SCTE·ISBE

STANDARDS

Network Operations Subcommittee

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Hybrid Fiber/Coax Outside Plant Status Monitoring – SCTE-HMS-GEN-MIB Management Information Base (MIB) Definition

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1. SCOPE

This document is identical to SCTE 38-6 2012 except for informative components which may have been updated such as the title page, NOTICE text, headers and footers. No normative changes have been made to this document.

This document provides the branch object identifiers for each of the MIBs within the SCTE HMS Tree.

2. COPYRIGHT

The MIB definition found in this document may be incorporated directly in products without further permission from the copyright owner, SCTE.

3. NORMATIVE REFERENCES

The following documents contain provisions, which, through reference in this text, constitute provisions of this standard. At the time of subcommittee approval, the editions indicated were valid. All standards are subject to revision, and parties to agreement based on this standard are encouraged to investigate the possibility of applying the most recent editions of the documents listed below.

3.1   IETF RFC 1155, Structure and identification of management information for TCP/IP-based internets

3.2   ANSI/SCTE 36 2012 [on pending approval], SCTE-ROOT Management Information Base (MIB) Definitions

3.3   ANSI/SCTE 37 2010, SCTE-HMS-ROOTS Management Information Base (MIB) Definition

4. INFORMATIVE REFERENCES

The following documents may provide valuable information to the reader but are not required when complying with this standard.

4.1   ANSI/SCTE 25-3 2010, Hybrid Fiber Coax Outside Plant Status Monitoring – Power Supply to Transponder Interface Bus (PSTIB) Specification v1.1

4.2   ANSI/SCTE 38-4 2012 [on pending approval], Hybrid Fiber/Coax Outside Plant Status Monitoring SCTE-HMS - PS-MIB Management Information Base (MIB) Definition

5. TERMS AND DEFINITIONS

This document defines the following terms:

Management Information Base (MIB) – the specification of information in a manner that allows standard access through a network management protocol.

6.   REQUIREMENTS

This section defines the mandatory syntax of the SCTE-HMS-GEN-MIB MIB. It follows the IETF Simple Network Management Protocol (SNMP) for defining managed objects.

The syntax is given below:

```
-- *************************************************************************
-- *
-- * Module Name:   HMS033R11 (SCTE 38-6-2012)
-- *
-- * Description:   Implements SCTE-HMS-GEN-MIB for Outside Plant Generators
-- *
-- * 13-Apr-2005   Altered genVBatIgnition and genEnclosureTemperature to
-- *               require an entry in the property table, instead of entries
-- *               in the discrete property table.  Description of
-- *               these objects in R8 was a typographical error.
-- *
-- * 07-Nov-2005   Altered genProtocolVersion per ballot comments
-- *               - 'power supply' changed to 'generator'
-- *               - value of 0x04 changed to 11 to reflect current document
-- *                 revision
-- *               - Object description now mirrors psProtocolVersion MIB object
-- *                 in SCTE-HMS-PS-MIB.
-- *
-- * 15-Oct-2006   Altered many descriptions to make them less dependant on
-- *               descriptions from HMS022.
-- _*2012 Revised dates of References to reflect updates
-- *
-- *************************************************************************


SCTE-HMS-GEN-MIB DEFINITIONS ::= BEGIN


IMPORTS
   OBJECT-TYPE
      FROM RFC-1212
   genIdent
      FROM SCTE-HMS-ROOTS
   ;

-- /***********************************
-- * The Generator Group            *
-- ***********************************/


genNumberOfGenerators OBJECT-TYPE
   SYNTAX INTEGER ( 1..8 )
   ACCESS read-only
   STATUS mandatory
   DESCRIPTION
      "Number of generators connected to this NE."
   ::= { genIdent 1 }


genDeviceTable OBJECT-TYPE
   SYNTAX SEQUENCE OF GenDeviceEntry
   ACCESS not-accessible
   STATUS mandatory
   DESCRIPTION
      "Table containing information about the individual
       generators being monitored"
   ::= { genIdent 2 }
```

```
genDeviceEntry  OBJECT-TYPE
    SYNTAX GenDeviceEntry
    ACCESS not-accessible
    STATUS mandatory
    DESCRIPTION
        "List of information about each generator being monitored."
    INDEX { genDeviceAddress }
    ::= { genDeviceTable 1 }

GenDeviceEntry ::=
    SEQUENCE
    {
        genDeviceAddress
            INTEGER,

        genProtocolVersion
            INTEGER,

        genSoftwareVersion
            OCTET STRING,

        genDeviceId
            OCTET STRING,

        genGasHazardOption
            INTEGER,

        genWaterIntrusionOption
            INTEGER,

        genPadShearOption
            INTEGER,

        genDoorOption
            INTEGER,

        genChargerOption
            INTEGER,

        genFuelOption
            INTEGER,

        genVBatIgnitionOption
            INTEGER,

        genTempOption
            INTEGER,

        genGeneratorStatus
            INTEGER,

        genGasHazard
            INTEGER,

        genWaterIntrusion
```

```
                INTEGER,

            genPadShear
                INTEGER,

            genEnclosureDoor
                INTEGER,

            genCharger
                INTEGER,

            genFuel
                INTEGER,

            genVBatIgnition
                INTEGER,

            genEnclosureTemperature
                INTEGER,

            genEquipmentControl
                INTEGER,

            genOilOption
                INTEGER,

            genMinorAlarmSupport
                INTEGER,

            genMajorAlarmSupport
                INTEGER,

            genOil
                INTEGER,

            genMinorAlarm
                INTEGER,

            genMajorAlarm
                INTEGER,

            genVendorOID
                OBJECT IDENTIFIER

        }

genDeviceAddress OBJECT-TYPE
    SYNTAX INTEGER ( 1..15 )
    ACCESS read-only
    STATUS mandatory
    DESCRIPTION
        "Index into the psDeviceTable.
         For devices that implement ANSI/SCTE 25-3 (formally HMS022),
         this is the address of Generator on the RS-485 Path"
    ::= { genDeviceEntry 1 }
```

-- * Generator Configuration

genProtocolVersion OBJECT-TYPE
    SYNTAX INTEGER (0..255)
    ACCESS read-only
    STATUS mandatory
    DESCRIPTION
        "Version of the SCTE HMS protocol implemented in the monitored
        equipment. The 'Protocol Version' implementation will comply
        with the defined protocol in the SCTE 25-3 (formerly HMS 022)
        document with the corresponding revision number.

        Example: A generator implementing all commands and responses
        defined in the SCTE 25-3 revision 1.1 would return a value
        of 11(decimal) in this field, reflecting major revision 1,
        minor revision 1.

        Transponders which are capable of appropriately rendering the
        data as defined by this MIB without implementing an interface
        as defined by SCTE 25-3 may respond with one of two values:
        [a] the transponder may return a value of zero (0), or [b] the
        transponder may return a value consistent with the SCTE 25-3
        version that the transponder wants to make it appear it is
        supporting."

    ::= { genDeviceEntry 2 }

genSoftwareVersion OBJECT-TYPE
    SYNTAX OCTET STRING (SIZE(8))
    ACCESS read-only
    STATUS mandatory
    DESCRIPTION
        "The contents of this field are vendor specific. The intent
        is to provide a text representation of the power supply or
        generator system software version. Any printable ASCII
        characters ca be included in this field. NULL (0x00)
        characters are non-printable and are used to fill any unused
        locations following the text data"

    ::= { genDeviceEntry 3 }

genDeviceId OBJECT-TYPE
    SYNTAX OCTET STRING (SIZE(32))
    ACCESS   read-only
    STATUS mandatory
    DESCRIPTION
        "The content of this field is vendor specific. The intent is
        to provide manufacturer and/or product specific ASCII text
        information that will propagate to the manager's console
        verbatim. The following special characters are defined in
        association with this field:

        '\' Used to cause a new line on the console display.
        Example: 'ALPHA\XM2 9015' would appear at the monitoring
        station as :
            ALPHA

```
        XM2 9015"
   ::= { genDeviceEntry 4 }


genGasHazardOption OBJECT-TYPE
   SYNTAX INTEGER { notInstalled(1), installed(2) }
   ACCESS read-only
   STATUS mandatory
   DESCRIPTION
      "Defines if gas hazard sensor is installed and genGasHazard
       is supported."

   ::= { genDeviceEntry 5 }


genWaterIntrusionOption OBJECT-TYPE
   SYNTAX INTEGER { notInstalled(1), installed(2) }
   ACCESS read-only
   STATUS mandatory
   DESCRIPTION
      "Defines if water intrusion sensor is installed and
       genWaterIntrusion is supported."

   ::= { genDeviceEntry 6 }


genPadShearOption OBJECT-TYPE
   SYNTAX INTEGER { notInstalled(1), installed(2) }
   ACCESS read-only
   STATUS mandatory
   DESCRIPTION
      "Defines if pad shear sensor is installed and genPadShear
       is supported."

   ::= { genDeviceEntry 7 }


genDoorOption OBJECT-TYPE
   SYNTAX INTEGER { notInstalled(1), installed(2) }
   ACCESS read-only
   STATUS mandatory
   DESCRIPTION
      "Defines if separate generator door is installed and
       genEnclosureDoor is supported."

   ::= { genDeviceEntry 8 }


genChargerOption OBJECT-TYPE
   SYNTAX INTEGER { notInstalled(1), installed(2) }
   ACCESS read-only
   STATUS mandatory
   DESCRIPTION
      "Defines if charger fail signal and genCharger is supported."

   ::= { genDeviceEntry 9 }


genFuelOption OBJECT-TYPE
   SYNTAX INTEGER { notInstalled(1), installed(2) }
   ACCESS read-only
   STATUS mandatory
```

DESCRIPTION
　　"Defines if low fuel detection and genFuel is supported."

　::= { genDeviceEntry 10 }

genVBatIgnitionOption OBJECT-TYPE
　　SYNTAX INTEGER { notInstalled(1), installed(2) }
　　ACCESS read-only
　　STATUS mandatory
　　DESCRIPTION
　　　"Defines if engine ignition battery voltage is monitored
　　　 and genVBatIgnition is supported."

　::= { genDeviceEntry 11 }

genTempOption　OBJECT-TYPE
　　SYNTAX INTEGER { notInstalled(1), installed(2) }
　　ACCESS read-only
　　STATUS mandatory
　　DESCRIPTION
　　　"Defines if engine enclosure temperature is monitored and
　　　 genEnclosureTemperature is supported."

　::= { genDeviceEntry 12 }

-- * Generator Data

genGeneratorStatus OBJECT-TYPE
　　SYNTAX INTEGER { off(1), runningTest (2), running(3), fail(4) }
　　ACCESS read-only
　　STATUS mandatory
　　DESCRIPTION
　　　"Defines the current state of generator operation.
　　　　1 = Off
　　　　2 = Running(test)
　　　　3 = Running
　　　　4 = Fail (A condition preventing the generator
　　　　　　 from functioning)

　　　 This item requires entries in the discrete property table."

　::= { genDeviceEntry 13 }

genGasHazard OBJECT-TYPE
　　SYNTAX INTEGER { noAlarm(1), alarm(2) }
　　ACCESS read-only
　　STATUS mandatory
　　DESCRIPTION
　　　"The concentration of hydrocarbon fuel in the
　　　 generator enclosure has exceeded safe limits.
　　　 Generator operation is suspended. The alarm
　　　 is cleared when the sensor is reset via the
　　　 'Reset Latched Generator Alarms' command.

　　This item requires entries in the discrete property table."

::= { genDeviceEntry 14 }

genWaterIntrusion OBJECT-TYPE
    SYNTAX INTEGER { noAlarm(1), alarm(2) }
    ACCESS read-only
    STATUS mandatory
    DESCRIPTION
      "Water level within the generator or fuel enclosure
      has exceeded safe limits for generator operation.
      Generator operation is suspended while this alarm
      is active. The alarm is reset when the water returns
      to a safe level.

    This item requires entries in the discrete property table."

    ::= { genDeviceEntry 15 }

genPadShear OBJECT-TYPE
    SYNTAX INTEGER { noAlarm(1), alarm(2) }
    ACCESS read-only
    STATUS mandatory
    DESCRIPTION
      "Indicates that the generator or fuel enclosure
      has shifted from its mounting position. Generator
      operation is suspended. The alarm is reset when
      the unit its returned to its original position.

    This item requires entries in the discrete property table."

    ::= { genDeviceEntry 16 }

genEnclosureDoor OBJECT-TYPE
    SYNTAX INTEGER { noAlarm(1), alarm(2) }
    ACCESS read-only
    STATUS mandatory
    DESCRIPTION
      "Indicates current status of the generator
      and/or auxiliary fuel enclosure door.

    This item requires entries in the discrete property table."

    ::= { genDeviceEntry 17 }

genCharger OBJECT-TYPE
    SYNTAX INTEGER { noAlarm(1), alarm(2) }
    ACCESS read-only
    STATUS mandatory
    DESCRIPTION
      "Indicates if the ignition battery charger is operating.

    This item requires entries in the discrete property table."

    ::= { genDeviceEntry 18 }

genFuel OBJECT-TYPE

SYNTAX INTEGER { noAlarm(1), alarm(2) }
ACCESS read-only
STATUS mandatory
DESCRIPTION
    "Indicates if the engine's fuel supply is sufficient
     for extended operation. Alarm is reset when fuel is
     replenished.

This item requires entries in the discrete property table."

    ::= { genDeviceEntry 19 }

genVBatIgnition OBJECT-TYPE
    SYNTAX INTEGER (0..65535)
    ACCESS read-only
    STATUS mandatory
    DESCRIPTION
        "Scaled representation of the generator's
         ignition battery in 1/100 Volts.

This item requires an entry in the property table."

    ::= { genDeviceEntry 20 }

genEnclosureTemperature OBJECT-TYPE
    SYNTAX INTEGER (-40..80)
    ACCESS read-only
    STATUS mandatory
    DESCRIPTION
        "Temperature inside generator's enclosure in degrees C.

This item requires an entry in the property table."

    ::= { genDeviceEntry 21 }

genEquipmentControl OBJECT-TYPE
    SYNTAX INTEGER {
        stopGenerator(1),
        startGenerator(2),
        resetLatchedAlarms(3) }
    ACCESS read-write
    STATUS optional
    DESCRIPTION
        "When written, the appropriate corresponding command action
        is sent to the generator.

        1 = End generator test
        2 = Start generator test
        3 = Reset latched generator alarms which
        may be preventing a generator start

        This object is intentionally simplistic to allow for maximum
        flexibility.   It IS assumed that the generator has
        sufficient intelligence to prevent an overcrank condition.

        Example 1: From a single SET and corresponding single

'start' command, the generator may automatically attempt
starting 'n' times before giving up.

Example 2: The transponder may be simple and send only the
single 'start' command, and the EMS/end user is responsible
for making 'n' attempts (by performing additional SETs to
this object.)

The choice between the methods depends on the specific
application and vendor equipment."

```
    ::= { genDeviceEntry 22 }

genOilOption OBJECT-TYPE
    SYNTAX INTEGER { notInstalled(1), installed(2) }
    ACCESS read-only
    STATUS mandatory
    DESCRIPTION
       "Defines if oil pressure is monitored and genOil is
        supported."

    ::= { genDeviceEntry 23 }

genMinorAlarmSupport OBJECT-TYPE
    SYNTAX INTEGER { notInstalled(1), installed(2) }
    ACCESS read-only
    STATUS mandatory
    DESCRIPTION
       "Defines if the minor alarm indicator and genMinorAlarm
        is supported."

    ::= { genDeviceEntry 24 }

genMajorAlarmSupport OBJECT-TYPE
    SYNTAX INTEGER { notInstalled(1), installed(2) }
    ACCESS read-only
    STATUS mandatory
    DESCRIPTION
       "Defines if the major alarm indicator and genMajorAlarm
        is supported."

    ::= { genDeviceEntry 25 }

genOil OBJECT-TYPE
    SYNTAX INTEGER { noAlarm(1), alarm(2) }
    ACCESS read-only
    STATUS optional
    DESCRIPTION
       "Indicates if the engine's oil is adequate for safe operation.
        Alarm is reset when the condition returns to normal.

    This item requires entries in the discrete property table."

    ::= { genDeviceEntry 26 }

genMinorAlarm OBJECT-TYPE
```

SYNTAX INTEGER { noAlarm(1), alarm(2) }
ACCESS read-only
STATUS optional
DESCRIPTION
    "Indicates if the generator is indicating a minor alarm.
    The generator requires attention, but does not require an immediate
    visit to the generator.

This item requires entries in the discrete property table."

  ::= { genDeviceEntry 27 }

genMajorAlarm OBJECT-TYPE
SYNTAX INTEGER { noAlarm(1), alarm(2) }
ACCESS read-only
STATUS optional
DESCRIPTION
    "Indicates if the generator is indicating a major alarm.
    The generator requires immediate attention, and should be visited
    immediately to remedy the situation.

This item requires entries in the discrete property table."

  ::= { genDeviceEntry 28 }

genVendorOID OBJECT-TYPE
SYNTAX OBJECT IDENTIFIER
ACCESS read-only
STATUS optional
DESCRIPTION
    "This object provides a means for a vendor to
    point to a vendor specific extension of this MIB."

  ::= { genDeviceEntry 29 }

END