```
<xsd:schema xmlns:xsd="http://www.w3.org/2001/XMLSchema"
            targetNamespace="https://www.aff.gov/affSchema"
            xmlns:aff="https://www.aff.gov/affSchema"
            attributeFormDefault="qualified" elementFormDefault="qualified">


  <xsd:annotation>
   <xsd:documentation xml:lang="en">
     Automated Flight Following position data schema.
     Copyright: 2002, USDA-USFS PSW and MTDC.
     Version  : 2.23
     Revised  : 2004-10-18
     Author   : Neil Flagg
   </xsd:documentation>
  </xsd:annotation>


<!-- ***************************************************************** -->
<!-- Document Element Type                                            -->
<!--                                                                  -->
<!-- attribute "sysID"  optional, used to ID server making the tag    -->
<!-- attribute "rptTime" optional, time used to tack report          -->
<!-- attribute "version"  optional, used to ID tag version           -->
<!-- ***************************************************************** -->
<xsd:element name="data">
  <xsd:complexType>
    <xsd:sequence>
      <xsd:element name="msgRequest"   type="aff:message"
minOccurs="0"/>
      <xsd:element name="msgList"      type="aff:msgListType"
minOccurs="0"/>
      <xsd:element name="posList"      type="aff:posListType"
minOccurs="0"/>
    </xsd:sequence>
    <xsd:attribute name="sysID"        type="aff:string50"
use="optional"/>
    <xsd:attribute name="rptTime"      type="xsd:dateTime"
use="optional"/>
    <xsd:attribute name="version"      type="xsd:string"
use="optional"/>
  </xsd:complexType>
</xsd:element>




<!-- ***************************************************************** -->
<!-- Root Aircraft Position type                                      -->
<!--                                                                  -->
<!-- "lat" and "long" decimal values using NAD83/WGS84                -->
<!--                                                                  -->
<!-- NOTE: altitude, speed, heading now required for acPos.           -->
<!-- ***************************************************************** -->
<xsd:complexType name="acPos">
   <xsd:sequence>
     <xsd:element name="Lat"          type="xsd:double"        minOccurs="1"/>
     <xsd:element name="Long"         type="xsd:double"        minOccurs="1"/>
     <xsd:element ref="aff:altitude"                           minOccurs="0"/>
```

```
      <xsd:element ref="aff:speed"                                    minOccurs="0"/>
      <xsd:element ref="aff:heading"                                  minOccurs="0"/>
      <xsd:element name="telemetry"    type="aff:telemetryType" minOccurs="0"
maxOccurs="unbounded"/>
    </xsd:sequence>
    <xsd:attributeGroup ref="aff:info"  use="required"/>
</xsd:complexType>




<!-- **************************************************************** -->
<!-- Root Message type                                            -->
<!--                                                              -->
<!-- Generic message, can be used to request data from a vendor,  -->
<!-- or report errors, system maint, status, radio traffic etc.   -->
<!-- **************************************************************** -->
<xsd:complexType name="message">
  <xsd:sequence>
   <xsd:element name="body"              type="xsd:string"       minOccurs="0"/>
  </xsd:sequence>
  <xsd:attribute name="to"              type="xsd:string"      use="required"/>
  <xsd:attribute name="from"             type="xsd:string"      use="required"/>
  <xsd:attribute name="msgType"          type="aff:string50"    use="required"/>
  <xsd:attribute name="subject"          type="aff:string50"    use="required"/>
  <xsd:attribute name="dateTime"         type="xsd:dateTime"    use="required"/>
</xsd:complexType>




<!-- **************************************************************** -->
<!-- altitude "units" must be reported if altitude is reported     -->
<!-- **************************************************************** -->
<xsd:element name="altitude">
  <xsd:complexType>
    <xsd:simpleContent>
      <xsd:extension base="xsd:integer">
        <xsd:attribute name="units"  type="aff:altitudeUnits"  use="required"/>
      </xsd:extension>
    </xsd:simpleContent>
  </xsd:complexType>
</xsd:element>

<!-- **************************************************************** -->
<!-- speed "units" must be reported if speed is reported           -->
<!-- **************************************************************** -->
<xsd:element name="speed">
  <xsd:complexType>
    <xsd:simpleContent>
      <xsd:extension base="xsd:integer">
        <xsd:attribute name="units"  type="aff:speedUnits"  use="required"/>
      </xsd:extension>
    </xsd:simpleContent>
  </xsd:complexType>
</xsd:element>

<!-- **************************************************************** -->
```

```xml
<!-- heading "units" must be reported if heading is reported        -->
<!-- **************************************************************** -->
<xsd:element name="heading">
  <xsd:complexType>
    <xsd:simpleContent>
      <xsd:extension base="xsd:integer">
        <xsd:attribute name="units" type="aff:headingUnits"  use="required"/>
      </xsd:extension>
    </xsd:simpleContent>
  </xsd:complexType>
</xsd:element>


<!-- **************************************************************** -->
<!-- 50 character string value                                      -->
<!-- **************************************************************** -->
<xsd:simpleType name="string50">
  <xsd:restriction base="xsd:string">
    <xsd:length value="50"/>
  </xsd:restriction>
</xsd:simpleType>


<!-- **************************************************************** -->
<!-- **************************************************************** -->
<xsd:simpleType name="speedUnits">
  <xsd:restriction base="xsd:string">
    <xsd:enumeration value="meters/sec"/>
    <xsd:enumeration value="cm/sec"/>
    <xsd:enumeration value="feet/sec"/>
    <xsd:enumeration value="kilometer/hour"/>
    <xsd:enumeration value="knots/hour"/>
    <xsd:enumeration value="miles/hour"/>
  </xsd:restriction>
</xsd:simpleType>


<!-- **************************************************************** -->
<!-- **************************************************************** -->
<xsd:simpleType name="altitudeUnits">
  <xsd:restriction base="xsd:string">
    <xsd:enumeration value="meters"/>
    <xsd:enumeration value="feet"/>
    <xsd:enumeration value="meters agl"/>
    <xsd:enumeration value="feet agl"/>
    <xsd:enumeration value="meters msl"/>
    <xsd:enumeration value="feet msl"/>
    <xsd:enumeration value="meters hae"/>
    <xsd:enumeration value="feet hae"/>
  </xsd:restriction>
</xsd:simpleType>


<!-- **************************************************************** -->
<!-- used to distinguish between bearing and track                  -->
<!-- **************************************************************** -->
<xsd:simpleType name="headingUnits">
  <xsd:restriction base="xsd:string">
    <xsd:enumeration value="North-True"/>
    <xsd:enumeration value="North-Mag"/>
    <xsd:enumeration value="Track-True"/>
```

```
        <xsd:enumeration value="Track-Mag"/>
    </xsd:restriction>
</xsd:simpleType>


<!-- ***************************************************************** -->
<!-- telemetry "type" must define Simple Types Built In to XML Schema  -->
<!-- as restricted in "aff:dataType"                                   -->
<!-- ***************************************************************** -->
<xsd:complexType name="telemetryType">
    <xsd:attribute name="name"   type="xsd:string"    use="required"/>
    <xsd:attribute name="source" type="aff:string50"  use="optional"/>
    <xsd:attribute name="type"   type="aff:dataType"   use="required"/>
    <xsd:attribute name="value"  type="xsd:anyType"    use="required"/>
</xsd:complexType>


<!-- ***************************************************************** -->
<!-- Allowed "type"s as define by Simple Types Built In to XML Schema  -->
<!-- ***************************************************************** -->
<xsd:simpleType name="dataType" mixed="true">
  <xsd:restriction base="xsd:string">
    <xsd:enumeration value="xsd:boolean"/>
    <xsd:enumeration value="xsd:byte"/>
    <xsd:enumeration value="xsd:date"/>
    <xsd:enumeration value="xsd:dateTime"/>
    <xsd:enumeration value="xsd:double"/>
    <xsd:enumeration value="xsd:integer"/>
    <xsd:enumeration value="xsd:string"/>
    <xsd:enumeration value="xsd:time"/>
  </xsd:restriction>
</xsd:simpleType>


<!-- ***************************************************************** -->
<!-- "esn" is the ESN of reporting equipment, or other unique ID (i.e. -->
<!-- tail-number) if reported by another data source.                  -->
<!--                                                                   -->
<!-- "source" is the originator of position reported (e.g. GPS, Loran) -->
<!--                                                                   -->
<!-- "fix" is the indicator of position fix type (see aff:fix for      -->
<!-- definition)                                                       -->
<!--                                                                   -->
<!-- "dataCtr" is either the company name of the equipment or          -->
<!-- the name of the dispatch center                                   -->
<!--                                                                   -->
<!-- "dataCtrDateTime" is the time the position was inserted into the  -->
<!--  the data center database                                        -->
<!--                                                                   -->
<!-- "dateTime" is the time of position aquisition                     -->
<!-- ***************************************************************** -->
<xsd:attributeGroup name="info">
  <xsd:attribute name="esn"               type="aff:string50"
use="required"/>
  <xsd:attribute name="UnitID"            type="aff:string50"
use="optional"/>
  <xsd:attribute name="source"            type="aff:string50"
use="required"/>
  <xsd:attribute ref="aff:fix"
use="required"/>
```

```xml
    <xsd:attribute name="PDOP"            type="xsd:integer"
use="optional"/>
    <xsd:attribute name="HDOP"            type="xsd:integer"
use="optional"/>
    <xsd:attribute name="VDOP"            type="xsd:integer"
use="optional"/>
    <xsd:attribute name="GDOP"            type="xsd:integer"
use="optional"/>
    <xsd:attribute name="dataCtr"         type="aff:string50"
use="required"/>
    <xsd:attribute name="dataCtrDateTime" type="xsd:dateTime"
use="optional"/>
    <xsd:attribute name="dateTime"        type="xsd:dateTime"
use="required"/>
</xsd:attributeGroup>

<!-- ***************************************************************** -->
<!-- "Not Available" : indicates unit is unable to report fixType     -->
<!-- e.g. firmware version of this unit does not report fix type,     -->
<!-- but could with another version of firmware                       -->
<!--                                                                  -->
<!-- "None" : indicates unit cannot report fixType                    -->
<!-- e.g. position report from a SatPhone device                      -->
<!-- ***************************************************************** -->
<xsd:attribute name="fix">
   <xsd:simpleType>
      <xsd:restriction base="xsd:string">
         <xsd:enumeration value="3D"/>
         <xsd:enumeration value="2D"/>
         <xsd:enumeration value="Invalid"/>
         <xsd:enumeration value="Not Available"/>
         <xsd:enumeration value="None"/>
         <xsd:enumeration value=""/>
      </xsd:restriction>
   </xsd:simpleType>
</xsd:attribute>

<xsd:complexType name="posListType">
 <xsd:sequence>
  <xsd:element name="acPos"          type="aff:acPos"        minOccurs="0"
maxOccurs="unbounded"/>
 </xsd:sequence>
 <xsd:attribute name="listType"      type="xsd:string"
use="optional"/>
</xsd:complexType>

<xsd:complexType name="msgListType">
 <xsd:sequence>
     <xsd:element name="msg"         type="aff:message"      minOccurs="0"
maxOccurs="unbounded"/>
 </xsd:sequence>
 <xsd:attribute name="listType"      type="xsd:string"
use="optional"/>
</xsd:complexType>

</xsd:schema>
```