limit reached" />
     <!-- Measured values
     <DO name="Out" type="Out 1" desc="Output signal" />
     <DO name="HiLimSpt" type="xLimSpt_1" desc="High Limit setpoint" />
     <DO name="LoLimSpt" type="xLimSpt_1" desc="Low Limit setpoint" />
     <DO name="Blk" type="Blk_1" desc="Block operation" />
   </LNodeType>
 - <LNodeType id="FSPT_for_flim" InClass="FSPT" desc="Wicket gate closure</p>
     travel limit set-point">
     <!-- Common logical node information -->
     <DO name="Mod" type="Mod_1" />
     <DO name="Beh" type="Beh_1" />
```

```
<DO name="Health" type="Health_1" />
   <DO name="NamPlt" type="NamPlt_1" />
   <!-- Measured values -->
   <DO type="SptMem_1" name="SptMem" desc="Setpoint in memory" />
 </LNodeType>
- <LNodeType id="KVLV_relief" InClass="KVLV" desc="Relief pressure valve">
   <!-- Common logical node information -->
   <DO name="Mod" type="Mod_1" />
   <DO name="Beh" type="Beh_1" />
   <DO name="Health" type="Health_1" />
   <DO name="NamPlt" type="NamPlt_1" />
   <!-- Status information -->
   <DO name="ClsPos" type="ClsPos_1" />
   <DO name="OpnPos" type="OpnPos_1" />
   <DO name="Mov" type="Mov_1" />
   <!-- Controls
   <DO name="Opn" type="Opn_1" />
   <DO name="Cls" type="Cls 1" />
   <DO name="BlkOpn" type="BlkOpn_1" />
   <DO name="BlkCls" type="BlkCls_1" />
 </LNodeType>
- <LNodeType id="TPOS_e" InClass="TPOS" desc="valve displacement sensor">
   <!-- Common logical node information -->
   <DO name="Mod" type="Mod_1" />
   <DO name="Beh" type="Beh_1" />
   <DO name="Health" type="Health 1" />
   <DO name="NamPlt" type="NamPlt_1" />
   <!-- Measured values -->
   <DO name="PosPc" type="PosPc_1" />
   <!-- Settings -->
   <DO name="SmpRte" type="SmpRte_1" />
 </LNodeType>
- <LNodeType id="TPOS_prs_sw" InClass="TPOS" desc="Pressure switch">
   <!-- Common logical node information -->
   <DO name="Mod" type="Mod_1" />
   <DO name="Beh" type="Beh_1" />
   <DO name="Health" type="Health_1" />
   <DO name="NamPlt" type="NamPlt 1" />
   <DO name="SmpRteRng" type="SmpRteRng_1" />
   <!-- Measured values -->
   <DO name="PosPc" type="PosPc_1" />
   <!-- Settings -->
   <DO name="SmpRte" type="SmpRte_1" />
 </LNodeType>
- <LNodeType id="TPRS_gauge" InClass="TPRS" desc="Pressure-gauge">
   <!-- Common logical node information -->
   <DO name="Mod" type="Mod_1" />
   <DO name="Beh" type="Beh_1" />
   <DO name="Health" type="Health_1" />
   <DO name="NamPlt" type="NamPlt_1" />
   <DO name="SmpRteRng" type="SmpRteRng_4" />
   <!-- Measured values -->
```

```
<DO name="Pres" type="Pres_3" />
   <!-- Settings
   <DO name="SmpRte" type="SmpRte_4" />
 </LNodeType>
- <LNodeType id="ZMOTa" InClass="ZMOT" desc="Motor for the pump unit">
   <!-- Common logical node information
   <DO name="Mod" type="Mod_1" />
   <DO name="Beh" type="Beh_1" />
   <DO name="Health" type="Health_1" />
   <DO name="NamPlt" type="NamPlt_1" />
   <DO name="OpTmh" type="OpTmh_1" />
   <!-- Controls -->
   <DO name="DExt" type="DExt_1" />
 </LNodeType>
 <!-- Data Objects - IEC 61850-7-3 -->
 <DOType cdc="ASG" id="VImCap_1" desc="Total Volume capacity" />
 <DOType cdc="ASG" id="xLimSpt_1" desc="Hight limit set point" />
 <DOType cdc="ASG" id="TmpAlmSpt 1" desc="Temperature alarm level
   reached" />
 <DOType cdc="ASG" id="TmpTrSpt_1" desc="Temperature trip level</pre>
   reached" />
 <DOType cdc="DPC" id="Operate_1" desc="Operate pump" />
 <DOType cdc="DPC" id="ClsPos_1" desc="Closed end position reached (valve
   cannot move futher)" />
 <DOType cdc="DPC" id="OpnPos_1" desc="Open end position reached (valve)</pre>
   cannot move futher)"/>
 <DOType cdc="DPC" id="Opn_1" desc="Valve to full open position" />
 <DOType cdc="DPC" id="Cls_1" desc="Valve to full closed position" />
 <DOType cdc="ING" id="SmpRteSet_1" desc="Sampling rate setting" />
 <DOType cdc="ING" id="SmpRte 1" desc="Sampling rate setting" />
 <DOType cdc="ING" id="SmpRte_2" desc="Sampling rate setting" />
 <DOType cdc="ING" id="SmpRte_3" desc="Sampling rate setting" />
 <DOType cdc="ING" id="SmpRte 4" desc="Sampling rate setting" />
 <DOType cdc="ING" id="SmpRteRng_1" desc="Available sampling rate
   range" />
 <DOType cdc="ING" id="SmpRteRng_2" desc="Available sampling rate
   range" />
 <DOType cdc="ING" id="SmpRteRng_3" desc="Available sampling rate
   range" />
 <DOType cdc="ING" id="SmpRteRng_4" desc="Available sampling rate
   range" />
 <DOType cdc="INC" id="Mod_1" desc="Mode" />
 <DOType cdc="INS" id="Beh_1" desc="Behaviour" />
 <DOType cdc="INS" id="Health_1" desc="Health" />
 <DOType cdc="INS" id="TnkTyp_1" desc="Type of tank (pressure only, level</pre>
   only, both pressure and level)" />
 <DOType cdc="INS" id="OpCnt_1" desc="Operation counter" />
 <DOType cdc="INS" id="OpTmh_1" desc="Operation time" />
 <DOType cdc="LPL" id="NamPlt_1" desc="Name plate" />
 <DOType cdc="MV" id="Pres_1" desc="Pressure in the tank" />
 <DOType cdc="MV" id="LevPc 1" desc="Level in the tank (as percentage of
   full tank level)" />
 <DOType cdc="MV" id="Out_1" desc="Output signal" />
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<DOType cdc="MV" id="SptMem_1" desc="Set point in memory" />
   <DOType cdc="MV" id="Vlm_1" desc="Volume of media in tank" />
   <DOType cdc="MV" id="Tmp_1" desc="Temperature of the media in the
    tank"/>
   <DOType cdc="MV" id="Tmp_2" desc="Temperature (C)" />
   <DOType cdc="SAV" id="LevPc_2" desc="Level (percentage)" />
   <DOType cdc="SAV" id="PosPc_1" desc="Position given as percentage of full
     movement" />
   <DOType cdc="SAV" id="Pres_2" desc="Pressure of media [Pa]" />
   <DOType cdc="SAV" id="Pres_3" desc="Pressure of media [Pa]" />
   <DOType cdc="SPC" id="Blk_1" desc="Block operation" />
   <DOType cdc="SPC" id="BlkOpn_1" desc="Block opening of the valve" />
   <DOType cdc="SPC" id="BlkCls_1" desc="Block closing of the valve" />
   <DOType cdc="SPC" id="DExt_1" desc="De-excitation" />
   <DOType cdc="SPS" id="BlkSt_2" desc="The pump is blocked from</pre>
     operation" />
   <DOType cdc="SPS" id="xLim_1" desc="Limit reached" />
   <DOType cdc="SPS" id="Op_1" desc="Level of action reached" />
   <DOType cdc="SPS" id="ACAIm_1" desc="AC supply failure (fuse or other</pre>
     problem)"/>
   <DOType cdc="SPS" id="ACAIm_2" desc="AC supply failure (fuse or other
     problem)"/>
   <DOType cdc="SPS" id="Alm_1" desc="Temperature alarm level reached" />
   <DOType cdc="SPS" id="Trip_1" desc="Temperature trip level reached" />
   <DOType cdc="SPS" id="MotPro_1" desc="Motor protection tripped" />
   <DOType cdc="SPS" id="MotPro 2" desc="Motor protection tripped" />
   <DOType cdc="SPS" id="FilAlm_1" desc="Filter alarm" />
   <DOType cdc="SPS" id="Loc 1" desc="Local operation selected" />
   <DOType cdc="SPS" id="Mov_1" desc="Valve is moving" />
   <DOType cdc="SPS" id="Stuck_1" desc="Valve is blocked (cannot move from</pre>
     present position)"/>
 </DataTypeTemplates>
</SCL>
```