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<?xml version="1.0" encoding="UTF-8"?>
```

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<!-- edited with XML Spy v4.0 U (http://www.xmlspy.com) by Christian S hoel (TietoEnator A/S) -->
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```
<xs:schema targetNamespace="urn:dk:nes:musseldata:v1" xmlns:mussel="urn:dk:nes:musseldata:v1"
xmlns:xs="http://www.w3.org/2001/XMLSchema" elementFormDefault="qualified"
attributeFormDefault="unqualified">
```

```
    <xs:element name="MusselData">
```

```
        <xs:annotation>
```

```
            <xs:documentation>Root element that constitutes a mussel
data report which includes an arbitrary number of DataReports (GPS and sensor data reports) each
belonging to particular vessel.</xs:documentation>
```

```
        </xs:annotation>
```

```
        <xs:complexType>
```

```
            <xs:sequence maxOccurs="unbounded">
```

```
                <xs:element name="DataReports"
type="mussel:DataReportsType">
```

```
                    <xs:annotation>
```

```
                        <xs:documentation>Includes one or more DataReport elements each containing a GPS
element together with one or more sensor elements. Each set of DataReports also includes an
identification of the belonging vessel. </xs:documentation>
```

```
                    </xs:annotation>
```

```
                </xs:element>
```

```
            </xs:sequence>
```

```
            <xs:attribute name="dataSupplier" type="xs:string"
use="required">
```

```
                <xs:annotation>
```

```
                    <xs:documentation>Name of the
data supplier.</xs:documentation>
```

```
                </xs:annotation>
```

```
            </xs:attribute>
```

```

        </xs:complexType>
    </xs:element>
    <xs:complexType name="DataReportsType">
        <xs:sequence>
            <xs:element name="VesselData"
type="mussel:VesselDataType">
                <xs:annotation>
                    <xs:documentation>Vessel
identification.</xs:documentation>
                </xs:annotation>
            </xs:element>
            <xs:element name="TransmitterData"
type="mussel:TransmitterDataType">
                <xs:annotation>
                    <xs:documentation>Transmitter
identification.</xs:documentation>
                </xs:annotation>
            </xs:element>
            <xs:element name="DataReport"
type="mussel:DataReportType" maxOccurs="unbounded">
                <xs:annotation>
                    <xs:documentation>Includes one
sample of the GPS and sensor data onboard the vessel.</xs:documentation>
                </xs:annotation>
            </xs:element>
        </xs:sequence>
        <xs:attribute name="transmissionTime" type="xs:dateTime" use="required"/>
    </xs:complexType>
    <xs:complexType name="VesselDataType">

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        <xs:sequence>
            <xs:element name="VisibleId"
type="mussel:HullRegistrationType">
                <xs:annotation>
                    <xs:documentation>The visible
identification of the vessel.</xs:documentation>
                </xs:annotation>
            </xs:element>
            <xs:element name="Euldent" type="mussel:CfrType">
                <xs:annotation>
                    <xs:documentation>The EU CFR
number of the vessel.</xs:documentation>
                </xs:annotation>
            </xs:element>
        </xs:sequence>
    </xs:complexType>
    <xs:complexType name="TransmitterDataType">
        <xs:sequence>
            <xs:element name="TransmitterId"
type="mussel:TransmitterIdType">
                <xs:annotation>
                    <xs:documentation>Identification
and unique id of the transmitter.</xs:documentation>
                </xs:annotation>
            </xs:element>
            <xs:element name="ManufactorHardwareNo" type="xs:string">
                <xs:annotation>
                    <xs:documentation>Serial number
of the transmitter hardware.</xs:documentation>

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</xs:annotation>
</xs:element>
</xs:sequence>
</xs:complexType>
<xs:complexType name="DataReportType">
  <xs:sequence>
    <xs:element name="GPS" type="mussel:GPSDataType"
minOccurs="0">
      <xs:annotation>
        <xs:documentation>One sample
of the GPS time, position, speed and heading.</xs:documentation>
      </xs:annotation>
    </xs:element>
    <xs:element name="Sensors" type="mussel:SensorsType">
      <xs:annotation>
        <xs:documentation>One sample
of available sensors.</xs:documentation>
      </xs:annotation>
    </xs:element>
  </xs:sequence>
  <xs:attribute name="logTime" type="xs:dateTime" use="required"/>
</xs:complexType>
<xs:complexType name="SensorsType">
  <xs:sequence>
    <xs:element name="HydraulicSensor"
type="mussel:HydraulicSensorType" maxOccurs="unbounded">
      <xs:annotation>

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                                                                 <xs:documentation>Hydraulic
sensor.</xs:documentation>
                                                                 </xs:annotation>
                                                                 </xs:element>
                                                                 <xs:element name="WinchSensor"
type="mussel:WinchSensorType" maxOccurs="unbounded">
                                                                 <xs:annotation>
                                                                 <xs:documentation>Winch
sensor.</xs:documentation>
                                                                 </xs:annotation>
                                                                 </xs:element>
                                                                 <xs:element name="OtherSensor"
type="mussel:OtherSensorType" minOccurs="0" maxOccurs="unbounded">
                                                                 <xs:annotation>
                                                                 <xs:documentation>Other sensor -
requires specification of the sensor type.</xs:documentation>
                                                                 </xs:annotation>
                                                                 </xs:element>
                                                                 </xs:sequence>
</xs:complexType>
<xs:complexType name="GPSDataType">
  <xs:sequence>
    <xs:element name="GpsTime" type="xs:dateTime">
      <xs:annotation>
        <xs:documentation>The GPS data
and time in UTC.</xs:documentation>
      </xs:annotation>
    </xs:element>
    <xs:element name="Position" type="mussel:PositionType">

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                <xs:annotation>
                    <xs:documentation>Position as
latitude and longitude.</xs:documentation>
                </xs:annotation>
            </xs:element>
            <xs:element name="Speed" type="xs:decimal">
                <xs:annotation>
                    <xs:documentation>The GPS
speed as a decimal number. </xs:documentation>
                </xs:annotation>
            </xs:element>
            <xs:element name="Heading" type="xs:decimal">
                <xs:annotation>
                    <xs:documentation>The GPS
heading as a decimal number.</xs:documentation>
                </xs:annotation>
            </xs:element>
        </xs:sequence>
    </xs:complexType>
    <xs:complexType name="PositionType">
        <xs:sequence>
            <xs:element name="Latitude" type="mussel:LatitudeType">
                <xs:annotation>
                    <xs:documentation>The latitude
as a decimal number between -90 and 90.</xs:documentation>
                </xs:annotation>
            </xs:element>
            <xs:element name="Longitude" type="mussel:LongitudeType">

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                <xs:annotation>
                    <xs:documentation>The longitude
as a decimal number between -180 and 180.</xs:documentation>
                </xs:annotation>
            </xs:element>
        </xs:sequence>
    </xs:complexType>
    <xs:complexType name="SensorDataType">
        <xs:simpleContent>
            <xs:extension base="xs:string">
                <xs:attribute name="number"
type="xs:nonNegativeInteger" use="required"/>
            </xs:extension>
        </xs:simpleContent>
    </xs:complexType>
    <xs:complexType name="TransmitterIdType">
        <xs:simpleContent>
            <xs:extension base="xs:string">
                <xs:attribute name="type"
type="mussel:TransmitterType" use="required"/>
            </xs:extension>
        </xs:simpleContent>
    </xs:complexType>
    <xs:complexType name="HydraulicSensorType">
        <xs:simpleContent>
            <xs:extension base="mussel:SensorDataType"/>
        </xs:simpleContent>
    </xs:complexType>

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<xs:complexType name="WinchSensorType">
    <xs:simpleContent>
        <xs:extension base="mussel:SensorDataType"/>
    </xs:simpleContent>
</xs:complexType>

<xs:complexType name="OtherSensorType">
    <xs:simpleContent>
        <xs:extension base="mussel:SensorDataType">
            <xs:attribute name="type" type="xs:string"
use="required"/>
        </xs:extension>
    </xs:simpleContent>
</xs:complexType>

<xs:simpleType name="CfrType">
    <xs:annotation>
        <xs:documentation>With format AAAXXXXXXXXXX where A is an
uppercase letter being the country of first registration within the EU and X being a letter or a number
</xs:documentation>
    </xs:annotation>
    <xs:restriction base="xs:string">
        <xs:length value="12"/>
        <xs:pattern value="[A-Z]{3}[a-zA-Z0-9]{9}"/>
    </xs:restriction>
</xs:simpleType>

<xs:simpleType name="HullRegistrationType">
    <xs:annotation>
        <xs:documentation>Side (hull) registration number and letters
of the vessel </xs:documentation>

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</xs:annotation>
<xs:restriction base="xs:string">
    <xs:minLength value="1"/>
    <xs:maxLength value="14"/>
</xs:restriction>
</xs:simpleType>
<xs:simpleType name="LatitudeType">
    <xs:annotation>
        <xs:documentation>Latitude expressed in accordance with the
WGS84 format used for VMS </xs:documentation>
    </xs:annotation>
    <xs:restriction base="xs:decimal">
        <xs:minInclusive value="-90"/>
        <xs:maxInclusive value="90"/>
    </xs:restriction>
</xs:simpleType>
<xs:simpleType name="LongitudeType">
    <xs:annotation>
        <xs:documentation>Longitude expressed in accordance with
the WGS84 format used for VMS </xs:documentation>
    </xs:annotation>
    <xs:restriction base="xs:decimal">
        <xs:minInclusive value="-180"/>
        <xs:maxInclusive value="180"/>
    </xs:restriction>
</xs:simpleType>
<xs:simpleType name="TransmitterType">
```

```
        <xs:annotation>
            <xs:documentation>Supported types of
transmitters</xs:documentation>
        </xs:annotation>
        <xs:restriction base="xs:string">
            <xs:enumeration value="sim"/>
            <xs:enumeration value="other"/>
        </xs:restriction>
    </xs:simpleType>
</xs:schema>
```