**Mask-schema.xsd**

<?xml version="1.0"?>

<xs:schema xmlns:xs="http://www.w3.org/2001/XMLSchema">

<xs:annotation>

<xs:documentation source="ITU masks schema v.4.0.0.0 2015-05-26 Rec ITU-R S. 1503-2"/>

</xs:annotation>

<xs:element name="satellite\_system">

<xs:complexType>

<xs:sequence>

<xs:element ref="pfd\_mask" minOccurs="0" maxOccurs="99"/>

<xs:element ref="eirp\_mask\_es" minOccurs="0" maxOccurs="99"/>

<xs:element ref="eirp\_mask\_ss" minOccurs="0" maxOccurs="99"/>

</xs:sequence>

<xs:attribute name="ntc\_id" use="required">

<xs:simpleType>

<xs:restriction base="xs:unsignedLong">

<xs:minInclusive value="1"/>

<xs:maxInclusive value="999999999"/>

</xs:restriction>

</xs:simpleType>

</xs:attribute>

<xs:attribute name="sat\_name" use="required">

<xs:simpleType>

<xs:restriction base="xs:string">

<xs:maxLength value="20"/>

<xs:minLength value="1"/>

</xs:restriction>

</xs:simpleType>

</xs:attribute>

</xs:complexType>

<xs:unique name="uniqueness">

<xs:selector xpath="pfd\_mask|eirp\_mask\_es|eirp\_mask\_ss"/>

<xs:field xpath="@mask\_id"/>

</xs:unique>

</xs:element>

<xs:element name="pfd\_mask">

<xs:complexType>

<xs:sequence>

<xs:element name="by\_a" maxOccurs="unbounded">

<xs:complexType>

<xs:sequence>

<xs:element ref="by\_b" maxOccurs="unbounded"/>

</xs:sequence>

<xs:attribute name="a" use="required">

<xs:simpleType>

<xs:restriction base="xs:decimal">

<xs:minInclusive value="-90.0"/>

<xs:maxInclusive value="90.0"/>

<xs:fractionDigits value="2"/>

</xs:restriction>

</xs:simpleType>

</xs:attribute>

</xs:complexType>

</xs:element>

</xs:sequence>

<xs:attribute name="mask\_id" use="required">

<xs:simpleType>

<xs:restriction base="xs:unsignedLong">

<xs:maxInclusive value="999"/>

<xs:minInclusive value="1"/>

</xs:restriction>

</xs:simpleType>

</xs:attribute>

<xs:attribute name="low\_freq\_mhz" use="required">

<xs:simpleType>

<xs:restriction base="xs:decimal">

<xs:maxInclusive value="999999.0"/>

<xs:minInclusive value="1.0"/>

<xs:fractionDigits value="6"/>

</xs:restriction>

</xs:simpleType>

</xs:attribute>

<xs:attribute name="high\_freq\_mhz" use="required">

<xs:simpleType>

<xs:restriction base="xs:decimal">

<xs:maxInclusive value="999999.0"/>

<xs:minInclusive value="1.0"/>

<xs:fractionDigits value="6"/>

</xs:restriction>

</xs:simpleType>

</xs:attribute>

<xs:attribute name="refbw\_khz" use="required">

<xs:simpleType>

<xs:restriction base="xs:unsignedLong">

<xs:enumeration value="4"/>

<xs:enumeration value="40"/>

<xs:enumeration value="1000"/>

</xs:restriction>

</xs:simpleType>

</xs:attribute>

<xs:attribute name="type" use="required">

<xs:simpleType>

<xs:restriction base="xs:string">

<xs:enumeration value="alpha\_deltaLongitude"/>

<xs:enumeration value="X\_deltaLongitude"/>

<xs:enumeration value="azimuth\_elevation"/>

</xs:restriction>

</xs:simpleType>

</xs:attribute>

<xs:attribute name="a\_name" use="required">

<xs:simpleType>

<xs:restriction base="xs:string">

<xs:pattern value="latitude"/>

</xs:restriction>

</xs:simpleType>

</xs:attribute>

<xs:attribute name="b\_name" use="required">

<xs:simpleType>

<xs:restriction base="xs:string">

<xs:enumeration value="alpha"/>

<xs:enumeration value="X"/>

<xs:enumeration value="azimuth"/>

</xs:restriction>

</xs:simpleType>

</xs:attribute>

<xs:attribute name="c\_name" use="required">

<xs:simpleType>

<xs:restriction base="xs:string">

<xs:enumeration value="deltaLongitude"/>

<xs:enumeration value="elevation"/>

</xs:restriction>

</xs:simpleType>

</xs:attribute>

</xs:complexType>

</xs:element>

<xs:element name="by\_a">

<xs:complexType>

<xs:sequence>

<xs:element ref="by\_b" maxOccurs="unbounded"/>

</xs:sequence>

<xs:attribute name="a" use="required">

<xs:simpleType>

<xs:restriction base="xs:decimal">

<xs:minInclusive value="-90.0"/>

<xs:maxInclusive value="90.0"/>

<xs:fractionDigits value="2"/>

</xs:restriction>

</xs:simpleType>

</xs:attribute>

</xs:complexType>

</xs:element>

<xs:element name="by\_b">

<xs:complexType>

<xs:sequence>

<xs:element ref="pfd" maxOccurs="unbounded"/>

</xs:sequence>

<xs:attribute name="b" use="required">

<xs:simpleType>

<xs:restriction base="xs:decimal">

<xs:minInclusive value="-180.0"/>

<xs:maxInclusive value="180.0"/>

<xs:fractionDigits value="2"/>

</xs:restriction>

</xs:simpleType>

</xs:attribute>

</xs:complexType>

</xs:element>

<xs:element name="pfd">

<xs:complexType>

<xs:simpleContent>

<xs:extension base="pfd\_val">

<xs:attribute name="c" use="required">

<xs:simpleType>

<xs:restriction base="xs:decimal">

<xs:minInclusive value="-180.0"/>

<xs:maxInclusive value="180.0"/>

<xs:fractionDigits value="2"/>

</xs:restriction>

</xs:simpleType>

</xs:attribute>

</xs:extension>

</xs:simpleContent>

</xs:complexType>

</xs:element>

<xs:simpleType name="pfd\_val">

<xs:restriction base="xs:decimal">

<xs:minInclusive value="-999.0"/>

<xs:maxInclusive value="999.0"/>

<xs:fractionDigits value="3"/>

</xs:restriction>

</xs:simpleType>

<xs:element name="eirp\_mask\_es">

<xs:complexType>

<xs:sequence>

<xs:element name="by\_a" maxOccurs="unbounded">

<xs:complexType>

<xs:sequence>

<xs:element ref="eirp" maxOccurs="unbounded"/>

</xs:sequence>

<xs:attribute name="a" use="required">

<xs:simpleType>

<xs:restriction base="xs:decimal">

<xs:minInclusive value="-90.0"/>

<xs:maxInclusive value="90.0"/>

<xs:fractionDigits value="2"/>

</xs:restriction>

</xs:simpleType>

</xs:attribute>

</xs:complexType>

</xs:element>

</xs:sequence>

<xs:attribute name="mask\_id" use="required">

<xs:simpleType>

<xs:restriction base="xs:unsignedLong">

<xs:minInclusive value="1"/>

<xs:maxInclusive value="999"/>

</xs:restriction>

</xs:simpleType>

</xs:attribute>

<xs:attribute name="low\_freq\_mhz" use="required">

<xs:simpleType>

<xs:restriction base="xs:decimal">

<xs:maxInclusive value="999999.0"/>

<xs:minInclusive value="1.0"/>

<xs:fractionDigits value="6"/>

</xs:restriction>

</xs:simpleType>

</xs:attribute>

<xs:attribute name="high\_freq\_mhz" use="required">

<xs:simpleType>

<xs:restriction base="xs:decimal">

<xs:maxInclusive value="999999.0"/>

<xs:minInclusive value="1.0"/>

<xs:fractionDigits value="6"/>

</xs:restriction>

</xs:simpleType>

</xs:attribute>

<xs:attribute name="refbw\_khz" use="required">

<xs:simpleType>

<xs:restriction base="xs:unsignedLong">

<xs:enumeration value="4"/>

<xs:enumeration value="40"/>

</xs:restriction>

</xs:simpleType>

</xs:attribute>

<xs:attribute name="min\_elev" use="required">

<xs:annotation>

<xs:documentation>the minimum elevation angle at which any associated earth station can transmit to a non-geostationary satellite.</xs:documentation>

</xs:annotation>

<xs:simpleType>

<xs:restriction base="xs:decimal">

<xs:minInclusive value="-90.0"/>

<xs:maxInclusive value="90.0"/>

<xs:fractionDigits value="2"/>

</xs:restriction>

</xs:simpleType>

</xs:attribute>

<xs:attribute name="a\_name" use="required">

<xs:simpleType>

<xs:restriction base="xs:string">

<xs:pattern value="latitude"/>

</xs:restriction>

</xs:simpleType>

</xs:attribute>

<xs:attribute name="d\_name" use="required">

<xs:simpleType>

<xs:restriction base="xs:string">

<xs:pattern value="separation angle"/>

</xs:restriction>

</xs:simpleType>

</xs:attribute>

<xs:attribute name="es\_id" use="required">

<xs:annotation>

<xs:documentation>identificator of associated specific earth station. -1 for non specific earth station </xs:documentation>

</xs:annotation>

<xs:simpleType>

<xs:restriction base="xs:long">

<xs:minInclusive value="-1"/>

<xs:maxInclusive value="999999999"/>

</xs:restriction>

</xs:simpleType>

</xs:attribute>

</xs:complexType>

</xs:element>

<xs:element name="eirp\_mask\_ss">

<xs:complexType>

<xs:sequence>

<xs:element name="by\_a" maxOccurs="unbounded">

<xs:complexType>

<xs:sequence>

<xs:element ref="eirp" maxOccurs="unbounded"/>

</xs:sequence>

<xs:attribute name="a" use="required">

<xs:simpleType>

<xs:restriction base="xs:decimal">

<xs:minInclusive value="-90.0"/>

<xs:maxInclusive value="90.0"/>

<xs:fractionDigits value="2"/>

</xs:restriction>

</xs:simpleType>

</xs:attribute>

</xs:complexType>

</xs:element>

</xs:sequence>

<xs:attribute name="mask\_id" use="required">

<xs:simpleType>

<xs:restriction base="xs:unsignedLong">

<xs:minInclusive value="1"/>

<xs:maxInclusive value="999"/>

</xs:restriction>

</xs:simpleType>

</xs:attribute>

<xs:attribute name="low\_freq\_mhz" use="required">

<xs:simpleType>

<xs:restriction base="xs:decimal">

<xs:maxInclusive value="999999.0"/>

<xs:minInclusive value="1.0"/>

<xs:fractionDigits value="6"/>

</xs:restriction>

</xs:simpleType>

</xs:attribute>

<xs:attribute name="high\_freq\_mhz" use="required">

<xs:simpleType>

<xs:restriction base="xs:decimal">

<xs:maxInclusive value="999999.0"/>

<xs:minInclusive value="1.0"/>

</xs:restriction>

</xs:simpleType>

</xs:attribute>

<xs:attribute name="a\_name" use="required">

<xs:simpleType>

<xs:restriction base="xs:string">

<xs:pattern value="latitude"/>

</xs:restriction>

</xs:simpleType>

</xs:attribute>

<xs:attribute name="d\_name" use="required">

<xs:simpleType>

<xs:restriction base="xs:string">

<xs:pattern value="separation angle"/>

</xs:restriction>

</xs:simpleType>

</xs:attribute>

</xs:complexType>

</xs:element>

<xs:element name="eirp">

<xs:complexType>

<xs:simpleContent>

<xs:extension base="eirp\_val">

<xs:attribute name="d" use="required">

<xs:simpleType>

<xs:restriction base="xs:decimal">

<xs:minInclusive value="-180.0"/>

<xs:maxInclusive value="180.0"/>

<xs:fractionDigits value="2"/>

</xs:restriction>

</xs:simpleType>

</xs:attribute>

</xs:extension>

</xs:simpleContent>

</xs:complexType>

</xs:element>

<xs:simpleType name="eirp\_val">

<xs:restriction base="xs:decimal">

<xs:minInclusive value="-999.0"/>

<xs:maxInclusive value="999.0"/>

<xs:fractionDigits value="3"/>

</xs:restriction>

</xs:simpleType>

</xs:schema>