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<?xml version="1.0" encoding="UTF-8"?>
<SCL xmlns="http://www.iec.ch/61850/2006/SCL" 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>
      <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>
      <Hitem when="01/11/2011" revision="3" version="1.0">
        Este es el SCL candidato para la versión final.
      </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">0.0.0.0</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"
rptID="Dyn" dataSet="Fix" cbName="Fix"/>
      <GSESettings appID="Fix" cbName="Fix" dataLabel="Dyn" dataSet="Fix"/>
      <GOOSE max="5"/>
      <FileHandling/>
      <ConfLNs fixLnInst="true" fixPrefix="false"/>
      <SMVSettings smpRate="Conf">
        <SmpRate>256</SmpRate>
        <SmpRate>80</SmpRate>
      </SMVSettings>
    </Services>
    <AccessPoint name="AP1">
      <Server>
        <Authentication/>
        <LDevice inst="1" ldName="LD1tank" desc="Air oil pressure-tanks">
          <LN0 lnType="LLN0_1" inst="" lnClass="LLN0"/>
          <LN lnType="ZMOTa" inst="4" lnClass="ZMOT" prefix="Pa_"
desc="(AF) Motor for the compressor unit AF"/>

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prefix="Pa_" desc="(24) Relief valve"/>
<LN lnType="KVLV_relief" inst="24" lnClass="KVLV"
prefix="Pa_" desc="(25) Pressure-gauge"/>
<LN lnType="TPRS_gauge" inst="10" lnClass="TPRS"
prefix="Pa_" desc="(DE) Pressure switch"/>
<LN lnType="TPOS_prs_sw" inst="29" lnClass="TPOS"
prefix="Pa_" desc="(DF) Pressure switch"/>
<LN lnType="TPOS_prs_sw" inst="30" lnClass="TPOS"
prefix="Pa_" desc="(DG) Pressure switch"/>
<LN lnType="TPOS_prs_sw" inst="31" lnClass="TPOS"
prefix="Pa_" desc="(LM) Pressure switch"/>
<LN lnType="TPOS_prs_sw" inst="32" lnClass="TPOS"
desc="(EC) Wicket-gate displacement sensor"/>
<LN lnType="TPOS_e" inst="33" lnClass="TPOS" prefix="Gv_"
desc="(LA) Limit to reach the overspeed (speed limit)"/>
<LN lnType="FSPT_for_flim" inst="1" lnClass="FSPT"
prefix="Gv_" desc="(LA) Speed limit set-point"/>
</LDevice>
</Server>
</AccessPoint>
</IED>
<DataTypeTemplates>
  <LNNodeType id="LLN0_1" lnClass="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"/>
  </LNNodeType>
  <LNNodeType id="FLIM_" lnClass="FLIM" desc="Wicket gate closure travel 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"/>
  </LNNodeType>
  <LNNodeType id="FSPT_for_flim" lnClass="FSPT" desc="Wicket gate closure 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"/>
  </LNNodeType>
  <LNNodeType id="KVLV_relief" lnClass="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"/>

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        <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" lnClass="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" lnClass="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" lnClass="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" lnClass="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="VlmCap_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 reached"/>
    <DOType cdc="DPC" id="Operate_1" desc="Operate pump"/>
    <DOType cdc="DPC" id="ClsPos_1" desc="Closed end position reached (valve can not move
further)"/>
    <DOType cdc="DPC" id="OpnPos_1" desc="Open end position reached (valve can not move
further)"/>

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<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 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"/>
<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 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 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 (can not move from present
position)"/>
</DataTemplates>
</SCL>

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