      Definitions of Managed Objects for the Optical Interface Type

Status of this Memo

   This document specifies an Internet standards track protocol for the
   Internet community, and requests discussion and suggestions for
   improvements. Please refer to the current edition of the "Internet
   Official Protocol Standards" (STD 1) for the standardization state
   and status of this protocol. Distribution of this memo is unlimited.

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Abstract

   This memo defines a portion of the Management Information Base (MIB)
   for use with Simple Network Management Protocol (SNMP) in TCP/IP-
   based internets. In particular, it defines objects for managing
   Optical Interfaces associated with WavelengthDivision Multiplexing
   systems or characterized by the Optical Transport Network (OTN) in
   accordance with the OTN architecture defined in ITU-T Recommendation
   G.872.

   The MIB module defined in this memo can be used for performance
   monitoring and/or configuration of such optical interface.

Table of Contents

1. The Internet-Standard Management Framework

   For a detailed overview of the documents that describe the current
   Internet-Standard Management Framework, please refer to section 7 of
   RFC 3410 [RFC3410].

   Managed objects are accessed via a virtual information store, termed
   the Management Information Base or MIB. MIB objects are generally
   accessed through the Simple Network Management Protocol (SNMP).
   Objects in the MIB are defined using the mechanisms defined in the
   Structure of Management Information (SMI). This memo specifies a MIB
   module that is compliant to the SMIv2, which is described in STD 58,
   RFC 2578 [RFC2578], STD 58, RFC 2579 [RFC2579] and STD 58, RFC 2580
   [RFC2580].

2. Overview

   In this document, the term OTN (Optical Transport Network) system is
   used to describe devices that are compliant with the requirements
   specified in the ITU-T Recommendations G.872 [ITU-T G.872], G.709
   [ITU-T G.709], G.798 [ITU-T G.798], G.874 [ITU-T G.874], and G.874.1
   [ITU-T G.874.1].

   The optical objects will be managed using the MIB II ifTable and
   ifStackTable. Additional tables will also be supported to monitor
   layer specific status and provide performance monitoring data. In
   the tables, some entries are required for OTN systems only. A
   Configuration (Config) table, Current Performance Monitoring (PM)
   table, and Interval PM table will be maintained for the OTSn, OMSn,
   OChGroup, and OCh layers on a source and sink trail termination
   basis. These tables will be linked to the ifTable by using the
   ifIndex that is associated with that layer.

   These objects are used when the particular media being used to
   realize an interface is an Optical Transport interface. At present,
   this applies to these values of the ifType variable in the Internet-
   standard MIB:

   opticalChannel (195), opticalChannelGroup (219), opticalTransport
   (196)

   The definitions contained herein are based on the OTN specifications
   in ITU-T G.872[ITU-T G.872], G.709 [ITU-T G.709], G.798[ITU-T G.798],
   G.874[ITU-T G.874], and G.874.1 [ITU-T G.874.1].

2.1. Use of the ifTable

   This section specifies how the MIB II interfaces group, as defined in
   RFC 2863 [RFC2863], is used for optical interfaces. Only the
   ifGeneralInformationGroup will be supported for the ifTable and the
   ifStackTable to maintain the relationship between the various layers.
   The OTN layers are managed in the ifTable using IfEntries that
   correlate to the layers depicted in Figure 1.

   For example, a DWDM device with an Optical Network Node Interface
   (ONNI) will have an Optical Transmission Section (OTS) physical
   layer, an Optical Multiplex Section (OMS) layer (transports multiple
   optical channels), and an Optical Channel (OCh) layer. There is a
   one to one relationship between the OMS and OTS layers. The OMS
   layer has fixed connectivity via the OTS and thus no connectivity
   flexibility at the OMS layer is supported.

A device with an ONNI that does not multiplex would consist of the
OTS and OCh layers supporting a single channel.

MIB-II (RFC 1213) [RFC1213], as amended and extended by RFC 3418
[RFC3418], RFC 2863 [RFC2863], and RFC 2864 [RFC2864], accommodates
these cases through appropriate use of the system and interfaces
groups. The system group names and describes the type of managed
resource. The interfaces group defines which OTN layers exist and
how these layers are configured and multiplexed. This is achieved by
proper representation of OTN Layers as IfEntries as defined in RFC
2863 [RFC2863], as follows.

In the following figures, opticalChannel and opticalTransport are
abbreviated as och and otn respectively.

```
 _____
                     \
    Path Data Unit   |\  \
      (ODUk)         | \  \
 _____  |  \  _____
                  |  |   |                  |  >
    Tandem Data Unit| |   |                  |  |
      (ODUkT)       | |   |  OCh   Layer     |   > n och IfEntries
 _____ | |   |                  |  |
                  | |  |   |_____|  >
    Optical       | |  / |                  |  >
    Transport Unit| | /  |                  |  |
      (OTUk)      | |/   |  OMSn Layer       |  |
 _____/  |    |                  |  |
                    |    |_____|  |
    Sub-layers in   |    |                  |   > m otn IfEntries
    the OCh Layer   |    |                  |  |
                    |    |  OTSn Layer       |  |
                    |    |                  |  |
                    |    |_____|  >
```
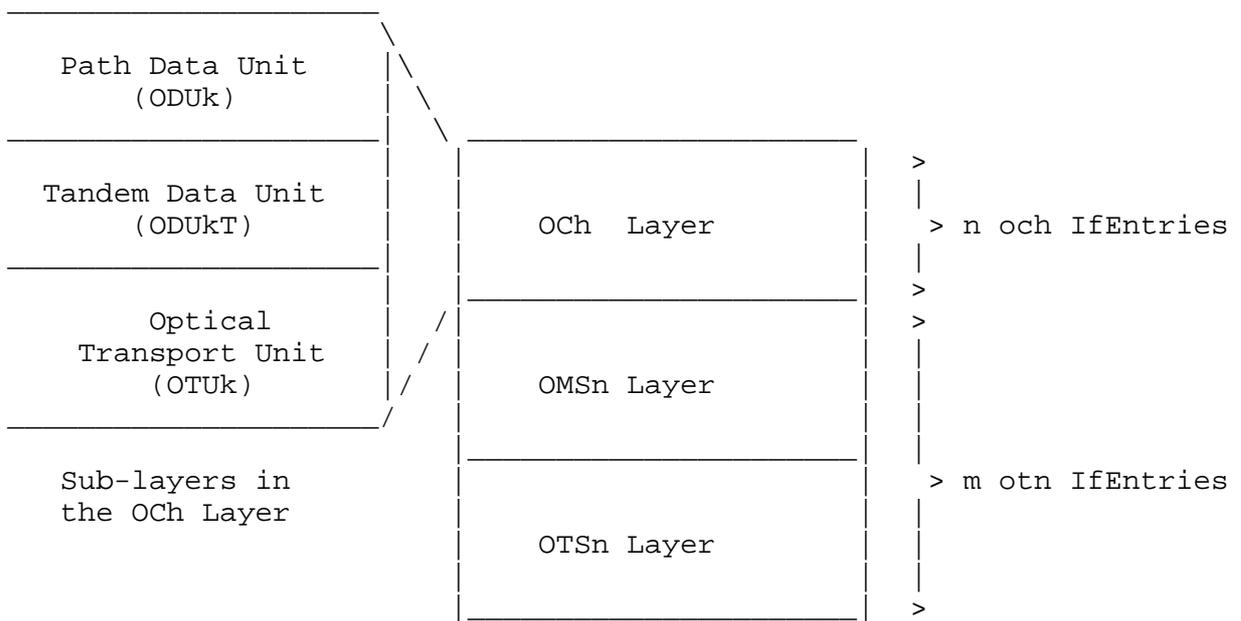
Figure 1: OTN Layers

Since the OMSn and OTSn layers have a one to one relationship, only
one otn IfEntry is required to support these two layers. Therefore,
each opticalChannel IfEntry may be mapped to m opticalTransport
IfEntries, where m is greater than or equal to 1. Conversely, each
opticalTransport entry may be mapped to n opticalChannel IfEntries,
where n is greater than or equal to 1.

There are implementations that have banded amplifers that operate on
a group of optical channels separately (e.g., C and L band channels)
before finally muxing them together and transporting them over a

physical layer. For such DWDM system implementations, it is
important to have the ability to model each of the groups (or bands)
with an ifIndex and measure the pre-OTN PM parameters for each band
separately.

The OTN layering, as described in Figure 1, can be extended to
accomodate such implementations by introducing another layer called
the OChGroup Layer.

As an example, Figure 2 depicts the OTN layering of a DWDM system
with 80 C-band and 80 L-band channels combined into their respective
channel band groups before being muxed into the OMS and transported
over the OTS.

```
             _____   _____
            |O|O|   |O  |  |O  |O |   |O  |  >
            |C|C|   |C  |  |C  |C |   |C  |  |
            |h|h|..|h  |  |h  |h |..|h  |   > x och IfEntries
            |1|2|   |80 |  |81 |82|   |160|  |
            |_|_|__|__|  |__|__|__|___|  >
            |       |   |  |             |  >
            |       |   |  |             |  |
            |OChGroup1|  | OChGroup2    |   > n ochgroup IfEntries
            |       |   |  |             |  |
            |_____|__|_____|  >
            |             |  |             |  >
            |             |  |             |  |
            |     OMSn Layer    |  |        |  |
            |             |  |             |  |
            |_____|  |        |  |
            |                   |  |         > m otn IfEntries
            |                   |  |        |  |
            |     OTSn Layer    |  |        |  |
            |                   |  |        |  |
            |_____|  |        > 
```
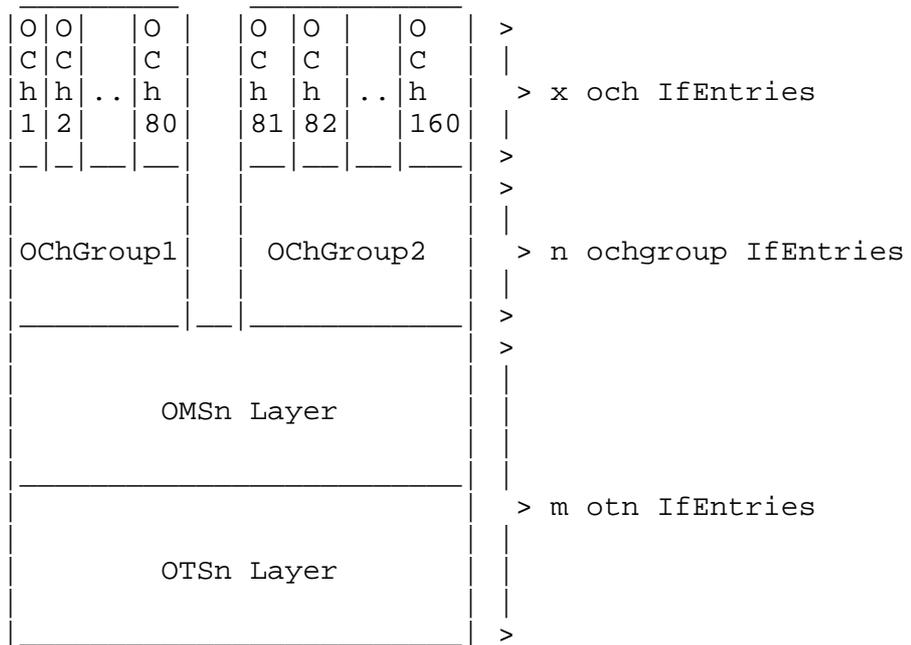
          Figure 2: OTN Layers for a Banded Configuration

   If an implementation does not wish to model the banded configuration,
   the OChGroup layer is absent and the OTN layering model degenerates
   to the description in Figure 1. In other words, when there is an
   amplifier that covers the whole band, the optIfOMSn objects should be
   used, rather than using the optIfOChGroup objects with a degenerate
   group that covers all channels.

   The design of the Optical Interface MIB provides the option to model
   an interface either as a single bidirectional object containing both
   sink and source functions or as a pair of unidirectional objects, one
   containing sink functions and the other containing source functions.

If the sink and source for a given protocol layer are to be modelled
as separate objects, then there need to be two ifTable entries, one
that corresponds to the sink and one that corresponds to the source,
where the directionality information is provided in the configuration
tables for that layer via the xxxDirectionality objects. The agent
is expected to maintain consistent directionality values between
ifStackTable layers (e.g., a sink must not be stacked in a 1:1 manner
on top of a source, or vice-versa), and all protocol layers that are
represented by a given ifTable entry are expected to have the same
directionality (i.e., instances of optIfOTSnDirectionality and
optIfOMSnDirectionality that correspond to a given ifIndex value must
have the same value, and instances of optIfOChDirectionality,
optIfOTUkDirectionality, and optIfODUkDirectionality that correspond
to a given ifIndex value must have the same value).

When separate ifTable entries are used for the source and sink
functions of a given physical interface, association between the two
uni-directional ifTable entries (one for the source function and the
other for the sink functions) should be provided. It is recommended
that identical ifName values are used for the two ifTable entries to
indicate such association. An implementation shall explicitly state
what mechanism is used to indicate the association, if ifName is not
used.

Example 1: Management of unterminated opticalChannel (och) using
           passive optics

   An OTN device connected with two adjacent nodes in a single fiber
   ring that supports 10 wavelengths per fiber would have 2
   opticalTransport IfEntries and 20 opticalChannel IfEntries, as
   depicted in Figure 3. Thus 10 opticalChannel IfEntries are
   stacked above the first opticalTransport IfEntry, and the other 10
   opticalChannel IfEntries are stacked above the second
   opticalTransport IfEntry. Note that the optical channels in this
   example are un-terminated, and thus no OTUk objects will be
   instantiated for these optical channels. The opticalChannel
   IfEntries of one otn may be dropped/added from/to the OTN device
   or cross-connected with the opticalChannel IfEntries of the other
   otn. Cross-connection from a member of the first 10
   opticalChannel IfEntries to a member of the second 10
   opticalChannel IfEntries could be modelled by using a cross-
   connect object, which is not yet defined in this version of the
   MIB.

```
 _____                          _____
|      |      |      |                        |      |      |      |
| och1 | ...  |och10 |                        |och11 | ...  |och20 |
|_____|_____|_____|                        |_____|_____|_____|
|                    |                        |                    |
|        otn1        |                        |        otn2        |
|_____|                        |_____|
                        _____
                       |            |
 _____  \|    OTN     |_____ \
                    /  |   device   |                    /
                       |_____|
```
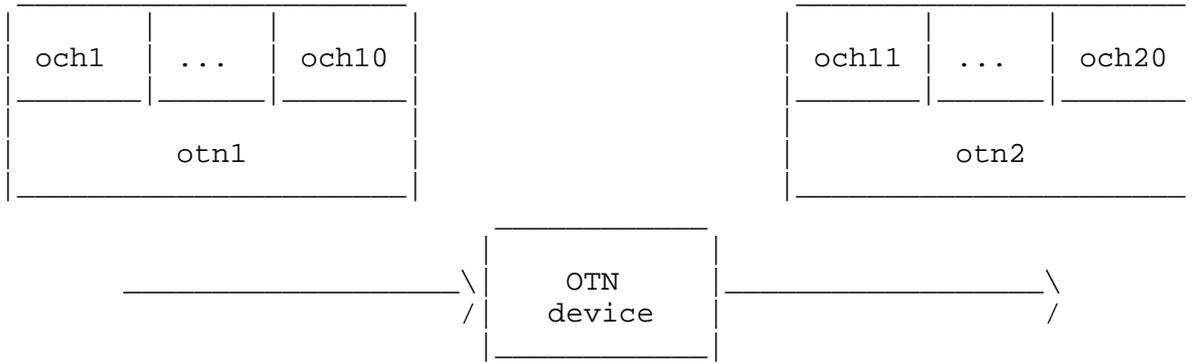
              Figure 3: Interface stacks when channels are unterminated

   Example 2: Management of terminated opticalChannel (och) interfaces

      An OTN device connected with two adjacent nodes in a single fiber
      ring that supports 10 wavelengths per fiber would have 2
      opticalTransport IfEntries and 20 opticalChannel IfEntries, as
      depicted in Figure 4. Thus 10 opticalChannel IfEntries are
      stacked above the first opticalTransport IfEntry, and the other 10
      opticalChannel IfEntries are stacked above the second
      opticalTransport IfEntry. As the optical channels in this example
      are terminated, OTUk objects and possibly ODUk objects will be
      instantiated for the terminated opticalChannel IfEntries.

```
 _____                          _____
|      |      |      |                        |      |      |      |
| och1 | ...  |och10 |                        |och11 | ...  |och20 |
|_____|_____|_____|                        |_____|_____|_____|
|                    |                        |                    |
|        otn1        |                        |        otn2        |
|_____|                        |_____|
                        _____
                       |            |
 _____  \|    OTN     |_____ \
                    /  |   device   |                    /
                       |_____|
```
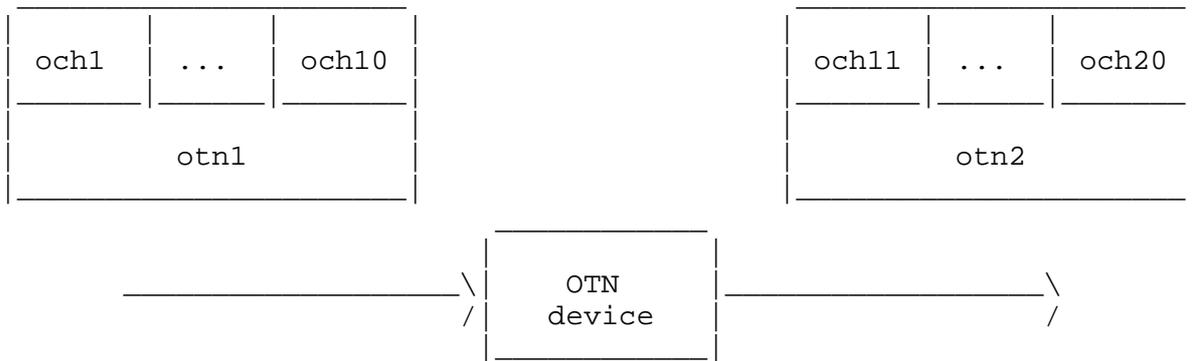
              Figure 4: Interface stacks when channels are terminated

   Note that the two examples described above depict the interface
   stacks when the banded configuration is not modeled.

   The exact configuration and multiplexing of the layers is maintained
   in the ifStackTable (RFC 2863) [RFC2863] and in the ifInvStackTable
   (RFC 2864) [RFC2864]; see section 2.5 for details.

2.2. Use of ifTable for OTN OTS/OMS Layer

   Only the ifGeneralInformationGroup needs to be supported.

   ifTable Object   Use for combined OTN OTS/OMS Layer
   ===
    ifIndex   The interface index.

    ifDescr   Optical Transport Network (OTN) Optical
                         Transmission Section (OTS)/Optical Multiplex
                         Section (OMS)

    ifType   opticalTransport (196)

    ifSpeed   Actual bandwidth of the interface in bits per
                         second. If the bandwidth of the interface is
                         greater than the maximum value of 4,294,967,295,
                         then the maximum value is reported and
                         ifHighSpeed must be used to report the
                         interface's speed.

    ifPhysAddress   An octet string with zero length. (There is
                         no specific address associated with the
                         interface.)

    ifAdminStatus   The desired administrative status of the
                         interface. Supports read-only access.

    ifOperStatus   The operational status of the interface. The
                         value lowerLayerDown(7) is not used, since
                         there is no lower layer interface. This object
                         is set to notPresent(6) if a component is
                         missing, otherwise it is set to down(2) if
                         either of the objects optIfOTSnCurrentStatus or
                         optIfOMSnCurrentStatus indicates that any
                         defect is present.

    ifLastChange   The value of sysUpTime at the last change in
                         ifOperStatus.

         ifName   Enterprise-specific convention (e.g., TL-1 AID)
                             to identify the physical or data entity
                             associated with this interface or an
                             OCTET STRING of zero length. The
                             enterprise-specific convention is intended to
                             provide the means to reference one or more
                             enterprise-specific tables.

         ifLinkUpDownTrapEnable Default value is enabled(1). Supports
                                 read-only access.

         ifHighSpeed   Actual bandwidth of the interface in Mega-bits
                             per second. A value of n represents a range of
                             'n-0.5' to 'n+0.499999'.

         ifConnectorPresent Set to true(1).

         ifAlias   The (non-volatile) alias name for this interface
                             as assigned by the network manager.

2.3. Use of ifTable for OTN OChGroup Layer

   Only the ifGeneralInformationGroup needs to be supported.

   ifTable Object   Use for OTN OChGroup Layer
   ===
    ifIndex   The interface index.

    ifDescr   Optical Transport Network (OTN) Optical
                        Channel Group (OChGroup)

    ifType   opticalChannelGroup(219)

    ifSpeed   Current bandwidth of the interface in bits per
                        second. If the bandwidth of the interface is
                        greater than the maximum value of 4,294,967,295,
                        then the maximum value is reported and
                        ifHighSpeed must be used to report the
                        interface's speed.

    ifPhysAddress   A string that specifies the range of wavelengths
                        in the format of w1-w2, where w1 and w2 are the
                        lower and upper end of the wavelength range,
                        both in ASCII decimal digits expressed in
                        nanometers (e.g., 1350-1650)

   ifAdminStatus   The desired administrative status of the
                        interface. Supports read-only access.

   ifOperStatus   The operational status of the interface. This
                        object is set to lowerLayerDown(7) if the
                        ifOperStatus of its otn interface is down(2).
                        Otherwise, it is set to down(2) if the
                        amplifier for this band is unable to carry
                        traffic.

   ifLastChange   The value of sysUpTime at the last change in
                        ifOperStatus.

   ifName   Enterprise-specific convention (e.g., TL-1 AID)
                        to identify the physical or data entity
                        associated with this interface or an
                        OCTET STRING of zero length. The
                        enterprise-specific convention is
                        intended to provide the means to reference one
                        or more enterprise-specific tables.

   ifLinkUpDownTrapEnable Default value is disabled(2). Supports
                           read-only access.

   ifHighSpeed   Current bandwidth of the interface in Mega-bits
                        per second. A value of n represents a range of
                        'n-0.5' to 'n+0.499999'.

   ifConnectorPresent Set to false(2).

   ifAlias   The (non-volatile) alias name for this interface
                        as assigned by the network manager.

2.4. Use of ifTable for OTN OCh Layer

   Only the ifGeneralInformationGroup needs to be supported.

   ifTable Object   Use for OTN OCh Layer
   ===
   ifIndex   The interface index.

   ifDescr   Optical Transport Network (OTN) Optical
                        Channel (OCh)

   ifType   opticalChannel(195)

ifSpeed   Current bandwidth of the interface in bits per
                         second. If the bandwidth of the interface is
                         greater than the maximum value of 4,294,967,295,
                         then the maximum value is reported and
                         ifHighSpeed must be used to report the
                         interface's speed.

ifPhysAddress   A string of ASCII decimal digits containing the
                         wavelength of the optical channel, expressed
                         in nanometers (e.g., 1550).

ifAdminStatus   The desired administrative status of the
                         interface. Supports read-only access.

ifOperStatus   The operational status of the interface. This
                         object is set to lowerLayerDown(7) if the
                         ifOperStatus of its otn interface or of its
                         OChGroup interface is down(2).
                         Otherwise, it is set to down(2) if one or more
                         of the objects optIfOChCurrentStatus,
                         optIfOTUkCurrentStatus, optIfODUkTCurrentStatus,
                         and optIfODUkTtpCurrentStatus indicates
                         that any defect is present.

ifLastChange   The value of sysUpTime at the last change in
                         ifOperStatus.

ifName   Enterprise-specific convention (e.g., TL-1 AID)
                         to identify the physical or data entity
                         associated with this interface or an
                         OCTET STRING of zero length. The
                         enterprise-specific convention is
                         intended to provide the means to reference one
                         or more enterprise-specific tables.

ifLinkUpDownTrapEnable   Default value is disabled(2). Supports
                            read-only access.

ifHighSpeed   Current bandwidth of the interface in Mega-bits
                         per second. A value of n represents a range of
                         'n-0.5' to 'n+0.499999'.

ifConnectorPresent Set to false(2).

ifAlias   The (non-volatile) alias name for this interface
                         as assigned by the network manager.

2.5. Use of ifStackTable

   Use of the ifStackTable and ifInvStackTable to associate the
   opticalTransport and opticalChannel interface entries is best
   illustrated by the example shown in Figure 5. The example assumes an
   otn interface with ifIndex i that carries two multiplexed och
   interfaces with ifIndex values of j and k, respectively. The example
   shows that j and k are stacked above (i.e., multiplexed into) i.
   Furthermore, it shows that there is no layer lower than i and no
   layer higher than j and/or k.

                    HigherLayer   LowerLayer
                    ----
                        0   j
                        0   k
                        j   i
                        k   i
                        i   0

             Figure 5: Use of ifStackTable for an OTN port

   Figure 6 illustrates an example for a banded configuration. The
   example assumes an otn interface with ifIndex i that carries two
   multiplexed och groups with ifIndex values u and v. An och group
   with ifIndex value u combines two och interfaces with ifIndex values
   of a and b. An och group with ifIndex value v combines two och
   interfaces with ifIndex values of c and d. The example show that a
   and b are stacked above (i.e., multiplexed into) u. Likewise, c and
   d are stacked above v. u and v are multiplexed into i. Furthermore,
   it shows that there is no layer lower than i and no layer higher than
   a, b, c, and/or d. It also shows that u has a and b as its higher
   layers, and v has c and d as its higher layers.

                    HigherLayer   LowerLayer
                    ----
                        0   a
                        0   b
                        0   c
                        0   d
                        a   u
                        b   u
                        c   v
                        d   v
                        u   i
                        v   i
                        i   0

Figure 6: Use of ifStackTable for an OTN port for a banded configuration

For the inverse stack table, it provides the same information as the
interface stack table, with the order of the Higher and Lower layer
interfaces reversed.

2.6. Optical Network Terminology

The terminology used in this document to describe the layers of an
optical network and the error conditions and performance monitoring
parameters on an optical circuit as monitored by an optical system is
listed below. These terms are defined in ITU-T Recommendations G.872
[ITU-T G.872], G.709 [ITU-T G.709], G.798 [ITU-T G.798], G.874 [ITU-T
G.874], G.874.1 [ITU-T G.874.1], and G.806 [ITU-T G.806]. Brief
definitions of some terms are also included here to facilitate the
readability of this document.

Degraded Threshold (DEGTHR) - G.806
     A threshold level for declaring a performance monitoring (PM)
     Second (a time period of one second) to be bad. A PM Second is
     declared bad if the percentage of detected errored blocks in
     that second or the number of errored blocks in that Second is
     greater than or equal to DEGTHR.

DEGM - G.806
     A threshold level for declaring a Degraded Signal defect
     (dDEG). A dDEG shall be declared if DEGM consecutive bad PM
     Seconds are detected.

Expected Destination Access Point Identifier (ExDAPI) - G.798
     The Expected Destination Access Point Identifier (ExDAPI),
     provisioned by the managing system, to be compared with the TTI
     accepted at the overhead position of the sink for the purpose
     of checking the integrity of connectivity.

Expected Source Access Point Identifier (ExSAPI) - G.798
     The Expected Source Access Point Identifier (ExSAPI),
     provisioned by the managing system, to be compared with the TTI
     accepted at the overhead position of the sink for the purpose
     of checking the integrity of connectivity.

Inter-Domain Interface (IrDI) - G.872
     A physical interface that represents the boundary between two
     administrative domains.

     G.709 defines the requirements for the IrDI at the Network Node
     Interface (NNI).

Intra-Domain Interface (IaDI) - G.872
     A physical interface within an administrative domain.

     Optical Channel Layer Network (OCh) - G.872
          This layer network provides end-to-end networking of optical
          channels for transparently conveying client information of
          varying format (e.g., SDH STM-N, PDH 565 Mbit/s, cell based
          ATM, etc.).

     Optical Channel Data Unit Path Layer Network (ODUk) - G.709/Y.1331
          This layer network provides functionality for the transport of
          information structure consisting of the information payload
          (OPUk) and the related overhead for management of an optical
          channel.

     Optical Channel Data Unit Tandem Connection Sub-Layer Network (ODUkT)
     - G.709/Y.1331
          This layer network is a sub-layer of the optical data unit
          layer, which provides the capability for tandem connection
          monitoring. One to six nested levels of monitoring are defined
          for OTN.

     Optical Channel Payload Unit (OPUk) - G.709/Y.1331
          The OPUk is the information structure used to adapt client
          information for transport over an optical channel. OPUk
          capacities for k=1, k=2, k=3 are defined in ITU-T. The index
          "k" is used to represent different versions of OPUk, ODUk and
          OTUk. k=1 represents an approximate bit rate of 2.5 Gbit/s,
          k=2 represents an approximate bit rate of 10 Gbit/s, and k=3
          represents an approximate bit rate of 40 Gbit/s.

     Optical Multiplex Section Layer Network (OMS) - G.872
          This layer network provides functionality for networking of a
          multi-wavelength optical signal. Note that a "multi-
          wavelength" signal includes the case of just one optical
          channel.

     Optical Transport Module (OTM-n[r].m) - G.872
          The OTM is the information structure that is transported across
          an ONNI. The index n and m define the number of supported
          wavelengths and bit rates at the interface.

          Two OTM structures are defined: OTM with full functionality
          (OTM-n.m) and OTM with reduced functionality (OTM-0.m & OTM-
          nr.m).

          The OTM-n.m consists of up to n multiplexed optical channels
          and an OTM overhead signal to support the non-associated
          overhead. The OTM-0 consists of a single optical channel

               without a specific color assigned. The OTM-nr.m consists of up
               to n multiplexed optical channels. Non associated overhead is
               not supported.

     Optical Transport Network (OTN) - G.872
               A transport network bounded by optical channel access points.
               The optical transport network layered structure is comprised of
               the optical channel, optical multiplex section and optical
               transmission section layer networks.

               According to G.872, an OTN-compliant interface is an interface
               of the optical transport network based on the architecture
               defined in G.872, while an OTN-non-compliant interface is an
               interface that does not comply with the interface
               recommendations that will be defined for the optical transport
               network based on the architecture defined in G.872.

     Optical Transmission Section Layer Network (OTS) - G.872
               This layer network provides functionality for transmission of
               optical signals on optical media of various types.

     Optical Channel Transport Unit Section Layer Network (OTUk) - G.709
               The OTUk is the layer network that provides for the transport
               of an ODUk over one or more optical channel link connections.
               It consists of the optical channel data unit and OTUk related
               overhead (FEC and overhead for management of an optical channel
               link connection). It is characterized by its frame structure,
               bit rate, and bandwidth.

     Payload Type Mismatch (PLM)
               The detection of a mismatch of payload type is based on a
               comparison between the expected Payload Type signal,
               provisioned via the management interface, and the received
               Payload Type signal.

     Trail Trace Identifier Transmitted (TxTI) - G.798
               The Trail Trace Identifier (TTI) information, provisioned by
               the managing system, to be placed in the TTI overhead position
               of the source of a trail for transmission.

     Trail Trace Identifier Accepted (AcTI) - G.798
               The Trail Trace Identifier (TTI) information accepted from the
               TTI overhead position at the sink of a trail.

     Trail Trace Identifier Accepted Status (AcTIStatus) - G.798
               The Status of the Trail Trace Identifier (TTI) accepted from
               the TTI overhead position at the sink of a trail.

Trace Identifier Mismatch (TIM) - G.798
        The detection of TIM is based on a comparison between the
        expected Trial Trace Identifier (TTI), configured via the
        management interface, and the received TTI.

Trace Identifier Mismatch Consequent Action Enabled (TimActEnabled) -
G.798
        The Consequent Action function of TIM is disabled.

Trace Identifier Mismatch Detection Mode (TimDetMode) - G.798
        The mode of detecting Trace Identifier Mismatch (TIM).
        Possible modes are:

        (1) off - no checking,
        (2) SAPI - checking the SAPI only,
        (3) DAPI - checking the DAPI only, and
        (4) Both - checking both the SAPI and DAPI.

2.6.1. Defect Conditions

    The following Defect conditions are defined in G.798 (as fault cause)
    for OTN monitoring.

    ais   Alarm Indication Signal (AIS)
    bdi   Backward Defect Indication (BDI)
    bdiO   Backward Defect Indication - Overhead (BDI-O)
    bdiP   Backward Defect Indication - Payload (BDI-P)
    deg   Degraded (DEG)
    lck   Locked (LCK)
    lof   Loss of Frame (LOF)
    lom   Loss of Multi Frame
    los   Loss of Signal (LOS)
    losO   Loss of Signal - Overhead (LOS-O)
    losP   Loss of Signal - Payload (LOS-P)
    oci   Open Connection Indication (OCI)
    plm   Payload Mismatch (PLM)
    ssf   Server Signal Failure (SSF)
    ssfO   Server Signal Failure - Overhead (SSF-O)
    ssfP   Server Signal Failure - Payload (SSF-P)
    tim   Trace Identifier Mismatch (TIM)

    The relationship of these conditions within a network layer and
    between layers are described in G.798 [ITU-T G.798].

2.6.2. Performance Parameters

   To facilitate identification of equipment and facilities that may
   require maintenance, it is necessary to monitor parameters such as
   optical power at each layer. The measurements are taken
   periodically, and a snapshot of the current value is also made
   available. More specifically, performance parameters at each layer
   are maintained for the current 15-minute interval, the current 24-
   hour interval, N previous 15-minute intervals where 4 <= N <= 96, and
   one previous 24-hour interval.

   Note that some of the previous interval data will be unavailable if
   the agent has restarted within the last 24 hours.

   There is no requirement for an agent to ensure a fixed relationship
   between the start of a 15-minute or 24-hour interval and any wall
   clock; however, some agents may align the 15-minute intervals with
   quarter hours and may align the 24-hour intervals with a particular
   hour of the day (e.g., 00:00 UTC).

   Note that some DWDM systems may also monitor the laser temperature of
   the equipment in addition to monitoring the optical power. However,
   industry opinions vary widely with respect to laser temperature
   monitoring, in particular regarding the benefit of the monitoring and
   which temperatures are to be monitored (i.e., all or only some of the
   pump lasers). Similarly, there are varying opinions regarding mid-
   stage power monitoring. Since no consensus was reached, it was
   decided that the laser temperature monitoring and mid-stage
   monitoring would not be standardized in the MIB. If an
   implementation would like to monitor these parameters, one could use
   a proprietary MIB or the ENTITY-SENSOR-MIB [RFC3433] to capture this
   information.

The sink-side monitoring points for the various layers are shown in
Figure 7 below.

```
   OCh sink pre-OTN PM params
         |
         |        OChGroup sink pre-OTN params
         |              |
         |              |              OMSn sink pre-OTN PM params
         |              |                     |
         |              |                     |        OTSn sink pre-OTN PM params
         |              |                     |                |
         V              V                     V                V
                                                              /|
   ___/|___/|                        /|                      / |
      \| .   / |_____/ |_____  /  |____
       .    \ |                    \ |                       \  |
   ___/|___\|                 ___/   \|                   ___\  |
      \|    C-Band           |    Demux                  |    \|
                             |                           |
                             |                          OSC
   ___/|___/|                |
      \| .   / |_____|
       .    \ |
   ___/|___\|
      \|    L-Band

 optical       optical              optical         OSC Drop Filter
 rcvr (O/E)    demux                demux

     OCh       OChGroup              OMSn                    OTSn
```
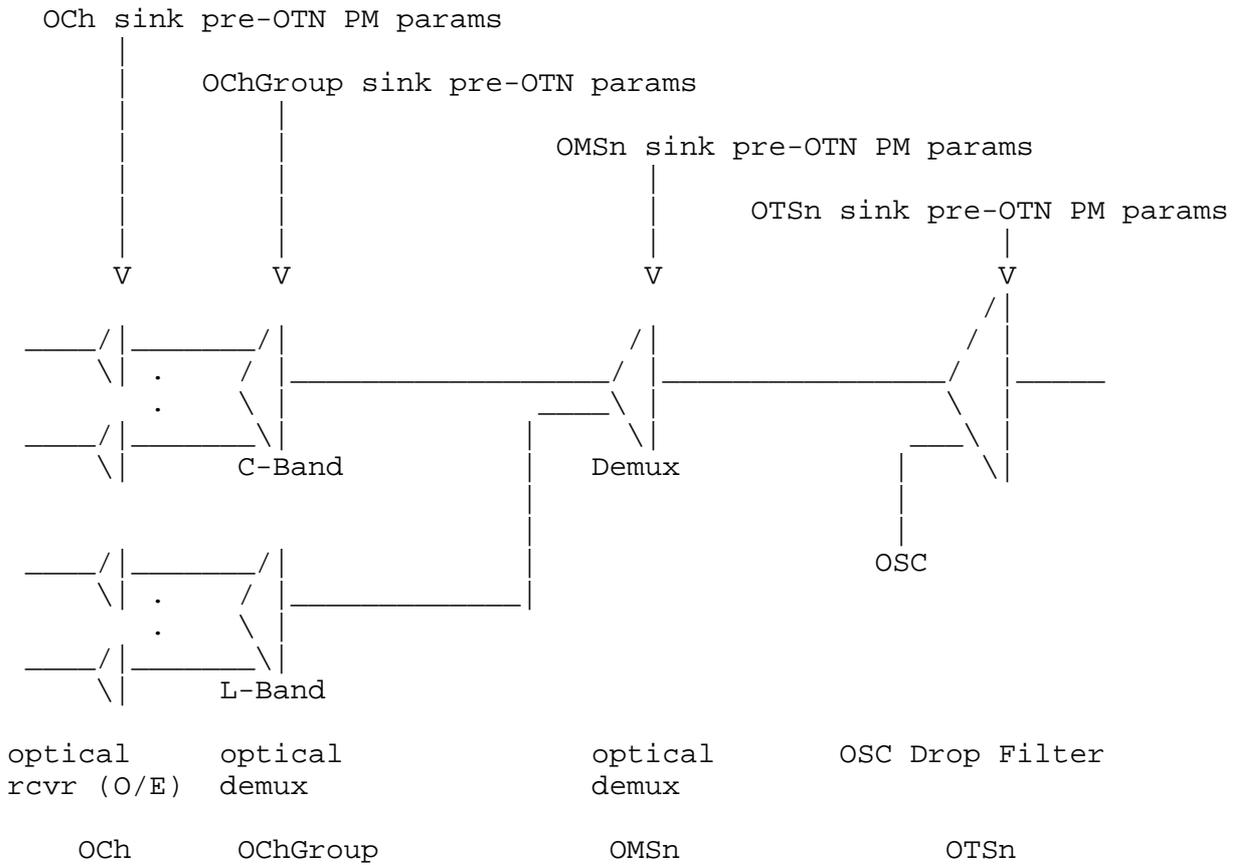
              Figure 7: Sink-side pre-OTN monitoring points

The source-side monitoring points for the various layers are shown in
Figure 8 below.

```
OCh src pre-OTN PM params
    |
    |         OChGroup src pre-OTN PM params
    |             |
    |             |         OMSn src pre-OTN PM params
    |             |             |
    |             |             |         OTSn src pre-OTN PM params
    |             |             |             |
    V             V             V             V
                                             |\
   ___|_____|\              |\            | \
   |/    .  | _____| _____|  _____
          .  | /             ___| /          | /
       ----|/               |   |/       __| /
        C-Band MUX          |   Mux      |  |/
                            |            |
                            |            OSC
   ___|_____|\           |
   |/    .  | _____|
          .  | /
       ----|/
        L-Band MUX

    optical   optical              optical      OSC Add Filter
    xmtr      mux                  mux
    (E/O)

     OCh      OChGroup             OMSn             OTSn
```
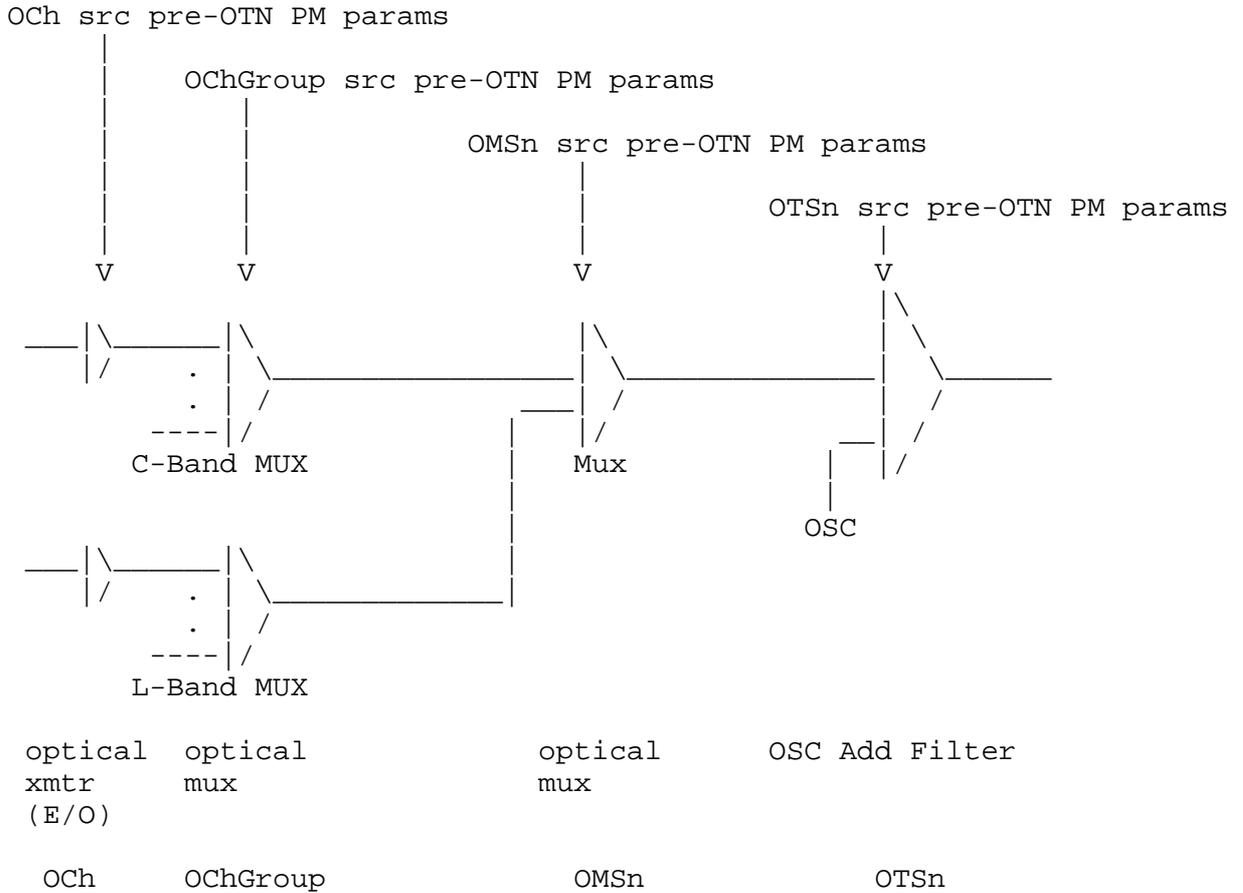
              Figure 8: Source-side pre-OTN monitoring points

Note that optical performance parameters are of type Integer32,
rather than Counter32 or Gauge32, because it is possible for these
objects to increase or decrease and to assume negative or positive
values.

2.7. Tandem Connection Monitoring (TCM)

   An ODUk termination can be provisioned to support (0..6) TCM levels.
   Each TCM field contains the following subfields:

      - Trail Trace Identifier (TTI)
      - Bit Interleaved Parity 8 (BIP8)
      - Backward Defect Indication (BDI)
      - Backward Error Indication (BEI)
      - Status bits indicating the presence of TCM overhead, Incoming
         AlignmentError, or a maintenance signal (STAT).

   The insertion of these subfields is controlled by:

      - optIfODUkTSourceMode or otnODUkTsinkMode

   The detection and corresponding action of these subfields are
   controlled by:

      - optIfODUkTTimDetMode
      - optIfODUkTTimActEnabled

   The TCM connection is used for monitoring the quality of an end to
   end connection or any segment, as illustrated in the example:

      TCM1 used for the end-to-end connection from A1 to A2.
      TCM2 used for segment B1-B2, then used again for segment B3-B4.
      TCM3-TCM6 these bytes are not in used in this example.

   The TCM connection can be nested (B1-B2 is nested in A1-A2) or
   cascaded (B1-B2 and B3-B4).

```
        _____          _____          _____         _____         _____
       |TCM6|          |TCM6|          |TCM6|         |TCM6|         |TCM6|
       |----|          |----|          |----|         |----|         |----|
       |TCM5|          |TCM5|          |TCM5|         |TCM5|         |TCM5|
       |----|          |----|          |----|         |----|         |----|
       |TCM4|          |TCM4|          |TCM4|         |TCM4|         |TCM4|
       |----|          |----|          |----|         |----|         |----|
       |TCM3|          |TCM3|          |TCM3|         |TCM3|         |TCM3|
       |----|          |----|          |----|         |----|         |----|
       |TCM2|          |TCM2|          |TCM2|         |TCM2|         |TCM2|
       |----|          |----|          |----|         |----|         |----|
       |TCM1|          |TCM1|          |TCM1|         |TCM1|         |TCM1|
       |----|          |----|          |----|         |----|         |----|
         |               |               |              |              |
         |               |               |              |              |
         |               |               |              |              |
         |               |               |              |              |
         |               |               |              |              |
       |\              |\              /|             |\           /|           /|
 ----> | _____     | _____/ |_____ | \____    /  |_____  / | ---->
       | /           | /        \ |          | /     \  |       \ |
       |/            |/          \|          |/       \|         \|
```

   TCM1: A1 <--> A2
   TCM2:   B1 <-----> B2   B3 <-----> B4
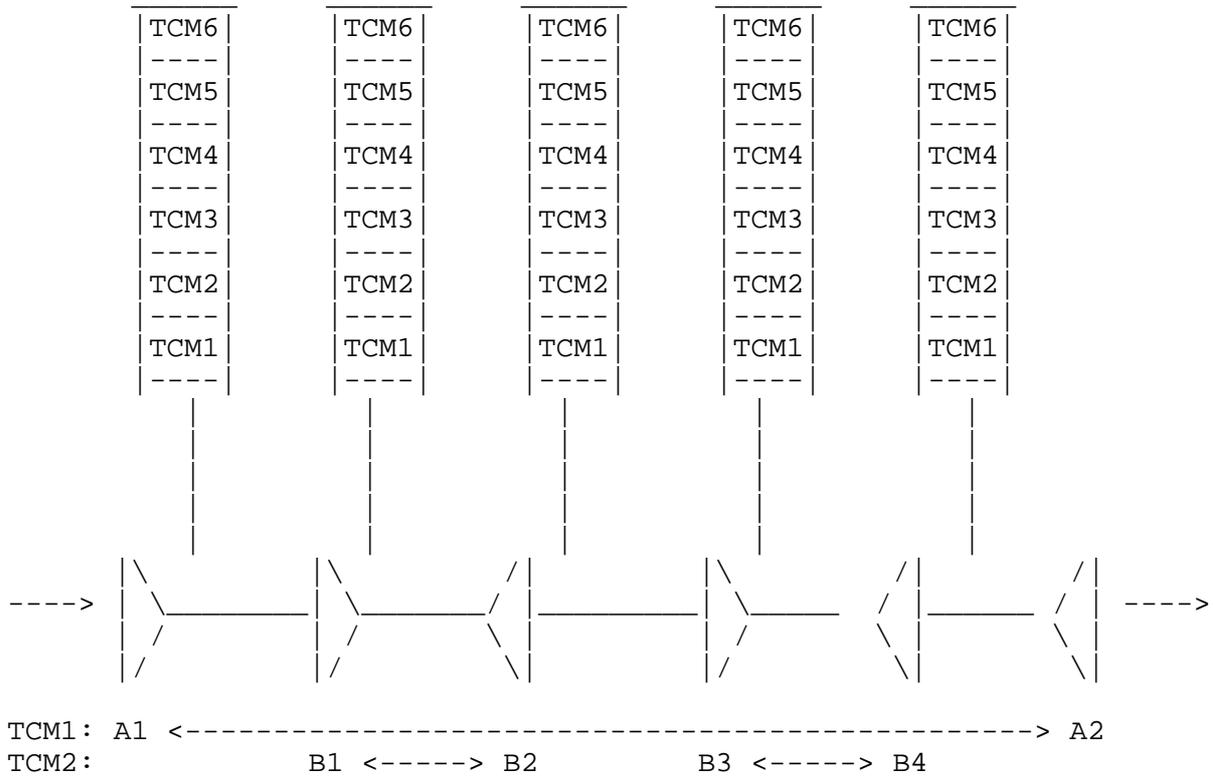
3. Structure of the MIB

   The managed Optical Networking interface objects are arranged into
   the following groups of tables:

   The optIfOTMn group handles the OTM information structure of an
   optical interface.

       optIfOTMnTable

   The optIfPerfMon group handles the current 15-minute and 24-hour
   interval elapsed time, as well as the number of 15-minute intervals
   for all layers.

       optIfPerfMonIntervalTable

The optIfOTSn groups handle the configuration and performance
monitoring information for OTS layers.

    optIfOTSnConfigTable
    optIfOTSnSinkCurrentTable
    optIfOTSnSinkIntervalTable
    optIfOTSnSinkCurDayTable
    optIfOTSnSinkPrevDayTable
    optIfOTSnSrcCurrentTable
    optIfOTSnSrcIntervalTable
    optIfOTSnSrcCurDayTable
    optIfOTSnSrcPrevDayTable

The optIfOMSn groups handle the configuration and performance
information for OMS layers.

    optIfOMSnConfigTable
    optIfOMSnSinkCurrentTable
    optIfOMSnSinkIntervalTable
    optIfOMSnSinkCurDayTable
    optIfOMSnSinkPrevDayTable
    optIfOMSnSrcCurrentTable
    optIfOMSnSrcIntervalTable
    optIfOMSnSrcCurDayTable
    optIfOMSnSrcPrevDayTable

The optIfOChGroup groups handle the configuration and performance
information for OChGroup layers.

    optIfOChGroupConfigTable
    optIfOChGroupSinkCurrentTable
    optIfOChGroupSinkIntervalTable
    optIfOChGroupSinkCurDayTable
    optIfOChGroupSinkPrevDayTable
    optIfOChGroupSrcCurrentTable
    optIfOChGroupSrcIntervalTable
    optIfOChGroupSrcCurDayTable
    optIfOChGroupSrcPrevDayTable

The optIfOCh groups handle the configuration and performance
monitoring information for OCh layers.

    optIfOChConfigTable
    optIfOChSinkCurrentTable
    optIfOChSinkIntervalTable
    optIfOChSinkCurDayTable
    optIfOChSinkPrevDayTable
    optIfOChSrcCurrentTable
    optIfOChSrcIntervalTable
    optIfOChSrcCurDayTable
    optIfOChSrcPrevDayTable

The optIfOTUk groups handle configuration information for OTUk.

    optIfOTUkConfigTable
    optIfGCC0ConfigTable

The optIfODUk groups handle configuration information for ODUk.

    optIfODUkConfigTable
    optIfODUkTtpConfigTable
    optIfODUkPositionSeqTable
    optIfODUkNimConfigTable
    optIfGCC12ConfigTable

The optIfODUkT groups handle configuration information for ODUkT.

    optIfODUkTConfigTable
    optIfODUkTNimConfigTable

This memo does not define MIB objects for optical system cross-
connects. After a consensus is reached on definitions of the
interface MIB objects for optical systems (resulting from resolution
of discussions on the objects proposed in this memo), work can
progress on the definitions of tables to represent cross-connects
(e.g., OCh optical cross-connects and ODUk electrical cross-
connects).

3.1. The optIfOTMn group

3.1.1. optIfOTMnTable

This table contains the OTM structure information of an optical
interface.

3.2. The optIfPerfMon group

3.2.1. optIf Performance Monitoring Interval Table

   This table applies to all performance monitoring on an NE. It
   records on a per-interface basis the elapsed time in the current 15-
   minute and 24-hour interval, as well as the total number of 15-minute
   intervals and the number of invalid 15-minute intervals.

3.3. The optIfOTSn groups

3.3.1. optIfOTSn Configuration group

3.3.1.1. optIfOTSn Configuration Table

   This table contains information on configuration of optIfOTSn
   interfaces, in addition to the information on such interfaces
   contained in the ifTable.

3.3.2. optIfOTSn Pre-OTN PM group

3.3.2.1. optIfOTSn Source Current Table

   This table contains information on current performance of optIfOTSn
   interfaces contained in the ifTable.

3.3.2.2. optIfOTSn Source Interval Table

   This table contains information on historic performance of optIfOTSn
   interfaces contained in the ifTable.

3.3.2.3. optIfOTSn Source Current Day Table

   This table contains a snapshot of information for the current 24-hour
   period for optIfOTSn interfaces contained in the ifTable.

3.3.2.4. optIfOTSn Source Previous Day Table

   This table contains a snapshot of information for the previous 24-
   hour period for optIfOTSn interfaces contained in the ifTable.

3.3.2.5. optIfOTSn Sink Current Table

   This table contains information on current performance of optIfOTSn
   interfaces contained in the ifTable.

3.3.2.6. optIfOTSn Sink Interval Table

   This table contains information on historic performance of optIfOTSn
   interfaces contained in the ifTable.

3.3.2.7. optIfOTSn Sink Current Day Table

   This table contains a snapshot of information for the current 24-hour
   period for optIfOTSn interfaces contained in the ifTable.

3.3.2.8. optIfOTSn Sink Previous Day Table

   This table contains a snapshot of information for the previous 24-
   hour period for optIfOTSn interfaces contained in the ifTable.

3.4.   The optIfOMSn groups

3.4.1. optIfOMSn Configuration group

3.4.1.1. optIfOMSn Configuration Table

   This table contains information on configuration of optIfOMSn
   interfaces, in addition to the information on such interfaces
   contained in the ifTable.

3.4.2. optIfOMSn Pre-OTN PM group

3.4.2.1. optIfOMSn Source Current Table

   This table contains information on current performance of optIfOMSn
   interfaces contained in the ifTable.

3.4.2.2. optIfOMSn Source Interval Table

   This table contains information on historic performance of optIfOMSn
   interfaces contained in the ifTable.

3.4.2.3. optIfOMSn Source Current Day Table

   This table contains a snapshot of information for the current 24-hour
   period for optIfOMSn interfaces contained in the ifTable.

3.4.2.4. optIfOMSn Source Previous Day Table

   This table contains a snapshot of information for the previous 24-
   hour period for optIfOMSn interfaces contained in the ifTable.

3.4.2.5. optIfOMSn Sink Current Table

   This table contains information on current performance of optIfOMSn
   interfaces contained in the ifTable.

3.4.2.6. optIfOMSn Sink Interval Table

   This table contains information on historic performance of optIfOMSn
   interfaces contained in the ifTable.

3.4.2.7. optIfOMSn Sink Current Day Table

   This table contains a snapshot of information for the current 24-hour
   period for optIfOMSn interfaces contained in the ifTable.

3.4.2.8. optIfOMSn Sink Previous Day Table

   This table contains a snapshot of information for the previous 24-
   hour period for optIfOMSn interfaces contained in the ifTable.

3.5.   The optIfOChGroup groups

3.5.1. optIfOChGroup Configuration group

3.5.1.1. optIfOChGroup Configuration Table

   This table contains information on configuration of optIfOChGroup
   interfaces, in addition to the information on such interfaces
   contained in the ifTable.

3.5.2. optIfOChGroup Pre-OTN PM group

3.5.2.1. optIfOChGroup Source Current Table

   This table contains information on current performance of
   optIfOChGroup interfaces contained in the ifTable.

3.5.2.2. optIfOChGroup Source Interval Table

   This table contains information on historic performance of
   optIfOChGroup interfaces contained in the ifTable.

3.5.2.3. optIfOChGroup Source Current Day Table

   This table contains a snapshot of information for the current 24-hour
   period for optIfOChGroup interfaces contained in the ifTable.

3.5.2.4. optIfOChGroup Source Previous Day Table

   This table contains a snapshot of information for the previous 24-
   hour period for optIfOChGroup interfaces contained in the ifTable.

3.5.2.5. optIfOChGroup Sink Current Table

   This table contains information on current performance of
   optIfOChGroup interfaces contained in the ifTable.

3.5.2.6. optIfOChGroup Sink Interval Table

   This table contains information on historic performance of
   optIfOChGroup interfaces contained in the ifTable.

3.5.2.7. optIfOChGroup Sink Current Day Table

   This table contains a snapshot of information for the current 24-hour
   period for optIfOChGroup interfaces contained in the ifTable.

3.5.2.8. optIfOChGroup Sink Previous Day Table

   This table contains a snapshot of information for the previous 24-
   hour period for optIfOChGroup interfaces contained in the ifTable.

3.6.   The optIfOCh groups

3.6.1. optIfOCh Configuration group

3.6.1.1. optIfOCh Configuration Table

   This table contains information on configuration of optIfOCh
   interfaces, in addition to the information on such interfaces
   contained in the ifTable.

3.6.2. optIfOCh Pre-OTN PM group

3.6.2.1. optIfOCh Source Current Table

   This table contains information on current performance of optIfOCh
   interfaces contained in the ifTable.

3.6.2.2. optIfOCh Source Interval Table

   This table contains information on historic performance of optIfOCh
   interfaces contained in the ifTable.

3.6.2.3. optIfOCh Source Current Day Table

   This table contains a snapshot of information for the current 24-hour
   period for optIfOCh interfaces contained in the ifTable.

3.6.2.4. optIfOCh Source Previous Day Table

   This table contains a snapshot of information for the previous 24-
   hour period for optIfOCh interfaces contained in the ifTable.

3.6.2.5. optIfOCh Sink Current Table

   This table contains information on current performance of optIfOCh
   interfaces contained in the ifTable.

3.6.2.6. optIfOCh Sink Interval Table

   This table contains information on historic performance of optIfOCh
   interfaces contained in the ifTable.

3.6.2.7. optIfOCh Sink Current Day Table

   This table contains a snapshot of information for the current 24-hour
   period for optIfOCh interfaces contained in the ifTable.

3.6.2.8. optIfOCh Sink Previous Day Table

   This table contains a snapshot of information for the previous 24-
   hour period for optIfOCh interfaces contained in the ifTable.

3.7.   The optIfOTUk groups

3.7.1. optIfOTUk Configuration group

3.7.1.1. optIfOTUk Configuration Table

   This table contains information on configuration of optIfOTUk
   interfaces, in addition to the information on such interfaces
   contained in the ifTable.

3.7.2. optIfGCC0 Configuration group

3.7.2.1. optIfGCC0 Configuration Table

   This table contains information on configuration of the GCC0
   communication channel.

3.8. The optIfODUk groups

3.8.1. optIfODUk Configuration group

3.8.1.1. optIfODUk Configuration Table

   This table contains all the objects that are common to endpoints
   (called trail termination points or TTPs) and connection termination
   points (CTPs), and also includes a flag stating whether TTP functions
   are present.

3.8.2. optIfODUkTtp Configuration group

3.8.2.1. optIfODUkTtp Configuration Table

   This table contains TTP-specific information on configuration of
   optIfODUk interfaces, in addition to the information on such
   interfaces contained in the ifTable.

3.8.3. optIfODUk Position Seq group

3.8.3.1. optIfODUk Position Seq Table

   This table contains information on the position sequence of the TCM
   function and/or GCC12 access that have been created within the
   optIfODUk interfaces, in addition to the information on such
   interfaces contained in the ifTable.

3.8.4. optIfODUk Nim Configuration group

3.8.4.1. optIfODUk Nim Configuration Table

   This table contains information on configuration of optIfODUk Non-
   intrusive monitoring.

3.8.5. optIfGCC12 Configuration group

3.8.5.1. optIfGCC12 Configuration Table

   This table contains information on configuration of the GCC1 and GCC2
   communication channels.

3.9. The optIfODUkT groups

3.9.1. optIfODUkT Configuration group

3.9.1.1. optIfODUkT Configuration Table

   This table contains information on configuration of optIfODUkT
   interfaces, in addition to the information on such interfaces
   contained in the ifTable.

3.9.2. optIfODUkT Nim Configuration group

3.9.2.1. optIfODUkT Nim Configuration Table

   This table contains information on configuration of optIfODUkT Non-
   intrusive monitoring.

4. Object Definitions

OPT-IF-MIB DEFINITIONS ::= BEGIN

IMPORTS
    MODULE-IDENTITY, OBJECT-TYPE, Gauge32, Integer32,
      Unsigned32, transmission
          FROM SNMPv2-SMI
    TEXTUAL-CONVENTION, RowPointer, RowStatus, TruthValue
          FROM SNMPv2-TC
    SnmpAdminString
          FROM SNMP-FRAMEWORK-MIB
    MODULE-COMPLIANCE, OBJECT-GROUP
          FROM SNMPv2-CONF
    ifIndex
          FROM IF-MIB;

-- This is the MIB module for the OTN Interface objects.

optIfMibModule MODULE-IDENTITY
    LAST-UPDATED "200308130000Z"
    ORGANIZATION "IETF AToM MIB Working Group"
    CONTACT-INFO
       "WG charter:
          http://www.ietf.org/html.charters/atommib-charter.html

        Mailing Lists:
           General Discussion: atommib@research.telcordia.com
           To Subscribe: atommib-request@research.telcordia.com

```
         Editor: Hing-Kam Lam
         Postal: Lucent Technologies, Room 4C-616
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                 Holmdel, NJ 07733
            Tel: +1 732 949 8338
          Email: hklam@lucent.com"
      DESCRIPTION
         "The MIB module to describe pre-OTN and OTN interfaces.

          Copyright (C) The Internet Society (2003).  This version
          of this MIB module is part of RFC 3591;  see the RFC
          itself for full legal notices."
      REVISION   "200308130000Z"
      DESCRIPTION
         "Initial version, published as RFC 3591."
      ::={ transmission 133 }

-- textual conventions

OptIfAcTI ::= TEXTUAL-CONVENTION
  STATUS  current
  DESCRIPTION
    "The trace identifier (TI) accepted at the receiver."
  SYNTAX  OCTET STRING (SIZE(64))

OptIfBitRateK ::= TEXTUAL-CONVENTION
  STATUS  current
  DESCRIPTION
    "Indicates the index 'k' that is used to
     represent a supported bit rate and the different
     versions of OPUk, ODUk and OTUk.
     Allowed values of k are defined in ITU-T G.709.
     Currently allowed values in G.709 are:
         k=1 represents an approximate bit rate of 2.5 Gbit/s,
         k=2 represents an approximate bit rate of 10 Gbit/s,
         k=3 represents an approximate bit rate of 40 Gbit/s."
  SYNTAX  Integer32

OptIfDEGM ::= TEXTUAL-CONVENTION
  STATUS  current
  DESCRIPTION
    "Indicates the threshold level for declaring a Degraded Signal
     defect (dDEG).  A dDEG shall be declared if OptIfDEGM
     consecutive bad PM Seconds are detected."
  SYNTAX  Unsigned32 (2..10)
```

OptIfDEGThr ::= TEXTUAL-CONVENTION
  STATUS current
  DESCRIPTION
    "Indicates the threshold level for declaring a performance
     monitoring (PM) Second to be bad. A PM Second is declared bad if
     the percentage of detected errored blocks in that second is
     greater than or equal to OptIfDEGThr."
  SYNTAX Unsigned32 (1..100)

OptIfDirectionality ::= TEXTUAL-CONVENTION
  STATUS current
  DESCRIPTION
    "Indicates the directionality of an entity."
  SYNTAX INTEGER {
    sink(1),
    source(2),
    bidirectional(3)
    }

OptIfSinkOrSource ::= TEXTUAL-CONVENTION
  STATUS current
  DESCRIPTION
    "Indicates the directionality of an entity
     that is allowed only to be a source or sink."
  SYNTAX INTEGER {
    sink(1),
    source(2)
    }

OptIfExDAPI ::= TEXTUAL-CONVENTION
  STATUS current
  DESCRIPTION
    "The Destination Access Point Identifier (DAPI)
     expected by the receiver."
  SYNTAX OCTET STRING (SIZE(16))

OptIfExSAPI ::= TEXTUAL-CONVENTION
  STATUS current
  DESCRIPTION
    "The Source Access Point Identifier (SAPI)
     expected by the receiver."
  SYNTAX OCTET STRING (SIZE(16))

OptIfIntervalNumber ::= TEXTUAL-CONVENTION
  STATUS current
  DESCRIPTION
    "Uniquely identifies a 15-minute interval. The interval
     identified by 1 is the most recently completed interval, and

```
     the interval identified by n is the interval immediately
     preceding the one identified by n-1."
  SYNTAX  Unsigned32 (1..96)

OptIfTIMDetMode ::= TEXTUAL-CONVENTION
  STATUS  current
  DESCRIPTION
    "Indicates the mode of the Trace Identifier Mismatch (TIM)
     Detection function."
  SYNTAX   INTEGER {
    off(1),
    dapi(2),
    sapi(3),
    both(4)
    }

OptIfTxTI ::= TEXTUAL-CONVENTION
  STATUS  current
  DESCRIPTION
    "The trace identifier (TI) transmitted."
  SYNTAX  OCTET STRING (SIZE(64))

-- object groups

optIfObjects OBJECT IDENTIFIER ::= { optIfMibModule 1 }
optIfConfs OBJECT IDENTIFIER ::= { optIfMibModule 2 }

optIfOTMn OBJECT IDENTIFIER ::= { optIfObjects 1 }
optIfPerfMon OBJECT IDENTIFIER ::= { optIfObjects 2 }
optIfOTSn OBJECT IDENTIFIER ::= { optIfObjects 3 }
optIfOMSn OBJECT IDENTIFIER ::= { optIfObjects 4 }
optIfOChGroup OBJECT IDENTIFIER ::= { optIfObjects 5 }
optIfOCh OBJECT IDENTIFIER ::= { optIfObjects 6 }

optIfOTUk OBJECT IDENTIFIER ::= { optIfObjects 7 }
optIfODUk OBJECT IDENTIFIER ::= { optIfObjects 8 }
optIfODUkT OBJECT IDENTIFIER ::= { optIfObjects 9 }

optIfGroups OBJECT IDENTIFIER ::= { optIfConfs 1 }
optIfCompl OBJECT IDENTIFIER ::= { optIfConfs 2 }

-- the optIfOTMn group
-- This group defines the OTM structure information of an
-- optical interface.

-- OTMn Table

optIfOTMnTable OBJECT-TYPE
```

```
     SYNTAX   SEQUENCE OF OptIfOTMnEntry
     MAX-ACCESS  not-accessible
     STATUS   current
     DESCRIPTION
       "A table of OTMn structure information."
     ::= { optIfOTMn 1 }

  optIfOTMnEntry OBJECT-TYPE
     SYNTAX   OptIfOTMnEntry
     MAX-ACCESS  not-accessible
     STATUS   current
     DESCRIPTION
       "A conceptual row that contains the OTMn structure
        information of an optical interface."
     INDEX  { ifIndex }
     ::= { optIfOTMnTable 1 }

  OptIfOTMnEntry ::=
     SEQUENCE {
        optIfOTMnOrder         Unsigned32,
        optIfOTMnReduced       TruthValue,
        optIfOTMnBitRates      BITS,
        optIfOTMnInterfaceType SnmpAdminString,
        optIfOTMnTcmMax        Unsigned32,
        optIfOTMnOpticalReach  INTEGER
        }

  optIfOTMnOrder OBJECT-TYPE
     SYNTAX   Unsigned32 (1..900)
     MAX-ACCESS  read-only
     STATUS   current
     DESCRIPTION
       "This object indicates the order of the OTM, which
        represents the maximum number of wavelengths that can be
        supported at the bit rate(s) supported on the interface."
     ::= { optIfOTMnEntry 1 }

  optIfOTMnReduced OBJECT-TYPE
     SYNTAX  TruthValue
     MAX-ACCESS  read-only
     STATUS   current
     DESCRIPTION
       "This object indicates whether a reduced or full
        functionality is supported at the interface.  A value of
        true means reduced.  A value of false means full."
     ::= { optIfOTMnEntry 2 }

  optIfOTMnBitRates OBJECT-TYPE
```

     SYNTAX BITS { bitRateK1(0), bitRateK2(1), bitRateK3(2) }
     MAX-ACCESS read-only
     STATUS current
     DESCRIPTION
       "This attribute is a bit map representing the bit
        rate or set of bit rates supported on the interface.
        The meaning of each bit position is as follows:
           bitRateK1(0) is set if the 2.5 Gbit/s rate is supported
           bitRateK2(1) is set if the 10 Gbit/s rate is supported
           bitRateK3(2) is set if the 40 Gbit/s rate is supported
        Note that each bit position corresponds to one possible
        value of the type OptIfBitRateK.
        The default value of this attribute is system specific."
     ::= { optIfOTMnEntry 3 }

optIfOTMnInterfaceType OBJECT-TYPE
   SYNTAX SnmpAdminString
   MAX-ACCESS read-only
   STATUS current
   DESCRIPTION
      "This object identifies the type of interface. The value of
       this attribute will affect the behavior of the OTM with
       respect to presence/absence of OTM Overhead Signal (OOS)
       processing and TCM activation. For an IrDI interface,
       there is no OOS processing and TCM activation is limited
       to n levels as specified by a TCM level threshold.

       This object contains two fields that are separated by
       whitespace. The possible values are:
            field 1: one of the 4-character ASCII strings
                      'IrDI' or 'IaDI'
            field 2: free-form text consisting of printable
                      UTF-8 encoded characters

       Note that field 2 is optional. If it is not present then there
       is no requirement for trailing whitespace after field 1.

       The default values are as follows:
            field 1: 'IaDI'
            field 2: an empty string."

   ::= { optIfOTMnEntry 4 }

optIfOTMnTcmMax OBJECT-TYPE
   SYNTAX Unsigned32 (0..6)
   MAX-ACCESS read-write
   STATUS current
   DESCRIPTION

      "This object identifies the maximum number of TCM
       levels allowed for any Optical Channel contained
       in this OTM. A new TCM activation will be rejected
       if the requested level is greater than the threshold.
       If InterfaceType object specifies a type of 'IaDI'
       for this OTM, then this attribute is irrelevant.

       Possible values: unsigned integers in the range
                         from 0 to 6 inclusive.
       Default value: 3."

    ::= { optIfOTMnEntry 5 }

optIfOTMnOpticalReach OBJECT-TYPE
   SYNTAX   INTEGER { intraOffice(1), shortHaul(2), longHaul(3),
                     veryLongHaul(4), ultraLongHaul(5) }
   MAX-ACCESS read-only
   STATUS current
   DESCRIPTION
     "This object indicates the length the optical signal
      may travel before requiring termination or regeneration.
      The meaning of the enumeration are:
         intraOffice(1) - intra-office (as defined in ITU-T G.957)
         shortHaul(2)   - short haul (as defined in ITU-T G.957)
         longHaul(3)   - long haul (as defined in ITU-T G.957)
         veryLongHaul(4) - very long haul (as defined in ITU-T G.691)
         ultraLongHaul(5)- ultra long haul (as defined in ITU-T G.691)"
   ::= { optIfOTMnEntry 6 }

-- the optIfPerfMon group
-- This group defines performance monitoring objects for all
-- layers.

-- PM interval table

optIfPerfMonIntervalTable OBJECT-TYPE
   SYNTAX   SEQUENCE OF OptIfPerfMonIntervalEntry
   MAX-ACCESS not-accessible
   STATUS current
   DESCRIPTION
     "A table of 15-minute performance monitoring interval
      information."
   ::= { optIfPerfMon 1 }

optIfPerfMonIntervalEntry OBJECT-TYPE
   SYNTAX OptIfPerfMonIntervalEntry
   MAX-ACCESS not-accessible
   STATUS current

```
      DESCRIPTION
        "A conceptual row that contains 15-minute performance
         monitoring interval information of an interface."
      INDEX  { ifIndex }
      ::= { optIfPerfMonIntervalTable 1 }

  OptIfPerfMonIntervalEntry ::=
      SEQUENCE {
        optIfPerfMonCurrentTimeElapsed   Gauge32,
        optIfPerfMonCurDayTimeElapsed    Gauge32,
        optIfPerfMonIntervalNumIntervals        Unsigned32,
        optIfPerfMonIntervalNumInvalidIntervals  Unsigned32
        }

  optIfPerfMonCurrentTimeElapsed OBJECT-TYPE
      SYNTAX  Gauge32 (0..900)
      UNITS  "seconds"
      MAX-ACCESS  read-only
      STATUS  current
      DESCRIPTION
        "Number of seconds elapsed in the current 15-minute
         performance monitoring interval.
         If, for some reason, such as an adjustment in the NE's
         time-of-day clock, the number of seconds elapsed exceeds
         the maximum value, then the maximum value will be returned."
      ::= { optIfPerfMonIntervalEntry 1 }

  optIfPerfMonCurDayTimeElapsed OBJECT-TYPE
      SYNTAX  Gauge32 (0..86400)
      UNITS  "seconds"
      MAX-ACCESS  read-only
      STATUS  current
      DESCRIPTION
        "Number of seconds elapsed in the current 24-hour interval
         performance monitoring period.
         If, for some reason, such as an adjustment in the NE's
         time-of-day clock, the number of seconds elapsed exceeds
         the maximum value, then the maximum value will be returned."
      ::= { optIfPerfMonIntervalEntry 2 }

  optIfPerfMonIntervalNumIntervals OBJECT-TYPE
      SYNTAX  Unsigned32 (0..96)
      MAX-ACCESS  read-only
      STATUS  current
      DESCRIPTION
        "The number of 15-minute intervals for which performance
         monitoring data is available.  The number is the same for all
         the associated sub layers of the interface.
```

      An optical interface must be capable of supporting at least
      n intervals, where n is defined as follows:
           The minimum value of n is 4.
           The default of n is 32.
           The maximum value of n is 96.

      The value of this object will be n unless performance
      monitoring was (re-)started for the interface within the last
      (n*15) minutes, in which case the value will be the number of
      complete 15-minute intervals since measurement was
      (re-)started."
   ::= { optIfPerfMonIntervalEntry 3 }

optIfPerfMonIntervalNumInvalidIntervals OBJECT-TYPE
   SYNTAX   Unsigned32 (0..96)
   MAX-ACCESS read-only
   STATUS   current
   DESCRIPTION
     "The number of intervals in the range from 0 to
      optIfPerfMonIntervalNumIntervals for which no performance
      monitoring data is available and/or the data is invalid."
   ::= { optIfPerfMonIntervalEntry 4 }

-- the optIfOTSn group
-- This group handles the configuration and performance
-- monitoring objects for OTS layers.

-- OTSn config table

optIfOTSnConfigTable OBJECT-TYPE
   SYNTAX   SEQUENCE OF OptIfOTSnConfigEntry
   MAX-ACCESS not-accessible
   STATUS   current
   DESCRIPTION
     "A table of OTSn configuration information."
   ::= { optIfOTSn 1 }

optIfOTSnConfigEntry OBJECT-TYPE
   SYNTAX   OptIfOTSnConfigEntry
   MAX-ACCESS not-accessible
   STATUS   current
   DESCRIPTION
     "A conceptual row that contains OTSn configuration
      information of an interface."
   INDEX   { ifIndex }
   ::= { optIfOTSnConfigTable 1 }

OptIfOTSnConfigEntry ::=

```
   SEQUENCE {
     optIfOTSnDirectionality             OptIfDirectionality,
     optIfOTSnAprStatus                  SnmpAdminString,
     optIfOTSnAprControl                 SnmpAdminString,
     optIfOTSnTraceIdentifierTransmitted OptIfTxTI,
     optIfOTSnDAPIExpected               OptIfExDAPI,
     optIfOTSnSAPIExpected               OptIfExSAPI,
     optIfOTSnTraceIdentifierAccepted    OptIfAcTI,
     optIfOTSnTIMDetMode                 OptIfTIMDetMode,
     optIfOTSnTIMActEnabled              TruthValue,
     optIfOTSnCurrentStatus              BITS
     }
```

```
optIfOTSnDirectionality OBJECT-TYPE
  SYNTAX   OptIfDirectionality
  MAX-ACCESS   read-only
  STATUS   current
  DESCRIPTION
    "Indicates the directionality of the entity."
  ::= { optIfOTSnConfigEntry 1 }
```

```
optIfOTSnAprStatus OBJECT-TYPE
  SYNTAX   SnmpAdminString
  MAX-ACCESS   read-only
  STATUS   current
  DESCRIPTION
    "This attribute indicates the status of the Automatic
     Power Reduction (APR) function of the entity.  Valid
     values are 'on' and 'off'."
  ::= { optIfOTSnConfigEntry 2 }
```

```
optIfOTSnAprControl OBJECT-TYPE
  SYNTAX   SnmpAdminString
  MAX-ACCESS   read-write
  STATUS   current
  DESCRIPTION
    "This object is a UTF-8 encoded string that specifies Automatic
     Power Reduction (APR) control actions requested of this entity
     (when written) and that returns the current APR control state
     of this entity (when read).  The values are implementation-defined.
     Any implementation that instantiates this object must document the
     set of values that it allows to be written, the set of values
     that it will return, and what each of those values means."
  ::= { optIfOTSnConfigEntry 3 }
```

```
optIfOTSnTraceIdentifierTransmitted OBJECT-TYPE
  SYNTAX   OptIfTxTI
  MAX-ACCESS   read-write
```

```
        STATUS  current
        DESCRIPTION
          "The trace identifier transmitted.
           This object is applicable when optIfOTSnDirectionality has the
           value source(2) or bidirectional(3).
           This object does not apply to reduced-capability systems (i.e.,
           those for which optIfOTMnReduced has the value true(1)) or
           at IrDI interfaces (i.e., when optIfOTMnInterfaceType field 1
           has the value 'IrDI').
           If no value is ever set by a management entity for the object
           optIfOTSnTraceIdentifierTransmitted, system-specific default
           value will be used.  Any implementation that instantiates this
           object must document the system-specific default value or how it
           is derived."
        ::= { optIfOTSnConfigEntry 4 }

    optIfOTSnDAPIExpected OBJECT-TYPE
        SYNTAX  OptIfExDAPI
        MAX-ACCESS  read-write
        STATUS  current
        DESCRIPTION
          "The DAPI expected by the receiver.
           This object is applicable when optIfOTSnDirectionality has the
           value sink(1) or bidirectional(3).  It has no effect if
           optIfOTSnTIMDetMode has the value off(1) or sapi(3).
           This object does not apply to reduced-capability systems (i.e.,
           those for which optIfOTMnReduced has the value true(1)) or
           at IrDI interfaces (i.e., when optIfOTMnInterfaceType field 1
           has the value 'IrDI')."
        ::= { optIfOTSnConfigEntry 5 }

    optIfOTSnSAPIExpected OBJECT-TYPE
        SYNTAX  OptIfExSAPI
        MAX-ACCESS  read-write
        STATUS  current
        DESCRIPTION
          "The SAPI expected by the receiver.
           This object is applicable when optIfOTSnDirectionality has the
           value sink(1) or bidirectional(3).  It has no effect if
           optIfOTSnTIMDetMode has the value off(1) or dapi(2).
           This object does not apply to reduced-capability systems (i.e.,
           those for which optIfOTMnReduced has the value true(1)) or
           at IrDI interfaces (i.e., when optIfOTMnInterfaceType field 1
           has the value 'IrDI')."
        ::= { optIfOTSnConfigEntry 6 }

    optIfOTSnTraceIdentifierAccepted OBJECT-TYPE
        SYNTAX  OptIfAcTI
```

```
  MAX-ACCESS  read-only
  STATUS  current
  DESCRIPTION
    "The actual trace identifier received.
     This object is applicable when optIfOTSnDirectionality has the
     value sink(1) or bidirectional(3).  Its value is unspecified
     if optIfOTSnCurrentStatus has either or both of the
     losO(5) and los(6) bits set.
     This object does not apply to reduced-capability systems (i.e.,
     those for which optIfOTMnReduced has the value true(1)) or
     at IrDI interfaces (i.e., when optIfOTMnInterfaceType field 1
     has the value 'IrDI')."
  ::= { optIfOTSnConfigEntry 7 }

optIfOTSnTIMDetMode OBJECT-TYPE
  SYNTAX  OptIfTIMDetMode
  MAX-ACCESS  read-write
  STATUS  current
  DESCRIPTION
    "Indicates the mode of the Trace Identifier Mismatch (TIM)
     Detection function.  This object is applicable
     when optIfOTSnDirectionality has the value sink(1)
     or bidirectional(3).  The default value is off(1).
     This object does not apply to reduced-capability systems (i.e.,
     those for which optIfOTMnReduced has the value true(1)) or
     at IrDI interfaces (i.e., when optIfOTMnInterfaceType field 1
     has the value 'IrDI').
     The default value of this object is off(1)."
  ::= { optIfOTSnConfigEntry 8 }

optIfOTSnTIMActEnabled OBJECT-TYPE
  SYNTAX  TruthValue
  MAX-ACCESS  read-write
  STATUS  current
  DESCRIPTION
    "Indicates whether the Trace Identifier Mismatch (TIM)
     Consequent Action function is enabled.  This object
     is applicable when optIfOTSnDirectionality has the
     value sink(1) or bidirectional(3).  It has no effect
     when the value of optIfOTSnTIMDetMode is off(1).
     This object does not apply to reduced-capability systems (i.e.,
     those for which optIfOTMnReduced has the value true(1)) or
     at IrDI interfaces (i.e., when optIfOTMnInterfaceType field 1
     has the value 'IrDI').
     The default value of this object is false(2)."
  ::= { optIfOTSnConfigEntry 9 }

optIfOTSnCurrentStatus OBJECT-TYPE
```

```
   SYNTAX  BITS {
     bdiP(0),
     bdiO(1),
     bdi(2),
     tim(3),
     losP(4),
     losO(5),
     los(6)
     }
   MAX-ACCESS  read-only
   STATUS  current
   DESCRIPTION
     "Indicates the defect condition of the entity, if any.
      This object is applicable when optIfOTSnDirectionality
      has the value sink(1) or bidirectional(3).  In
      reduced-capability systems or at IrDI interfaces
      the only bit position that may be set is los(6)."
   ::= { optIfOTSnConfigEntry 10 }

-- OTSn sink current table
-- Contains data for the current 15-minute performance monitoring
-- interval.

optIfOTSnSinkCurrentTable OBJECT-TYPE
   SYNTAX  SEQUENCE OF OptIfOTSnSinkCurrentEntry
   MAX-ACCESS  not-accessible
   STATUS  current
   DESCRIPTION
     "A table of OTSn sink performance monitoring information for
      the current 15-minute interval."
   ::= { optIfOTSn 2 }

optIfOTSnSinkCurrentEntry OBJECT-TYPE
   SYNTAX  OptIfOTSnSinkCurrentEntry
   MAX-ACCESS  not-accessible
   STATUS  current
   DESCRIPTION
     "A conceptual row that contains OTSn sink performance
      monitoring information of an interface for the current
      15-minute interval."
   INDEX  { ifIndex }
   ::= { optIfOTSnSinkCurrentTable 1 }

OptIfOTSnSinkCurrentEntry ::=
   SEQUENCE {
     optIfOTSnSinkCurrentSuspectedFlag              TruthValue,
     optIfOTSnSinkCurrentInputPower                 Integer32,
     optIfOTSnSinkCurrentLowInputPower              Integer32,
```

```
    optIfOTSnSinkCurrentHighInputPower               Integer32,
    optIfOTSnSinkCurrentLowerInputPowerThreshold  Integer32,
    optIfOTSnSinkCurrentUpperInputPowerThreshold  Integer32,
    optIfOTSnSinkCurrentOutputPower                  Integer32,
    optIfOTSnSinkCurrentLowOutputPower               Integer32,
    optIfOTSnSinkCurrentHighOutputPower              Integer32,
    optIfOTSnSinkCurrentLowerOutputPowerThreshold Integer32,
    optIfOTSnSinkCurrentUpperOutputPowerThreshold Integer32
    }

optIfOTSnSinkCurrentSuspectedFlag OBJECT-TYPE
  SYNTAX   TruthValue
  MAX-ACCESS   read-only
  STATUS   current
  DESCRIPTION
    "If true, the data in this entry may be unreliable."
  ::= { optIfOTSnSinkCurrentEntry 1 }

optIfOTSnSinkCurrentInputPower OBJECT-TYPE
  SYNTAX   Integer32
  UNITS   "0.1 dbm"
  MAX-ACCESS   read-only
  STATUS   current
  DESCRIPTION
    "The optical power monitored at the input."
  ::= { optIfOTSnSinkCurrentEntry 2 }

optIfOTSnSinkCurrentLowInputPower OBJECT-TYPE
  SYNTAX   Integer32
  UNITS   "0.1 dbm"
  MAX-ACCESS   read-only
  STATUS   current
  DESCRIPTION
    "The lowest optical power monitored at the input during the
     current 15-minute interval."
  ::= { optIfOTSnSinkCurrentEntry 3 }

optIfOTSnSinkCurrentHighInputPower OBJECT-TYPE
  SYNTAX   Integer32
  UNITS   "0.1 dbm"
  MAX-ACCESS   read-only
  STATUS   current
  DESCRIPTION
    "The highest optical power monitored at the input during the
     current 15-minute interval."
  ::= { optIfOTSnSinkCurrentEntry 4 }

optIfOTSnSinkCurrentLowerInputPowerThreshold OBJECT-TYPE
```

```
  SYNTAX   Integer32
  UNITS   "0.1 dbm"
  MAX-ACCESS  read-write
  STATUS   current
  DESCRIPTION
    "The lower limit threshold on input power.  If
     optIfOTSnSinkCurrentInputPower drops to this value or below,
     a Threshold Crossing Alert (TCA) should be sent."
  ::= { optIfOTSnSinkCurrentEntry 5 }

optIfOTSnSinkCurrentUpperInputPowerThreshold OBJECT-TYPE
  SYNTAX   Integer32
  UNITS   "0.1 dbm"
  MAX-ACCESS  read-write
  STATUS   current
  DESCRIPTION
    "The upper limit threshold on input power.  If
     optIfOTSnSinkCurrentInputPower reaches or exceeds this value,
     a Threshold Crossing Alert (TCA) should be sent."
  ::= { optIfOTSnSinkCurrentEntry 6 }

optIfOTSnSinkCurrentOutputPower OBJECT-TYPE
  SYNTAX   Integer32
  UNITS   "0.1 dbm"
  MAX-ACCESS  read-only
  STATUS   current
  DESCRIPTION
    "The optical power monitored at the output."
  ::= { optIfOTSnSinkCurrentEntry 7 }

optIfOTSnSinkCurrentLowOutputPower OBJECT-TYPE
  SYNTAX   Integer32
  UNITS   "0.1 dbm"
  MAX-ACCESS  read-only
  STATUS   current
  DESCRIPTION
    "The lowest optical power monitored at the output during the
     current 15-minute interval."
  ::= { optIfOTSnSinkCurrentEntry 8 }

optIfOTSnSinkCurrentHighOutputPower OBJECT-TYPE
  SYNTAX   Integer32
  UNITS   "0.1 dbm"
  MAX-ACCESS  read-only
  STATUS   current
  DESCRIPTION
    "The highest optical power monitored at the output during the
     current 15-minute interval."
```

      ::= { optIfOTSnSinkCurrentEntry 9 }

optIfOTSnSinkCurrentLowerOutputPowerThreshold OBJECT-TYPE
  SYNTAX Integer32
  UNITS "0.1 dbm"
  MAX-ACCESS read-write
  STATUS current
  DESCRIPTION
    "The lower limit threshold on output power. If
     optIfOTSnSinkCurrentOutputPower drops to this value or below,
     a Threshold Crossing Alert (TCA) should be sent."
  ::= { optIfOTSnSinkCurrentEntry 10 }

optIfOTSnSinkCurrentUpperOutputPowerThreshold OBJECT-TYPE
  SYNTAX Integer32
  UNITS "0.1 dbm"
  MAX-ACCESS read-write
  STATUS current
  DESCRIPTION
    "The upper limit threshold on output power. If
     optIfOTSnSinkCurrentOutputPower reaches or exceeds this value,
     a Threshold Crossing Alert (TCA) should be sent."
  ::= { optIfOTSnSinkCurrentEntry 11 }

-- OTSn sink interval table
-- Contains data for previous 15-minute performance monitoring
-- intervals.

optIfOTSnSinkIntervalTable OBJECT-TYPE
  SYNTAX SEQUENCE OF OptIfOTSnSinkIntervalEntry
  MAX-ACCESS not-accessible
  STATUS current
  DESCRIPTION
    "A table of historical OTSn sink performance monitoring
     information."
  ::= { optIfOTSn 3 }

optIfOTSnSinkIntervalEntry OBJECT-TYPE
  SYNTAX OptIfOTSnSinkIntervalEntry
  MAX-ACCESS not-accessible
  STATUS current
  DESCRIPTION
    "A conceptual row that contains OTSn sink performance
     monitoring information of an interface during a particular
     historical interval."
  INDEX { ifIndex, optIfOTSnSinkIntervalNumber }
  ::= { optIfOTSnSinkIntervalTable 1 }

OptIfOTSnSinkIntervalEntry ::=
  SEQUENCE {
    optIfOTSnSinkIntervalNumber   OptIfIntervalNumber,
    optIfOTSnSinkIntervalSuspectedFlag   TruthValue,
    optIfOTSnSinkIntervalLastInputPower   Integer32,
    optIfOTSnSinkIntervalLowInputPower   Integer32,
    optIfOTSnSinkIntervalHighInputPower   Integer32,
    optIfOTSnSinkIntervalLastOutputPower   Integer32,
    optIfOTSnSinkIntervalLowOutputPower   Integer32,
    optIfOTSnSinkIntervalHighOutputPower   Integer32

    }

optIfOTSnSinkIntervalNumber OBJECT-TYPE
  SYNTAX   OptIfIntervalNumber
  MAX-ACCESS   not-accessible
  STATUS   current
  DESCRIPTION
    "Uniquely identifies the interval."
  ::= { optIfOTSnSinkIntervalEntry 1 }

optIfOTSnSinkIntervalSuspectedFlag OBJECT-TYPE
  SYNTAX   TruthValue
  MAX-ACCESS   read-only
  STATUS   current
  DESCRIPTION
    "If true, the data in this entry may be unreliable."
  ::= { optIfOTSnSinkIntervalEntry 2 }

optIfOTSnSinkIntervalLastInputPower OBJECT-TYPE
  SYNTAX   Integer32
  UNITS   "0.1 dbm"
  MAX-ACCESS   read-only
  STATUS   current
  DESCRIPTION
    "The last optical power monitored at the input during the
     interval."
  ::= { optIfOTSnSinkIntervalEntry 3 }

optIfOTSnSinkIntervalLowInputPower OBJECT-TYPE
  SYNTAX   Integer32
  UNITS   "0.1 dbm"
  MAX-ACCESS   read-only
  STATUS   current
  DESCRIPTION
    "The lowest optical power monitored at the input during the
     interval."
  ::= { optIfOTSnSinkIntervalEntry 4 }

```
optIfOTSnSinkIntervalHighInputPower OBJECT-TYPE
  SYNTAX   Integer32
  UNITS   "0.1 dbm"
  MAX-ACCESS  read-only
  STATUS  current
  DESCRIPTION
    "The highest optical power monitored at the input during the
     interval."
  ::= { optIfOTSnSinkIntervalEntry 5 }

optIfOTSnSinkIntervalLastOutputPower OBJECT-TYPE
  SYNTAX   Integer32
  UNITS   "0.1 dbm"
  MAX-ACCESS  read-only
  STATUS  current
  DESCRIPTION
    "The last optical power monitored at the output during the
     interval."
  ::= { optIfOTSnSinkIntervalEntry 6 }

optIfOTSnSinkIntervalLowOutputPower OBJECT-TYPE
  SYNTAX   Integer32
  UNITS   "0.1 dbm"
  MAX-ACCESS  read-only
  STATUS  current
  DESCRIPTION
    "The lowest optical power monitored at the output during the
     interval."
  ::= { optIfOTSnSinkIntervalEntry 7 }

optIfOTSnSinkIntervalHighOutputPower OBJECT-TYPE
  SYNTAX   Integer32
  UNITS   "0.1 dbm"
  MAX-ACCESS  read-only
  STATUS  current
  DESCRIPTION
    "The highest optical power monitored at the output during the
     interval."
  ::= { optIfOTSnSinkIntervalEntry 8 }

-- OTSn sink current day table
-- Contains data for the current 24-hour performance
-- monitoring interval.

optIfOTSnSinkCurDayTable OBJECT-TYPE
  SYNTAX   SEQUENCE OF OptIfOTSnSinkCurDayEntry
  MAX-ACCESS  not-accessible
  STATUS  current
```

```
   DESCRIPTION
     "A table of OTSn sink performance monitoring information for
      the current 24-hour interval."
   ::= { optIfOTSn 4 }

optIfOTSnSinkCurDayEntry OBJECT-TYPE
   SYNTAX  OptIfOTSnSinkCurDayEntry
   MAX-ACCESS  not-accessible
   STATUS  current
   DESCRIPTION
     "A conceptual row that contains OTSn sink performance
      monitoring information of an interface for the current
      24-hour interval."
   INDEX  { ifIndex }
   ::= { optIfOTSnSinkCurDayTable 1 }

OptIfOTSnSinkCurDayEntry ::=
   SEQUENCE {
     optIfOTSnSinkCurDaySuspectedFlag    TruthValue,
     optIfOTSnSinkCurDayLowInputPower    Integer32,
     optIfOTSnSinkCurDayHighInputPower   Integer32,
     optIfOTSnSinkCurDayLowOutputPower   Integer32,
     optIfOTSnSinkCurDayHighOutputPower  Integer32
     }

optIfOTSnSinkCurDaySuspectedFlag OBJECT-TYPE
   SYNTAX  TruthValue
   MAX-ACCESS  read-only
   STATUS  current
   DESCRIPTION
     "If true, the data in this entry may be unreliable."
   ::= { optIfOTSnSinkCurDayEntry 1 }

optIfOTSnSinkCurDayLowInputPower OBJECT-TYPE
   SYNTAX  Integer32
   UNITS  "0.1 dbm"
   MAX-ACCESS  read-only
   STATUS  current
   DESCRIPTION
     "The lowest optical power monitored at the input during the
      current 24-hour interval."
   ::= { optIfOTSnSinkCurDayEntry 2 }

optIfOTSnSinkCurDayHighInputPower OBJECT-TYPE
   SYNTAX  Integer32
   UNITS  "0.1 dbm"
   MAX-ACCESS  read-only
   STATUS  current
```

```
     DESCRIPTION
       "The highest optical power monitored at the input during the
        current 24-hour interval."
     ::= { optIfOTSnSinkCurDayEntry 3 }

optIfOTSnSinkCurDayLowOutputPower OBJECT-TYPE
     SYNTAX   Integer32
     UNITS   "0.1 dbm"
     MAX-ACCESS  read-only
     STATUS  current
     DESCRIPTION
       "The lowest optical power monitored at the output during the
        current 24-hour interval."
     ::= { optIfOTSnSinkCurDayEntry 4 }

optIfOTSnSinkCurDayHighOutputPower OBJECT-TYPE
     SYNTAX   Integer32
     UNITS   "0.1 dbm"
     MAX-ACCESS  read-only
     STATUS  current
     DESCRIPTION
       "The highest optical power monitored at the output during the
        current 24-hour interval."
     ::= { optIfOTSnSinkCurDayEntry 5 }

-- OTSn sink previous day table
-- Contains data for the previous 24-hour performance
-- monitoring interval.

optIfOTSnSinkPrevDayTable OBJECT-TYPE
     SYNTAX   SEQUENCE OF OptIfOTSnSinkPrevDayEntry
     MAX-ACCESS  not-accessible
     STATUS  current
     DESCRIPTION
       "A table of OTSn sink performance monitoring information for
        the previous 24-hour interval."
     ::= { optIfOTSn 5 }

optIfOTSnSinkPrevDayEntry OBJECT-TYPE
     SYNTAX   OptIfOTSnSinkPrevDayEntry
     MAX-ACCESS  not-accessible
     STATUS  current
     DESCRIPTION
       "A conceptual row that contains OTSn sink performance
        monitoring information of an interface for the previous
        24-hour interval."
     INDEX  { ifIndex }
     ::= { optIfOTSnSinkPrevDayTable 1 }
```

```
OptIfOTSnSinkPrevDayEntry ::=
  SEQUENCE {
    optIfOTSnSinkPrevDaySuspectedFlag     TruthValue,
    optIfOTSnSinkPrevDayLastInputPower    Integer32,
    optIfOTSnSinkPrevDayLowInputPower     Integer32,
    optIfOTSnSinkPrevDayHighInputPower    Integer32,
    optIfOTSnSinkPrevDayLastOutputPower   Integer32,
    optIfOTSnSinkPrevDayLowOutputPower    Integer32,
    optIfOTSnSinkPrevDayHighOutputPower   Integer32
    }

optIfOTSnSinkPrevDaySuspectedFlag OBJECT-TYPE
  SYNTAX   TruthValue
  MAX-ACCESS   read-only
  STATUS   current
  DESCRIPTION
    "If true, the data in this entry may be unreliable."
  ::= { optIfOTSnSinkPrevDayEntry 1 }

optIfOTSnSinkPrevDayLastInputPower OBJECT-TYPE
  SYNTAX   Integer32
  UNITS   "0.1 dbm"
  MAX-ACCESS   read-only
  STATUS   current
  DESCRIPTION
    "The last optical power monitored at the input during the
     previous 24-hour interval."
  ::= { optIfOTSnSinkPrevDayEntry 2 }

optIfOTSnSinkPrevDayLowInputPower OBJECT-TYPE
  SYNTAX   Integer32
  UNITS   "0.1 dbm"
  MAX-ACCESS   read-only
  STATUS   current
  DESCRIPTION
    "The lowest optical power monitored at the input during the
     previous 24-hour interval."
  ::= { optIfOTSnSinkPrevDayEntry 3 }

optIfOTSnSinkPrevDayHighInputPower OBJECT-TYPE
  SYNTAX   Integer32
  UNITS   "0.1 dbm"
  MAX-ACCESS   read-only
  STATUS   current
  DESCRIPTION
    "The highest optical power monitored at the input during the
     previous 24-hour interval."
  ::= { optIfOTSnSinkPrevDayEntry 4 }
```

optIfOTSnSinkPrevDayLastOutputPower OBJECT-TYPE
  SYNTAX   Integer32
  UNITS   "0.1 dbm"
  MAX-ACCESS   read-only
  STATUS   current
  DESCRIPTION
    "The last optical power monitored at the output during the
     previous 24-hour interval."
  ::= { optIfOTSnSinkPrevDayEntry 5 }

optIfOTSnSinkPrevDayLowOutputPower OBJECT-TYPE
  SYNTAX   Integer32
  UNITS   "0.1 dbm"
  MAX-ACCESS   read-only
  STATUS   current
  DESCRIPTION
    "The lowest optical power monitored at the output during the
     previous 24-hour interval."
  ::= { optIfOTSnSinkPrevDayEntry 6 }

optIfOTSnSinkPrevDayHighOutputPower OBJECT-TYPE
  SYNTAX   Integer32
  UNITS   "0.1 dbm"
  MAX-ACCESS   read-only
  STATUS   current
  DESCRIPTION
    "The highest optical power monitored at the output during the
     previous 24-hour interval."
  ::= { optIfOTSnSinkPrevDayEntry 7 }

-- OTSn source current table
-- Contains data for the current 15-minute performance monitoring
-- interval.

optIfOTSnSrcCurrentTable OBJECT-TYPE
  SYNTAX   SEQUENCE OF OptIfOTSnSrcCurrentEntry
  MAX-ACCESS   not-accessible
  STATUS   current
  DESCRIPTION
    "A table of OTSn source performance monitoring information for
     the current 15-minute interval."
  ::= { optIfOTSn 6 }

optIfOTSnSrcCurrentEntry OBJECT-TYPE
  SYNTAX   OptIfOTSnSrcCurrentEntry
  MAX-ACCESS   not-accessible
  STATUS   current
  DESCRIPTION

        "A conceptual row that contains OTSn source performance
         monitoring information of an interface for the current
         15-minute interval."
      INDEX { ifIndex }
      ::= { optIfOTSnSrcCurrentTable 1 }

   OptIfOTSnSrcCurrentEntry ::=
      SEQUENCE {
        optIfOTSnSrcCurrentSuspectedFlag   TruthValue,
        optIfOTSnSrcCurrentOutputPower   Integer32,
        optIfOTSnSrcCurrentLowOutputPower   Integer32,
        optIfOTSnSrcCurrentHighOutputPower   Integer32,
        optIfOTSnSrcCurrentLowerOutputPowerThreshold   Integer32,
        optIfOTSnSrcCurrentUpperOutputPowerThreshold   Integer32,
        optIfOTSnSrcCurrentInputPower   Integer32,
        optIfOTSnSrcCurrentLowInputPower   Integer32,
        optIfOTSnSrcCurrentHighInputPower   Integer32,
        optIfOTSnSrcCurrentLowerInputPowerThreshold   Integer32,
        optIfOTSnSrcCurrentUpperInputPowerThreshold   Integer32
        }

   optIfOTSnSrcCurrentSuspectedFlag OBJECT-TYPE
      SYNTAX TruthValue
      MAX-ACCESS read-only
      STATUS current
      DESCRIPTION
        "If true, the data in this entry may be unreliable."
      ::= { optIfOTSnSrcCurrentEntry 1 }

   optIfOTSnSrcCurrentOutputPower OBJECT-TYPE
      SYNTAX Integer32
      UNITS   "0.1 dbm"
      MAX-ACCESS read-only
      STATUS current
      DESCRIPTION
        "The optical power monitored at the output."
      ::= { optIfOTSnSrcCurrentEntry 2 }

   optIfOTSnSrcCurrentLowOutputPower OBJECT-TYPE
      SYNTAX Integer32
      UNITS   "0.1 dbm"
      MAX-ACCESS read-only
      STATUS current

      DESCRIPTION
        "The lowest optical power monitored at the output during the
         current 15-minute interval."
      ::= { optIfOTSnSrcCurrentEntry 3 }

optIfOTSnSrcCurrentHighOutputPower OBJECT-TYPE
  SYNTAX   Integer32
  UNITS   "0.1 dbm"
  MAX-ACCESS   read-only
  STATUS   current
  DESCRIPTION
    "The highest optical power monitored at the output during the
     current 15-minute interval."
  ::= { optIfOTSnSrcCurrentEntry 4 }

optIfOTSnSrcCurrentLowerOutputPowerThreshold OBJECT-TYPE
  SYNTAX   Integer32
  UNITS   "0.1 dbm"
  MAX-ACCESS   read-write
  STATUS   current
  DESCRIPTION
    "The lower limit threshold on output power. If
     optIfOTSnSrcCurrentOutputPower drops to this value or below,
     a Threshold Crossing Alert (TCA) should be sent."
  ::= { optIfOTSnSrcCurrentEntry 5 }

optIfOTSnSrcCurrentUpperOutputPowerThreshold OBJECT-TYPE
  SYNTAX   Integer32
  UNITS   "0.1 dbm"
  MAX-ACCESS   read-write
  STATUS   current
  DESCRIPTION
    "The upper limit threshold on output power. If
     optIfOTSnSrcCurrentOutputPower reaches or exceeds this value,
     a Threshold Crossing Alert (TCA) should be sent."
  ::= { optIfOTSnSrcCurrentEntry 6 }

optIfOTSnSrcCurrentInputPower OBJECT-TYPE
  SYNTAX   Integer32
  UNITS   "0.1 dbm"
  MAX-ACCESS   read-only
  STATUS   current
  DESCRIPTION
    "The optical power monitored at the input."
  ::= { optIfOTSnSrcCurrentEntry 7 }

optIfOTSnSrcCurrentLowInputPower OBJECT-TYPE
  SYNTAX   Integer32
  UNITS   "0.1 dbm"
  MAX-ACCESS   read-only
  STATUS   current

  DESCRIPTION

      "The lowest optical power monitored at the input during the
       current 15-minute interval."
     ::= { optIfOTSnSrcCurrentEntry 8 }

optIfOTSnSrcCurrentHighInputPower OBJECT-TYPE
  SYNTAX   Integer32
  UNITS   "0.1 dbm"
  MAX-ACCESS   read-only
  STATUS   current
  DESCRIPTION
    "The highest optical power monitored at the input during the
     current 15-minute interval."
   ::= { optIfOTSnSrcCurrentEntry 9 }

optIfOTSnSrcCurrentLowerInputPowerThreshold OBJECT-TYPE
  SYNTAX   Integer32
  UNITS   "0.1 dbm"
  MAX-ACCESS   read-write
  STATUS   current
  DESCRIPTION
    "The lower limit threshold on input power. If
     optIfOTSnSrcCurrentInputPower drops to this value or below,
     a Threshold Crossing Alert (TCA) should be sent."
   ::= { optIfOTSnSrcCurrentEntry 10 }

optIfOTSnSrcCurrentUpperInputPowerThreshold OBJECT-TYPE
  SYNTAX   Integer32
  UNITS   "0.1 dbm"
  MAX-ACCESS   read-write
  STATUS   current
  DESCRIPTION
    "The upper limit threshold on input power. If
     optIfOTSnSrcCurrentInputPower reaches or exceeds this value,
     a Threshold Crossing Alert (TCA) should be sent."
   ::= { optIfOTSnSrcCurrentEntry 11 }

-- OTSn source interval table
-- Contains data for previous 15-minute performance monitoring
-- intervals.

optIfOTSnSrcIntervalTable OBJECT-TYPE
  SYNTAX   SEQUENCE OF OptIfOTSnSrcIntervalEntry
  MAX-ACCESS   not-accessible
  STATUS   current
  DESCRIPTION
    "A table of historical OTSn source performance monitoring
     information."
   ::= { optIfOTSn 7 }

```
optIfOTSnSrcIntervalEntry OBJECT-TYPE
  SYNTAX   OptIfOTSnSrcIntervalEntry
  MAX-ACCESS   not-accessible
  STATUS   current
  DESCRIPTION
    "A conceptual row that contains OTSn source performance
     monitoring information of an interface during a particular
     historical interval."
  INDEX   { ifIndex, optIfOTSnSrcIntervalNumber }
  ::= { optIfOTSnSrcIntervalTable 1 }

OptIfOTSnSrcIntervalEntry ::=
  SEQUENCE {
    optIfOTSnSrcIntervalNumber            OptIfIntervalNumber,
    optIfOTSnSrcIntervalSuspectedFlag     TruthValue,
    optIfOTSnSrcIntervalLastOutputPower   Integer32,
    optIfOTSnSrcIntervalLowOutputPower    Integer32,
    optIfOTSnSrcIntervalHighOutputPower   Integer32,
    optIfOTSnSrcIntervalLastInputPower    Integer32,
    optIfOTSnSrcIntervalLowInputPower     Integer32,
    optIfOTSnSrcIntervalHighInputPower    Integer32
    }

optIfOTSnSrcIntervalNumber OBJECT-TYPE
  SYNTAX   OptIfIntervalNumber
  MAX-ACCESS   not-accessible
  STATUS   current
  DESCRIPTION
    "Uniquely identifies the interval."
  ::= { optIfOTSnSrcIntervalEntry 1 }

optIfOTSnSrcIntervalSuspectedFlag OBJECT-TYPE
  SYNTAX   TruthValue
  MAX-ACCESS   read-only
  STATUS   current
  DESCRIPTION
    "If true, the data in this entry may be unreliable."
  ::= { optIfOTSnSrcIntervalEntry 2 }

optIfOTSnSrcIntervalLastOutputPower OBJECT-TYPE
  SYNTAX   Integer32
  UNITS   "0.1 dbm"
  MAX-ACCESS   read-only
  STATUS   current
  DESCRIPTION
    "The last optical power monitored at the output during the
     interval."
  ::= { optIfOTSnSrcIntervalEntry 3 }
```

```
optIfOTSnSrcIntervalLowOutputPower OBJECT-TYPE
  SYNTAX   Integer32
  UNITS   "0.1 dbm"
  MAX-ACCESS  read-only
  STATUS  current
  DESCRIPTION
    "The lowest optical power monitored at the output during the
     interval."
  ::= { optIfOTSnSrcIntervalEntry 4 }

optIfOTSnSrcIntervalHighOutputPower OBJECT-TYPE
  SYNTAX   Integer32
  UNITS   "0.1 dbm"
  MAX-ACCESS  read-only
  STATUS  current
  DESCRIPTION
    "The highest optical power monitored at the output during the
     interval."
  ::= { optIfOTSnSrcIntervalEntry 5 }

optIfOTSnSrcIntervalLastInputPower OBJECT-TYPE
  SYNTAX   Integer32
  UNITS   "0.1 dbm"
  MAX-ACCESS  read-only
  STATUS  current
  DESCRIPTION
    "The last optical power monitored at the input during the
     interval."
  ::= { optIfOTSnSrcIntervalEntry 6 }

optIfOTSnSrcIntervalLowInputPower OBJECT-TYPE
  SYNTAX   Integer32
  UNITS   "0.1 dbm"
  MAX-ACCESS  read-only
  STATUS  current
  DESCRIPTION
    "The lowest optical power monitored at the input during the
     interval."
  ::= { optIfOTSnSrcIntervalEntry 7 }

optIfOTSnSrcIntervalHighInputPower OBJECT-TYPE
  SYNTAX   Integer32
  UNITS   "0.1 dbm"
  MAX-ACCESS  read-only
  STATUS  current
  DESCRIPTION
    "The highest optical power monitored at the input during the
     interval."
```

```
   ::= { optIfOTSnSrcIntervalEntry 8 }


-- OTSn source current day table
-- Contains data for the current 24-hour performance
-- monitoring interval.

optIfOTSnSrcCurDayTable OBJECT-TYPE
  SYNTAX   SEQUENCE OF OptIfOTSnSrcCurDayEntry
  MAX-ACCESS  not-accessible
  STATUS   current
  DESCRIPTION
    "A table of OTSn source performance monitoring information for
     the current 24-hour interval."
  ::= { optIfOTSn 8 }

optIfOTSnSrcCurDayEntry OBJECT-TYPE
  SYNTAX   OptIfOTSnSrcCurDayEntry
  MAX-ACCESS  not-accessible
  STATUS   current
  DESCRIPTION
    "A conceptual row that contains OTSn source performance
     monitoring information of an interface for the current
     24-hour interval."
  INDEX  { ifIndex }
  ::= { optIfOTSnSrcCurDayTable 1 }

OptIfOTSnSrcCurDayEntry ::=
  SEQUENCE {
    optIfOTSnSrcCurDaySuspectedFlag     TruthValue,
    optIfOTSnSrcCurDayLowOutputPower    Integer32,
    optIfOTSnSrcCurDayHighOutputPower   Integer32,
    optIfOTSnSrcCurDayLowInputPower     Integer32,
    optIfOTSnSrcCurDayHighInputPower    Integer32
    }

optIfOTSnSrcCurDaySuspectedFlag OBJECT-TYPE
  SYNTAX   TruthValue
  MAX-ACCESS  read-only
  STATUS   current
  DESCRIPTION
    "If true, the data in this entry may be unreliable."
  ::= { optIfOTSnSrcCurDayEntry 1 }

optIfOTSnSrcCurDayLowOutputPower OBJECT-TYPE
  SYNTAX   Integer32
  UNITS   "0.1 dbm"
  MAX-ACCESS  read-only
```

```
  STATUS  current
  DESCRIPTION
    "The lowest optical power monitored at the output during the
     current 24-hour interval."
  ::= { optIfOTSnSrcCurDayEntry 2 }

optIfOTSnSrcCurDayHighOutputPower OBJECT-TYPE
  SYNTAX  Integer32
  UNITS  "0.1 dbm"
  MAX-ACCESS  read-only
  STATUS  current
  DESCRIPTION
    "The highest optical power monitored at the output during the
     current 24-hour interval."
  ::= { optIfOTSnSrcCurDayEntry 3 }

optIfOTSnSrcCurDayLowInputPower OBJECT-TYPE
  SYNTAX  Integer32
  UNITS  "0.1 dbm"
  MAX-ACCESS  read-only
  STATUS  current
  DESCRIPTION
    "The lowest optical power monitored at the input during the
     current 24-hour interval."
  ::= { optIfOTSnSrcCurDayEntry 4 }

optIfOTSnSrcCurDayHighInputPower OBJECT-TYPE
  SYNTAX  Integer32
  UNITS  "0.1 dbm"
  MAX-ACCESS  read-only
  STATUS  current
  DESCRIPTION
    "The highest optical power monitored at the input during the
     current 24-hour interval."
  ::= { optIfOTSnSrcCurDayEntry 5 }

-- OTSn source previous day table
-- Contains data for the previous 24-hour performance
-- monitoring interval.

optIfOTSnSrcPrevDayTable OBJECT-TYPE
  SYNTAX  SEQUENCE OF OptIfOTSnSrcPrevDayEntry
  MAX-ACCESS  not-accessible
  STATUS  current
  DESCRIPTION
    "A table of OTSn source performance monitoring information for
     the previous 24-hour interval."
  ::= { optIfOTSn 9 }
```

optIfOTSnSrcPrevDayEntry OBJECT-TYPE
  SYNTAX   OptIfOTSnSrcPrevDayEntry
  MAX-ACCESS   not-accessible
  STATUS   current
  DESCRIPTION
    "A conceptual row that contains OTSn source performance
     monitoring information of an interface for the previous
     24-hour interval."
  INDEX   { ifIndex }
  ::= { optIfOTSnSrcPrevDayTable 1 }

OptIfOTSnSrcPrevDayEntry ::=
  SEQUENCE {
    optIfOTSnSrcPrevDaySuspectedFlag   TruthValue,
    optIfOTSnSrcPrevDayLastOutputPower Integer32,
    optIfOTSnSrcPrevDayLowOutputPower   Integer32,
    optIfOTSnSrcPrevDayHighOutputPower Integer32,
    optIfOTSnSrcPrevDayLastInputPower   Integer32,
    optIfOTSnSrcPrevDayLowInputPower   Integer32,
    optIfOTSnSrcPrevDayHighInputPower   Integer32
    }

optIfOTSnSrcPrevDaySuspectedFlag OBJECT-TYPE
  SYNTAX   TruthValue
  MAX-ACCESS   read-only
  STATUS   current
  DESCRIPTION
    "If true, the data in this entry may be unreliable."
  ::= { optIfOTSnSrcPrevDayEntry 1 }

optIfOTSnSrcPrevDayLastOutputPower OBJECT-TYPE
  SYNTAX   Integer32
  UNITS   "0.1 dbm"
  MAX-ACCESS   read-only
  STATUS   current
  DESCRIPTION
    "The last optical power monitored at the output during the
     previous 24-hour interval."
  ::= { optIfOTSnSrcPrevDayEntry 2 }

optIfOTSnSrcPrevDayLowOutputPower OBJECT-TYPE
  SYNTAX   Integer32
  UNITS   "0.1 dbm"
  MAX-ACCESS   read-only
  STATUS   current
  DESCRIPTION
    "The lowest optical power monitored at the output during the
     previous 24-hour interval."

```
   ::= { optIfOTSnSrcPrevDayEntry 3 }

optIfOTSnSrcPrevDayHighOutputPower OBJECT-TYPE
  SYNTAX   Integer32
  UNITS   "0.1 dbm"
  MAX-ACCESS   read-only
  STATUS   current
  DESCRIPTION
    "The highest optical power monitored at the output during the
     previous 24-hour interval."
  ::= { optIfOTSnSrcPrevDayEntry 4 }

optIfOTSnSrcPrevDayLastInputPower OBJECT-TYPE
  SYNTAX   Integer32
  UNITS   "0.1 dbm"
  MAX-ACCESS   read-only
  STATUS   current
  DESCRIPTION
    "The last optical power monitored at the input during the
     previous 24-hour interval."
  ::= { optIfOTSnSrcPrevDayEntry 5 }

optIfOTSnSrcPrevDayLowInputPower OBJECT-TYPE
  SYNTAX   Integer32
  UNITS   "0.1 dbm"
  MAX-ACCESS   read-only
  STATUS   current
  DESCRIPTION
    "The lowest optical power monitored at the input during the
     previous 24-hour interval."
  ::= { optIfOTSnSrcPrevDayEntry 6 }

optIfOTSnSrcPrevDayHighInputPower OBJECT-TYPE
  SYNTAX   Integer32
  UNITS   "0.1 dbm"
  MAX-ACCESS   read-only
  STATUS   current
  DESCRIPTION
    "The highest optical power monitored at the input during the
     previous 24-hour interval."
  ::= { optIfOTSnSrcPrevDayEntry 7 }


-- the optIfOMSn group
-- This group handles the configuration and performance monitoring
-- information for OMS layers.

-- OMSn config table
```

```
optIfOMSnConfigTable OBJECT-TYPE
  SYNTAX   SEQUENCE OF OptIfOMSnConfigEntry
  MAX-ACCESS  not-accessible
  STATUS  current
  DESCRIPTION
    "A table of OMSn configuration information."
  ::= { optIfOMSn 1 }

optIfOMSnConfigEntry OBJECT-TYPE
  SYNTAX   OptIfOMSnConfigEntry
  MAX-ACCESS  not-accessible
  STATUS  current
  DESCRIPTION
    "A conceptual row that contains OMSn configuration
     information of an interface."
  INDEX  { ifIndex }
  ::= { optIfOMSnConfigTable 1 }

OptIfOMSnConfigEntry ::=
  SEQUENCE {
    optIfOMSnDirectionality OptIfDirectionality,
    optIfOMSnCurrentStatus  BITS
    }

optIfOMSnDirectionality OBJECT-TYPE
  SYNTAX  OptIfDirectionality
  MAX-ACCESS  read-only
  STATUS  current
  DESCRIPTION
    "Indicates the directionality of the entity."
  ::= { optIfOMSnConfigEntry 1 }

optIfOMSnCurrentStatus OBJECT-TYPE
  SYNTAX  BITS {
    ssfP(0),
    ssfO(1),
    ssf(2),
    bdiP(3),
    bdiO(4),
    bdi(5),
    losP(6)
    }
  MAX-ACCESS  read-only
  STATUS  current
  DESCRIPTION
    "Indicates the defect condition of the entity, if any.
     This object is applicable only to full capability
     systems whose interface type is IaDI and for which
```

      optIfOMSnDirectionality has the value sink(1) or
      bidirectional(3)."
   ::= { optIfOMSnConfigEntry 2 }

-- OMSn sink current table
-- Contains data for the current 15-minute performance monitoring
-- interval.

optIfOMSnSinkCurrentTable OBJECT-TYPE
   SYNTAX   SEQUENCE OF OptIfOMSnSinkCurrentEntry
   MAX-ACCESS not-accessible
   STATUS current
   DESCRIPTION
     "A table of OMSn sink performance monitoring information for
      the current 15-minute interval."
   ::= { optIfOMSn 2 }

optIfOMSnSinkCurrentEntry OBJECT-TYPE
   SYNTAX OptIfOMSnSinkCurrentEntry
   MAX-ACCESS not-accessible
   STATUS current
   DESCRIPTION
     "A conceptual row that contains OMSn sink performance
      monitoring information of an interface for the current
      15-minute interval."
   INDEX { ifIndex }
   ::= { optIfOMSnSinkCurrentTable 1 }

OptIfOMSnSinkCurrentEntry ::=
   SEQUENCE {
     optIfOMSnSinkCurrentSuspectedFlag   TruthValue,
     optIfOMSnSinkCurrentAggregatedInputPower   Integer32,
     optIfOMSnSinkCurrentLowAggregatedInputPower Integer32,
     optIfOMSnSinkCurrentHighAggregatedInputPower Integer32,
     optIfOMSnSinkCurrentLowerInputPowerThreshold Integer32,
     optIfOMSnSinkCurrentUpperInputPowerThreshold Integer32,
     optIfOMSnSinkCurrentOutputPower   Integer32,
     optIfOMSnSinkCurrentLowOutputPower   Integer32,
     optIfOMSnSinkCurrentHighOutputPower   Integer32,
     optIfOMSnSinkCurrentLowerOutputPowerThreshold Integer32,
     optIfOMSnSinkCurrentUpperOutputPowerThreshold Integer32
     }

optIfOMSnSinkCurrentSuspectedFlag OBJECT-TYPE
   SYNTAX TruthValue
   MAX-ACCESS read-only
   STATUS current
   DESCRIPTION

       "If true, the data in this entry may be unreliable."
     ::= { optIfOMSnSinkCurrentEntry 1 }

   optIfOMSnSinkCurrentAggregatedInputPower OBJECT-TYPE
     SYNTAX   Integer32
     UNITS   "0.1 dbm"
     MAX-ACCESS   read-only
     STATUS   current
     DESCRIPTION
       "The aggregated optical power of all the DWDM input
        channels."
     ::= { optIfOMSnSinkCurrentEntry 2 }

   optIfOMSnSinkCurrentLowAggregatedInputPower OBJECT-TYPE
     SYNTAX   Integer32
     UNITS   "0.1 dbm"
     MAX-ACCESS   read-only
     STATUS   current
     DESCRIPTION
       "The lowest aggregated optical power of all the DWDM input
        channels during the current 15-minute interval."
     ::= { optIfOMSnSinkCurrentEntry 3 }

   optIfOMSnSinkCurrentHighAggregatedInputPower OBJECT-TYPE
     SYNTAX   Integer32
     UNITS   "0.1 dbm"
     MAX-ACCESS   read-only
     STATUS   current
     DESCRIPTION
       "The highest aggregated optical power of all the DWDM input
        channels during the current 15-minute interval."
     ::= { optIfOMSnSinkCurrentEntry 4 }

   optIfOMSnSinkCurrentLowerInputPowerThreshold OBJECT-TYPE
     SYNTAX   Integer32
     UNITS   "0.1 dbm"
     MAX-ACCESS   read-write
     STATUS   current
     DESCRIPTION
       "The lower limit threshold on aggregated input power. If
        optIfOMSnSinkCurrentAggregatedInputPower drops to this value
        or below, a Threshold Crossing Alert (TCA) should be sent."
     ::= { optIfOMSnSinkCurrentEntry 5 }

   optIfOMSnSinkCurrentUpperInputPowerThreshold OBJECT-TYPE
     SYNTAX   Integer32
     UNITS   "0.1 dbm"
     MAX-ACCESS   read-write

```
   STATUS  current
   DESCRIPTION
     "The upper limit threshold on aggregated input power.  If
      optIfOMSnSinkCurrentAggregatedInputPower reaches or exceeds
      this value, a Threshold Crossing Alert (TCA) should be sent."
   ::= { optIfOMSnSinkCurrentEntry 6 }


optIfOMSnSinkCurrentOutputPower OBJECT-TYPE
   SYNTAX  Integer32
   UNITS   "0.1 dbm"
   MAX-ACCESS  read-only
   STATUS  current
   DESCRIPTION
     "The optical power monitored at the output."
   ::= { optIfOMSnSinkCurrentEntry 7 }


optIfOMSnSinkCurrentLowOutputPower OBJECT-TYPE
   SYNTAX  Integer32
   UNITS   "0.1 dbm"
   MAX-ACCESS  read-only
   STATUS  current
   DESCRIPTION
     "The lowest optical power monitored at the output
      during the current 15-minute interval."
   ::= { optIfOMSnSinkCurrentEntry 8 }


optIfOMSnSinkCurrentHighOutputPower OBJECT-TYPE
   SYNTAX  Integer32
   UNITS   "0.1 dbm"
   MAX-ACCESS  read-only
   STATUS  current
   DESCRIPTION
     "The highest optical power monitored at the output
      during the current 15-minute interval."
   ::= { optIfOMSnSinkCurrentEntry 9 }


optIfOMSnSinkCurrentLowerOutputPowerThreshold OBJECT-TYPE
   SYNTAX  Integer32
   UNITS   "0.1 dbm"
   MAX-ACCESS  read-write
   STATUS  current
   DESCRIPTION
     "The lower limit threshold on output power.  If
      optIfOMSnSinkCurrentOutputPower drops to this value
      or below, a Threshold Crossing Alert (TCA) should be sent."
   ::= { optIfOMSnSinkCurrentEntry 10 }


optIfOMSnSinkCurrentUpperOutputPowerThreshold OBJECT-TYPE
```

```
   SYNTAX  Integer32
   UNITS  "0.1 dbm"
   MAX-ACCESS  read-write
   STATUS  current
   DESCRIPTION
     "The upper limit threshold on output power.  If
      optIfOMSnSinkCurrentOutputPower reaches or exceeds
      this value, a Threshold Crossing Alert (TCA) should be sent."
   ::= { optIfOMSnSinkCurrentEntry 11 }

-- OMSn sink interval table
-- Contains data for previous 15-minute performance monitoring
-- intervals.

optIfOMSnSinkIntervalTable OBJECT-TYPE
   SYNTAX  SEQUENCE OF OptIfOMSnSinkIntervalEntry
   MAX-ACCESS  not-accessible
   STATUS  current
   DESCRIPTION
     "A table of historical OMSn sink performance monitoring
      information."
   ::= { optIfOMSn 3 }

optIfOMSnSinkIntervalEntry OBJECT-TYPE
   SYNTAX  OptIfOMSnSinkIntervalEntry
   MAX-ACCESS  not-accessible
   STATUS  current
   DESCRIPTION
     "A conceptual row that contains OMSn sink performance
      monitoring information of an interface during a particular
      historical interval."
   INDEX  { ifIndex, optIfOMSnSinkIntervalNumber }
   ::= { optIfOMSnSinkIntervalTable 1 }

OptIfOMSnSinkIntervalEntry ::=
   SEQUENCE {
     optIfOMSnSinkIntervalNumber                 OptIfIntervalNumber,
     optIfOMSnSinkIntervalSuspectedFlag          TruthValue,
     optIfOMSnSinkIntervalLastAggregatedInputPower  Integer32,
     optIfOMSnSinkIntervalLowAggregatedInputPower   Integer32,
     optIfOMSnSinkIntervalHighAggregatedInputPower  Integer32,
     optIfOMSnSinkIntervalLastOutputPower        Integer32,
     optIfOMSnSinkIntervalLowOutputPower         Integer32,
     optIfOMSnSinkIntervalHighOutputPower        Integer32
     }

optIfOMSnSinkIntervalNumber OBJECT-TYPE
   SYNTAX  OptIfIntervalNumber
```

```
  MAX-ACCESS  not-accessible
  STATUS  current
  DESCRIPTION
    "Uniquely identifies the interval."
  ::= { optIfOMSnSinkIntervalEntry 1 }

optIfOMSnSinkIntervalSuspectedFlag OBJECT-TYPE
  SYNTAX  TruthValue
  MAX-ACCESS  read-only
  STATUS  current
  DESCRIPTION
    "If true, the data in this entry may be unreliable."
  ::= { optIfOMSnSinkIntervalEntry 2 }

optIfOMSnSinkIntervalLastAggregatedInputPower OBJECT-TYPE
  SYNTAX  Integer32
  UNITS  "0.1 dbm"
  MAX-ACCESS  read-only
  STATUS  current
  DESCRIPTION
    "The last aggregated optical power of all the DWDM input
     channels during the interval."
  ::= { optIfOMSnSinkIntervalEntry 3 }

optIfOMSnSinkIntervalLowAggregatedInputPower OBJECT-TYPE
  SYNTAX  Integer32
  UNITS  "0.1 dbm"
  MAX-ACCESS  read-only
  STATUS  current
  DESCRIPTION
    "The lowest aggregated optical power of all the DWDM input
     channels during the interval."
  ::= { optIfOMSnSinkIntervalEntry 4 }

optIfOMSnSinkIntervalHighAggregatedInputPower OBJECT-TYPE
  SYNTAX  Integer32
  UNITS  "0.1 dbm"
  MAX-ACCESS  read-only
  STATUS  current
  DESCRIPTION
    "The highest aggregated optical power of all the DWDM input
     channels during the interval."
  ::= { optIfOMSnSinkIntervalEntry 5 }

optIfOMSnSinkIntervalLastOutputPower OBJECT-TYPE
  SYNTAX  Integer32
  UNITS  "0.1 dbm"
  MAX-ACCESS  read-only
```

```
    STATUS  current
    DESCRIPTION
      "The last optical power at the output
       during the interval."
    ::= { optIfOMSnSinkIntervalEntry 6 }

optIfOMSnSinkIntervalLowOutputPower OBJECT-TYPE
    SYNTAX  Integer32
    UNITS   "0.1 dbm"
    MAX-ACCESS  read-only
    STATUS  current
    DESCRIPTION
      "The lowest optical power at the output
       during the interval."
    ::= { optIfOMSnSinkIntervalEntry 7 }

optIfOMSnSinkIntervalHighOutputPower OBJECT-TYPE
    SYNTAX  Integer32
    UNITS   "0.1 dbm"
    MAX-ACCESS  read-only
    STATUS  current
    DESCRIPTION
      "The highest optical power at the output
       during the interval."
    ::= { optIfOMSnSinkIntervalEntry 8 }

-- OMSn sink current day table
-- Contains data for the current 24-hour performance
-- monitoring interval.

optIfOMSnSinkCurDayTable OBJECT-TYPE
    SYNTAX  SEQUENCE OF OptIfOMSnSinkCurDayEntry
    MAX-ACCESS  not-accessible
    STATUS  current
    DESCRIPTION
      "A table of OMSn sink performance monitoring information for
       the current 24-hour interval."
    ::= { optIfOMSn 4 }

optIfOMSnSinkCurDayEntry OBJECT-TYPE
    SYNTAX  OptIfOMSnSinkCurDayEntry
    MAX-ACCESS  not-accessible
    STATUS  current
    DESCRIPTION
      "A conceptual row that contains OMSn sink performance
       monitoring information of an interface for the current
       24-hour interval."
    INDEX  { ifIndex }
```

```
   ::= { optIfOMSnSinkCurDayTable 1 }

OptIfOMSnSinkCurDayEntry ::=
  SEQUENCE {
    optIfOMSnSinkCurDaySuspectedFlag            TruthValue,
    optIfOMSnSinkCurDayLowAggregatedInputPower  Integer32,
    optIfOMSnSinkCurDayHighAggregatedInputPower Integer32,
    optIfOMSnSinkCurDayLowOutputPower           Integer32,
    optIfOMSnSinkCurDayHighOutputPower          Integer32
    }

optIfOMSnSinkCurDaySuspectedFlag OBJECT-TYPE
  SYNTAX   TruthValue
  MAX-ACCESS   read-only
  STATUS   current
  DESCRIPTION
    "If true, the data in this entry may be unreliable."
  ::= { optIfOMSnSinkCurDayEntry 1 }

optIfOMSnSinkCurDayLowAggregatedInputPower OBJECT-TYPE
  SYNTAX   Integer32
  UNITS   "0.1 dbm"
  MAX-ACCESS   read-only
  STATUS   current
  DESCRIPTION
    "The lowest aggregated optical power of all the DWDM input
     channels during the current 24-hour interval."
  ::= { optIfOMSnSinkCurDayEntry 2 }

optIfOMSnSinkCurDayHighAggregatedInputPower OBJECT-TYPE
  SYNTAX   Integer32
  UNITS   "0.1 dbm"
  MAX-ACCESS   read-only
  STATUS   current
  DESCRIPTION
    "The highest aggregated optical power of all the DWDM input
     channels during the current 24-hour interval."
  ::= { optIfOMSnSinkCurDayEntry 3 }

optIfOMSnSinkCurDayLowOutputPower OBJECT-TYPE
  SYNTAX   Integer32
  UNITS   "0.1 dbm"
  MAX-ACCESS   read-only
  STATUS   current
  DESCRIPTION
    "The lowest optical power at the output
     during the current 24-hour interval."
  ::= { optIfOMSnSinkCurDayEntry 4 }
```

optIfOMSnSinkCurDayHighOutputPower OBJECT-TYPE
  SYNTAX   Integer32
  UNITS   "0.1 dbm"
  MAX-ACCESS read-only
  STATUS current
  DESCRIPTION
    "The highest optical power at the output
     during the current 24-hour interval."
  ::= { optIfOMSnSinkCurDayEntry 5 }

-- OMSn sink previous day table
-- Contains data for the previous 24-hour performance
-- monitoring interval.

optIfOMSnSinkPrevDayTable OBJECT-TYPE
  SYNTAX   SEQUENCE OF OptIfOMSnSinkPrevDayEntry
  MAX-ACCESS not-accessible
  STATUS current
  DESCRIPTION
    "A table of OMSn sink performance monitoring information for
     the previous 24-hour interval."
  ::= { optIfOMSn 5 }

optIfOMSnSinkPrevDayEntry OBJECT-TYPE
  SYNTAX   OptIfOMSnSinkPrevDayEntry
  MAX-ACCESS not-accessible
  STATUS current
  DESCRIPTION
    "A conceptual row that contains OMSn sink performance
     monitoring information of an interface for the previous
     24-hour interval."
  INDEX { ifIndex }
  ::= { optIfOMSnSinkPrevDayTable 1 }

OptIfOMSnSinkPrevDayEntry ::=
  SEQUENCE {
    optIfOMSnSinkPrevDaySuspectedFlag   TruthValue,
    optIfOMSnSinkPrevDayLastAggregatedInputPower Integer32,
    optIfOMSnSinkPrevDayLowAggregatedInputPower   Integer32,
    optIfOMSnSinkPrevDayHighAggregatedInputPower Integer32,
    optIfOMSnSinkPrevDayLastOutputPower   Integer32,
    optIfOMSnSinkPrevDayLowOutputPower   Integer32,
    optIfOMSnSinkPrevDayHighOutputPower   Integer32
    }

optIfOMSnSinkPrevDaySuspectedFlag OBJECT-TYPE
  SYNTAX   TruthValue
  MAX-ACCESS read-only

```
     STATUS  current
     DESCRIPTION
       "If true, the data in this entry may be unreliable."
     ::= { optIfOMSnSinkPrevDayEntry 1 }

optIfOMSnSinkPrevDayLastAggregatedInputPower OBJECT-TYPE
     SYNTAX  Integer32
     UNITS  "0.1 dbm"
     MAX-ACCESS  read-only
     STATUS  current
     DESCRIPTION
       "The last aggregated optical power of all the DWDM input
        channels during the previous 24-hour interval."
     ::= { optIfOMSnSinkPrevDayEntry 2 }

optIfOMSnSinkPrevDayLowAggregatedInputPower OBJECT-TYPE
     SYNTAX  Integer32
     UNITS  "0.1 dbm"
     MAX-ACCESS  read-only
     STATUS  current
     DESCRIPTION
       "The lowest aggregated optical power of all the DWDM input
        channels during the previous 24-hour interval."
     ::= { optIfOMSnSinkPrevDayEntry 3 }

optIfOMSnSinkPrevDayHighAggregatedInputPower OBJECT-TYPE
     SYNTAX  Integer32
     UNITS  "0.1 dbm"
     MAX-ACCESS  read-only
     STATUS  current
     DESCRIPTION
       "The highest aggregated optical power of all the DWDM input
        channels during the previous 24-hour interval."
     ::= { optIfOMSnSinkPrevDayEntry 4 }

optIfOMSnSinkPrevDayLastOutputPower OBJECT-TYPE
     SYNTAX  Integer32
     UNITS  "0.1 dbm"
     MAX-ACCESS  read-only
     STATUS  current
     DESCRIPTION
       "The last  optical power at the output
        during the previous 24-hour interval."
     ::= { optIfOMSnSinkPrevDayEntry 5 }

optIfOMSnSinkPrevDayLowOutputPower OBJECT-TYPE
     SYNTAX  Integer32
     UNITS  "0.1 dbm"
```

```
  MAX-ACCESS  read-only
  STATUS  current
  DESCRIPTION
    "The lowest optical power at the output
     during the previous 24-hour interval."
  ::= { optIfOMSnSinkPrevDayEntry 6 }

optIfOMSnSinkPrevDayHighOutputPower OBJECT-TYPE
  SYNTAX  Integer32
  UNITS   "0.1 dbm"
  MAX-ACCESS  read-only
  STATUS  current
  DESCRIPTION
    "The highest optical power at the output
     during the previous 24-hour interval."
  ::= { optIfOMSnSinkPrevDayEntry 7 }

-- OMSn source current table
-- Contains data for the current 15-minute performance monitoring
-- interval.

optIfOMSnSrcCurrentTable OBJECT-TYPE
  SYNTAX  SEQUENCE OF OptIfOMSnSrcCurrentEntry
  MAX-ACCESS  not-accessible
  STATUS  current
  DESCRIPTION
    "A table of OMSn source performance monitoring information for
     the current 15-minute interval."
  ::= { optIfOMSn 6 }

optIfOMSnSrcCurrentEntry OBJECT-TYPE
  SYNTAX  OptIfOMSnSrcCurrentEntry
  MAX-ACCESS  not-accessible
  STATUS  current
  DESCRIPTION
    "A conceptual row that contains OMSn source performance
     monitoring information of an interface for the current
     15-minute interval."
  INDEX  { ifIndex }
  ::= { optIfOMSnSrcCurrentTable 1 }

OptIfOMSnSrcCurrentEntry ::=
  SEQUENCE {
    optIfOMSnSrcCurrentSuspectedFlag              TruthValue,
    optIfOMSnSrcCurrentOutputPower                Integer32,
    optIfOMSnSrcCurrentLowOutputPower             Integer32,
    optIfOMSnSrcCurrentHighOutputPower            Integer32,
    optIfOMSnSrcCurrentLowerOutputPowerThreshold  Integer32,
```

```
      optIfOMSnSrcCurrentUpperOutputPowerThreshold  Integer32,
      optIfOMSnSrcCurrentAggregatedInputPower       Integer32,
      optIfOMSnSrcCurrentLowAggregatedInputPower    Integer32,
      optIfOMSnSrcCurrentHighAggregatedInputPower   Integer32,
      optIfOMSnSrcCurrentLowerInputPowerThreshold   Integer32,
      optIfOMSnSrcCurrentUpperInputPowerThreshold   Integer32
      }

optIfOMSnSrcCurrentSuspectedFlag OBJECT-TYPE
  SYNTAX   TruthValue
  MAX-ACCESS  read-only
  STATUS   current
  DESCRIPTION
    "If true, the data in this entry may be unreliable."
  ::= { optIfOMSnSrcCurrentEntry 1 }

optIfOMSnSrcCurrentOutputPower OBJECT-TYPE
  SYNTAX   Integer32
  UNITS   "0.1 dbm"
  MAX-ACCESS  read-only
  STATUS   current
  DESCRIPTION
    "The optical power monitored at the output."
  ::= { optIfOMSnSrcCurrentEntry 2 }

optIfOMSnSrcCurrentLowOutputPower OBJECT-TYPE
  SYNTAX   Integer32
  UNITS   "0.1 dbm"
  MAX-ACCESS  read-only
  STATUS   current
  DESCRIPTION
    "The lowest optical power monitored at the output during the
     current 15-minute interval."
  ::= { optIfOMSnSrcCurrentEntry 3 }

optIfOMSnSrcCurrentHighOutputPower OBJECT-TYPE
  SYNTAX   Integer32
  UNITS   "0.1 dbm"
  MAX-ACCESS  read-only
  STATUS   current
  DESCRIPTION
    "The highest optical power monitored at the output during the
     current 15-minute interval."
  ::= { optIfOMSnSrcCurrentEntry 4 }

optIfOMSnSrcCurrentLowerOutputPowerThreshold OBJECT-TYPE
  SYNTAX   Integer32
  UNITS   "0.1 dbm"
```

```
  MAX-ACCESS  read-write
  STATUS  current
  DESCRIPTION
    "The lower limit threshold on output power.  If
     optIfOMSnSrcCurrentOutputPower drops to this value or below,
     a Threshold Crossing Alert (TCA) should be sent."
  ::= { optIfOMSnSrcCurrentEntry 5 }

optIfOMSnSrcCurrentUpperOutputPowerThreshold OBJECT-TYPE
  SYNTAX  Integer32
  UNITS  "0.1 dbm"
  MAX-ACCESS  read-write
  STATUS  current
  DESCRIPTION
    "The upper limit threshold on output power.  If
     optIfOMSnSrcCurrentOutputPower reaches or exceeds this value,
     a Threshold Crossing Alert (TCA) should be sent."
  ::= { optIfOMSnSrcCurrentEntry 6 }

optIfOMSnSrcCurrentAggregatedInputPower OBJECT-TYPE
  SYNTAX  Integer32
  UNITS  "0.1 dbm"
  MAX-ACCESS  read-only
  STATUS  current
  DESCRIPTION
    "The aggregated optical power at the input."
  ::= { optIfOMSnSrcCurrentEntry 7 }

optIfOMSnSrcCurrentLowAggregatedInputPower OBJECT-TYPE
  SYNTAX  Integer32
  UNITS  "0.1 dbm"
  MAX-ACCESS  read-only
  STATUS  current
  DESCRIPTION
    "The lowest aggregated optical power at the input
     during the current 15-minute interval."
  ::= { optIfOMSnSrcCurrentEntry 8 }

optIfOMSnSrcCurrentHighAggregatedInputPower OBJECT-TYPE
  SYNTAX  Integer32
  UNITS  "0.1 dbm"
  MAX-ACCESS  read-only
  STATUS  current
  DESCRIPTION
    "The highest aggregated optical power at the input
     during the current 15-minute interval."
  ::= { optIfOMSnSrcCurrentEntry 9 }
```

optIfOMSnSrcCurrentLowerInputPowerThreshold OBJECT-TYPE
  SYNTAX   Integer32
  UNITS   "0.1 dbm"
  MAX-ACCESS   read-write
  STATUS   current
  DESCRIPTION
    "The lower limit threshold on aggregated input power. If
     optIfOMSnSrcCurrentAggregatedInputPower drops to this value
     or below, a Threshold Crossing Alert (TCA) should be sent."
  ::= { optIfOMSnSrcCurrentEntry 10 }

optIfOMSnSrcCurrentUpperInputPowerThreshold OBJECT-TYPE
  SYNTAX   Integer32
  UNITS   "0.1 dbm"
  MAX-ACCESS   read-write
  STATUS   current
  DESCRIPTION
    "The upper limit threshold on aggregated input power. If
     optIfOMSnSrcCurrentAggregatedInputPower reaches or exceeds
     this value, a Threshold Crossing Alert (TCA) should be sent."
  ::= { optIfOMSnSrcCurrentEntry 11 }

-- OMSn source interval table
-- Contains data for previous 15-minute performance monitoring
-- intervals.

optIfOMSnSrcIntervalTable OBJECT-TYPE
  SYNTAX   SEQUENCE OF OptIfOMSnSrcIntervalEntry
  MAX-ACCESS   not-accessible
  STATUS   current
  DESCRIPTION
    "A table of historical OMSn source performance monitoring
     information."
  ::= { optIfOMSn 7 }

optIfOMSnSrcIntervalEntry OBJECT-TYPE
  SYNTAX   OptIfOMSnSrcIntervalEntry
  MAX-ACCESS   not-accessible
  STATUS   current
  DESCRIPTION
    "A conceptual row that contains OMSn source performance
     monitoring information of an interface during a particular
     historical interval."
  INDEX   { ifIndex, optIfOMSnSrcIntervalNumber }
  ::= { optIfOMSnSrcIntervalTable 1 }

OptIfOMSnSrcIntervalEntry ::=

```
   SEQUENCE {
     optIfOMSnSrcIntervalNumber                    OptIfIntervalNumber,
     optIfOMSnSrcIntervalSuspectedFlag             TruthValue,
     optIfOMSnSrcIntervalLastOutputPower           Integer32,
     optIfOMSnSrcIntervalLowOutputPower            Integer32,
     optIfOMSnSrcIntervalHighOutputPower           Integer32,
     optIfOMSnSrcIntervalLastAggregatedInputPower  Integer32,
     optIfOMSnSrcIntervalLowAggregatedInputPower   Integer32,
     optIfOMSnSrcIntervalHighAggregatedInputPower  Integer32
     }

optIfOMSnSrcIntervalNumber OBJECT-TYPE
  SYNTAX   OptIfIntervalNumber
  MAX-ACCESS   not-accessible
  STATUS   current
  DESCRIPTION
    "Uniquely identifies the interval."
  ::= { optIfOMSnSrcIntervalEntry 1 }

optIfOMSnSrcIntervalSuspectedFlag OBJECT-TYPE
  SYNTAX   TruthValue
  MAX-ACCESS   read-only
  STATUS   current
  DESCRIPTION
    "If true, the data in this entry may be unreliable."
  ::= { optIfOMSnSrcIntervalEntry 2 }

optIfOMSnSrcIntervalLastOutputPower OBJECT-TYPE
  SYNTAX   Integer32
  UNITS   "0.1 dbm"
  MAX-ACCESS   read-only
  STATUS   current
  DESCRIPTION
    "The last optical power monitored at the output during the
     interval."
  ::= { optIfOMSnSrcIntervalEntry 3 }

optIfOMSnSrcIntervalLowOutputPower OBJECT-TYPE
  SYNTAX   Integer32
  UNITS   "0.1 dbm"
  MAX-ACCESS   read-only
  STATUS   current
  DESCRIPTION
    "The lowest optical power monitored at the output during the
     interval."
  ::= { optIfOMSnSrcIntervalEntry 4 }

optIfOMSnSrcIntervalHighOutputPower OBJECT-TYPE
```

```
   SYNTAX  Integer32
   UNITS  "0.1 dbm"
   MAX-ACCESS  read-only
   STATUS  current
   DESCRIPTION
     "The highest optical power monitored at the output during the
      interval."
   ::= { optIfOMSnSrcIntervalEntry 5 }

optIfOMSnSrcIntervalLastAggregatedInputPower OBJECT-TYPE
   SYNTAX  Integer32
   UNITS  "0.1 dbm"
   MAX-ACCESS  read-only
   STATUS  current
   DESCRIPTION
     "The last aggregated optical power at the input
      during the interval."
   ::= { optIfOMSnSrcIntervalEntry 6 }

optIfOMSnSrcIntervalLowAggregatedInputPower OBJECT-TYPE
   SYNTAX  Integer32
   UNITS  "0.1 dbm"
   MAX-ACCESS  read-only
   STATUS  current
   DESCRIPTION
     "The lowest aggregated optical power at the input
      during the interval."
   ::= { optIfOMSnSrcIntervalEntry 7 }

optIfOMSnSrcIntervalHighAggregatedInputPower OBJECT-TYPE
   SYNTAX  Integer32
   UNITS  "0.1 dbm"
   MAX-ACCESS  read-only
   STATUS  current
   DESCRIPTION
     "The highest aggregated optical power at the input
      during the interval."
   ::= { optIfOMSnSrcIntervalEntry 8 }

-- OMSn source current day table
-- Contains data for the current 24-hour performance
-- monitoring interval.

optIfOMSnSrcCurDayTable OBJECT-TYPE
   SYNTAX  SEQUENCE OF OptIfOMSnSrcCurDayEntry
   MAX-ACCESS  not-accessible
   STATUS  current
   DESCRIPTION
```

      "A table of OMSn source performance monitoring information for
       the current 24-hour interval."
    ::= { optIfOMSn 8 }

optIfOMSnSrcCurDayEntry OBJECT-TYPE
  SYNTAX OptIfOMSnSrcCurDayEntry
  MAX-ACCESS not-accessible
  STATUS current
  DESCRIPTION
     "A conceptual row that contains OMSn source performance
      monitoring information of an interface for the current
      24-hour interval."
  INDEX { ifIndex }
  ::= { optIfOMSnSrcCurDayTable 1 }

OptIfOMSnSrcCurDayEntry ::=
  SEQUENCE {
     optIfOMSnSrcCurDaySuspectedFlag   TruthValue,
     optIfOMSnSrcCurDayLowOutputPower   Integer32,
     optIfOMSnSrcCurDayHighOutputPower   Integer32,
     optIfOMSnSrcCurDayLowAggregatedInputPower   Integer32,
     optIfOMSnSrcCurDayHighAggregatedInputPower   Integer32
     }

optIfOMSnSrcCurDaySuspectedFlag OBJECT-TYPE
  SYNTAX TruthValue
  MAX-ACCESS read-only
  STATUS current
  DESCRIPTION
     "If true, the data in this entry may be unreliable."
  ::= { optIfOMSnSrcCurDayEntry 1 }

optIfOMSnSrcCurDayLowOutputPower OBJECT-TYPE
  SYNTAX Integer32
  UNITS "0.1 dbm"
  MAX-ACCESS read-only
  STATUS current
  DESCRIPTION
     "The lowest optical power monitored at the output during the
      current 24-hour interval."
  ::= { optIfOMSnSrcCurDayEntry 2 }

optIfOMSnSrcCurDayHighOutputPower OBJECT-TYPE
  SYNTAX Integer32
  UNITS "0.1 dbm"
  MAX-ACCESS read-only
  STATUS current
  DESCRIPTION

```
        "The highest optical power monitored at the output during the
         current 24-hour interval."
      ::= { optIfOMSnSrcCurDayEntry 3 }

   optIfOMSnSrcCurDayLowAggregatedInputPower OBJECT-TYPE
     SYNTAX   Integer32
     UNITS    "0.1 dbm"
     MAX-ACCESS   read-only
     STATUS   current
     DESCRIPTION
        "The lowest aggregated optical power at the input
         during the current 24-hour interval."
      ::= { optIfOMSnSrcCurDayEntry 4 }

   optIfOMSnSrcCurDayHighAggregatedInputPower OBJECT-TYPE
     SYNTAX   Integer32
     UNITS    "0.1 dbm"
     MAX-ACCESS   read-only
     STATUS   current
     DESCRIPTION
        "The highest aggregated optical power at the input
         during the current 24-hour interval."
      ::= { optIfOMSnSrcCurDayEntry 5 }

   -- OMSn source previous day table
   -- Contains data for the previous 24-hour performance
   -- monitoring interval.

   optIfOMSnSrcPrevDayTable OBJECT-TYPE
     SYNTAX   SEQUENCE OF OptIfOMSnSrcPrevDayEntry
     MAX-ACCESS   not-accessible
     STATUS   current
     DESCRIPTION
        "A table of OMSn source performance monitoring information for
         the previous 24-hour interval."
      ::= { optIfOMSn 9 }

   optIfOMSnSrcPrevDayEntry OBJECT-TYPE
     SYNTAX   OptIfOMSnSrcPrevDayEntry
     MAX-ACCESS   not-accessible
     STATUS   current
     DESCRIPTION
        "A conceptual row that contains OMSn source performance
         monitoring information of an interface for the previous
         24-hour interval."
     INDEX  { ifIndex }
      ::= { optIfOMSnSrcPrevDayTable 1 }
```

```
OptIfOMSnSrcPrevDayEntry ::=
  SEQUENCE {
    optIfOMSnSrcPrevDaySuspectedFlag            TruthValue,
    optIfOMSnSrcPrevDayLastOutputPower          Integer32,
    optIfOMSnSrcPrevDayLowOutputPower           Integer32,
    optIfOMSnSrcPrevDayHighOutputPower          Integer32,
    optIfOMSnSrcPrevDayLastAggregatedInputPower Integer32,
    optIfOMSnSrcPrevDayLowAggregatedInputPower  Integer32,
    optIfOMSnSrcPrevDayHighAggregatedInputPower Integer32
    }

optIfOMSnSrcPrevDaySuspectedFlag OBJECT-TYPE
  SYNTAX   TruthValue
  MAX-ACCESS  read-only
  STATUS   current
  DESCRIPTION
    "If true, the data in this entry may be unreliable."
  ::= { optIfOMSnSrcPrevDayEntry 1 }

optIfOMSnSrcPrevDayLastOutputPower OBJECT-TYPE
  SYNTAX   Integer32
  UNITS   "0.1 dbm"
  MAX-ACCESS  read-only
  STATUS   current
  DESCRIPTION
    "The last optical power monitored at the output during the
     previous 24-hour interval."
  ::= { optIfOMSnSrcPrevDayEntry 2 }

optIfOMSnSrcPrevDayLowOutputPower OBJECT-TYPE
  SYNTAX   Integer32
  UNITS   "0.1 dbm"
  MAX-ACCESS  read-only
  STATUS   current
  DESCRIPTION
    "The lowest optical power monitored at the output during the
     previous 24-hour interval."
  ::= { optIfOMSnSrcPrevDayEntry 3 }

optIfOMSnSrcPrevDayHighOutputPower OBJECT-TYPE
  SYNTAX   Integer32
  UNITS   "0.1 dbm"
  MAX-ACCESS  read-only
  STATUS   current
  DESCRIPTION
    "The highest optical power monitored at the output during the
     previous 24-hour interval."
  ::= { optIfOMSnSrcPrevDayEntry 4 }
```

```
optIfOMSnSrcPrevDayLastAggregatedInputPower OBJECT-TYPE
  SYNTAX   Integer32
  UNITS   "0.1 dbm"
  MAX-ACCESS   read-only
  STATUS   current
  DESCRIPTION
    "The last aggregated optical power at the input during the
     previous 24-hour interval."
  ::= { optIfOMSnSrcPrevDayEntry 5 }

optIfOMSnSrcPrevDayLowAggregatedInputPower OBJECT-TYPE
  SYNTAX   Integer32
  UNITS   "0.1 dbm"
  MAX-ACCESS   read-only
  STATUS   current
  DESCRIPTION
    "The lowest aggregated optical power at the input during the
     previous 24-hour interval."
  ::= { optIfOMSnSrcPrevDayEntry 6 }

optIfOMSnSrcPrevDayHighAggregatedInputPower OBJECT-TYPE
  SYNTAX   Integer32
  UNITS   "0.1 dbm"
  MAX-ACCESS   read-only
  STATUS   current
  DESCRIPTION
    "The highest aggregated optical power at the input during the
     previous 24-hour interval."
  ::= { optIfOMSnSrcPrevDayEntry 7 }

-- the optIfOChGroup group
-- This group handles the configuration and performance monitoring
-- information for OChGroup layers.

-- OChGroup config table

optIfOChGroupConfigTable OBJECT-TYPE
  SYNTAX   SEQUENCE OF OptIfOChGroupConfigEntry
  MAX-ACCESS   not-accessible
  STATUS   current
  DESCRIPTION
    "A table of OChGroup configuration information."
  ::= { optIfOChGroup 1 }

optIfOChGroupConfigEntry OBJECT-TYPE
  SYNTAX   OptIfOChGroupConfigEntry
  MAX-ACCESS   not-accessible
  STATUS   current
```

```
   DESCRIPTION
     "A conceptual row that contains OChGroup configuration
      information of an interface."
   INDEX  { ifIndex }
   ::= { optIfOChGroupConfigTable 1 }

OptIfOChGroupConfigEntry ::=
   SEQUENCE {
     optIfOChGroupDirectionality OptIfDirectionality
     }

optIfOChGroupDirectionality OBJECT-TYPE
   SYNTAX  OptIfDirectionality
   MAX-ACCESS  read-only
   STATUS  current
   DESCRIPTION
     "Indicates the directionality of the entity."
   ::= { optIfOChGroupConfigEntry 1 }

-- OChGroup sink current table
-- Contains data for the current 15-minute performance monitoring
-- interval.

optIfOChGroupSinkCurrentTable OBJECT-TYPE
   SYNTAX  SEQUENCE OF OptIfOChGroupSinkCurrentEntry
   MAX-ACCESS  not-accessible
   STATUS  current
   DESCRIPTION
     "A table of OChGroup sink performance monitoring information for
      the current 15-minute interval."
   ::= { optIfOChGroup 2 }

optIfOChGroupSinkCurrentEntry OBJECT-TYPE
   SYNTAX  OptIfOChGroupSinkCurrentEntry
   MAX-ACCESS  not-accessible
   STATUS  current
   DESCRIPTION
     "A conceptual row that contains OChGroup sink performance
      monitoring information of an interface for the current
      15-minute interval."
   INDEX  { ifIndex }
   ::= { optIfOChGroupSinkCurrentTable 1 }

OptIfOChGroupSinkCurrentEntry ::=
   SEQUENCE {
     optIfOChGroupSinkCurrentSuspectedFlag              TruthValue,
     optIfOChGroupSinkCurrentAggregatedInputPower       Integer32,
     optIfOChGroupSinkCurrentLowAggregatedInputPower    Integer32,
```

      optIfOChGroupSinkCurrentHighAggregatedInputPower   Integer32,
      optIfOChGroupSinkCurrentLowerInputPowerThreshold   Integer32,
      optIfOChGroupSinkCurrentUpperInputPowerThreshold   Integer32,
      optIfOChGroupSinkCurrentOutputPower   Integer32,
      optIfOChGroupSinkCurrentLowOutputPower   Integer32,
      optIfOChGroupSinkCurrentHighOutputPower   Integer32,
      optIfOChGroupSinkCurrentLowerOutputPowerThreshold   Integer32,
      optIfOChGroupSinkCurrentUpperOutputPowerThreshold   Integer32
      }

optIfOChGroupSinkCurrentSuspectedFlag OBJECT-TYPE
  SYNTAX   TruthValue
  MAX-ACCESS read-only
  STATUS   current
  DESCRIPTION
    "If true, the data in this entry may be unreliable."
  ::= { optIfOChGroupSinkCurrentEntry 1 }

optIfOChGroupSinkCurrentAggregatedInputPower OBJECT-TYPE
  SYNTAX   Integer32
  UNITS   "0.1 dbm"
  MAX-ACCESS read-only
  STATUS   current
  DESCRIPTION
    "The aggregated optical power of all the DWDM input
     channels in the OChGroup."
  ::= { optIfOChGroupSinkCurrentEntry 2 }

optIfOChGroupSinkCurrentLowAggregatedInputPower OBJECT-TYPE
  SYNTAX   Integer32
  UNITS   "0.1 dbm"
  MAX-ACCESS read-only
  STATUS   current
  DESCRIPTION
    "The lowest aggregated optical power of all the DWDM input
     channels in the OChGroup during the current 15-minute interval."
  ::= { optIfOChGroupSinkCurrentEntry 3 }

optIfOChGroupSinkCurrentHighAggregatedInputPower OBJECT-TYPE
  SYNTAX   Integer32
  UNITS   "0.1 dbm"
  MAX-ACCESS read-only
  STATUS   current
  DESCRIPTION
    "The highest aggregated optical power of all the DWDM input
     channels in the OChGroup during the current 15-minute interval."
  ::= { optIfOChGroupSinkCurrentEntry 4 }

optIfOChGroupSinkCurrentLowerInputPowerThreshold OBJECT-TYPE
  SYNTAX   Integer32
  UNITS   "0.1 dbm"
  MAX-ACCESS read-write
  STATUS   current
  DESCRIPTION
    "The lower limit threshold on aggregated input power. If
     optIfOChGroupSinkCurrentAggregatedInputPower drops to this value
     or below, a Threshold Crossing Alert (TCA) should be sent."
  ::= { optIfOChGroupSinkCurrentEntry 5 }

optIfOChGroupSinkCurrentUpperInputPowerThreshold OBJECT-TYPE
  SYNTAX   Integer32
  UNITS   "0.1 dbm"
  MAX-ACCESS read-write
  STATUS   current
  DESCRIPTION
    "The upper limit threshold on aggregated input power. If
     optIfOChGroupSinkCurrentAggregatedInputPower reaches or exceeds
     this value, a Threshold Crossing Alert (TCA) should be sent."
  ::= { optIfOChGroupSinkCurrentEntry 6 }

optIfOChGroupSinkCurrentOutputPower OBJECT-TYPE
  SYNTAX   Integer32
  UNITS   "0.1 dbm"
  MAX-ACCESS read-only
  STATUS   current
  DESCRIPTION
    "The optical power monitored at the output
     in the OChGroup."
  ::= { optIfOChGroupSinkCurrentEntry 7 }

optIfOChGroupSinkCurrentLowOutputPower OBJECT-TYPE
  SYNTAX   Integer32
  UNITS   "0.1 dbm"
  MAX-ACCESS read-only
  STATUS   current
  DESCRIPTION
    "The lowest optical power monitored at the output
     in the OChGroup during the current 15-minute interval."
  ::= { optIfOChGroupSinkCurrentEntry 8 }

optIfOChGroupSinkCurrentHighOutputPower OBJECT-TYPE
  SYNTAX   Integer32
  UNITS   "0.1 dbm"
  MAX-ACCESS read-only
  STATUS   current
  DESCRIPTION

      "The highest optical power monitored at the output
       in the OChGroup during the current 15-minute interval."
    ::= { optIfOChGroupSinkCurrentEntry 9 }

optIfOChGroupSinkCurrentLowerOutputPowerThreshold OBJECT-TYPE
  SYNTAX   Integer32
  UNITS   "0.1 dbm"
  MAX-ACCESS   read-write
  STATUS   current
  DESCRIPTION
     "The lower limit threshold on the output power. If
      optIfOChGroupSinkCurrentOutputPower drops to this value
      or below, a Threshold Crossing Alert (TCA) should be sent."
    ::= { optIfOChGroupSinkCurrentEntry 10 }

optIfOChGroupSinkCurrentUpperOutputPowerThreshold OBJECT-TYPE
  SYNTAX   Integer32
  UNITS   "0.1 dbm"
  MAX-ACCESS   read-write
  STATUS   current
  DESCRIPTION
     "The upper limit threshold on the output power. If
      optIfOChGroupSinkCurrentOutputPower reaches or exceeds
      this value, a Threshold Crossing Alert (TCA) should be sent."
    ::= { optIfOChGroupSinkCurrentEntry 11 }

-- OChGroup sink interval table
-- Contains data for previous 15-minute performance monitoring
-- intervals.

optIfOChGroupSinkIntervalTable OBJECT-TYPE
  SYNTAX   SEQUENCE OF OptIfOChGroupSinkIntervalEntry
  MAX-ACCESS   not-accessible
  STATUS   current
  DESCRIPTION
     "A table of historical OChGroup sink performance monitoring
      information."
    ::= { optIfOChGroup 3 }

optIfOChGroupSinkIntervalEntry OBJECT-TYPE
  SYNTAX   OptIfOChGroupSinkIntervalEntry
  MAX-ACCESS   not-accessible
  STATUS   current
  DESCRIPTION
     "A conceptual row that contains OChGroup sink performance
      monitoring information of an interface during a particular
      historical interval."
    INDEX { ifIndex, optIfOChGroupSinkIntervalNumber }

```
   ::= { optIfOChGroupSinkIntervalTable 1 }

OptIfOChGroupSinkIntervalEntry ::=
  SEQUENCE {
   optIfOChGroupSinkIntervalNumber                     OptIfIntervalNumber,
   optIfOChGroupSinkIntervalSuspectedFlag              TruthValue,
   optIfOChGroupSinkIntervalLastAggregatedInputPower   Integer32,
   optIfOChGroupSinkIntervalLowAggregatedInputPower    Integer32,
   optIfOChGroupSinkIntervalHighAggregatedInputPower   Integer32,
   optIfOChGroupSinkIntervalLastOutputPower            Integer32,
   optIfOChGroupSinkIntervalLowOutputPower             Integer32,
   optIfOChGroupSinkIntervalHighOutputPower            Integer32
   }

optIfOChGroupSinkIntervalNumber OBJECT-TYPE
  SYNTAX   OptIfIntervalNumber
  MAX-ACCESS   not-accessible
  STATUS   current
  DESCRIPTION
    "Uniquely identifies the interval."
  ::= { optIfOChGroupSinkIntervalEntry 1 }

optIfOChGroupSinkIntervalSuspectedFlag OBJECT-TYPE
  SYNTAX   TruthValue
  MAX-ACCESS   read-only
  STATUS   current
  DESCRIPTION
    "If true, the data in this entry may be unreliable."
  ::= { optIfOChGroupSinkIntervalEntry 2 }

optIfOChGroupSinkIntervalLastAggregatedInputPower OBJECT-TYPE
  SYNTAX   Integer32
  UNITS   "0.1 dbm"
  MAX-ACCESS   read-only
  STATUS   current
  DESCRIPTION
    "The last aggregated optical power of all the DWDM input
     channels in the OChGroup during the interval."
  ::= { optIfOChGroupSinkIntervalEntry 3 }

optIfOChGroupSinkIntervalLowAggregatedInputPower OBJECT-TYPE
  SYNTAX   Integer32
  UNITS   "0.1 dbm"
  MAX-ACCESS   read-only
  STATUS   current
  DESCRIPTION
    "The lowest aggregated optical power of all the DWDM input
     channels in the OChGroup during the interval."
```

```
   ::= { optIfOChGroupSinkIntervalEntry 4 }

optIfOChGroupSinkIntervalHighAggregatedInputPower OBJECT-TYPE
  SYNTAX  Integer32
  UNITS  "0.1 dbm"
  MAX-ACCESS  read-only
  STATUS  current
  DESCRIPTION
    "The highest aggregated optical power of all the DWDM input
     channels in the OChGroup during the interval."
  ::= { optIfOChGroupSinkIntervalEntry 5 }

optIfOChGroupSinkIntervalLastOutputPower OBJECT-TYPE
  SYNTAX  Integer32
  UNITS  "0.1 dbm"
  MAX-ACCESS  read-only
  STATUS  current
  DESCRIPTION
    "The last optical power monitored at the output
     in the OChGroup during the interval."
  ::= { optIfOChGroupSinkIntervalEntry 6 }

optIfOChGroupSinkIntervalLowOutputPower OBJECT-TYPE
  SYNTAX  Integer32
  UNITS  "0.1 dbm"
  MAX-ACCESS  read-only
  STATUS  current
  DESCRIPTION
    "The lowest optical power monitored at the output
     in the OChGroup during the interval."
  ::= { optIfOChGroupSinkIntervalEntry 7 }

optIfOChGroupSinkIntervalHighOutputPower OBJECT-TYPE
  SYNTAX  Integer32
  UNITS  "0.1 dbm"
  MAX-ACCESS  read-only
  STATUS  current
  DESCRIPTION
    "The highest optical power monitored at the output
     in the OChGroup during the interval."
  ::= { optIfOChGroupSinkIntervalEntry 8 }

-- OChGroup sink current day table
-- Contains data for the current 24-hour performance
-- monitoring interval.

optIfOChGroupSinkCurDayTable OBJECT-TYPE
  SYNTAX  SEQUENCE OF OptIfOChGroupSinkCurDayEntry
```

```
     MAX-ACCESS  not-accessible
     STATUS  current
     DESCRIPTION
       "A table of OChGroup sink performance monitoring information for
        the current 24-hour interval."
     ::= { optIfOChGroup 4 }

optIfOChGroupSinkCurDayEntry OBJECT-TYPE
     SYNTAX  OptIfOChGroupSinkCurDayEntry
     MAX-ACCESS  not-accessible
     STATUS  current
     DESCRIPTION
       "A conceptual row that contains OChGroup sink performance
        monitoring information of an interface for the current
        24-hour interval."
     INDEX  { ifIndex }
     ::= { optIfOChGroupSinkCurDayTable 1 }

OptIfOChGroupSinkCurDayEntry ::=
     SEQUENCE {
       optIfOChGroupSinkCurDaySuspectedFlag              TruthValue,
       optIfOChGroupSinkCurDayLowAggregatedInputPower    Integer32,
       optIfOChGroupSinkCurDayHighAggregatedInputPower   Integer32,
       optIfOChGroupSinkCurDayLowOutputPower             Integer32,
       optIfOChGroupSinkCurDayHighOutputPower            Integer32
       }

optIfOChGroupSinkCurDaySuspectedFlag OBJECT-TYPE
     SYNTAX  TruthValue
     MAX-ACCESS  read-only
     STATUS  current
     DESCRIPTION
       "If true, the data in this entry may be unreliable."
     ::= { optIfOChGroupSinkCurDayEntry 1 }

optIfOChGroupSinkCurDayLowAggregatedInputPower OBJECT-TYPE
     SYNTAX  Integer32
     UNITS  "0.1 dbm"
     MAX-ACCESS  read-only
     STATUS  current
     DESCRIPTION
       "The lowest aggregated optical power of all the DWDM input
        channels in the OChGroup during the current 24-hour interval."
     ::= { optIfOChGroupSinkCurDayEntry 2 }

optIfOChGroupSinkCurDayHighAggregatedInputPower OBJECT-TYPE
     SYNTAX  Integer32
     UNITS  "0.1 dbm"
```

```
    MAX-ACCESS  read-only
    STATUS  current
    DESCRIPTION
      "The highest aggregated optical power of all the DWDM input
       channels in the OChGroup during the current 24-hour interval."
    ::= { optIfOChGroupSinkCurDayEntry 3 }

optIfOChGroupSinkCurDayLowOutputPower OBJECT-TYPE
    SYNTAX  Integer32
    UNITS  "0.1 dbm"
    MAX-ACCESS  read-only
    STATUS  current
    DESCRIPTION
      "The lowest optical power monitored at the output
       in the OChGroup during the current 24-hour interval."
    ::= { optIfOChGroupSinkCurDayEntry 4 }

optIfOChGroupSinkCurDayHighOutputPower OBJECT-TYPE
    SYNTAX  Integer32
    UNITS  "0.1 dbm"
    MAX-ACCESS  read-only
    STATUS  current
    DESCRIPTION
      "The highest optical power monitored at the output
       in the OChGroup during the current 24-hour interval."
    ::= { optIfOChGroupSinkCurDayEntry 5 }

-- OChGroup sink previous day table
-- Contains data for the previous 24-hour performance
-- monitoring interval.

optIfOChGroupSinkPrevDayTable OBJECT-TYPE
    SYNTAX  SEQUENCE OF OptIfOChGroupSinkPrevDayEntry
    MAX-ACCESS  not-accessible
    STATUS  current
    DESCRIPTION
      "A table of OChGroup sink performance monitoring information for
       the previous 24-hour interval."
    ::= { optIfOChGroup 5 }

optIfOChGroupSinkPrevDayEntry OBJECT-TYPE
    SYNTAX  OptIfOChGroupSinkPrevDayEntry
    MAX-ACCESS  not-accessible
    STATUS  current
    DESCRIPTION
      "A conceptual row that contains OChGroup sink performance
       monitoring information of an interface for the previous
       24-hour interval."
```

```
     INDEX  { ifIndex }
     ::= { optIfOChGroupSinkPrevDayTable 1 }

  OptIfOChGroupSinkPrevDayEntry ::=
     SEQUENCE {
       optIfOChGroupSinkPrevDaySuspectedFlag            TruthValue,
       optIfOChGroupSinkPrevDayLastAggregatedInputPower Integer32,
       optIfOChGroupSinkPrevDayLowAggregatedInputPower  Integer32,
       optIfOChGroupSinkPrevDayHighAggregatedInputPower Integer32,
       optIfOChGroupSinkPrevDayLastOutputPower          Integer32,
       optIfOChGroupSinkPrevDayLowOutputPower           Integer32,
       optIfOChGroupSinkPrevDayHighOutputPower          Integer32
       }

  optIfOChGroupSinkPrevDaySuspectedFlag OBJECT-TYPE
    SYNTAX   TruthValue
    MAX-ACCESS   read-only
    STATUS   current
    DESCRIPTION
      "If true, the data in this entry may be unreliable."
    ::= { optIfOChGroupSinkPrevDayEntry 1 }

  optIfOChGroupSinkPrevDayLastAggregatedInputPower OBJECT-TYPE
    SYNTAX   Integer32
    UNITS   "0.1 dbm"
    MAX-ACCESS   read-only
    STATUS   current
    DESCRIPTION
      "The last aggregated optical power of all the DWDM input
       channels in the OChGroup during the previous 24-hour interval."
    ::= { optIfOChGroupSinkPrevDayEntry 2 }

  optIfOChGroupSinkPrevDayLowAggregatedInputPower OBJECT-TYPE
    SYNTAX   Integer32
    UNITS   "0.1 dbm"
    MAX-ACCESS   read-only
    STATUS   current
    DESCRIPTION
      "The lowest aggregated optical power of all the DWDM input
       channels in the OChGroup during the previous 24-hour interval."
    ::= { optIfOChGroupSinkPrevDayEntry 3 }

  optIfOChGroupSinkPrevDayHighAggregatedInputPower OBJECT-TYPE
    SYNTAX   Integer32
    UNITS   "0.1 dbm"
    MAX-ACCESS   read-only
    STATUS   current
    DESCRIPTION
```

```
      "The highest aggregated optical power of all the DWDM input
       channels in the OChGroup during the previous 24-hour interval."
    ::= { optIfOChGroupSinkPrevDayEntry 4 }

optIfOChGroupSinkPrevDayLastOutputPower OBJECT-TYPE
  SYNTAX  Integer32
  UNITS   "0.1 dbm"
  MAX-ACCESS  read-only
  STATUS  current
  DESCRIPTION
    "The last optical power monitored at the output
     in the OChGroup during the previous 24-hour interval."
  ::= { optIfOChGroupSinkPrevDayEntry 5 }

optIfOChGroupSinkPrevDayLowOutputPower OBJECT-TYPE
  SYNTAX  Integer32
  UNITS   "0.1 dbm"
  MAX-ACCESS  read-only
  STATUS  current
  DESCRIPTION
    "The lowest optical power monitored at the output
     in the OChGroup during the previous 24-hour interval."
  ::= { optIfOChGroupSinkPrevDayEntry 6 }

optIfOChGroupSinkPrevDayHighOutputPower OBJECT-TYPE
  SYNTAX  Integer32
  UNITS   "0.1 dbm"
  MAX-ACCESS  read-only
  STATUS  current
  DESCRIPTION
    "The highest optical power monitored at the output
     in the OChGroup during the previous 24-hour interval."
  ::= { optIfOChGroupSinkPrevDayEntry 7 }

-- OChGroup source current table
-- Contains data for the current 15-minute performance monitoring
-- interval.

optIfOChGroupSrcCurrentTable OBJECT-TYPE
  SYNTAX  SEQUENCE OF OptIfOChGroupSrcCurrentEntry
  MAX-ACCESS  not-accessible
  STATUS  current
  DESCRIPTION
    "A table of OChGroup source performance monitoring information for
     the current 15-minute interval."
  ::= { optIfOChGroup 6 }

optIfOChGroupSrcCurrentEntry OBJECT-TYPE
```

```
   SYNTAX  OptIfOChGroupSrcCurrentEntry
   MAX-ACCESS  not-accessible
   STATUS  current
   DESCRIPTION
     "A conceptual row that contains OChGroup source performance
      monitoring information of an interface for the current
      15-minute interval."
   INDEX  { ifIndex }
   ::= { optIfOChGroupSrcCurrentTable 1 }

OptIfOChGroupSrcCurrentEntry ::=
   SEQUENCE {
     optIfOChGroupSrcCurrentSuspectedFlag            TruthValue,
     optIfOChGroupSrcCurrentOutputPower              Integer32,
     optIfOChGroupSrcCurrentLowOutputPower           Integer32,
     optIfOChGroupSrcCurrentHighOutputPower          Integer32,
     optIfOChGroupSrcCurrentLowerOutputPowerThreshold  Integer32,
     optIfOChGroupSrcCurrentUpperOutputPowerThreshold  Integer32,
     optIfOChGroupSrcCurrentAggregatedInputPower     Integer32,
     optIfOChGroupSrcCurrentLowAggregatedInputPower  Integer32,
     optIfOChGroupSrcCurrentHighAggregatedInputPower Integer32,
     optIfOChGroupSrcCurrentLowerInputPowerThreshold  Integer32,
     optIfOChGroupSrcCurrentUpperInputPowerThreshold  Integer32
     }

optIfOChGroupSrcCurrentSuspectedFlag OBJECT-TYPE
   SYNTAX  TruthValue
   MAX-ACCESS  read-only
   STATUS  current
   DESCRIPTION
     "If true, the data in this entry may be unreliable."
   ::= { optIfOChGroupSrcCurrentEntry 1 }

optIfOChGroupSrcCurrentOutputPower OBJECT-TYPE
   SYNTAX  Integer32
   UNITS  "0.1 dbm"
   MAX-ACCESS  read-only
   STATUS  current
   DESCRIPTION
     "The optical power monitored at the output."
   ::= { optIfOChGroupSrcCurrentEntry 2 }

optIfOChGroupSrcCurrentLowOutputPower OBJECT-TYPE
   SYNTAX  Integer32
   UNITS  "0.1 dbm"
   MAX-ACCESS  read-only
   STATUS  current
   DESCRIPTION
```

      "The lowest optical power monitored at the output during the
       current 15-minute interval."
   ::= { optIfOChGroupSrcCurrentEntry 3 }

optIfOChGroupSrcCurrentHighOutputPower OBJECT-TYPE
   SYNTAX Integer32
   UNITS   "0.1 dbm"
   MAX-ACCESS read-only
   STATUS current
   DESCRIPTION
     "The highest optical power monitored at the output during the
      current 15-minute interval."
   ::= { optIfOChGroupSrcCurrentEntry 4 }

optIfOChGroupSrcCurrentLowerOutputPowerThreshold OBJECT-TYPE
   SYNTAX Integer32
   UNITS   "0.1 dbm"
   MAX-ACCESS read-write
   STATUS current
   DESCRIPTION
     "The lower limit threshold on output power. If
      optIfOChGroupSrcCurrentOutputPower drops to this value or below,
      a Threshold Crossing Alert (TCA) should be sent."
   ::= { optIfOChGroupSrcCurrentEntry 5 }

optIfOChGroupSrcCurrentUpperOutputPowerThreshold OBJECT-TYPE
   SYNTAX Integer32
   UNITS   "0.1 dbm"
   MAX-ACCESS read-write
   STATUS current
   DESCRIPTION
     "The upper limit threshold on output power. If
      optIfOChGroupSrcCurrentOutputPower reaches or exceeds this value,
      a Threshold Crossing Alert (TCA) should be sent."
   ::= { optIfOChGroupSrcCurrentEntry 6 }

optIfOChGroupSrcCurrentAggregatedInputPower OBJECT-TYPE
   SYNTAX Integer32
   UNITS   "0.1 dbm"
   MAX-ACCESS read-only
   STATUS current
   DESCRIPTION
     "The aggregated optical power monitored at the input."
   ::= { optIfOChGroupSrcCurrentEntry 7 }

optIfOChGroupSrcCurrentLowAggregatedInputPower OBJECT-TYPE
   SYNTAX Integer32
   UNITS   "0.1 dbm"

```
  MAX-ACCESS  read-only
  STATUS  current
  DESCRIPTION
    "The lowest aggregated optical power monitored at the input
     during the current 15-minute interval."
  ::= { optIfOChGroupSrcCurrentEntry 8 }

optIfOChGroupSrcCurrentHighAggregatedInputPower OBJECT-TYPE
  SYNTAX  Integer32
  UNITS  "0.1 dbm"
  MAX-ACCESS  read-only
  STATUS  current
  DESCRIPTION
    "The highest aggregated optical power monitored at the input
     during the current 15-minute interval."
  ::= { optIfOChGroupSrcCurrentEntry 9 }

optIfOChGroupSrcCurrentLowerInputPowerThreshold OBJECT-TYPE
  SYNTAX  Integer32
  UNITS  "0.1 dbm"
  MAX-ACCESS  read-write
  STATUS  current
  DESCRIPTION
    "The lower limit threshold on input power.  If
     optIfOChGroupSrcCurrentAggregatedInputPower drops to this value
     or below, a Threshold Crossing Alert (TCA) should be sent."
  ::= { optIfOChGroupSrcCurrentEntry 10 }

optIfOChGroupSrcCurrentUpperInputPowerThreshold OBJECT-TYPE
  SYNTAX  Integer32
  UNITS  "0.1 dbm"
  MAX-ACCESS  read-write
  STATUS  current
  DESCRIPTION
    "The upper limit threshold on input power.  If
     optIfOChGroupSrcCurrentAggregatedInputPower reaches or exceeds
     this value, a Threshold Crossing Alert (TCA) should be sent."
  ::= { optIfOChGroupSrcCurrentEntry 11 }

-- OChGroup source interval table
-- Contains data for previous 15-minute performance monitoring
-- intervals.

optIfOChGroupSrcIntervalTable OBJECT-TYPE
  SYNTAX  SEQUENCE OF OptIfOChGroupSrcIntervalEntry
  MAX-ACCESS  not-accessible
  STATUS  current
  DESCRIPTION
```

     "A table of historical OChGroup source performance monitoring
      information."
   ::= { optIfOChGroup 7 }

optIfOChGroupSrcIntervalEntry OBJECT-TYPE
  SYNTAX   OptIfOChGroupSrcIntervalEntry
  MAX-ACCESS   not-accessible
  STATUS   current
  DESCRIPTION
     "A conceptual row that contains OChGroup source performance
      monitoring information of an interface during a particular
      historical interval."
   INDEX { ifIndex, optIfOChGroupSrcIntervalNumber }
   ::= { optIfOChGroupSrcIntervalTable 1 }

OptIfOChGroupSrcIntervalEntry ::=
  SEQUENCE {
   optIfOChGroupSrcIntervalNumber   OptIfIntervalNumber,
   optIfOChGroupSrcIntervalSuspectedFlag   TruthValue,
   optIfOChGroupSrcIntervalLastOutputPower   Integer32,
   optIfOChGroupSrcIntervalLowOutputPower   Integer32,
   optIfOChGroupSrcIntervalHighOutputPower   Integer32,
   optIfOChGroupSrcIntervalLastAggregatedInputPower   Integer32,
   optIfOChGroupSrcIntervalLowAggregatedInputPower   Integer32,
   optIfOChGroupSrcIntervalHighAggregatedInputPower   Integer32
   }

optIfOChGroupSrcIntervalNumber OBJECT-TYPE
  SYNTAX   OptIfIntervalNumber
  MAX-ACCESS   not-accessible
  STATUS   current
  DESCRIPTION
     "Uniquely identifies the interval."
   ::= { optIfOChGroupSrcIntervalEntry 1 }

optIfOChGroupSrcIntervalSuspectedFlag OBJECT-TYPE
  SYNTAX   TruthValue
  MAX-ACCESS   read-only
  STATUS   current
  DESCRIPTION
     "If true, the data in this entry may be unreliable."
   ::= { optIfOChGroupSrcIntervalEntry 2 }

optIfOChGroupSrcIntervalLastOutputPower OBJECT-TYPE
  SYNTAX   Integer32
  UNITS   "0.1 dbm"
  MAX-ACCESS   read-only
  STATUS   current

     DESCRIPTION
       "The last optical power monitored at the output during the
       interval."
     ::= { optIfOChGroupSrcIntervalEntry 3 }

optIfOChGroupSrcIntervalLowOutputPower OBJECT-TYPE
   SYNTAX Integer32
   UNITS "0.1 dbm"
   MAX-ACCESS read-only
   STATUS current
   DESCRIPTION
     "The lowest optical power monitored at the output during the
     interval."
   ::= { optIfOChGroupSrcIntervalEntry 4 }

optIfOChGroupSrcIntervalHighOutputPower OBJECT-TYPE
   SYNTAX Integer32
   UNITS "0.1 dbm"
   MAX-ACCESS read-only
   STATUS current
   DESCRIPTION
     "The highest optical power monitored at the output during the
     interval."
   ::= { optIfOChGroupSrcIntervalEntry 5 }

optIfOChGroupSrcIntervalLastAggregatedInputPower OBJECT-TYPE
   SYNTAX Integer32
   UNITS "0.1 dbm"
   MAX-ACCESS read-only
   STATUS current
   DESCRIPTION
     "The last aggregated optical power monitored at the input
     during the interval."
   ::= { optIfOChGroupSrcIntervalEntry 6 }

optIfOChGroupSrcIntervalLowAggregatedInputPower OBJECT-TYPE
   SYNTAX Integer32
   UNITS "0.1 dbm"
   MAX-ACCESS read-only
   STATUS current
   DESCRIPTION
     "The lowest aggregated optical power monitored at the input
     during the interval."
   ::= { optIfOChGroupSrcIntervalEntry 7 }

optIfOChGroupSrcIntervalHighAggregatedInputPower OBJECT-TYPE
   SYNTAX Integer32
   UNITS "0.1 dbm"

     MAX-ACCESS read-only
     STATUS current
     DESCRIPTION
       "The highest aggregated optical power monitored at the input
        during the interval."
     ::= { optIfOChGroupSrcIntervalEntry 8 }

-- OChGroup source current day table
-- Contains data for the current 24-hour performance
-- monitoring interval.

optIfOChGroupSrcCurDayTable OBJECT-TYPE
  SYNTAX SEQUENCE OF OptIfOChGroupSrcCurDayEntry
  MAX-ACCESS not-accessible
  STATUS current
  DESCRIPTION
    "A table of OChGroup source performance monitoring information for
     the current 24-hour interval."
  ::= { optIfOChGroup 8 }

optIfOChGroupSrcCurDayEntry OBJECT-TYPE
  SYNTAX OptIfOChGroupSrcCurDayEntry
  MAX-ACCESS not-accessible
  STATUS current
  DESCRIPTION
    "A conceptual row that contains OChGroup source performance
     monitoring information of an interface for the current
     24-hour interval."
  INDEX { ifIndex }
  ::= { optIfOChGroupSrcCurDayTable 1 }

OptIfOChGroupSrcCurDayEntry ::=
  SEQUENCE {
    optIfOChGroupSrcCurDaySuspectedFlag   TruthValue,
    optIfOChGroupSrcCurDayLowOutputPower   Integer32,
    optIfOChGroupSrcCurDayHighOutputPower   Integer32,
    optIfOChGroupSrcCurDayLowAggregatedInputPower   Integer32,
    optIfOChGroupSrcCurDayHighAggregatedInputPower   Integer32
    }

optIfOChGroupSrcCurDaySuspectedFlag OBJECT-TYPE
  SYNTAX TruthValue
  MAX-ACCESS read-only
  STATUS current
  DESCRIPTION
    "If true, the data in this entry may be unreliable."
  ::= { optIfOChGroupSrcCurDayEntry 1 }

optIfOChGroupSrcCurDayLowOutputPower OBJECT-TYPE
  SYNTAX   Integer32
  UNITS   "0.1 dbm"
  MAX-ACCESS read-only
  STATUS current
  DESCRIPTION
    "The lowest optical power monitored at the output during the
     current 24-hour interval."
  ::= { optIfOChGroupSrcCurDayEntry 2 }

optIfOChGroupSrcCurDayHighOutputPower OBJECT-TYPE
  SYNTAX   Integer32
  UNITS   "0.1 dbm"
  MAX-ACCESS read-only
  STATUS current
  DESCRIPTION
    "The highest optical power monitored at the output during the
     current 24-hour interval."
  ::= { optIfOChGroupSrcCurDayEntry 3 }

optIfOChGroupSrcCurDayLowAggregatedInputPower OBJECT-TYPE
  SYNTAX   Integer32
  UNITS   "0.1 dbm"
  MAX-ACCESS read-only
  STATUS current
  DESCRIPTION
    "The lowest aggregated optical power monitored at the input
     during the current 24-hour interval."
  ::= { optIfOChGroupSrcCurDayEntry 4 }

optIfOChGroupSrcCurDayHighAggregatedInputPower OBJECT-TYPE
  SYNTAX   Integer32
  UNITS   "0.1 dbm"
  MAX-ACCESS read-only
  STATUS current
  DESCRIPTION
    "The highest aggregated optical power monitored at the input
     during the current 24-hour interval."
  ::= { optIfOChGroupSrcCurDayEntry 5 }

-- OChGroup source previous day table
-- Contains data for the previous 24-hour performance
-- monitoring interval.

optIfOChGroupSrcPrevDayTable OBJECT-TYPE
  SYNTAX   SEQUENCE OF OptIfOChGroupSrcPrevDayEntry
  MAX-ACCESS not-accessible
  STATUS current

```
     DESCRIPTION
       "A table of OChGroup source performance monitoring information for
        the previous 24-hour interval."
     ::= { optIfOChGroup 9 }

optIfOChGroupSrcPrevDayEntry OBJECT-TYPE
   SYNTAX   OptIfOChGroupSrcPrevDayEntry
   MAX-ACCESS   not-accessible
   STATUS   current
   DESCRIPTION
     "A conceptual row that contains OChGroup source performance
      monitoring information of an interface for the previous
      24-hour interval."
   INDEX   { ifIndex }
   ::= { optIfOChGroupSrcPrevDayTable 1 }

OptIfOChGroupSrcPrevDayEntry ::=
   SEQUENCE {
     optIfOChGroupSrcPrevDaySuspectedFlag             TruthValue,
     optIfOChGroupSrcPrevDayLastOutputPower           Integer32,
     optIfOChGroupSrcPrevDayLowOutputPower            Integer32,
     optIfOChGroupSrcPrevDayHighOutputPower           Integer32,
     optIfOChGroupSrcPrevDayLastAggregatedInputPower  Integer32,
     optIfOChGroupSrcPrevDayLowAggregatedInputPower   Integer32,
     optIfOChGroupSrcPrevDayHighAggregatedInputPower  Integer32
     }

optIfOChGroupSrcPrevDaySuspectedFlag OBJECT-TYPE
   SYNTAX   TruthValue
   MAX-ACCESS   read-only
   STATUS   current
   DESCRIPTION
     "If true, the data in this entry may be unreliable."
   ::= { optIfOChGroupSrcPrevDayEntry 1 }

optIfOChGroupSrcPrevDayLastOutputPower OBJECT-TYPE
   SYNTAX   Integer32
   UNITS   "0.1 dbm"
   MAX-ACCESS   read-only
   STATUS   current
   DESCRIPTION
     "The last optical power monitored at the output during the
      previous 24-hour interval."
   ::= { optIfOChGroupSrcPrevDayEntry 2 }

optIfOChGroupSrcPrevDayLowOutputPower OBJECT-TYPE
   SYNTAX   Integer32
   UNITS   "0.1 dbm"
```

```
  MAX-ACCESS  read-only
  STATUS  current
  DESCRIPTION
    "The lowest optical power monitored at the output during the
     previous 24-hour interval."
  ::= { optIfOChGroupSrcPrevDayEntry 3 }

optIfOChGroupSrcPrevDayHighOutputPower OBJECT-TYPE
  SYNTAX  Integer32
  UNITS   "0.1 dbm"
  MAX-ACCESS  read-only
  STATUS  current
  DESCRIPTION
    "The highest optical power monitored at the output during the
     previous 24-hour interval."
  ::= { optIfOChGroupSrcPrevDayEntry 4 }

optIfOChGroupSrcPrevDayLastAggregatedInputPower OBJECT-TYPE
  SYNTAX  Integer32
  UNITS   "0.1 dbm"
  MAX-ACCESS  read-only
  STATUS  current
  DESCRIPTION
    "The last aggregated optical power monitored at the input
     during the previous 24-hour interval."
  ::= { optIfOChGroupSrcPrevDayEntry 5 }

optIfOChGroupSrcPrevDayLowAggregatedInputPower OBJECT-TYPE
  SYNTAX  Integer32
  UNITS   "0.1 dbm"
  MAX-ACCESS  read-only
  STATUS  current
  DESCRIPTION
    "The lowest aggregated optical power monitored at the input
     during the previous 24-hour interval."
  ::= { optIfOChGroupSrcPrevDayEntry 6 }

optIfOChGroupSrcPrevDayHighAggregatedInputPower OBJECT-TYPE
  SYNTAX  Integer32
  UNITS   "0.1 dbm"
  MAX-ACCESS  read-only
  STATUS  current
  DESCRIPTION
    "The highest aggregated optical power monitored at the input
     during the previous 24-hour interval."
  ::= { optIfOChGroupSrcPrevDayEntry 7 }

-- the optIfOCh group
```

```
-- This group handles the configuration and
-- performance monitoring information for OCh layers.

-- OCh config table

optIfOChConfigTable OBJECT-TYPE
  SYNTAX   SEQUENCE OF OptIfOChConfigEntry
  MAX-ACCESS  not-accessible
  STATUS   current
  DESCRIPTION
    "A table of OCh configuration information."
  ::= { optIfOCh 1 }

optIfOChConfigEntry OBJECT-TYPE
  SYNTAX   OptIfOChConfigEntry
  MAX-ACCESS  not-accessible
  STATUS   current
  DESCRIPTION
    "A conceptual row that contains OCh configuration
     information of an interface."
  INDEX  { ifIndex }
  ::= { optIfOChConfigTable 1 }

OptIfOChConfigEntry ::=
  SEQUENCE {
    optIfOChDirectionality    OptIfDirectionality,
    optIfOChCurrentStatus     BITS
    }

optIfOChDirectionality OBJECT-TYPE
  SYNTAX  OptIfDirectionality
  MAX-ACCESS  read-only
  STATUS  current
  DESCRIPTION
    "Indicates the directionality of the entity."
  ::= { optIfOChConfigEntry 1 }

optIfOChCurrentStatus OBJECT-TYPE
  SYNTAX  BITS {
    losP(0),
    los(1),
    oci(2),
    ssfP(3),
    ssfO(4),
    ssf(5)
    }
  MAX-ACCESS  read-only
  STATUS  current
```

```
     DESCRIPTION
       "Indicates the defect condition of the entity, if any.
        This object is applicable when optIfOChDirectionality
        has the value sink(1) or bidirectional(3).
        In full-capability systems the bit position los(1) is not used.
        In reduced-capability systems or at IrDI interfaces only
        the bit positions los(1) and ssfP(3) are used."
     ::= { optIfOChConfigEntry 2 }

-- OCh sink current table
-- Contains data for the current 15-minute performance monitoring
-- interval.

optIfOChSinkCurrentTable OBJECT-TYPE
   SYNTAX   SEQUENCE OF OptIfOChSinkCurrentEntry
   MAX-ACCESS  not-accessible
   STATUS   current
   DESCRIPTION
     "A table of OCh sink performance monitoring information for
      the current 15-minute interval."
   ::= { optIfOCh 2 }

optIfOChSinkCurrentEntry OBJECT-TYPE
   SYNTAX   OptIfOChSinkCurrentEntry
   MAX-ACCESS  not-accessible
   STATUS   current
   DESCRIPTION
     "A conceptual row that contains OCh sink performance
      monitoring information for an interface for the current
      15-minute interval."
   INDEX   { ifIndex }
   ::= { optIfOChSinkCurrentTable 1 }

OptIfOChSinkCurrentEntry ::=
   SEQUENCE {
     optIfOChSinkCurrentSuspectedFlag            TruthValue,
     optIfOChSinkCurrentInputPower               Integer32,
     optIfOChSinkCurrentLowInputPower            Integer32,
     optIfOChSinkCurrentHighInputPower           Integer32,
     optIfOChSinkCurrentLowerInputPowerThreshold Integer32,
     optIfOChSinkCurrentUpperInputPowerThreshold Integer32
     }

optIfOChSinkCurrentSuspectedFlag OBJECT-TYPE
   SYNTAX   TruthValue
   MAX-ACCESS  read-only
   STATUS   current
   DESCRIPTION
```

```
     "If true, the data in this entry may be unreliable."
   ::= { optIfOChSinkCurrentEntry 1 }

optIfOChSinkCurrentInputPower OBJECT-TYPE
  SYNTAX  Integer32
  UNITS  "0.1 dbm"
  MAX-ACCESS  read-only
  STATUS  current
  DESCRIPTION
    "The optical power monitored at the input."
   ::= { optIfOChSinkCurrentEntry 2 }

optIfOChSinkCurrentLowInputPower OBJECT-TYPE
  SYNTAX  Integer32
  UNITS  "0.1 dbm"
  MAX-ACCESS  read-only
  STATUS  current
  DESCRIPTION
    "The lowest optical power monitored at the input during the
     current 15-minute interval."
   ::= { optIfOChSinkCurrentEntry 3 }

optIfOChSinkCurrentHighInputPower OBJECT-TYPE
  SYNTAX  Integer32
  UNITS  "0.1 dbm"
  MAX-ACCESS  read-only
  STATUS  current
  DESCRIPTION
    "The highest optical power monitored at the input during the
     current 15-minute interval."
   ::= { optIfOChSinkCurrentEntry 4 }

optIfOChSinkCurrentLowerInputPowerThreshold OBJECT-TYPE
  SYNTAX  Integer32
  UNITS  "0.1 dbm"
  MAX-ACCESS  read-write
  STATUS  current
  DESCRIPTION
    "The lower limit threshold on input power.  If
     optIfOChSinkCurrentInputPower drops to this value or below,
     a Threshold Crossing Alert (TCA) should be sent."
   ::= { optIfOChSinkCurrentEntry 5 }

optIfOChSinkCurrentUpperInputPowerThreshold OBJECT-TYPE
  SYNTAX  Integer32
  UNITS  "0.1 dbm"
  MAX-ACCESS  read-write
  STATUS  current
```

      DESCRIPTION
        "The upper limit threshold on input power. If
         optIfOChSinkCurrentInputPower reaches or exceeds this value,
         a Threshold Crossing Alert (TCA) should be sent."
      ::= { optIfOChSinkCurrentEntry 6 }

-- OCh sink interval table
-- Contains data for previous 15-minute performance monitoring
-- intervals.

optIfOChSinkIntervalTable OBJECT-TYPE
  SYNTAX   SEQUENCE OF OptIfOChSinkIntervalEntry
  MAX-ACCESS not-accessible
  STATUS   current
  DESCRIPTION
    "A table of historical OCh sink performance monitoring
     information."
  ::= { optIfOCh 3 }

optIfOChSinkIntervalEntry OBJECT-TYPE
  SYNTAX   OptIfOChSinkIntervalEntry
  MAX-ACCESS not-accessible
  STATUS   current
  DESCRIPTION
    "A conceptual row that contains OCh sink performance
     monitoring information of an interface during a particular
     historical interval."
  INDEX { ifIndex, optIfOChSinkIntervalNumber }
  ::= { optIfOChSinkIntervalTable 1 }

OptIfOChSinkIntervalEntry ::=
  SEQUENCE {
    optIfOChSinkIntervalNumber   OptIfIntervalNumber,
    optIfOChSinkIntervalSuspectedFlag   TruthValue,
    optIfOChSinkIntervalLastInputPower Integer32,
    optIfOChSinkIntervalLowInputPower   Integer32,
    optIfOChSinkIntervalHighInputPower Integer32
    }

optIfOChSinkIntervalNumber OBJECT-TYPE
  SYNTAX   OptIfIntervalNumber
  MAX-ACCESS not-accessible
  STATUS   current
  DESCRIPTION
    "Uniquely identifies the interval."
  ::= { optIfOChSinkIntervalEntry 1 }

optIfOChSinkIntervalSuspectedFlag OBJECT-TYPE

```
  SYNTAX   TruthValue
  MAX-ACCESS   read-only
  STATUS   current
  DESCRIPTION
    "If true, the data in this entry may be unreliable."
  ::= { optIfOChSinkIntervalEntry 2 }

optIfOChSinkIntervalLastInputPower OBJECT-TYPE
  SYNTAX   Integer32
  UNITS   "0.1 dbm"
  MAX-ACCESS   read-only
  STATUS   current
  DESCRIPTION
    "The last optical power monitored at the input during the
     interval."
  ::= { optIfOChSinkIntervalEntry 3 }

optIfOChSinkIntervalLowInputPower OBJECT-TYPE
  SYNTAX   Integer32
  UNITS   "0.1 dbm"
  MAX-ACCESS   read-only
  STATUS   current
  DESCRIPTION
    "The lowest optical power monitored at the input during the
     interval."
  ::= { optIfOChSinkIntervalEntry 4 }

optIfOChSinkIntervalHighInputPower OBJECT-TYPE
  SYNTAX   Integer32
  UNITS   "0.1 dbm"
  MAX-ACCESS   read-only
  STATUS   current
  DESCRIPTION
    "The highest optical power monitored at the input during the
     interval."
  ::= { optIfOChSinkIntervalEntry 5 }

-- OCh sink current day table
-- Contains data for the current 24-hour performance
-- monitoring interval.

optIfOChSinkCurDayTable OBJECT-TYPE
  SYNTAX   SEQUENCE OF OptIfOChSinkCurDayEntry
  MAX-ACCESS   not-accessible
  STATUS   current
  DESCRIPTION
    "A table of OCh sink performance monitoring information for
     the current 24-hour interval."
```

      ::= { optIfOCh 4 }

optIfOChSinkCurDayEntry OBJECT-TYPE
  SYNTAX   OptIfOChSinkCurDayEntry
  MAX-ACCESS not-accessible
  STATUS current
  DESCRIPTION
    "A conceptual row that contains OCh sink performance
     monitoring information of an interface for the current
     24-hour interval."
  INDEX { ifIndex }
  ::= { optIfOChSinkCurDayTable 1 }

OptIfOChSinkCurDayEntry ::=
  SEQUENCE {
    optIfOChSinkCurDaySuspectedFlag   TruthValue,
    optIfOChSinkCurDayLowInputPower   Integer32,
    optIfOChSinkCurDayHighInputPower   Integer32
    }

optIfOChSinkCurDaySuspectedFlag OBJECT-TYPE
  SYNTAX   TruthValue
  MAX-ACCESS read-only
  STATUS current
  DESCRIPTION
    "If true, the data in this entry may be unreliable."
  ::= { optIfOChSinkCurDayEntry 1 }

optIfOChSinkCurDayLowInputPower OBJECT-TYPE
  SYNTAX   Integer32
  UNITS   "0.1 dbm"
  MAX-ACCESS read-only
  STATUS current
  DESCRIPTION
    "The lowest optical power monitored at the input during the
     current 24-hour interval."
  ::= { optIfOChSinkCurDayEntry 2 }

optIfOChSinkCurDayHighInputPower OBJECT-TYPE
  SYNTAX   Integer32
  UNITS   "0.1 dbm"
  MAX-ACCESS read-only
  STATUS current
  DESCRIPTION
    "The highest optical power monitored at the input during the
     current 24-hour interval."
  ::= { optIfOChSinkCurDayEntry 3 }

```
-- OCh sink previous day table
-- Contains data for the previous 24-hour performance
-- monitoring interval.

optIfOChSinkPrevDayTable OBJECT-TYPE
  SYNTAX   SEQUENCE OF OptIfOChSinkPrevDayEntry
  MAX-ACCESS  not-accessible
  STATUS  current
  DESCRIPTION
    "A table of OCh sink performance monitoring information for
     the previous 24-hour interval."
  ::= { optIfOCh 5 }

optIfOChSinkPrevDayEntry OBJECT-TYPE
  SYNTAX   OptIfOChSinkPrevDayEntry
  MAX-ACCESS  not-accessible
  STATUS   current
  DESCRIPTION
    "A conceptual row that contains OCh sink performance
     monitoring information of an interface for the previous
     24-hour interval."
  INDEX   { ifIndex }
  ::= { optIfOChSinkPrevDayTable 1 }

OptIfOChSinkPrevDayEntry ::=
  SEQUENCE {
    optIfOChSinkPrevDaySuspectedFlag   TruthValue,
    optIfOChSinkPrevDayLastInputPower  Integer32,
    optIfOChSinkPrevDayLowInputPower   Integer32,
    optIfOChSinkPrevDayHighInputPower  Integer32
    }

optIfOChSinkPrevDaySuspectedFlag OBJECT-TYPE
  SYNTAX   TruthValue
  MAX-ACCESS  read-only
  STATUS   current
  DESCRIPTION
    "If true, the data in this entry may be unreliable."
  ::= { optIfOChSinkPrevDayEntry 1 }

optIfOChSinkPrevDayLastInputPower OBJECT-TYPE
  SYNTAX   Integer32
  UNITS   "0.1 dbm"
  MAX-ACCESS  read-only
  STATUS   current
  DESCRIPTION
    "The last optical power monitored at the input during the
     previous 24-hour interval."
```

    ::= { optIfOChSinkPrevDayEntry 2 }

optIfOChSinkPrevDayLowInputPower OBJECT-TYPE
  SYNTAX Integer32
  UNITS   "0.1 dbm"
  MAX-ACCESS read-only
  STATUS current
  DESCRIPTION
    "The lowest optical power monitored at the input during the
     previous 24-hour interval."
  ::= { optIfOChSinkPrevDayEntry 3 }

optIfOChSinkPrevDayHighInputPower OBJECT-TYPE
  SYNTAX Integer32
  UNITS   "0.1 dbm"
  MAX-ACCESS read-only
  STATUS current
  DESCRIPTION
    "The highest optical power monitored at the input during the
     previous 24-hour interval."
  ::= { optIfOChSinkPrevDayEntry 4 }

-- OCh source current table
-- Contains data for the current 15-minute performance monitoring
-- interval.

optIfOChSrcCurrentTable OBJECT-TYPE
  SYNTAX SEQUENCE OF OptIfOChSrcCurrentEntry
  MAX-ACCESS not-accessible
  STATUS current
  DESCRIPTION
    "A table of OCh source performance monitoring information for
     the current 15-minute interval."
  ::= { optIfOCh 6 }

optIfOChSrcCurrentEntry OBJECT-TYPE
  SYNTAX OptIfOChSrcCurrentEntry
  MAX-ACCESS not-accessible
  STATUS current
  DESCRIPTION
    "A conceptual row that contains OCh source performance
     monitoring information of an interface for the current
     15-minute interval."
  INDEX { ifIndex }
  ::= { optIfOChSrcCurrentTable 1 }

OptIfOChSrcCurrentEntry ::=
  SEQUENCE {

      optIfOChSrcCurrentSuspectedFlag   TruthValue,
      optIfOChSrcCurrentOutputPower   Integer32,
      optIfOChSrcCurrentLowOutputPower   Integer32,
      optIfOChSrcCurrentHighOutputPower   Integer32,
      optIfOChSrcCurrentLowerOutputPowerThreshold   Integer32,
      optIfOChSrcCurrentUpperOutputPowerThreshold   Integer32
      }

optIfOChSrcCurrentSuspectedFlag OBJECT-TYPE
  SYNTAX   TruthValue
  MAX-ACCESS   read-only
  STATUS   current
  DESCRIPTION
    "If true, the data in this entry may be unreliable."
  ::= { optIfOChSrcCurrentEntry 1 }

optIfOChSrcCurrentOutputPower OBJECT-TYPE
  SYNTAX   Integer32
  UNITS   "0.1 dbm"
  MAX-ACCESS   read-only
  STATUS   current
  DESCRIPTION
    "The optical power monitored at the output."
  ::= { optIfOChSrcCurrentEntry 2 }

optIfOChSrcCurrentLowOutputPower OBJECT-TYPE
  SYNTAX   Integer32
  UNITS   "0.1 dbm"
  MAX-ACCESS   read-only
  STATUS   current
  DESCRIPTION
    "The lowest optical power monitored at the output during the
     current 15-minute interval."
  ::= { optIfOChSrcCurrentEntry 3 }

optIfOChSrcCurrentHighOutputPower OBJECT-TYPE
  SYNTAX   Integer32
  UNITS   "0.1 dbm"
  MAX-ACCESS   read-only
  STATUS   current
  DESCRIPTION
    "The highest optical power monitored at the output during the
     current 15-minute interval."
  ::= { optIfOChSrcCurrentEntry 4 }

optIfOChSrcCurrentLowerOutputPowerThreshold OBJECT-TYPE
  SYNTAX   Integer32
  UNITS   "0.1 dbm"

```
  MAX-ACCESS  read-write
  STATUS  current
  DESCRIPTION
    "The lower limit threshold on output power.  If
     optIfOChSrcCurrentOutputPower drops to this value or below,
     a Threshold Crossing Alert (TCA) should be sent."
  ::= { optIfOChSrcCurrentEntry 5 }

optIfOChSrcCurrentUpperOutputPowerThreshold OBJECT-TYPE
  SYNTAX  Integer32
  UNITS   "0.1 dbm"
  MAX-ACCESS  read-write
  STATUS  current
  DESCRIPTION
    "The upper limit threshold on output power.  If
     optIfOChSrcCurrentOutputPower reaches or exceeds this value,
     a Threshold Crossing Alert (TCA) should be sent."
  ::= { optIfOChSrcCurrentEntry 6 }

-- OCh source interval table
-- Contains data for previous 15-minute performance monitoring
-- intervals.

optIfOChSrcIntervalTable OBJECT-TYPE
  SYNTAX  SEQUENCE OF OptIfOChSrcIntervalEntry
  MAX-ACCESS  not-accessible
  STATUS  current
  DESCRIPTION
    "A table of historical OCh source performance monitoring
     information."
  ::= { optIfOCh 7 }

optIfOChSrcIntervalEntry OBJECT-TYPE
  SYNTAX  OptIfOChSrcIntervalEntry
  MAX-ACCESS  not-accessible
  STATUS  current
  DESCRIPTION
    "A conceptual row that contains OCh source performance
     monitoring information of an interface during a particular
     historical interval."
  INDEX  { ifIndex, optIfOChSrcIntervalNumber }
  ::= { optIfOChSrcIntervalTable 1 }

OptIfOChSrcIntervalEntry ::=
  SEQUENCE {
    optIfOChSrcIntervalNumber             OptIfIntervalNumber,
    optIfOChSrcIntervalSuspectedFlag      TruthValue,
    optIfOChSrcIntervalLastOutputPower    Integer32,
```

```
    optIfOChSrcIntervalLowOutputPower    Integer32,
    optIfOChSrcIntervalHighOutputPower   Integer32
    }

optIfOChSrcIntervalNumber OBJECT-TYPE
  SYNTAX   OptIfIntervalNumber
  MAX-ACCESS   not-accessible
  STATUS   current
  DESCRIPTION
    "Uniquely identifies the interval."
  ::= { optIfOChSrcIntervalEntry 1 }

optIfOChSrcIntervalSuspectedFlag OBJECT-TYPE
  SYNTAX   TruthValue
  MAX-ACCESS   read-only
  STATUS   current
  DESCRIPTION
    "If true, the data in this entry may be unreliable."
  ::= { optIfOChSrcIntervalEntry 2 }

optIfOChSrcIntervalLastOutputPower OBJECT-TYPE
  SYNTAX   Integer32
  UNITS   "0.1 dbm"
  MAX-ACCESS   read-only
  STATUS   current
  DESCRIPTION
    "The last optical power monitored at the output during the
     interval."
  ::= { optIfOChSrcIntervalEntry 3 }

optIfOChSrcIntervalLowOutputPower OBJECT-TYPE
  SYNTAX   Integer32
  UNITS   "0.1 dbm"
  MAX-ACCESS   read-only
  STATUS   current
  DESCRIPTION
    "The lowest optical power monitored at the output during the
     interval."
  ::= { optIfOChSrcIntervalEntry 4 }

optIfOChSrcIntervalHighOutputPower OBJECT-TYPE
  SYNTAX   Integer32
  UNITS   "0.1 dbm"
  MAX-ACCESS   read-only
  STATUS   current
  DESCRIPTION
    "The highest optical power monitored at the output during the
     interval."
```

   ::= { optIfOChSrcIntervalEntry 5 }

-- OCh source current day table
-- Contains data for the current 24-hour performance
-- monitoring interval.

optIfOChSrcCurDayTable OBJECT-TYPE
  SYNTAX   SEQUENCE OF OptIfOChSrcCurDayEntry
  MAX-ACCESS not-accessible
  STATUS   current
  DESCRIPTION
    "A table of OCh source performance monitoring information for
     the current 24-hour interval."
  ::= { optIfOCh 8 }

optIfOChSrcCurDayEntry OBJECT-TYPE
  SYNTAX OptIfOChSrcCurDayEntry
  MAX-ACCESS not-accessible
  STATUS   current
  DESCRIPTION
    "A conceptual row that contains OCh source performance
     monitoring information of an interface for the current
     24-hour interval."
  INDEX { ifIndex }
  ::= { optIfOChSrcCurDayTable 1 }

OptIfOChSrcCurDayEntry ::=
  SEQUENCE {
    optIfOChSrcCurDaySuspectedFlag   TruthValue,
    optIfOChSrcCurDayLowOutputPower   Integer32,
    optIfOChSrcCurDayHighOutputPower Integer32
    }

optIfOChSrcCurDaySuspectedFlag OBJECT-TYPE
  SYNTAX TruthValue
  MAX-ACCESS read-only
  STATUS   current
  DESCRIPTION
    "If true, the data in this entry may be unreliable."
  ::= { optIfOChSrcCurDayEntry 1 }

optIfOChSrcCurDayLowOutputPower OBJECT-TYPE
  SYNTAX Integer32
  UNITS   "0.1 dbm"
  MAX-ACCESS read-only
  STATUS   current
  DESCRIPTION
    "The lowest optical power monitored at the output during the

       current 24-hour interval."
     ::= { optIfOChSrcCurDayEntry 2 }

optIfOChSrcCurDayHighOutputPower OBJECT-TYPE
   SYNTAX   Integer32
   UNITS   "0.1 dbm"
   MAX-ACCESS   read-only
   STATUS   current
   DESCRIPTION
     "The highest optical power monitored at the output during the
      current 24-hour interval."
     ::= { optIfOChSrcCurDayEntry 3 }

-- OCh source previous day table
-- Contains data for the previous 24-hour performance
-- monitoring interval.

optIfOChSrcPrevDayTable OBJECT-TYPE
   SYNTAX   SEQUENCE OF OptIfOChSrcPrevDayEntry
   MAX-ACCESS   not-accessible
   STATUS   current
   DESCRIPTION
     "A table of OCh source performance monitoring information for
      the previous 24-hour interval."
     ::= { optIfOCh 9 }

optIfOChSrcPrevDayEntry OBJECT-TYPE
   SYNTAX   OptIfOChSrcPrevDayEntry
   MAX-ACCESS   not-accessible
   STATUS   current
   DESCRIPTION
     "A conceptual row that contains OCh source performance
      monitoring information of an interface for the previous
      24-hour interval."
   INDEX   { ifIndex }
     ::= { optIfOChSrcPrevDayTable 1 }

OptIfOChSrcPrevDayEntry ::=
   SEQUENCE {
     optIfOChSrcPrevDaySuspectedFlag   TruthValue,
     optIfOChSrcPrevDayLastOutputPower   Integer32,
     optIfOChSrcPrevDayLowOutputPower   Integer32,
     optIfOChSrcPrevDayHighOutputPower   Integer32
     }

optIfOChSrcPrevDaySuspectedFlag OBJECT-TYPE
   SYNTAX   TruthValue
   MAX-ACCESS   read-only

      STATUS current
      DESCRIPTION
        "If true, the data in this entry may be unreliable."
      ::= { optIfOChSrcPrevDayEntry 1 }

optIfOChSrcPrevDayLastOutputPower OBJECT-TYPE
   SYNTAX Integer32
   UNITS   "0.1 dbm"
   MAX-ACCESS read-only
   STATUS current
   DESCRIPTION
     "The last optical power monitored at the output during the
      previous 24-hour interval."
   ::= { optIfOChSrcPrevDayEntry 2 }

optIfOChSrcPrevDayLowOutputPower OBJECT-TYPE
   SYNTAX Integer32
   UNITS   "0.1 dbm"
   MAX-ACCESS read-only
   STATUS current
   DESCRIPTION
     "The lowest optical power monitored at the output during the
      previous 24-hour interval."
   ::= { optIfOChSrcPrevDayEntry 3 }

optIfOChSrcPrevDayHighOutputPower OBJECT-TYPE
   SYNTAX Integer32
   UNITS   "0.1 dbm"
   MAX-ACCESS read-only
   STATUS current
   DESCRIPTION
     "The highest optical power monitored at the output during the
      previous 24-hour interval."
   ::= { optIfOChSrcPrevDayEntry 4 }

-- the optIfOTUk group
-- This group handles the configuration
-- information for OTUk layers.

-- OTUk config table

optIfOTUkConfigTable OBJECT-TYPE
   SYNTAX SEQUENCE OF OptIfOTUkConfigEntry
   MAX-ACCESS not-accessible
   STATUS current
   DESCRIPTION
     "A table of OTUk configuration information."
   ::= { optIfOTUk 1 }

```
optIfOTUkConfigEntry OBJECT-TYPE
  SYNTAX   OptIfOTUkConfigEntry
  MAX-ACCESS   not-accessible
  STATUS   current
  DESCRIPTION
    "A conceptual row that contains OTUk configuration
     information of an interface."
  INDEX   { ifIndex }
  ::= { optIfOTUkConfigTable 1 }

OptIfOTUkConfigEntry ::=
  SEQUENCE {
    optIfOTUkDirectionality              OptIfDirectionality,
    optIfOTUkBitRateK                    OptIfBitRateK,
    optIfOTUkTraceIdentifierTransmitted  OptIfTxTI,
    optIfOTUkDAPIExpected                OptIfExDAPI,
    optIfOTUkSAPIExpected                OptIfExSAPI,
    optIfOTUkTraceIdentifierAccepted     OptIfAcTI,
    optIfOTUkTIMDetMode                  OptIfTIMDetMode,
    optIfOTUkTIMActEnabled               TruthValue,
    optIfOTUkDEGThr                      OptIfDEGThr,
    optIfOTUkDEGM                        OptIfDEGM,
    optIfOTUkSinkAdaptActive             TruthValue,
    optIfOTUkSourceAdaptActive           TruthValue,
    optIfOTUkSinkFECEnabled              TruthValue,
    optIfOTUkCurrentStatus               BITS
    }

optIfOTUkDirectionality OBJECT-TYPE
  SYNTAX   OptIfDirectionality
  MAX-ACCESS   read-only
  STATUS   current
  DESCRIPTION
    "Indicates the directionality of the entity."
  ::= { optIfOTUkConfigEntry 1 }

optIfOTUkBitRateK OBJECT-TYPE
  SYNTAX   OptIfBitRateK
  MAX-ACCESS   read-only
  STATUS   current
  DESCRIPTION
    "Indicates the bit rate of the entity."
  ::= { optIfOTUkConfigEntry 2 }

optIfOTUkTraceIdentifierTransmitted OBJECT-TYPE
  SYNTAX   OptIfTxTI
  MAX-ACCESS   read-write
  STATUS   current
```

         DESCRIPTION
           "The trace identifier transmitted.
            This object is applicable when optIfOTUkDirectionality
            has the value source(2) or bidirectional(3). It must not
            be instantiated in rows where optIfOTUkDirectionality
            has the value sink(1).
            If no value is ever set by a management entity for this
            object, system-specific default value will be used.
            Any implementation that instantiates this object must
            document the system-specific default value or how it
            is derived."
         ::= { optIfOTUkConfigEntry 3 }

     optIfOTUkDAPIExpected OBJECT-TYPE
       SYNTAX   OptIfExDAPI
       MAX-ACCESS   read-write
       STATUS   current
       DESCRIPTION
         "The DAPI expected by the receiver.
          This object is only applicable to the sink function, i.e.,
          only when optIfOTUkDirectionality has the value sink(1)
          or bidirectional(3). It must not be instantiated in rows
          where optIfOTUkDirectionality has the value source(2).
          This object has no effect when optIfOTUkTIMDetMode has
          the value off(1)."
       ::= { optIfOTUkConfigEntry 4 }

     optIfOTUkSAPIExpected OBJECT-TYPE
       SYNTAX   OptIfExSAPI
       MAX-ACCESS   read-write
       STATUS   current
       DESCRIPTION
         "The SAPI expected by the receiver.
          This object is only applicable to the sink function, i.e.,
          only when optIfOTUkDirectionality has the value sink(1)
          or bidirectional(3). It must not be instantiated in rows
          where optIfOTUkDirectionality has the value source(2).
          This object has no effect when optIfOTUkTIMDetMode has
          the value off(1)."
       ::= { optIfOTUkConfigEntry 5 }

     optIfOTUkTraceIdentifierAccepted OBJECT-TYPE
       SYNTAX   OptIfAcTI
       MAX-ACCESS   read-only
       STATUS   current
       DESCRIPTION
         "The actual trace identifier accepted.
          This object is only applicable to the sink function, i.e.,

        only when optIfOTUkDirectionality has the value sink(1)
        or bidirectional(3). It must not be instantiated in rows
        where optIfOTUkDirectionality has the value source(2).
        The value of this object is unspecified when
        optIfOTUkCurrentStatus indicates a near-end defect
        (i.e., ssf(3), lof(4), ais(5), lom(6)) that prevents
        extraction of the trace message."
     ::= { optIfOTUkConfigEntry 6 }

optIfOTUkTIMDetMode OBJECT-TYPE
  SYNTAX   OptIfTIMDetMode
  MAX-ACCESS   read-write
  STATUS   current
  DESCRIPTION
     "Indicates the mode of the Trace Identifier Mismatch (TIM)
      Detection function.
      This object is only applicable to the sink function, i.e.,
      only when optIfOTUkDirectionality has the value sink(1)
      or bidirectional(3). It must not be instantiated in rows
      where optIfOTUkDirectionality has the value source(2).
      The default value of this object is off(1)."
     ::= { optIfOTUkConfigEntry 7 }

optIfOTUkTIMActEnabled OBJECT-TYPE
  SYNTAX   TruthValue
  MAX-ACCESS   read-write
  STATUS   current
  DESCRIPTION
     "Indicates whether the Trace Identifier Mismatch (TIM)
      Consequent Action function is enabled.
      This object is only applicable to the sink function, i.e.,
      only when optIfOTUkDirectionality has the value sink(1)
      or bidirectional(3). It must not be instantiated in rows
      where optIfOTUkDirectionality has the value source(2).
      This object has no effect when optIfOTUkTIMDetMode has
      the value off(1).
      The default value of this object is false(2)."
     ::= { optIfOTUkConfigEntry 8 }

optIfOTUkDEGThr OBJECT-TYPE
  SYNTAX   OptIfDEGThr
  UNITS   "percentage"
  MAX-ACCESS   read-write
  STATUS   current
  DESCRIPTION
     "Indicates the threshold level for declaring a performance
      monitoring (PM) Second to be bad. A PM Second is declared bad if
      the percentage of detected errored blocks in that second is

      greater than or equal to optIfOTUkDEGThr.
      This object is only applicable to the sink function, i.e.,
      only when optIfOTUkDirectionality has the value sink(1)
      or bidirectional(3). It must not be instantiated in rows
      where optIfOTUkDirectionality has the value source(2).
      The default value of this object is Severely Errored Second
      (SES) Estimator (See ITU-T G.7710)."
   ::= { optIfOTUkConfigEntry 9 }

optIfOTUkDEGM OBJECT-TYPE
   SYNTAX   OptIfDEGM
   MAX-ACCESS   read-write
   STATUS   current
   DESCRIPTION
     "Indicates the threshold level for declaring a Degraded Signal
      defect (dDEG). A dDEG shall be declared if optIfOTUkDEGM
      consecutive bad PM Seconds are detected.
      This object is only applicable to the sink function, i.e.,
      only when optIfOTUkDirectionality has the value sink(1)
      or bidirectional(3). It must not be instantiated in rows
      where optIfOTUkDirectionality has the value source(2).
      The default value of this object is 7 (See ITU-T G.7710)."
   ::= { optIfOTUkConfigEntry 10 }

optIfOTUkSinkAdaptActive OBJECT-TYPE
   SYNTAX   TruthValue
   MAX-ACCESS   read-write
   STATUS   current
   DESCRIPTION
     "Indicates whether the sink adaptation function is activated or
      not.
      This object is only applicable to the sink function, i.e.,
      only when optIfOTUkDirectionality has the value sink(1)
      or bidirectional(3). It must not be instantiated in rows
      where optIfOTUkDirectionality has the value source(2).
      The default value of this object is false(2)."
   ::= { optIfOTUkConfigEntry 11 }

optIfOTUkSourceAdaptActive OBJECT-TYPE
   SYNTAX   TruthValue
   MAX-ACCESS   read-write
   STATUS   current
   DESCRIPTION
     "Indicates whether the source adaptation function is activated or
      not.
      This object is only applicable to the source function, i.e.,
      only when optIfOTUkDirectionality has the value source(2)
      or bidirectional(3). It must not be instantiated in rows

```
      where optIfOTUkDirectionality has the value sink(1).
      The default value of this object is false(2)."
   ::= { optIfOTUkConfigEntry 12 }

optIfOTUkSinkFECEnabled OBJECT-TYPE
   SYNTAX   TruthValue
   MAX-ACCESS   read-write
   STATUS   current
   DESCRIPTION
     "If Forward Error Correction (FEC) is supported, this object
      indicates whether FEC at the OTUk sink adaptation function is
      enabled or not.
      This object is only applicable to the sink function, i.e.,
      only when optIfOTUkDirectionality has the value sink(1)
      or bidirectional(3).  It must not be instantiated in rows
      where optIfOTUkDirectionality has the value source(2).
      The default value of this object is true(1)."
   ::= { optIfOTUkConfigEntry 13 }

optIfOTUkCurrentStatus OBJECT-TYPE
   SYNTAX   BITS {
     tim(0),
     deg(1),
     bdi(2),
     ssf(3),
     lof(4),
     ais(5),
     lom(6)
     }
   MAX-ACCESS   read-only
   STATUS   current
   DESCRIPTION
     "Indicates the defect condition of the entity, if any.
      This object is only applicable to the sink function, i.e.,
      only when optIfOTUkDirectionality has the value sink(1)
      or bidirectional(3).  It must not be instantiated in rows
      where optIfOTUkDirectionality has the value source(2)."
   ::= { optIfOTUkConfigEntry 14 }

-- GCC0 config table

optIfGCC0ConfigTable OBJECT-TYPE
   SYNTAX   SEQUENCE OF OptIfGCC0ConfigEntry
   MAX-ACCESS   not-accessible
   STATUS   current
   DESCRIPTION
     "A table of GCC0 configuration information."
   ::= { optIfOTUk 2 }
```

optIfGCC0ConfigEntry OBJECT-TYPE
  SYNTAX   OptIfGCC0ConfigEntry
  MAX-ACCESS   not-accessible
  STATUS   current
  DESCRIPTION
    "A conceptual row that contains GCC0 configuration
     information of an interface. Each instance must
     correspond to an instance of optIfOTUkConfigEntry.
     Separate source and/or sink instances may exist
     for a given ifIndex value, or a single bidirectional
     instance may exist, but a bidirectional instance may
     not coexist with a source or sink instance.
     Instances of this conceptual row persist across
     agent restarts."
  INDEX   { ifIndex, optIfGCC0Directionality }
  ::= { optIfGCC0ConfigTable 1 }

OptIfGCC0ConfigEntry ::=
  SEQUENCE {
    optIfGCC0Directionality   OptIfDirectionality,
    optIfGCC0Application   SnmpAdminString,
    optIfGCC0RowStatus   RowStatus
    }

optIfGCC0Directionality OBJECT-TYPE
  SYNTAX   OptIfDirectionality
  MAX-ACCESS   not-accessible
  STATUS   current
  DESCRIPTION
    "Indicates the directionality of the entity.
     The values source(2) and bidirectional(3) are
     not allowed if the corresponding instance of
     optIfOTUkDirectionality has the value sink(1).
     The values sink(1) and bidirectional(3) are
     not allowed if the corresponding instance of
     optIfOTUkDirectionality has the value source(2)."
  ::= { optIfGCC0ConfigEntry 1 }

optIfGCC0Application OBJECT-TYPE
  SYNTAX   SnmpAdminString
  MAX-ACCESS   read-create
  STATUS   current
  DESCRIPTION
    "Indicates the application transported by the GCC0 entity.
     Example applications are ECC, User data channel.

     The value of this object may not be changed when
     optIfGCC0RowStatus has the value active(1)."

```
   ::= { optIfGCC0ConfigEntry 2 }

optIfGCC0RowStatus OBJECT-TYPE
  SYNTAX  RowStatus
  MAX-ACCESS  read-create
  STATUS  current
  DESCRIPTION
    "This columnar object is used for creating and deleting a
     conceptual row of the optIfGCC0 config table.
     It is used to model the addGCC0Access and removeGCC0Access
     operations of an OTUk_TTP for GCC0 access control as defined
     in G.874.1.  Setting RowStatus to createAndGo or createAndWait
     implies addGCC0Access.  Setting RowStatus to destroy implies
     removeGCC0Access."
  ::= { optIfGCC0ConfigEntry 3 }

-- the optIfODUk group
-- This group handles the configuration information
-- for the ODUk layers.

-- ODUk config table

optIfODUkConfigTable OBJECT-TYPE
  SYNTAX  SEQUENCE OF OptIfODUkConfigEntry
  MAX-ACCESS  not-accessible
  STATUS  current
  DESCRIPTION
    "A table of ODUk configuration information."
  ::= { optIfODUk 1 }

optIfODUkConfigEntry OBJECT-TYPE
  SYNTAX  OptIfODUkConfigEntry
  MAX-ACCESS  not-accessible
  STATUS  current
  DESCRIPTION
    "A conceptual row that contains ODUk configuration
     information of an interface."
  INDEX  { ifIndex }
  ::= { optIfODUkConfigTable 1 }

OptIfODUkConfigEntry ::=
  SEQUENCE {
    optIfODUkDirectionality            OptIfDirectionality,
    optIfODUkBitRateK                  OptIfBitRateK,
    optIfODUkTcmFieldsInUse            BITS,
    optIfODUkPositionSeqCurrentSize    Unsigned32,
    optIfODUkTtpPresent                TruthValue
    }
```

```
optIfODUkDirectionality OBJECT-TYPE
  SYNTAX  OptIfDirectionality
  MAX-ACCESS  read-only
  STATUS  current
  DESCRIPTION
    "Indicates the directionality of the entity."
  ::= { optIfODUkConfigEntry 1 }

optIfODUkBitRateK OBJECT-TYPE
  SYNTAX  OptIfBitRateK
  MAX-ACCESS  read-only
  STATUS  current
  DESCRIPTION
    "Indicates the bit rate of the entity."
  ::= { optIfODUkConfigEntry 2 }

optIfODUkTcmFieldsInUse OBJECT-TYPE
  SYNTAX  BITS {
    tcmField1(0),
    tcmField2(1),
    tcmField3(2),
    tcmField4(3),
    tcmField5(4),
    tcmField6(5)
    }
  MAX-ACCESS  read-only
  STATUS  current
  DESCRIPTION
    "Indicates the TCM field(s) that are currently in use.
     The positions of the bits correspond to the TCM fields.
     A bit that is set to 1 means that the corresponding TCM
     field is used.  This object will be updated when rows are
     created in or deleted from the optIfODUkTConfigTable, or
     the optIfODUkTNimConfigTable."
  ::= { optIfODUkConfigEntry 3 }

optIfODUkPositionSeqCurrentSize OBJECT-TYPE
  SYNTAX  Unsigned32
  MAX-ACCESS  read-only
  STATUS  current
  DESCRIPTION
    "This variable indicates the current size of the position
     sequence (i.e., number of TCM function and/or GCC12
     access that have been created in the ODUk interface).
     When the value of this variable is greater than zero,
     it means that one or more TCM function and/or GCC12
     access have been created in the ODUk interface.  In this
     case, there will be as many rows in the
```

```
      optIfODUkPositionSeqTable as the value of
      optIfODUkPositionSeqCurrentSize  corresponding to this
      ODUk interface, one row for each TCM function or GCC12
      access.  The position of the TCM function and/or
      GCC12 access within the sequence is indicated by the
      optIfODUkPositionSeqPosition variable in
      optIfODUkPositionSeqTable.
      The optIfODUkPositionSeqTable also provides pointers
      to the corresponding TCM function (optIfODUkT) and
      GCC12 access (optIfGCC12) entities."
   ::= { optIfODUkConfigEntry 4 }

optIfODUkTtpPresent OBJECT-TYPE
  SYNTAX   TruthValue
  MAX-ACCESS   read-only
  STATUS   current
  DESCRIPTION
    "This object has the value true(1) if the ifEntry under which
     it is instantiated contains an ODUk Trail Termination Point,
     i.e., is the endpoint of an ODUk path.  In that case there
     will be a corresponding row in the ODUk TTP config table and
     it will not be possible to create corresponding rows in the
     ODUk NIM config table.  This object has the value false(2)
     if the ifEntry under which it is instantiated contains an
     intermediate ODUk Connection Termination Point.  In that case
     there is no corresponding row in the ODUk TTP config table,
     but it will be possible to create corresponding rows in the
     ODUk NIM config table.  This object also affects the allowable
     options in rows created in the GCC12 config table and in the
     ODUkT config table, as specified in the DESCRIPTION clauses
     of the columns in those tables."
   ::= { optIfODUkConfigEntry 5 }

-- ODUk Trail Termination Point (TTP) config table

optIfODUkTtpConfigTable OBJECT-TYPE
  SYNTAX   SEQUENCE OF OptIfODUkTtpConfigEntry
  MAX-ACCESS   not-accessible
  STATUS   current
  DESCRIPTION
    "A table of ODUk TTP configuration information."
   ::= { optIfODUk 2 }

optIfODUkTtpConfigEntry OBJECT-TYPE
  SYNTAX   OptIfODUkTtpConfigEntry
  MAX-ACCESS   not-accessible
  STATUS   current
  DESCRIPTION
```

```
     "A conceptual row that contains ODUk TTP configuration
      information of an interface."
   INDEX   { ifIndex }
   ::= { optIfODUkTtpConfigTable 1 }

OptIfODUkTtpConfigEntry ::=
   SEQUENCE {
     optIfODUkTtpTraceIdentifierTransmitted  OptIfTxTI,
     optIfODUkTtpDAPIExpected                OptIfExDAPI,
     optIfODUkTtpSAPIExpected                OptIfExSAPI,
     optIfODUkTtpTraceIdentifierAccepted     OptIfAcTI,
     optIfODUkTtpTIMDetMode                  OptIfTIMDetMode,
     optIfODUkTtpTIMActEnabled               TruthValue,
     optIfODUkTtpDEGThr                      OptIfDEGThr,
     optIfODUkTtpDEGM                        OptIfDEGM,
     optIfODUkTtpCurrentStatus               BITS
     }

optIfODUkTtpTraceIdentifierTransmitted OBJECT-TYPE
   SYNTAX  OptIfTxTI
   MAX-ACCESS  read-write
   STATUS  current
   DESCRIPTION
     "The trace identifier transmitted.
      This object is applicable when optIfODUkDirectionality
      has the value source(2) or bidirectional(3).  It must not
      be instantiated in rows where optIfODUkDirectionality
      has the value sink(1).
      If no value is ever set by a management entity for this
      object, system-specific default value will be used.
      Any implementation that instantiates this object must
      document the system-specific default value or how it
      is derived."
   ::= { optIfODUkTtpConfigEntry 1 }

optIfODUkTtpDAPIExpected OBJECT-TYPE
   SYNTAX  OptIfExDAPI
   MAX-ACCESS  read-write
   STATUS  current
   DESCRIPTION
     "The DAPI expected by the receiver.
      This object is only applicable to the sink function, i.e.,
      only when optIfODUkDirectionality has the value sink(1)
      or bidirectional(3).  It must not be instantiated in rows
      where optIfODUkDirectionality has the value source(2).
      This object has no effect when optIfODUkTtpTIMDetMode has
      the value off(1)."
   ::= { optIfODUkTtpConfigEntry 2 }
```

```
optIfODUkTtpSAPIExpected OBJECT-TYPE
  SYNTAX   OptIfExSAPI
  MAX-ACCESS   read-write
  STATUS   current
  DESCRIPTION
    "The SAPI expected by the receiver.
     This object is only applicable to the sink function, i.e.,
     only when optIfODUkDirectionality has the value sink(1)
     or bidirectional(3).  It must not be instantiated in rows
     where optIfODUkDirectionality has the value source(2).
     This object has no effect when optIfODUkTtpTIMDetMode has
     the value off(1)."
  ::= { optIfODUkTtpConfigEntry 3 }

optIfODUkTtpTraceIdentifierAccepted OBJECT-TYPE
  SYNTAX   OptIfAcTI
  MAX-ACCESS   read-only
  STATUS   current
  DESCRIPTION
    "The actual trace identifier accepted.
     This object is only applicable to the sink function, i.e.,
     only when optIfODUkDirectionality has the value sink(1)
     or bidirectional(3).  It must not be instantiated in rows
     where optIfODUkDirectionality has the value source(2).
     The value of this object is unspecified when
     optIfODUkTtpCurrentStatus indicates a near-end defect
     (i.e., oci(0), lck(1), ssf(5)) that prevents extraction
     of the trace message."
  ::= { optIfODUkTtpConfigEntry 4 }

optIfODUkTtpTIMDetMode OBJECT-TYPE
  SYNTAX   OptIfTIMDetMode
  MAX-ACCESS   read-write
  STATUS   current
  DESCRIPTION
    "Indicates the mode of the Trace Identifier Mismatch (TIM)
     Detection function.
     This object is only applicable to the sink function, i.e.,
     only when optIfODUkDirectionality has the value sink(1)
     or bidirectional(3).  It must not be instantiated in rows
     where optIfODUkDirectionality has the value source(2).
     The default value of this object is off(1)."
  ::= { optIfODUkTtpConfigEntry 5 }

optIfODUkTtpTIMActEnabled OBJECT-TYPE
  SYNTAX   TruthValue
  MAX-ACCESS   read-write
  STATUS   current
```

```
   DESCRIPTION
     "Indicates whether the Trace Identifier Mismatch (TIM)
      Consequent Action function is enabled.
      This object is only applicable to the sink function, i.e.,
      only when optIfODUkDirectionality has the value sink(1)
      or bidirectional(3).  It must not be instantiated in rows
      where optIfODUkDirectionality has the value source(2).
      This object has no effect when optIfODUkTtpTIMDetMode has
      the value off(1).
      The default value of this object is false(2)."
   ::= { optIfODUkTtpConfigEntry 6 }

optIfODUkTtpDEGThr OBJECT-TYPE
   SYNTAX  OptIfDEGThr
   UNITS    "percentage"
   MAX-ACCESS  read-write
   STATUS  current
   DESCRIPTION
     "Indicates the threshold level for declaring a performance
      monitoring (PM) Second to be bad.  A PM Second is declared bad if
      the percentage of detected errored blocks in that second is
      greater than or equal to optIfODUkDEGThr.
      This object is only applicable to the sink function, i.e.,
      only when optIfODUkDirectionality has the value sink(1)
      or bidirectional(3).  It must not be instantiated in rows
      where optIfODUkDirectionality has the value source(2).
      The default value of this object is Severely Errored Second
      (SES) Estimator (See ITU-T G.7710)."
   ::= { optIfODUkTtpConfigEntry 7 }

optIfODUkTtpDEGM OBJECT-TYPE
   SYNTAX  OptIfDEGM
   MAX-ACCESS  read-write
   STATUS  current
   DESCRIPTION
     "Indicates the threshold level for declaring a Degraded Signal
      defect (dDEG).  A dDEG shall be declared if optIfODUkDEGM
      consecutive bad PM Seconds are detected.
      This object is only applicable to the sink function, i.e.,
      only when optIfODUkDirectionality has the value sink(1)
      or bidirectional(3).  It must not be instantiated in rows
      where optIfODUkDirectionality has the value source(2).
      The default value of this object is 7 (See ITU-T G.7710)."
   ::= { optIfODUkTtpConfigEntry 8 }

optIfODUkTtpCurrentStatus OBJECT-TYPE
   SYNTAX  BITS {
     oci(0),
```

```
       lck(1),
       tim(2),
       deg(3),
       bdi(4),
       ssf(5)
       }
    MAX-ACCESS  read-only
    STATUS  current
    DESCRIPTION
      "Indicates the defect condition of the entity, if any.
       This object is only applicable to the sink function, i.e.,
       only when optIfODUkDirectionality has the value sink(1)
       or bidirectional(3).  It must not be instantiated in rows
       where optIfODUkDirectionality has the value source(2)."
    ::= { optIfODUkTtpConfigEntry 9 }

-- ODUk Position Sequence table

optIfODUkPositionSeqTable OBJECT-TYPE
    SYNTAX  SEQUENCE OF OptIfODUkPositionSeqEntry
    MAX-ACCESS  not-accessible
    STATUS  current
    DESCRIPTION
      "A table of ODUk Position Sequence information."
    ::= { optIfODUk 3 }

optIfODUkPositionSeqEntry OBJECT-TYPE
    SYNTAX  OptIfODUkPositionSeqEntry
    MAX-ACCESS  not-accessible
    STATUS  current
    DESCRIPTION
      "A conceptual row that contains ODUk position sequence
       information of an ODUk interface.  The ODUk interface
       is identified by the ifIndex.  Associated with each
       ODUk interface there may be one of more conceptual
       rows in the optIfODUkPositionSeqTable.  Each row
       represents a TCM or GCC12 access function within the
       associated ODUk interface.  Rows of the
       optIfODUkPositionSeqTable table are created/deleted
       as the result of the creation/deletion of the optIfODUkT
       or optIfGCC12 entities."
    INDEX  { ifIndex, optIfODUkPositionSeqIndex }
    ::= { optIfODUkPositionSeqTable 1 }

OptIfODUkPositionSeqEntry ::=
    SEQUENCE {
      optIfODUkPositionSeqIndex              Unsigned32,
      optIfODUkPositionSeqPosition           Unsigned32,
```

      optIfODUkPositionSeqPointer   RowPointer
      }

optIfODUkPositionSeqIndex OBJECT-TYPE
  SYNTAX Unsigned32 (1..4294967295)
  MAX-ACCESS not-accessible
  STATUS current
  DESCRIPTION
    "This variable identifies a row in the
     optIfODUkPositionSeqTable Table.
     Each row of the optIfODUkPositionSeqTable Table
     represents a TCM or GCC12 access function within the
     associated ODUk interface."
  ::= { optIfODUkPositionSeqEntry 1 }

optIfODUkPositionSeqPosition OBJECT-TYPE
  SYNTAX Unsigned32
  MAX-ACCESS read-only
  STATUS current
  DESCRIPTION
    "This variable indicates the position of the TCM or
     GCC12 access function within the sequence of TCMs &
     GCC12 access functions of the associated ODUk
     interface. The TCM or GCC12 presented by this row is
     referenced by the optIfODUkPositionSeqPointer variable."
  ::= { optIfODUkPositionSeqEntry 2 }

optIfODUkPositionSeqPointer OBJECT-TYPE
  SYNTAX RowPointer
  MAX-ACCESS read-only
  STATUS current
  DESCRIPTION
    "This variable identifies the TCM or GCC12 access function
     by pointing to the corresponding optIfODUkT or optIfGCC12
     entity."
  ::= { optIfODUkPositionSeqEntry 3 }

-- ODUk Non-intrusive monitoring (Nim) config table

optIfODUkNimConfigTable OBJECT-TYPE
  SYNTAX SEQUENCE OF OptIfODUkNimConfigEntry
  MAX-ACCESS not-accessible
  STATUS current
  DESCRIPTION
    "A table of ODUkNim configuration information."
  ::= { optIfODUk 4 }

optIfODUkNimConfigEntry OBJECT-TYPE

```
     SYNTAX  OptIfODUkNimConfigEntry
     MAX-ACCESS  not-accessible
     STATUS  current
     DESCRIPTION
       "A conceptual row that contains ODUkNim configuration
        information of an interface.  Each instance must
        correspond to an instance of optIfODUkConfigEntry
        for which optIfODUkTtpPresent has the value false(2).

        Instances of this conceptual row persist across
        agent restarts, and read-create columns other
        than the status column may be modified while the
        row is active."
     INDEX  { ifIndex, optIfODUkNimDirectionality }
     ::= { optIfODUkNimConfigTable 1 }

  OptIfODUkNimConfigEntry ::=
     SEQUENCE {
       optIfODUkNimDirectionality              OptIfSinkOrSource,
       optIfODUkNimDAPIExpected                OptIfExDAPI,
       optIfODUkNimSAPIExpected                OptIfExSAPI,
       optIfODUkNimTraceIdentifierAccepted     OptIfAcTI,
       optIfODUkNimTIMDetMode                  OptIfTIMDetMode,
       optIfODUkNimTIMActEnabled               TruthValue,
       optIfODUkNimDEGThr                      OptIfDEGThr,
       optIfODUkNimDEGM                        OptIfDEGM,
       optIfODUkNimCurrentStatus               BITS,
       optIfODUkNimRowStatus                   RowStatus
       }

  optIfODUkNimDirectionality OBJECT-TYPE
     SYNTAX  OptIfSinkOrSource
     MAX-ACCESS  not-accessible
     STATUS  current
     DESCRIPTION
       "Specifies the monitor point for the ODUk Path non-intrusive
        monitoring function.  The value source(2) is not allowed
        if the corresponding instance of optIfODUkDirectionality
        has the value sink(1), and the value sink(1) is not allowed
        if the corresponding instance of optIfODUkDirectionality
        has the value source(2).  Either the value sink(1) or
        source(2) is allowed if the corresponding instance of
        optIfODUkDirectionality has the value bidirectional(3).

        The value sink(1) means monitoring at the sink direction
        path signal of the ODUk CTP.

        The value source(2) means monitoring at the source direction
```

      path signal of the ODUk CTP. Monitoring the source direction
      of an ODUk CTP is necessary in those cases where the ODUk CTP
      is at an SNCP (Subnetwork Connection Protection) end (e.g., see
      Figure I.1.2/G.874.1). If one would like to get the performance
      of the protected connection, one cannot use the NIM function
      at both ODUk CTP sinks (before the matrix), instead one should
      monitor the signal at the source ODUk CTP after the matrix."
   ::= { optIfODUkNimConfigEntry 1 }

optIfODUkNimDAPIExpected OBJECT-TYPE
   SYNTAX OptIfExDAPI
   MAX-ACCESS read-create
   STATUS current
   DESCRIPTION
     "The DAPI expected by the receiver.
      This object has no effect if optIfODUkNimTIMDetMode has
      the value off(1) or sapi(3)."
   ::= { optIfODUkNimConfigEntry 2 }

optIfODUkNimSAPIExpected OBJECT-TYPE
   SYNTAX OptIfExSAPI
   MAX-ACCESS read-create
   STATUS current
   DESCRIPTION
     "The SAPI expected by the receiver.
      This object has no effect if optIfODUkNimTIMDetMode has
      the value off(1) or dapi(2)."
   ::= { optIfODUkNimConfigEntry 3 }

optIfODUkNimTraceIdentifierAccepted OBJECT-TYPE
   SYNTAX OptIfAcTI
   MAX-ACCESS read-only
   STATUS current
   DESCRIPTION
     "The actual trace identifier accepted. The value of
      this object is unspecified if optIfODUkNimCurrentStatus
      has any of the bit positions oci(0), lck(1), or ssf(5)
      set or if optIfODUkNimRowStatus has any value other
      than active(1)."
   ::= { optIfODUkNimConfigEntry 4 }

optIfODUkNimTIMDetMode OBJECT-TYPE
   SYNTAX OptIfTIMDetMode
   MAX-ACCESS read-create
   STATUS current
   DESCRIPTION
     "Indicates the mode of the Trace Identifier Mismatch (TIM)
      Detection function."

```
   ::= { optIfODUkNimConfigEntry 5 }

optIfODUkNimTIMActEnabled OBJECT-TYPE
  SYNTAX   TruthValue
  MAX-ACCESS   read-create
  STATUS   current
  DESCRIPTION
    "Indicates whether the Trace Identifier Mismatch (TIM)
     Consequent Action function is enabled."
  ::= { optIfODUkNimConfigEntry 6 }

optIfODUkNimDEGThr OBJECT-TYPE
  SYNTAX   OptIfDEGThr
  UNITS    "percentage"
  MAX-ACCESS   read-create
  STATUS   current
  DESCRIPTION
    "Indicates the threshold level for declaring a performance
     monitoring (PM) Second to be bad.  A PM Second is declared bad
     if the percentage of detected errored blocks in that second is
     greater than or equal to optIfODUkNimDEGThr."
  ::= { optIfODUkNimConfigEntry 7 }

optIfODUkNimDEGM OBJECT-TYPE
  SYNTAX   OptIfDEGM
  MAX-ACCESS   read-create
  STATUS   current
  DESCRIPTION
    "Indicates the threshold level for declaring a Degraded Signal
     defect (dDEG).  A dDEG shall be declared if optIfODUkNimDEGM
     consecutive bad PM Seconds are detected."
  ::= { optIfODUkNimConfigEntry 8 }

optIfODUkNimCurrentStatus OBJECT-TYPE
  SYNTAX   BITS {
    oci(0),
    lck(1),
    tim(2),
    deg(3),
    bdi(4),
    ssf(5)
    }
  MAX-ACCESS   read-only
  STATUS   current
  DESCRIPTION
    "Indicates the defect condition of the entity, if
     any.  The value of this object is unspecified if
     optIfODUkNimRowStatus has any value other than
```

```
        active(1)."
    ::= { optIfODUkNimConfigEntry 9 }

optIfODUkNimRowStatus OBJECT-TYPE
  SYNTAX  RowStatus
  MAX-ACCESS  read-create
  STATUS  current
  DESCRIPTION
    "This columnar object is used for creating and deleting
     a conceptual row of the optIfODUkNim config table.
     It is used to model the activateNim and deactivateNim
     operations of an OTUk_CTP for non-intrusive monitoring
     control as defined in G.874.1.  Setting RowStatus to
     createAndGo or createAndWait implies activateNim.
     Setting RowStatus to destroy implies deactivateNim."
    ::= { optIfODUkNimConfigEntry 10 }

-- GCC12 config table

optIfGCC12ConfigTable OBJECT-TYPE
  SYNTAX  SEQUENCE OF OptIfGCC12ConfigEntry
  MAX-ACCESS  not-accessible
  STATUS  current
  DESCRIPTION
    "A table of GCC12 configuration information.
     The GCC function processes the GCC overhead bytes passing
     through them but leave the remainder of the ODUk overhead
     and payload data alone."
    ::= { optIfODUk 5 }

optIfGCC12ConfigEntry OBJECT-TYPE
  SYNTAX  OptIfGCC12ConfigEntry
  MAX-ACCESS  not-accessible
  STATUS  current
  DESCRIPTION
    "A conceptual row that contains GCC12 configuration
     information of an interface.  Each instance must
     correspond to an instance of optIfODUkConfigEntry.
     Separate instances providing GCC1-only access and
     GCC2-only access may exist for a given ifIndex value,
     or a single instance providing GCC1 + GCC2 may exist,
     but a GCC1 + GCC2 instance may not coexist with a
     GCC1-only or GCC2-only instance.

     Instances of this conceptual row persist across agent
     restarts."
  INDEX  { ifIndex, optIfGCC12Codirectional, optIfGCC12GCCAccess }
    ::= { optIfGCC12ConfigTable 1 }
```

```
OptIfGCC12ConfigEntry ::=
  SEQUENCE {
    optIfGCC12Codirectional      TruthValue,
    optIfGCC12GCCAccess          INTEGER,
    optIfGCC12GCCPassThrough     TruthValue,
    optIfGCC12Application        SnmpAdminString,
    optIfGCC12RowStatus          RowStatus
    }

optIfGCC12Codirectional OBJECT-TYPE
  SYNTAX   TruthValue
  MAX-ACCESS   not-accessible
  STATUS   current
  DESCRIPTION
    "Indicates the directionality of the GCC12 termination with
     respect to the associated ODUk CTP.  The value true(1) means
     that the sink part of the GCC12 extracts COMMS data from the
     signal at the input to the ODUk CTP sink and the source part
     of the GCC12 inserts COMMS data into the signal at the output
     of the ODUk CTP source.  The value false(2) means that the
     sink part of the GCC12 extracts COMMS data from the signal at
     the output of the ODUk CTP source and the source part of the
     GCC12 inserts COMMS data into the signal at the input of the
     ODUk CTP sink.  This attribute may assume either value when
     the corresponding instance of optIfODUkTtpPresent has the
     value false(2).  When the value of the corresponding instance
     of optIfODUkTtpPresent is true(1) then the only value allowed
     for this attribute is true(1)."
  ::= { optIfGCC12ConfigEntry 1 }

optIfGCC12GCCAccess OBJECT-TYPE
  SYNTAX   INTEGER {
     gcc1 (1),
     gcc2 (2),
     gcc1and2 (3)
    }
  MAX-ACCESS   not-accessible
  STATUS   current
  DESCRIPTION
    "Indicates the GCC access represented by the entity."
  ::= { optIfGCC12ConfigEntry 2 }

optIfGCC12GCCPassThrough OBJECT-TYPE
  SYNTAX   TruthValue
  MAX-ACCESS   read-create
  STATUS   current
  DESCRIPTION
    "Controls whether the selected GCC overhead bytes are passed
```

through or modified. The value true(1) means that the selected
GCC overhead bytes are passed through unmodified from the ODUk
CTP input to the ODUk CTP output. The value false(2) means that
the selected GCC overhead bytes are set to zero at the ODUk CTP
output after the extraction of the COMMS data. This object has
no effect if the corresponding instance of optIfODUkTtpPresent
has the value true(1).

The value of this object may not be changed when
optIfGCC12RowStatus has the value active(1)."
  ::= { optIfGCC12ConfigEntry 3 }

optIfGCC12Application OBJECT-TYPE
  SYNTAX   SnmpAdminString
  MAX-ACCESS   read-create
  STATUS   current
  DESCRIPTION
    "Indicates the application transported by the GCC12 entity.
    Example applications are ECC, User data channel.

    The value of this object may not be changed when
    optIfGCC12RowStatus has the value active(1)."
  ::= { optIfGCC12ConfigEntry 4 }

optIfGCC12RowStatus OBJECT-TYPE
  SYNTAX   RowStatus
  MAX-ACCESS   read-create
  STATUS   current
  DESCRIPTION
    "This columnar object is used for creating and deleting
    a conceptual row of the optIfGCC12 config table. It is
    used to model the addGCC12Access and removeGCC12Access
    operations of an ODUk_CTP or ODUk_TTP for GCC12 access
    control as defined in G.874.1. Setting RowStatus to
    createAndGo or createAndWait implies addGCC12Access.
    Setting RowStatus to destroy implies removeGCC12Access.
    Successful addition/removal of the GCC12 access function
    will result in updating the
    optIfODUkPositionSeqCurrentSize variable and the
    optIfODUkPositionSeqTable table of the associated
    ODUk entry in the optIfODUkConfigTable."
  ::= { optIfGCC12ConfigEntry 5 }

-- the optIfODUkT group
-- This group handles the configuration information
-- for the ODUkT layers.

-- ODUkT config table

```
optIfODUkTConfigTable OBJECT-TYPE
  SYNTAX   SEQUENCE OF OptIfODUkTConfigEntry
  MAX-ACCESS  not-accessible
  STATUS  current
  DESCRIPTION
    "A table of ODUkT configuration information."
  ::= { optIfODUkT 1 }

optIfODUkTConfigEntry OBJECT-TYPE
  SYNTAX   OptIfODUkTConfigEntry
  MAX-ACCESS  not-accessible
  STATUS  current
  DESCRIPTION
    "A conceptual row that contains ODUkT configuration
     information of an interface.  Each instance must
     correspond to an instance of optIfODUkConfigEntry.
     Rows in this table are mutually exclusive with rows
     in the ODUkT NIM config table -- in other words, this
     row object may not be instantiated for a given pair
     of ifIndex and TCM field values if a corresponding
     instance of optIfODUkTNimConfigEntry already exists.

     Instances of this conceptual row persist across agent
     restarts.  Except where noted otherwise, read-create
     columns other than the status column may be modified
     while the row is active."
  INDEX  { ifIndex, optIfODUkTTcmField, optIfODUkTCodirectional }
  ::= { optIfODUkTConfigTable 1 }

OptIfODUkTConfigEntry ::=
  SEQUENCE {
    optIfODUkTTcmField                    Unsigned32,
    optIfODUkTCodirectional               TruthValue,
    optIfODUkTTraceIdentifierTransmitted  OptIfTxTI,
    optIfODUkTDAPIExpected                OptIfExDAPI,
    optIfODUkTSAPIExpected                OptIfExSAPI,
    optIfODUkTTraceIdentifierAccepted     OptIfAcTI,
    optIfODUkTTIMDetMode                  OptIfTIMDetMode,
    optIfODUkTTIMActEnabled               TruthValue,
    optIfODUkTDEGThr                      OptIfDEGThr,
    optIfODUkTDEGM                        OptIfDEGM,
    optIfODUkTSinkMode                    INTEGER,
    optIfODUkTSinkLockSignalAdminState    INTEGER,
    optIfODUkTSourceLockSignalAdminState  INTEGER,
    optIfODUkTCurrentStatus               BITS,
    optIfODUkTRowStatus                   RowStatus
    }
```

optIfODUkTTcmField OBJECT-TYPE
  SYNTAX   Unsigned32 (1..6)
  MAX-ACCESS   not-accessible
  STATUS   current
  DESCRIPTION
    "Indicates the tandem connection monitoring
     field of the ODUk OH. Valid values are
     integers from 1 to 6."
  ::= { optIfODUkTConfigEntry 1 }

optIfODUkTCodirectional OBJECT-TYPE
  SYNTAX   TruthValue
  MAX-ACCESS   not-accessible
  STATUS   current
  DESCRIPTION
    "Indicates the directionality of the ODUkT termination point with
     respect to the associated ODUk CTP. The value true(1) means
     that the sink part of the ODUkT TP extracts TCM data from the
     signal at the input to the ODUk CTP sink and the source part
     of the ODUkT TP inserts TCM data into the signal at the output
     of the ODUk CTP source. The value false(2) means that the
     sink part of the ODUkT TP extracts TCM data from the signal at
     the output of the ODUk CTP source and the source part of the
     ODUkT TP inserts TCM data into the signal at the input of the
     ODUk CTP sink. This attribute may assume either value when
     the corresponding instance of optIfODUkTtpPresent has the
     value false(2). When the value of the corresponding instance
     of optIfODUkTtpPresent is true(1) then the only value allowed
     for this attribute is true(1)."
  ::= { optIfODUkTConfigEntry 2 }

optIfODUkTTraceIdentifierTransmitted OBJECT-TYPE
  SYNTAX   OptIfTxTI
  MAX-ACCESS   read-create
  STATUS   current
  DESCRIPTION
    "The trace identifier transmitted.
     This object is applicable only to the following three cases.
        (i) optIfODUkDirectionality has the value bidirectional(3), or
        (ii) optIfODUkDirectionality has the value sink(1) and
             optIfODUkTCodirectional has the value false(2), or
        (iii) optIfODUkDirectionality has the value source(3) and
              optIfODUkTCodirectional has the value true(1).
     It must not be instantiated in rows for all other cases."
  ::= { optIfODUkTConfigEntry 3 }

optIfODUkTDAPIExpected OBJECT-TYPE
  SYNTAX   OptIfExDAPI

```
   MAX-ACCESS  read-create
   STATUS  current
   DESCRIPTION
     "The DAPI expected by the receiver.
      This object is applicable only to the following three cases.
        (i) optIfODUkDirectionality has the value bidirectional(3), or
        (ii) optIfODUkDirectionality has the value sink(1) and
             optIfODUkTCodirectional has the value true(1), or
        (iii) optIfODUkDirectionality has the value source(3) and
             optIfODUkTCodirectional has the value false(2).
      It must not be instantiated in rows for all other cases.
      This object has no effect when optIfODUkTTIMDetMode has
      the value off(1)."
   ::= { optIfODUkTConfigEntry 4 }

optIfODUkTSAPIExpected OBJECT-TYPE
   SYNTAX  OptIfExSAPI
   MAX-ACCESS  read-create
   STATUS  current
   DESCRIPTION
     "The SAPI expected by the receiver.
      This object is applicable only to the following three cases.
        (i) optIfODUkDirectionality has the value bidirectional(3), or
        (ii) optIfODUkDirectionality has the value sink(1) and
             optIfODUkTCodirectional has the value true(1), or
        (iii) optIfODUkDirectionality has the value source(3) and
             optIfODUkTCodirectional has the value false(2).
      It must not be instantiated in rows for all other cases.
      This object has no effect when optIfODUkTTIMDetMode has
      the value off(1)."
   ::= { optIfODUkTConfigEntry 5 }

optIfODUkTTraceIdentifierAccepted OBJECT-TYPE
   SYNTAX  OptIfAcTI
   MAX-ACCESS  read-only
   STATUS  current
   DESCRIPTION
     "The actual trace identifier accepted.
      This object is applicable only to the following three cases.
        (i) optIfODUkDirectionality has the value bidirectional(3), or
        (ii) optIfODUkDirectionality has the value sink(1) and
             optIfODUkTCodirectional has the value true(1), or
        (iii) optIfODUkDirectionality has the value source(3) and
             optIfODUkTCodirectional has the value false(2).
      It must not be instantiated in rows for all other cases.
      The value of this object is unspecified when
      optIfODUkTCurrentStatus indicates a near-end defect
      (i.e., oci(0), lck(1), ssf(5)) that prevents extraction
```

           of the trace message."
     ::= { optIfODUkTConfigEntry 6 }

  optIfODUkTTIMDetMode OBJECT-TYPE
     SYNTAX OptIfTIMDetMode
     MAX-ACCESS read-create
     STATUS current
     DESCRIPTION
       "Indicates the mode of the Trace Identifier Mismatch (TIM)
       Detection function.
       This object is applicable only to the following three cases.
          (i) optIfODUkDirectionality has the value bidirectional(3), or
          (ii) optIfODUkDirectionality has the value sink(1) and
               optIfODUkTCodirectional has the value true(1), or
          (iii) optIfODUkDirectionality has the value source(3) and
                optIfODUkTCodirectional has the value false(2).
       It must not be instantiated in rows for all other cases.
       The default value of this object is off(1)."
     ::= { optIfODUkTConfigEntry 7 }

  optIfODUkTTIMActEnabled OBJECT-TYPE
     SYNTAX TruthValue
     MAX-ACCESS read-create
     STATUS current
     DESCRIPTION
       "Indicates whether the Trace Identifier Mismatch (TIM)
       Consequent Action function is enabled.
       This object is applicable only to the following three cases.
          (i) optIfODUkDirectionality has the value bidirectional(3), or
          (ii) optIfODUkDirectionality has the value sink(1) and
               optIfODUkTCodirectional has the value true(1), or
          (iii) optIfODUkDirectionality has the value source(3) and
                optIfODUkTCodirectional has the value false(2).
       It must not be instantiated in rows for all other cases.
       This object has no effect when optIfODUkTTIMDetMode has
       the value off(1).
       The default value of this object is false(2)."
     ::= { optIfODUkTConfigEntry 8 }

  optIfODUkTDEGThr OBJECT-TYPE
     SYNTAX OptIfDEGThr
     UNITS   "percentage"
     MAX-ACCESS read-create
     STATUS current
     DESCRIPTION
       "Indicates the threshold level for declaring a performance
       monitoring (PM) Second to be bad. A PM Second is declared bad if
       the percentage of detected errored blocks in that second is

      greater than or equal to optIfODUkTDEGThr.
      This object is applicable only to the following three cases.
        (i) optIfODUkDirectionality has the value bidirectional(3), or
        (ii) optIfODUkDirectionality has the value sink(1) and
             optIfODUkTCodirectional has the value true(1), or
        (iii) optIfODUkDirectionality has the value source(3) and
              optIfODUkTCodirectional has the value false(2).
      It must not be instantiated in rows for all other cases.
      The default value of this object is Severely Errored Second
      (SES) Estimator (See ITU-T G.7710)."
    ::= { optIfODUkTConfigEntry 9 }

optIfODUkTDEGM OBJECT-TYPE
  SYNTAX   OptIfDEGM
  MAX-ACCESS   read-create
  STATUS   current
  DESCRIPTION
     "Indicates the threshold level for declaring a Degraded Signal
      defect (dDEG). A dDEG shall be declared if optIfODUkTDEGM
      consecutive bad PM Seconds are detected.
      This object is applicable only to the following three cases.
        (i) optIfODUkDirectionality has the value bidirectional(3), or
        (ii) optIfODUkDirectionality has the value sink(1) and
             optIfODUkTCodirectional has the value true(1), or
        (iii) optIfODUkDirectionality has the value source(3) and
              optIfODUkTCodirectional has the value false(2).
      It must not be instantiated in rows for all other cases.
      The default value of this object is 7 (See ITU-T G.7710)."
    ::= { optIfODUkTConfigEntry 10 }

optIfODUkTSinkMode OBJECT-TYPE
  SYNTAX   INTEGER   {
    operational (1),
    monitor (2)
    }
  MAX-ACCESS   read-create
  STATUS   current
  DESCRIPTION
     "This variable specifies the TCM mode at the entity.
      The value operational(1) means that TCM Overhead (TCMOH)
      processes (see ITU-T G.798) shall be
      performed and consequent actions for AIS, Trail
      Signal Fail (TSF), Trail Signal Degraded (TSD) shall be
      initiated in case of defects.
      The value monitor(2) means that TCMOH processes shall be
      performed but consequent actions for AIS, Trail
      Server Failure (TSF), Trail Server Degraded (TSD) shall _not_ be
      initiated in case of defects.

```
      This object is applicable only when the value of
      optIfODUkTtpPresent is false(2) and also either one of the
      following three cases holds:
         (i) optIfODUkDirectionality has the value bidirectional(3), or
         (ii) optIfODUkDirectionality has the value sink(1) and
              optIfODUkTCodirectional has the value true(1), or
         (iii) optIfODUkDirectionality has the value source(3) and
               optIfODUkTCodirectional has the value false(2).
      It must not be instantiated in rows for all other cases."
   ::= { optIfODUkTConfigEntry 11 }

optIfODUkTSinkLockSignalAdminState OBJECT-TYPE
   SYNTAX   INTEGER {
     locked(1),
     normal(2)
     }
   MAX-ACCESS   read-create
   STATUS   current
   DESCRIPTION
     "Provides the capability to provision the LOCK signal, which
      is one of the ODUk maintenance signals, at the ODUKT sink.  When
      a Tandem Connection endpoint is set to admin state locked,
      it inserts the ODUk-LCK signal in the sink direction.

      This object is applicable only when the value of
      optIfODUkTtpPresent is false(2) and also either one of the
      following three cases holds:
         (i) optIfODUkDirectionality has the value bidirectional(3), or
         (ii) optIfODUkDirectionality has the value sink(1) and
              optIfODUkTCodirectional has the value true(1), or
         (iii) optIfODUkDirectionality has the value source(3) and
               optIfODUkTCodirectional has the value false(2).
      It must not be instantiated in rows for all other cases."
   ::= { optIfODUkTConfigEntry 12 }

optIfODUkTSourceLockSignalAdminState OBJECT-TYPE
   SYNTAX   INTEGER {
     locked(1),
     normal(2)
     }
   MAX-ACCESS   read-create
   STATUS   current
   DESCRIPTION
     "Provides the capability to provision the LOCK signal, which
      is one of the ODUk maintenance signals, at the source.
      When a Tandem Connection endpoint is set to admin state
      locked, it inserts the ODUk-LCK signal in the source
      direction.
```

      This object is applicable only when either one of the
      following three cases holds:
         (i) optIfODUkDirectionality has the value bidirectional(3), or
         (ii) optIfODUkDirectionality has the value sink(1) and
               optIfODUkTCodirectional has the value false(2), or
         (iii) optIfODUkDirectionality has the value source(3) and
                optIfODUkTCodirectional has the value true(1).
      It must not be instantiated in rows for all other cases."
   ::= { optIfODUkTConfigEntry 13 }

optIfODUkTCurrentStatus OBJECT-TYPE
   SYNTAX   BITS {
      oci(0),
      lck(1),
      tim(2),
      deg(3),
      bdi(4),
      ssf(5)
      }
   MAX-ACCESS   read-only
   STATUS   current
   DESCRIPTION
      "Indicates the defect condition of the entity, if any.
       This object is applicable only when either one of the
       following three cases holds:
          (i) optIfODUkDirectionality has the value bidirectional(3), or
          (ii) optIfODUkDirectionality has the value sink(1) and
                optIfODUkTCodirectional has the value true(1), or
          (iii) optIfODUkDirectionality has the value source(3) and
                 optIfODUkTCodirectional has the value false(2).
       It must not be instantiated in rows for all other cases."
   ::= { optIfODUkTConfigEntry 14 }

optIfODUkTRowStatus OBJECT-TYPE
   SYNTAX   RowStatus
   MAX-ACCESS   read-create
   STATUS   current
   DESCRIPTION
      "This columnar object is used for creating and deleting a
      conceptual row of the optIfODUkT config table.
      It is used to model the addTCM and removeTCM operations of an
      ODUk_CTP or ODUk_TTP for Tandem connection monitoring as defined
      in ITU-T G.874.1.
      Setting RowStatus to createAndGo or createAndWait implies addTCM.
      Setting RowStatus to destroy implies removeTCM.
      Successful addition/removal of TCM will result in updating the
      optIfODUkTcmFieldsInUse and optIfODUkPositionSeqCurrentSize
      variables and the optIfODUkPositionSeqTable table of the

      associated ODUk entry in the optIfODUkConfigTable."
   ::= { optIfODUkTConfigEntry 15 }

-- ODUkT Non-intrusive monitoring (Nim) config table

optIfODUkTNimConfigTable OBJECT-TYPE
   SYNTAX   SEQUENCE OF OptIfODUkTNimConfigEntry
   MAX-ACCESS not-accessible
   STATUS   current
   DESCRIPTION
     "A table of ODUkTNim configuration information."
   ::= { optIfODUkT 2 }

optIfODUkTNimConfigEntry OBJECT-TYPE
   SYNTAX   OptIfODUkTNimConfigEntry
   MAX-ACCESS not-accessible
   STATUS   current
   DESCRIPTION
     "A conceptual row that contains ODUkTNim configuration
      information of an interface. Each instance must
      correspond to an instance of optIfODUkConfigEntry.
      Rows in this table are mutually exclusive with rows
      in the ODUkT config table -- in other words, this
      row object may not be instantiated for a given pair
      of ifIndex and TCM field values if a corresponding
      instance of optIfODUkTConfigEntry already exists.

      Instances of this conceptual row persist across
      agent restarts, and read-create columns other
      than the status column may be modified while the
      row is active."
   INDEX {ifIndex, optIfODUkTNimTcmField, optIfODUkTNimDirectionality}
   ::= { optIfODUkTNimConfigTable 1 }

OptIfODUkTNimConfigEntry ::=
   SEQUENCE {
     optIfODUkTNimTcmField   Unsigned32,
     optIfODUkTNimDirectionality   OptIfSinkOrSource,
     optIfODUkTNimDAPIExpected   OptIfExDAPI,
     optIfODUkTNimSAPIExpected   OptIfExSAPI,
     optIfODUkTNimTraceIdentifierAccepted   OptIfAcTI,
     optIfODUkTNimTIMDetMode   OptIfTIMDetMode,
     optIfODUkTNimTIMActEnabled   TruthValue,
     optIfODUkTNimDEGThr   OptIfDEGThr,
     optIfODUkTNimDEGM   OptIfDEGM,
     optIfODUkTNimCurrentStatus   BITS,
     optIfODUkTNimRowStatus   RowStatus
     }

optIfODUkTNimTcmField OBJECT-TYPE
  SYNTAX   Unsigned32 (1..6)
  MAX-ACCESS   not-accessible
  STATUS   current
  DESCRIPTION
    "Indicates the tandem connection monitoring
     field of the ODUk OH on which non-intrusive monitoring
     is performed. Valid values are
     integers from 1 to 6."
  ::= { optIfODUkTNimConfigEntry 1 }

optIfODUkTNimDirectionality OBJECT-TYPE
  SYNTAX   OptIfSinkOrSource
  MAX-ACCESS   not-accessible
  STATUS   current
  DESCRIPTION
    "Specifies the monitor point for the ODUk TCM non-intrusive
     monitoring function. The value source(2) is not allowed
     if the corresponding instance of optIfODUkDirectionality
     has the value sink(1), and the value sink(1) is not allowed
     if the corresponding instance of optIfODUkDirectionality
     has the value source(2). Either the value sink(1) or
     source(2) is allowed if the corresponding instance of
     optIfODUkDirectionality has the value bidirectional(3).
     The value sink(1) means monitoring at the sink direction
     TCM signal of the ODUk CTP.
     The value source(2) means monitoring at the source direction
     path signal of the ODUk CTP."
  ::= { optIfODUkTNimConfigEntry 2 }

optIfODUkTNimDAPIExpected OBJECT-TYPE
  SYNTAX   OptIfExDAPI
  MAX-ACCESS   read-create
  STATUS   current
  DESCRIPTION
    "The DAPI expected by the receiver.
     This object has no effect if optIfODUkTNimTIMDetMode has
     the value off(1) or sapi(3)."
  ::= { optIfODUkTNimConfigEntry 3 }

optIfODUkTNimSAPIExpected OBJECT-TYPE
  SYNTAX   OptIfExSAPI
  MAX-ACCESS   read-create
  STATUS   current
  DESCRIPTION
    "The SAPI expected by the receiver.
     This object has no effect if optIfODUkTNimTIMDetMode has
     the value off(1) or dapi(2)."

```
   ::= { optIfODUkTNimConfigEntry 4 }

optIfODUkTNimTraceIdentifierAccepted OBJECT-TYPE
  SYNTAX  OptIfAcTI
  MAX-ACCESS  read-only
  STATUS  current
  DESCRIPTION
    "The actual trace identifier accepted.  The value of
     this object is unspecified if optIfODUkTNimCurrentStatus
     has any of the bit positions oci(0), lck(1), or ssf(5)
     set or if optIfODUkTNimRowStatus has any value other
     than active(1)."
  ::= { optIfODUkTNimConfigEntry 5 }

optIfODUkTNimTIMDetMode OBJECT-TYPE
  SYNTAX  OptIfTIMDetMode
  MAX-ACCESS  read-create
  STATUS  current
  DESCRIPTION
    "Indicates the mode of the Trace Identifier Mismatch (TIM)
     Detection function."
  ::= { optIfODUkTNimConfigEntry 6 }

optIfODUkTNimTIMActEnabled OBJECT-TYPE
  SYNTAX  TruthValue
  MAX-ACCESS  read-create
  STATUS  current
  DESCRIPTION
    "Indicates whether the Trace Identifier Mismatch (TIM)
     Consequent Action function is enabled."
  ::= { optIfODUkTNimConfigEntry 7 }

optIfODUkTNimDEGThr OBJECT-TYPE
  SYNTAX  OptIfDEGThr
  UNITS   "percentage"
  MAX-ACCESS  read-create
  STATUS  current
  DESCRIPTION
    "Indicates the threshold level for declaring a performance
     monitoring (PM) Second to be bad.  A PM Second is declared bad if
     the percentage of detected errored blocks in that second is
     greater than or equal to optIfODUkTNimDEGThr."
  ::= { optIfODUkTNimConfigEntry 8 }

optIfODUkTNimDEGM OBJECT-TYPE
  SYNTAX  OptIfDEGM
  MAX-ACCESS  read-create
  STATUS  current
```

```
   DESCRIPTION
     "Indicates the threshold level for declaring a Degraded Signal
      defect (dDEG).  A dDEG shall be declared if optIfODUkTNimDEGM
      consecutive bad PM Seconds are detected."
   ::= { optIfODUkTNimConfigEntry 9 }

optIfODUkTNimCurrentStatus OBJECT-TYPE
  SYNTAX  BITS {
    oci(0),
    lck(1),
    tim(2),
    deg(3),
    bdi(4),
    ssf(5)
    }
  MAX-ACCESS  read-only
  STATUS  current
  DESCRIPTION
    "Indicates the defect condition of the entity, if any.
     The value of this object is unspecified if
     optIfODUkTNimRowStatus has any value other than
     active(1)."
   ::= { optIfODUkTNimConfigEntry 10 }

optIfODUkTNimRowStatus OBJECT-TYPE
  SYNTAX  RowStatus
  MAX-ACCESS  read-create
  STATUS  current
  DESCRIPTION
    "This columnar object is used for creating and deleting a
     conceptual row of the optIfODUkTNim config table.
     It is used to model the addTCM and removeTCM operations of an
     ODUk_CTP or ODUk_TTP for non-intrusive Tandem connection
     monitoring as defined in ITU-T G.874.1.
     Setting RowStatus to createAndGo or createAndWait implies addTCM.
     Setting RowStatus to destroy implies removeTCM.
     Successful addition/removal of Nim TCM will result in updating
     the optIfODUkPositionSeqCurrentSize variable and the
     optIfODUkPositionSeqTable table of the associated ODUk entry
     in the optIfODUkConfigTable."
   ::= { optIfODUkTNimConfigEntry 11 }

-- units of conformance

optIfOTMnGroup OBJECT-GROUP
  OBJECTS  {
    optIfOTMnOrder,
    optIfOTMnReduced,
```

```
   optIfOTMnBitRates,
   optIfOTMnInterfaceType,
   optIfOTMnTcmMax,
   optIfOTMnOpticalReach
   }
 STATUS  current
 DESCRIPTION
   "A collection of OTMn structure information objects."
 ::= { optIfGroups 1 }

optIfPerfMonGroup OBJECT-GROUP
 OBJECTS  {
   optIfPerfMonCurrentTimeElapsed,
   optIfPerfMonCurDayTimeElapsed,
   optIfPerfMonIntervalNumIntervals,
   optIfPerfMonIntervalNumInvalidIntervals
   }
 STATUS  current
 DESCRIPTION
   "A collection of performance monitoring interval objects."
 ::= { optIfGroups 2 }

optIfOTSnCommonGroup OBJECT-GROUP
 OBJECTS  {
   optIfOTSnDirectionality
   }
 STATUS  current
 DESCRIPTION
   "A collection of configuration objects
    applicable to all OTSn interfaces."
 ::= { optIfGroups 3 }

optIfOTSnSourceGroupFull OBJECT-GROUP
 OBJECTS  {
   optIfOTSnTraceIdentifierTransmitted
   }
 STATUS  current
 DESCRIPTION
   "A collection of configuration objects
    applicable to full-functionality/IaDI OTSn
    interfaces that support source functions."
 ::= { optIfGroups 4 }

optIfOTSnAPRStatusGroup OBJECT-GROUP
 OBJECTS  {
   optIfOTSnAprStatus
   }
 STATUS  current
```

```
     DESCRIPTION
       "A collection of objects applicable to
        OTSn interfaces that support Automatic
        Power Reduction functions."
     ::= { optIfGroups 5 }

 optIfOTSnAPRControlGroup OBJECT-GROUP
     OBJECTS   {
       optIfOTSnAprControl
       }
     STATUS  current
     DESCRIPTION
       "A collection of objects applicable to
        OTSn interfaces that provide Automatic
        Power Reduction control functions."
     ::= { optIfGroups 6 }

 optIfOTSnSinkGroupBasic OBJECT-GROUP
     OBJECTS   {
       optIfOTSnCurrentStatus
       }
     STATUS   current
     DESCRIPTION
       "A collection of configuration objects
        applicable to all OTSn interfaces that
        support sink functions."
     ::= { optIfGroups 7 }

 optIfOTSnSinkGroupFull OBJECT-GROUP
     OBJECTS   {
       optIfOTSnDAPIExpected,
       optIfOTSnSAPIExpected,
       optIfOTSnTraceIdentifierAccepted,
       optIfOTSnTIMDetMode,
       optIfOTSnTIMActEnabled
       }
     STATUS   current
     DESCRIPTION
       "A collection of configuration objects
        applicable to full-functionality/IaDI OTSn
        interfaces that support sink functions."
     ::= { optIfGroups 8 }

 optIfOTSnSinkPreOtnPMGroup OBJECT-GROUP
     OBJECTS   {
       optIfOTSnSinkCurrentSuspectedFlag,
       optIfOTSnSinkCurrentInputPower,
       optIfOTSnSinkCurrentLowInputPower,
```

       optIfOTSnSinkCurrentHighInputPower,
       optIfOTSnSinkCurrentOutputPower,
       optIfOTSnSinkCurrentLowOutputPower,
       optIfOTSnSinkCurrentHighOutputPower,
       optIfOTSnSinkIntervalSuspectedFlag,
       optIfOTSnSinkIntervalLastInputPower,
       optIfOTSnSinkIntervalLowInputPower,
       optIfOTSnSinkIntervalHighInputPower,
       optIfOTSnSinkIntervalLastOutputPower,
       optIfOTSnSinkIntervalLowOutputPower,
       optIfOTSnSinkIntervalHighOutputPower,
       optIfOTSnSinkCurDaySuspectedFlag,
       optIfOTSnSinkCurDayLowInputPower,
       optIfOTSnSinkCurDayHighInputPower,
       optIfOTSnSinkCurDayLowOutputPower,
       optIfOTSnSinkCurDayHighOutputPower,
       optIfOTSnSinkPrevDaySuspectedFlag,
       optIfOTSnSinkPrevDayLastInputPower,
       optIfOTSnSinkPrevDayLowInputPower,
       optIfOTSnSinkPrevDayHighInputPower,
       optIfOTSnSinkPrevDayLastOutputPower,
       optIfOTSnSinkPrevDayLowOutputPower,
       optIfOTSnSinkPrevDayHighOutputPower
       }
     STATUS   current
     DESCRIPTION
       "A collection of pre-OTN performance monitoring
        objects applicable to OTSn interfaces that
        support sink functions."
     ::= { optIfGroups 9 }

 optIfOTSnSinkPreOtnPMThresholdGroup OBJECT-GROUP
     OBJECTS   {
       optIfOTSnSinkCurrentLowerInputPowerThreshold,
       optIfOTSnSinkCurrentUpperInputPowerThreshold,
       optIfOTSnSinkCurrentLowerOutputPowerThreshold,
       optIfOTSnSinkCurrentUpperOutputPowerThreshold
       }
     STATUS   current
     DESCRIPTION
       "A collection of pre-OTN performance monitoring
        threshold objects applicable to OTSn interfaces
        that support sink functions."
     ::= { optIfGroups 10 }

 optIfOTSnSourcePreOtnPMGroup OBJECT-GROUP
     OBJECTS   {
       optIfOTSnSrcCurrentSuspectedFlag,

```
        optIfOTSnSrcCurrentOutputPower,
        optIfOTSnSrcCurrentLowOutputPower,
        optIfOTSnSrcCurrentHighOutputPower,
        optIfOTSnSrcCurrentInputPower,
        optIfOTSnSrcCurrentLowInputPower,
        optIfOTSnSrcCurrentHighInputPower,
        optIfOTSnSrcIntervalSuspectedFlag,
        optIfOTSnSrcIntervalLastOutputPower,
        optIfOTSnSrcIntervalLowOutputPower,
        optIfOTSnSrcIntervalHighOutputPower,
        optIfOTSnSrcIntervalLastInputPower,
        optIfOTSnSrcIntervalLowInputPower,
        optIfOTSnSrcIntervalHighInputPower,
        optIfOTSnSrcCurDaySuspectedFlag,
        optIfOTSnSrcCurDayLowOutputPower,
        optIfOTSnSrcCurDayHighOutputPower,
        optIfOTSnSrcCurDayLowInputPower,
        optIfOTSnSrcCurDayHighInputPower,
        optIfOTSnSrcPrevDaySuspectedFlag,
        optIfOTSnSrcPrevDayLastOutputPower,
        optIfOTSnSrcPrevDayLowOutputPower,
        optIfOTSnSrcPrevDayHighOutputPower,
        optIfOTSnSrcPrevDayLastInputPower,
        optIfOTSnSrcPrevDayLowInputPower,
        optIfOTSnSrcPrevDayHighInputPower
        }
  STATUS  current
  DESCRIPTION
     "A collection of pre-OTN performance monitoring
      objects applicable to OTSn interfaces that
      support source functions."
  ::= { optIfGroups 11 }

optIfOTSnSourcePreOtnPMThresholdGroup OBJECT-GROUP
  OBJECTS  {
     optIfOTSnSrcCurrentLowerOutputPowerThreshold,
     optIfOTSnSrcCurrentUpperOutputPowerThreshold,
     optIfOTSnSrcCurrentLowerInputPowerThreshold,
     optIfOTSnSrcCurrentUpperInputPowerThreshold
     }
  STATUS  current
  DESCRIPTION
     "A collection of pre-OTN performance monitoring
      threshold objects applicable to OTSn interfaces
      that support source functions."
  ::= { optIfGroups 12 }

optIfOMSnCommonGroup OBJECT-GROUP
```

```
   OBJECTS   {
     optIfOMSnDirectionality
     }
   STATUS  current
   DESCRIPTION
     "A collection of configuration objects
      applicable to all OMSn interfaces."
   ::= { optIfGroups 13 }

optIfOMSnSinkGroupBasic OBJECT-GROUP
   OBJECTS   {
     optIfOMSnCurrentStatus
     }
   STATUS   current
   DESCRIPTION
     "A collection of configuration objects
      applicable to all OMSn interfaces that
      support sink functions."
   ::= { optIfGroups 14 }

optIfOMSnSinkPreOtnPMGroup OBJECT-GROUP
   OBJECTS   {
     optIfOMSnSinkCurrentSuspectedFlag,
     optIfOMSnSinkCurrentAggregatedInputPower,
     optIfOMSnSinkCurrentLowAggregatedInputPower,
     optIfOMSnSinkCurrentHighAggregatedInputPower,
     optIfOMSnSinkCurrentOutputPower,
     optIfOMSnSinkCurrentLowOutputPower,
     optIfOMSnSinkCurrentHighOutputPower,
     optIfOMSnSinkIntervalSuspectedFlag,
     optIfOMSnSinkIntervalLastAggregatedInputPower,
     optIfOMSnSinkIntervalLowAggregatedInputPower,
     optIfOMSnSinkIntervalHighAggregatedInputPower,
     optIfOMSnSinkIntervalLastOutputPower,
     optIfOMSnSinkIntervalLowOutputPower,
     optIfOMSnSinkIntervalHighOutputPower,
     optIfOMSnSinkCurDaySuspectedFlag,
     optIfOMSnSinkCurDayLowAggregatedInputPower,
     optIfOMSnSinkCurDayHighAggregatedInputPower,
     optIfOMSnSinkCurDayLowOutputPower,
     optIfOMSnSinkCurDayHighOutputPower,
     optIfOMSnSinkPrevDaySuspectedFlag,
     optIfOMSnSinkPrevDayLastAggregatedInputPower,
     optIfOMSnSinkPrevDayLowAggregatedInputPower,
     optIfOMSnSinkPrevDayHighAggregatedInputPower,
     optIfOMSnSinkPrevDayLastOutputPower,
     optIfOMSnSinkPrevDayLowOutputPower,
     optIfOMSnSinkPrevDayHighOutputPower
```

```
      }
   STATUS  current
   DESCRIPTION
      "A collection of pre-OTN performance monitoring
       objects applicable to OMSn interfaces that
       support sink functions."
   ::= { optIfGroups 15 }

optIfOMSnSinkPreOtnPMThresholdGroup OBJECT-GROUP
   OBJECTS  {
      optIfOMSnSinkCurrentLowerInputPowerThreshold,
      optIfOMSnSinkCurrentUpperInputPowerThreshold,
      optIfOMSnSinkCurrentLowerOutputPowerThreshold,
      optIfOMSnSinkCurrentUpperOutputPowerThreshold
      }
   STATUS  current
   DESCRIPTION
      "A collection of pre-OTN performance monitoring
       threshold objects applicable to OMSn interfaces
       that support sink functions."
   ::= { optIfGroups 16 }

optIfOMSnSourcePreOtnPMGroup OBJECT-GROUP
   OBJECTS  {
      optIfOMSnSrcCurrentSuspectedFlag,
      optIfOMSnSrcCurrentOutputPower,
      optIfOMSnSrcCurrentLowOutputPower,
      optIfOMSnSrcCurrentHighOutputPower,
      optIfOMSnSrcCurrentAggregatedInputPower,
      optIfOMSnSrcCurrentLowAggregatedInputPower,
      optIfOMSnSrcCurrentHighAggregatedInputPower,
      optIfOMSnSrcIntervalSuspectedFlag,
      optIfOMSnSrcIntervalLastOutputPower,
      optIfOMSnSrcIntervalLowOutputPower,
      optIfOMSnSrcIntervalHighOutputPower,
      optIfOMSnSrcIntervalLastAggregatedInputPower,
      optIfOMSnSrcIntervalLowAggregatedInputPower,
      optIfOMSnSrcIntervalHighAggregatedInputPower,
      optIfOMSnSrcCurDaySuspectedFlag,
      optIfOMSnSrcCurDayLowOutputPower,
      optIfOMSnSrcCurDayHighOutputPower,
      optIfOMSnSrcCurDayLowAggregatedInputPower,
      optIfOMSnSrcCurDayHighAggregatedInputPower,
      optIfOMSnSrcPrevDaySuspectedFlag,
      optIfOMSnSrcPrevDayLastOutputPower,
      optIfOMSnSrcPrevDayLowOutputPower,
      optIfOMSnSrcPrevDayHighOutputPower,
      optIfOMSnSrcPrevDayLastAggregatedInputPower,
```

      optIfOMSnSrcPrevDayLowAggregatedInputPower,
      optIfOMSnSrcPrevDayHighAggregatedInputPower
      }
    STATUS current
    DESCRIPTION
      "A collection of pre-OTN performance monitoring
       objects applicable to OMSn interfaces that
       support source functions."
    ::= { optIfGroups 17 }

optIfOMSnSourcePreOtnPMThresholdGroup OBJECT-GROUP
    OBJECTS {
      optIfOMSnSrcCurrentLowerOutputPowerThreshold,
      optIfOMSnSrcCurrentUpperOutputPowerThreshold,
      optIfOMSnSrcCurrentLowerInputPowerThreshold,
      optIfOMSnSrcCurrentUpperInputPowerThreshold
      }
    STATUS   current
    DESCRIPTION
      "A collection of pre-OTN performance monitoring
       threshold objects applicable to OMSn interfaces that
       that support source functions."
    ::= { optIfGroups 18 }

optIfOChGroupCommonGroup OBJECT-GROUP
    OBJECTS {
      optIfOChGroupDirectionality
      }
    STATUS current
    DESCRIPTION
      "A collection of configuration objects
       applicable to all OChGroup interfaces."
    ::= { optIfGroups 19 }

optIfOChGroupSinkPreOtnPMGroup OBJECT-GROUP
    OBJECTS {
      optIfOChGroupSinkCurrentSuspectedFlag,
      optIfOChGroupSinkCurrentAggregatedInputPower,
      optIfOChGroupSinkCurrentLowAggregatedInputPower,
      optIfOChGroupSinkCurrentHighAggregatedInputPower,
      optIfOChGroupSinkCurrentOutputPower,
      optIfOChGroupSinkCurrentLowOutputPower,
      optIfOChGroupSinkCurrentHighOutputPower,
      optIfOChGroupSinkIntervalSuspectedFlag,
      optIfOChGroupSinkIntervalLastAggregatedInputPower,
      optIfOChGroupSinkIntervalLowAggregatedInputPower,
      optIfOChGroupSinkIntervalHighAggregatedInputPower,
      optIfOChGroupSinkIntervalLastOutputPower,

```
       optIfOChGroupSinkIntervalLowOutputPower,
       optIfOChGroupSinkIntervalHighOutputPower,
       optIfOChGroupSinkCurDaySuspectedFlag,
       optIfOChGroupSinkCurDayLowAggregatedInputPower,
       optIfOChGroupSinkCurDayHighAggregatedInputPower,
       optIfOChGroupSinkCurDayLowOutputPower,
       optIfOChGroupSinkCurDayHighOutputPower,
       optIfOChGroupSinkPrevDaySuspectedFlag,
       optIfOChGroupSinkPrevDayLastAggregatedInputPower,
       optIfOChGroupSinkPrevDayLowAggregatedInputPower,
       optIfOChGroupSinkPrevDayHighAggregatedInputPower,
       optIfOChGroupSinkPrevDayLastOutputPower,
       optIfOChGroupSinkPrevDayLowOutputPower,
       optIfOChGroupSinkPrevDayHighOutputPower
       }
    STATUS  current
    DESCRIPTION
      "A collection of pre-OTN performance monitoring
       objects applicable to OChGroup interfaces that
       support sink functions."
    ::= { optIfGroups 20 }

 optIfOChGroupSinkPreOtnPMThresholdGroup OBJECT-GROUP
    OBJECTS  {
       optIfOChGroupSinkCurrentLowerInputPowerThreshold,
       optIfOChGroupSinkCurrentUpperInputPowerThreshold,
       optIfOChGroupSinkCurrentLowerOutputPowerThreshold,
       optIfOChGroupSinkCurrentUpperOutputPowerThreshold
       }
    STATUS  current
    DESCRIPTION
      "A collection of pre-OTN performance monitoring
       threshold objects applicable to OChGroup interfaces
       that support sink functions."
    ::= { optIfGroups 21 }

 optIfOChGroupSourcePreOtnPMGroup OBJECT-GROUP
    OBJECTS  {
       optIfOChGroupSrcCurrentSuspectedFlag,
       optIfOChGroupSrcCurrentOutputPower,
       optIfOChGroupSrcCurrentLowOutputPower,
       optIfOChGroupSrcCurrentHighOutputPower,
       optIfOChGroupSrcCurrentAggregatedInputPower,
       optIfOChGroupSrcCurrentLowAggregatedInputPower,
       optIfOChGroupSrcCurrentHighAggregatedInputPower,
       optIfOChGroupSrcIntervalSuspectedFlag,
       optIfOChGroupSrcIntervalLastOutputPower,
       optIfOChGroupSrcIntervalLowOutputPower,
```

```
      optIfOChGroupSrcIntervalHighOutputPower,
      optIfOChGroupSrcIntervalLastAggregatedInputPower,
      optIfOChGroupSrcIntervalLowAggregatedInputPower,
      optIfOChGroupSrcIntervalHighAggregatedInputPower,
      optIfOChGroupSrcCurDaySuspectedFlag,
      optIfOChGroupSrcCurDayLowOutputPower,
      optIfOChGroupSrcCurDayHighOutputPower,
      optIfOChGroupSrcCurDayLowAggregatedInputPower,
      optIfOChGroupSrcCurDayHighAggregatedInputPower,
      optIfOChGroupSrcPrevDaySuspectedFlag,
      optIfOChGroupSrcPrevDayLastOutputPower,
      optIfOChGroupSrcPrevDayLowOutputPower,
      optIfOChGroupSrcPrevDayHighOutputPower,
      optIfOChGroupSrcPrevDayLastAggregatedInputPower,
      optIfOChGroupSrcPrevDayLowAggregatedInputPower,
      optIfOChGroupSrcPrevDayHighAggregatedInputPower
      }
   STATUS   current
   DESCRIPTION
     "A collection of pre-OTN performance monitoring
      objects applicable to OChGroup interfaces that
      support source functions."
   ::= { optIfGroups 22 }

optIfOChGroupSourcePreOtnPMThresholdGroup OBJECT-GROUP
   OBJECTS   {
     optIfOChGroupSrcCurrentLowerOutputPowerThreshold,
     optIfOChGroupSrcCurrentUpperOutputPowerThreshold,
     optIfOChGroupSrcCurrentLowerInputPowerThreshold,
     optIfOChGroupSrcCurrentUpperInputPowerThreshold
     }
   STATUS   current
   DESCRIPTION
     "A collection of pre-OTN performance monitoring
      threshold objects applicable to OChGroup interfaces that
      that support source functions."
   ::= { optIfGroups 23 }

optIfOChCommonGroup OBJECT-GROUP
   OBJECTS   {
     optIfOChDirectionality
     }
   STATUS   current
   DESCRIPTION
     "A collection of configuration objects
      applicable to all OCh interfaces."
   ::= { optIfGroups 24 }
```

```
optIfOChSinkGroupBasic OBJECT-GROUP
  OBJECTS   {
    optIfOChCurrentStatus
    }
  STATUS  current
  DESCRIPTION
    "A collection of configuration objects
     applicable to all OCh interfaces that
     support sink functions."
  ::= { optIfGroups 25 }

optIfOChSinkPreOtnPMGroup OBJECT-GROUP
  OBJECTS   {
    optIfOChSinkCurrentSuspectedFlag,
    optIfOChSinkCurrentInputPower,
    optIfOChSinkCurrentLowInputPower,
    optIfOChSinkCurrentHighInputPower,
    optIfOChSinkIntervalSuspectedFlag,
    optIfOChSinkIntervalLastInputPower,
    optIfOChSinkIntervalLowInputPower,
    optIfOChSinkIntervalHighInputPower,
    optIfOChSinkCurDaySuspectedFlag,
    optIfOChSinkCurDayLowInputPower,
    optIfOChSinkCurDayHighInputPower,
    optIfOChSinkPrevDaySuspectedFlag,
    optIfOChSinkPrevDayLastInputPower,
    optIfOChSinkPrevDayLowInputPower,
    optIfOChSinkPrevDayHighInputPower
    }
  STATUS  current
  DESCRIPTION
    "A collection of pre-OTN performance monitoring
     objects applicable to OCh interfaces that
     support sink functions."
  ::= { optIfGroups 26 }

optIfOChSinkPreOtnPMThresholdGroup OBJECT-GROUP
  OBJECTS   {
    optIfOChSinkCurrentLowerInputPowerThreshold,
    optIfOChSinkCurrentUpperInputPowerThreshold
    }
  STATUS  current
  DESCRIPTION
    "A collection of pre-OTN performance monitoring
     threshold objects applicable to OCh interfaces
     that support sink functions."
  ::= { optIfGroups 27 }
```

optIfOChSourcePreOtnPMGroup OBJECT-GROUP
  OBJECTS   {
    optIfOChSrcCurrentSuspectedFlag,
    optIfOChSrcCurrentOutputPower,
    optIfOChSrcCurrentLowOutputPower,
    optIfOChSrcCurrentHighOutputPower,
    optIfOChSrcIntervalSuspectedFlag,
    optIfOChSrcIntervalLastOutputPower,
    optIfOChSrcIntervalLowOutputPower,
    optIfOChSrcIntervalHighOutputPower,
    optIfOChSrcCurDaySuspectedFlag,
    optIfOChSrcCurDayLowOutputPower,
    optIfOChSrcCurDayHighOutputPower,
    optIfOChSrcPrevDaySuspectedFlag,
    optIfOChSrcPrevDayLastOutputPower,
    optIfOChSrcPrevDayLowOutputPower,
    optIfOChSrcPrevDayHighOutputPower
      }
  STATUS current
  DESCRIPTION
    "A collection of pre-OTN performance monitoring
     objects applicable to OCh interfaces that
     support source functions."
  ::= { optIfGroups 28 }

optIfOChSourcePreOtnPMThresholdGroup OBJECT-GROUP
  OBJECTS   {
    optIfOChSrcCurrentLowerOutputPowerThreshold,
    optIfOChSrcCurrentUpperOutputPowerThreshold
      }
  STATUS current
  DESCRIPTION
    "A collection of pre-OTN performance monitoring
     threshold objects applicable to OCh interfaces
     that support source functions."
  ::= { optIfGroups 29 }

optIfOTUkCommonGroup OBJECT-GROUP
  OBJECTS   {
    optIfOTUkDirectionality,
    optIfOTUkBitRateK
      }
  STATUS current
  DESCRIPTION
    "A collection of configuration objects
     applicable to all OTUk interfaces."
  ::= { optIfGroups 30 }

```
optIfOTUkSourceGroup OBJECT-GROUP
  OBJECTS   {
    optIfOTUkTraceIdentifierTransmitted,
    optIfOTUkSourceAdaptActive
    }
  STATUS  current
  DESCRIPTION
    "A collection of configuration objects
     applicable to OTUk interfaces that
     support source functions."
  ::= { optIfGroups 31 }

optIfOTUkSinkGroup OBJECT-GROUP
  OBJECTS   {
    optIfOTUkDAPIExpected,
    optIfOTUkSAPIExpected,
    optIfOTUkTraceIdentifierAccepted,
    optIfOTUkTIMDetMode,
    optIfOTUkTIMActEnabled,
    optIfOTUkDEGThr,
    optIfOTUkDEGM,
    optIfOTUkSinkAdaptActive,
    optIfOTUkSinkFECEnabled,
    optIfOTUkCurrentStatus
    }
  STATUS  current
  DESCRIPTION
    "A collection of configuration objects
     applicable to OTUk interfaces that
     support sink functions."
  ::= { optIfGroups 32 }

optIfGCC0Group OBJECT-GROUP
  OBJECTS   {
    optIfGCC0Application,
    optIfGCC0RowStatus
    }
  STATUS  current
  DESCRIPTION
    "A collection of GCC0 configuration objects."
  ::= { optIfGroups 33 }

optIfODUkGroup OBJECT-GROUP
  OBJECTS   {
    optIfODUkDirectionality,
    optIfODUkBitRateK,
    optIfODUkTcmFieldsInUse,
    optIfODUkPositionSeqCurrentSize,
```

```
   optIfODUkPositionSeqPosition,
   optIfODUkPositionSeqPointer,
   optIfODUkTtpPresent
   }
STATUS  current
DESCRIPTION
  "A collection of configuration objects
   applicable to all ODUk interfaces."
::= { optIfGroups 34 }

optIfODUkTtpSourceGroup OBJECT-GROUP
  OBJECTS  {
    optIfODUkTtpTraceIdentifierTransmitted
    }
  STATUS  current
  DESCRIPTION
    "A collection of configuration objects
     applicable to all interfaces that support
     ODUk trail termination source functions."
  ::= { optIfGroups 35 }

optIfODUkTtpSinkGroup OBJECT-GROUP
  OBJECTS  {
    optIfODUkTtpDAPIExpected,
    optIfODUkTtpSAPIExpected,
    optIfODUkTtpTraceIdentifierAccepted,
    optIfODUkTtpTIMDetMode,
    optIfODUkTtpTIMActEnabled,
    optIfODUkTtpDEGThr,
    optIfODUkTtpDEGM,
    optIfODUkTtpCurrentStatus
    }
  STATUS  current
  DESCRIPTION
    "A collection of ODUk configuration objects
     applicable to all interfaces that support
     ODUk trail termination sink functions."
  ::= { optIfGroups 36 }

optIfODUkNimGroup OBJECT-GROUP
  OBJECTS  {
    optIfODUkNimDAPIExpected,
    optIfODUkNimSAPIExpected,
    optIfODUkNimTraceIdentifierAccepted,
    optIfODUkNimTIMDetMode,
    optIfODUkNimTIMActEnabled,
    optIfODUkNimDEGThr,
    optIfODUkNimDEGM,
```

      optIfODUkNimCurrentStatus,
      optIfODUkNimRowStatus
      }
    STATUS current
    DESCRIPTION
      "A collection of ODUk Nim configuration objects."
    ::= { optIfGroups 37 }

  optIfGCC12Group OBJECT-GROUP
    OBJECTS {
      optIfGCC12GCCPassThrough,
      optIfGCC12Application,
      optIfGCC12RowStatus
      }
    STATUS current
    DESCRIPTION
      "A collection of GCC12 configuration objects."
    ::= { optIfGroups 38 }

  optIfODUkTCommonGroup OBJECT-GROUP
    OBJECTS {
      optIfODUkTRowStatus
      }
    STATUS current
    DESCRIPTION
      "A collection of configuration objects
       applicable to all ODUkT instances."
    ::= { optIfGroups 39 }

  optIfODUkTSourceGroup OBJECT-GROUP
    OBJECTS {
      optIfODUkTTraceIdentifierTransmitted,
      optIfODUkTSourceLockSignalAdminState
      }
    STATUS current
    DESCRIPTION
      "A collection of configuration objects
       applicable to all ODUkT instances
       that provide source functions."
    ::= { optIfGroups 40 }

  optIfODUkTSinkGroup OBJECT-GROUP
    OBJECTS {
      optIfODUkTDAPIExpected,
      optIfODUkTSAPIExpected,
      optIfODUkTTraceIdentifierAccepted,
      optIfODUkTTIMDetMode,
      optIfODUkTTIMActEnabled,

      optIfODUkTDEGThr,
      optIfODUkTDEGM,
      optIfODUkTCurrentStatus
      }
    STATUS current
    DESCRIPTION
      "A collection of configuration objects
       applicable to all ODUkT instances
       that provide sink functions."
    ::= { optIfGroups 41 }

optIfODUkTSinkGroupCtp OBJECT-GROUP
    OBJECTS {
      optIfODUkTSinkMode,
      optIfODUkTSinkLockSignalAdminState
      }
    STATUS current
    DESCRIPTION
      "A collection of configuration objects
       applicable to ODUkT instances not
       colocated with an ODUk TTP that
       provide sink functions."
    ::= { optIfGroups 42 }

optIfODUkTNimGroup OBJECT-GROUP
    OBJECTS {
      optIfODUkTNimDAPIExpected,
      optIfODUkTNimSAPIExpected,
      optIfODUkTNimTraceIdentifierAccepted,
      optIfODUkTNimTIMDetMode,
      optIfODUkTNimTIMActEnabled,
      optIfODUkTNimDEGThr,
      optIfODUkTNimDEGM,
      optIfODUkTNimCurrentStatus,
      optIfODUkTNimRowStatus
      }
    STATUS current
    DESCRIPTION
      "A collection of ODUkT Nim configuration objects."
    ::= { optIfGroups 43 }

-- compliance specifications

optIfOtnConfigCompl MODULE-COMPLIANCE
    STATUS current
    DESCRIPTION
      "Implementation requirements for the OTN configuration
       functions defined in this MIB module."

```
   MODULE -- this module

      MANDATORY-GROUPS  {
        optIfOTMnGroup,
        optIfOTSnCommonGroup
        }

      GROUP   optIfOTSnSourceGroupFull
      DESCRIPTION
        "This group is mandatory for interfaces of ifType
         opticalTransport(196) for which the corresponding
         instance of optIfOTSnDirectionality has the value
         source(2) or bidirectional(3), the corresponding
         instance of optIfOTMnReduced has the value false(2),
         and the corresponding instance of optIfOTMnInterfaceType
         specifies an OTMn interface type of 'IaDI'."

      GROUP   optIfOTSnAPRStatusGroup
      DESCRIPTION
        "This group is mandatory for interfaces of ifType
         opticalTransport(196) that support Automatic Power
         Reduction functions."

      GROUP   optIfOTSnAPRControlGroup
      DESCRIPTION
        "This group is optional, but is recommended for interfaces
         of ifType opticalTransport(196) that provide Automatic
         Power Reduction control functions."

      GROUP   optIfOTSnSinkGroupBasic
      DESCRIPTION
        "This group is mandatory for interfaces of ifType
         opticalTransport(196) for which the corresponding
         instance of optIfOTSnDirectionality has the value
         sink(1) or bidirectional(3)."

      GROUP   optIfOTSnSinkGroupFull
      DESCRIPTION
        "This group is mandatory for interfaces of ifType
         opticalTransport(196) for which the corresponding
         instance of optIfOTSnDirectionality has the value
         sink(1) or bidirectional(3), the corresponding
         instance of optIfOTMnReduced has the value false(2),
         and the corresponding instance of optIfOTMnInterfaceType
         specifies an OTMn interface type of 'IaDI'."

      GROUP   optIfOMSnCommonGroup
      DESCRIPTION
```

```
           "This group is mandatory for interfaces of ifType
            opticalTransport(196) that support access to the OMS
            overhead information within the OTN Supervisory Channel."

      GROUP   optIfOMSnSinkGroupBasic
      DESCRIPTION
         "This group is mandatory for interfaces of ifType
          opticalTransport(196) that support access to the OMS Overhead
          information within the OSC (OTN Supervisory Channel)
          for which the corresponding
          instance of optIfOMSnDirectionality has the value
          sink(1) or bidirectional(3)."

      GROUP   optIfOChGroupCommonGroup
      DESCRIPTION
         "This group is mandatory for interfaces of ifType
          opticalChannelGroup(219)."

      GROUP   optIfOChCommonGroup
      DESCRIPTION
         "This group is mandatory for interfaces of ifType
          opticalTransport(195)."

      GROUP   optIfOChSinkGroupBasic
      DESCRIPTION
         "This group is mandatory for interfaces of ifType
          opticalChannel(195) for which the corresponding
          instance of optIfOChDirectionality has the value
          sink(1) or bidirectional(3)."

      GROUP   optIfOTUkCommonGroup
      DESCRIPTION
         "This group is mandatory for interfaces of ifType
          opticalChannel(195) that support OTUk layer functions."

      GROUP   optIfOTUkSourceGroup
      DESCRIPTION
         "This group is mandatory for interfaces of ifType
          opticalChannel(195) that support OTUk layer functions
          and for which the corresponding instance of
          optIfOTUkDirectionality has the value source(2) or
          bidirectional(3)."

      GROUP   optIfOTUkSinkGroup
      DESCRIPTION
         "This group is mandatory for interfaces of ifType
          opticalChannel(195) that support OTUk layer functions
          and for which the corresponding instance of
```

```
         optIfOTUkDirectionality has the value sink(1) or
         bidirectional(3)."

      GROUP   optIfGCC0Group
      DESCRIPTION
        "This group is mandatory for interfaces of ifType
        opticalChannel(195) that support GCC0 access functions.
        It may be implemented only if the optIfOTUkCommonGroup
        is also implemented."

      GROUP   optIfODUkGroup
      DESCRIPTION
        "This group is mandatory for interfaces of ifType
        opticalChannel(195) that support ODUk layer functions."

      GROUP   optIfODUkTtpSourceGroup
      DESCRIPTION
        "This group is mandatory for interfaces of ifType
        opticalChannel(195) for which the corresponding
        instance of optIfODUkTtpPresent has the value
        true(1) and for which the corresponding instance of
        optIfODUkDirectionality has the value source(2) or
        bidirectional(3).  It may be implemented only if the
        optIfODUkGroup is also implemented."

      GROUP   optIfODUkTtpSinkGroup
      DESCRIPTION
        "This group is mandatory for interfaces of ifType
        opticalChannel(195) for which the corresponding
        instance of optIfODUkTtpPresent has the value
        true(1) and for which the corresponding instance of
        optIfODUkDirectionality has the value sink(1) or
        bidirectional(3).  It may be implemented only if the
        optIfODUkGroup is also implemented."

      GROUP   optIfODUkNimGroup
      DESCRIPTION
        "This group is mandatory for interfaces of ifType
        opticalChannel(195) for which the corresponding
        instance of optIfODUkTtpPresent has the value
        false(2).  It may be implemented only if the
        optIfODUkGroup is also implemented."

      GROUP   optIfGCC12Group
      DESCRIPTION
        "This group is mandatory for interfaces of ifType
        opticalChannel(195) that support GCC12 access functions.
        It may be implemented only if the optIfODUkGroup
```

        is also implemented."

    GROUP   optIfODUkTCommonGroup
    DESCRIPTION
      "This group is mandatory for interfaces of ifType
      opticalChannel(195) that support intrusive
      tandem connection monitoring. It may be implemented
      only if the optIfODUkGroup is also implemented."

    GROUP   optIfODUkTSourceGroup
    DESCRIPTION
      "This group is mandatory for interfaces of ifType
      opticalChannel(195) that support intrusive
      tandem connection monitoring and for which
      (i) optIfODUkDirectionality has the value bidirectional(3), or
      (ii) optIfODUkDirectionality has the value sink(1) and
            optIfODUkTCodirectional has the value false(2), or
      (iii) optIfODUkDirectionality has the value source(3) and
             optIfODUkTCodirectional has the value true(1).
      It may be implemented only if the optIfODUkGroup is
      also implemented."

    GROUP   optIfODUkTSinkGroup
    DESCRIPTION
      "This group is mandatory for interfaces of ifType
      opticalChannel(195) that support intrusive
      tandem connection monitoring and for which
      (i) optIfODUkDirectionality has the value bidirectional(3), or
      (ii) optIfODUkDirectionality has the value sink(1) and
            optIfODUkTCodirectional has the value true(1), or
      (iii) optIfODUkDirectionality has the value source(3) and
             optIfODUkTCodirectional has the value false(2).
      It may be implemented only if the optIfODUkGroup is
      also implemented."

    GROUP   optIfODUkTSinkGroupCtp
    DESCRIPTION
      "This group is mandatory for interfaces of ifType
      opticalChannel(195) that support intrusive
      tandem connection monitoring and for which
      optIfODUkTtpPresent is false(2) and
      (i) optIfODUkDirectionality has the value bidirectional(3), or
      (ii) optIfODUkDirectionality has the value sink(1) and
            optIfODUkTCodirectional has the value true(1), or
      (iii) optIfODUkDirectionality has the value source(3) and
             optIfODUkTCodirectional has the value false(2).
      It may be implemented only if the optIfODUkGroup and
      optIfODUkTSinkGroup are also implemented."

```
   GROUP   optIfODUkTNimGroup
   DESCRIPTION
     "This group is mandatory for interfaces of ifType
      opticalChannel(195) that support non-intrusive
      tandem connection monitoring.  It may be implemented
      only if the optIfODUkGroup is also implemented."

  ::= { optIfCompl 1 }

optIfPreOtnPMCompl MODULE-COMPLIANCE
  STATUS  current
  DESCRIPTION
    "Implementation requirements for Pre-OTN performance
     monitoring functions defined in this MIB module."

  MODULE  -- this module

    MANDATORY-GROUPS  {
      optIfPerfMonGroup
       }

    GROUP   optIfOTSnSinkPreOtnPMGroup
    DESCRIPTION
      "This group is mandatory for interfaces of ifType
       opticalTransport(196) that support OTSn sink
       functions (i.e., for which the corresponding instance
       of optIfOTSnDirectionality -- if implemented -- has
       the value sink(1) or bidirectional(3))."

    GROUP   optIfOTSnSinkPreOtnPMThresholdGroup
    DESCRIPTION
      "This group is mandatory if and only if TCA notifications
       are implemented.  If the objects of this group are instantiated
       then the implementation must also provide, in an
       enterprise MIB, suitable TCA notification definitions and
       notification control objects.  Implementation of the
       optIfOTSnSinkPreOtnPMGroup is a prerequisite for
       implementing this group."

    GROUP   optIfOTSnSourcePreOtnPMGroup
    DESCRIPTION
      "This group is mandatory for interfaces of ifType
       opticalTransport(196) that support OTSn source
       functions (i.e., for which the corresponding instance
       of optIfOTSnDirectionality -- if implemented -- has
       the value source(2) or bidirectional(3))."

    GROUP   optIfOTSnSourcePreOtnPMThresholdGroup
```

        DESCRIPTION
          "This group is mandatory if and only if TCA notifications
          are implemented. If the objects of this group are instantiated
          then the implementation must also provide, in an
          enterprise MIB, suitable TCA notification definitions and
          notification control objects. Implementation of the
          optIfOTSnSourcePreOtnPMGroup is a prerequisite for
          implementing this group "

        GROUP   optIfOMSnSinkPreOtnPMGroup
        DESCRIPTION
          "This group is optional. It may be implemented by systems
          with the necessary instrumentation on interfaces of ifType
          opticalTransport(196) that support OMSn sink functions
          (i.e., for which the corresponding instance of
          optIfOMSnDirectionality -- if implemented -- has the value
          sink(1) or bidirectional(3))."

        GROUP   optIfOMSnSinkPreOtnPMThresholdGroup
        DESCRIPTION
          "This group is mandatory if and only if TCA notifications
          are implemented. If the objects of this group are instantiated
          then the implementation must also provide, in an
          enterprise MIB, suitable TCA notification definitions and
          notification control objects. Implementation of the
          optIfOMSnSinkPreOtnPMGroup is a prerequisite for
          implementing this group "

        GROUP   optIfOMSnSourcePreOtnPMGroup
        DESCRIPTION
          "This group is optional. It may be implemented by systems
          with the necessary instrumentation on interfaces of ifType
          opticalTransport(196) that support OMSn source functions
          (i.e., for which the corresponding instance of
          optIfOMSnDirectionality -- if implemented -- has the value
          source(2) or bidirectional(3))."

        GROUP   optIfOMSnSourcePreOtnPMThresholdGroup
        DESCRIPTION
          "This group is mandatory if and only if TCA notifications
          are implemented. If the objects of this group are instantiated
          then the implementation must also provide, in an
          enterprise MIB, suitable TCA notification definitions and
          notification control objects. Implementation of the
          optIfOMSnSourcePreOtnPMGroup is a prerequisite for
          implementing this group "

        GROUP   optIfOChGroupSinkPreOtnPMGroup

         DESCRIPTION
           "This group is optional. It may be implemented by systems
            with the necessary instrumentation on interfaces of ifType
            opticalChannelGroup(219) that support OChGroup sink functions
            (i.e., for which the corresponding instance of
            optIfOChGroupDirectionality -- if implemented -- has the value
            sink(1) or bidirectional(3))."

         GROUP   optIfOChGroupSinkPreOtnPMThresholdGroup
         DESCRIPTION
           "This group is mandatory if and only if TCA notifications
            are implemented. If the objects of this group are instantiated
            then the implementation must also provide, in an
            enterprise MIB, suitable TCA notification definitions and
            notification control objects. Implementation of the
            optIfOChGroupSinkPreOtnPMGroup is a prerequisite for
            implementing this group "

         GROUP   optIfOChGroupSourcePreOtnPMGroup
         DESCRIPTION
           "This group is optional. It may be implemented by systems
            with the necessary instrumentation on interfaces of ifType
            opticalChannelGroup(219) that support OChGroup source functions
            (i.e., for which the corresponding instance of
            optIfOChGroupDirectionality -- if implemented -- has the value
            source(2) or bidirectional(3))."

         GROUP   optIfOChGroupSourcePreOtnPMThresholdGroup
         DESCRIPTION
           "This group is mandatory if and only if TCA notifications
            are implemented. If the objects of this group are instantiated
            then the implementation must also provide, in an
            enterprise MIB, suitable TCA notification definitions and
            notification control objects. Implementation of the
            optIfOChGroupSourcePreOtnPMGroup is a prerequisite for
            implementing this group "

         GROUP   optIfOChSinkPreOtnPMGroup
         DESCRIPTION
           "This group is mandatory for interfaces of ifType
            opticalChannel(195) that support OCh sink functions
            (i.e., for which the corresponding instance of
            optIfOChDirectionality -- if implemented -- has the
            value sink(1) or bidirectional(3))."

         GROUP   optIfOChSinkPreOtnPMThresholdGroup
         DESCRIPTION
           "This group is mandatory if and only if TCA notifications

          are implemented. If the objects of this group are instantiated
          then the implementation must also provide, in an
          enterprise MIB, suitable TCA notification definitions and
          notification control objects. Implementation of the
          optIfOChSinkPreOtnPMGroup is a prerequisite for
          implementing this group "

       GROUP   optIfOChSourcePreOtnPMGroup
       DESCRIPTION
          "This group is mandatory for interfaces of ifType
          opticalChannel(195) that support OCh source functions
          (i.e., for which the corresponding instance of
          optIfOChDirectionality -- if implemented -- has the
          value source(2) or bidirectional(3))."

       GROUP   optIfOChSourcePreOtnPMThresholdGroup
       DESCRIPTION
          "This group is mandatory if and only if TCA notifications
          are implemented. If the objects of this group are instantiated
          then the implementation must also provide, in an
          enterprise MIB, suitable TCA notification definitions and
          notification control objects. Implementation of the
          optIfOChSourcePreOtnPMGroup is a prerequisite for
          implementing this group "

     ::= { optIfCompl 2 }

 END

 5. Security Considerations

     There are a number of management objects defined in this MIB module
     with a MAX-ACCESS clause of read-write and/or read-create. It is
     possible for writes to these objects to have disruptive effects on
     network operation that range from invalid performance data to traffic
     interruptions. Users of this MIB module must therefore be aware that
     support for SET operations in a non-secure environment without proper
     protection can have a negative effect on network operations. The
     most sensitive objects are the read-write and read-create objects
     listed in the optIfOtnConfigCompl compliance statement that control
     the maximum number of TCM levels allowed (optIfOTMnTcmMax), automatic
     power reduction (optIfOTSnAprControl), transmitted trail trace
     (optIfOTSnTraceIdentifierTransmitted,
     optIfOTUkTraceIdentifierTransmitted,
     optIfODUkTtpTraceIdentifierTransmitted,
     optIfODUkTTraceIdentifierTransmitted), expected source/destination
     access point identifiers (optIfOTSnDAPIExpected,
     optIfOTSnSAPIExpected, optIfOTUkDAPIExpected, optIfOTUkSAPIExpected,

      optIfODUkTtpDAPIExpected, optIfODUkTtpSAPIExpected,
      optIfODUkNimDAPIExpected, optIfODUkNimSAPIExpected,
      optIfODUkTDAPIExpected, optIfODUkTSAPIExpected,
      optIfODUkTNimDAPIExpected, optIfODUkTNimSAPIExpected), trace
      identifier mismatch detection mode (optIfOTSnTIMDetMode,
      optIfOTUkTIMDetMode, optIfODUkTtpTIMDetMode, optIfODUkNimTIMDetMode,
      optIfODUkTTIMDetMode, optIfODUkTNimTIMDetMode), trace identifier
      mismatch consequent action (optIfOTSnTIMActEnabled,
      optIfOTUkTIMActEnabled, optIfODUkTtpTIMActEnabled,
      optIfODUkNimTIMActEnabled, optIfODUkTTIMActEnabled,
      optIfODUkTNimTIMActEnabled), threshold level for declaring a PM
      Second to be bad (optIfOTUkDEGThr, optIfODUkTtpDEGThr,
      optIfODUkNimDEGThr, optIfODUkTDEGThr, optIfODUkTNimDEGThr), threshold
      level for declaring a Degraded Signal defect (optIfOTUkDEGM,
      optIfODUkTtpDEGM, optIfODUkNimDEGM, optIfODUkTDEGM,
      optIfODUkTNimDEGM), whether the sink/source adaptation function is
      activated (optIfOTUkSinkAdaptActive, optIfOTUkSourceAdaptActive),
      whether Forward Error Correction is supported
      (optIfOTUkSinkFECEnabled), the application transported by the GCC
      entities (optIfGCC0Application, optIfGCC12Application), creating and
      deleting a conceptual row of a config table (optIfGCC0RowStatus,
      optIfODUkNimRowStatus, optIfGCC12RowStatus, optIfODUkTRowStatus,
      optIfODUkTNimRowStatus), whether the selected GCC overhead bytes are
      passed through or modified (optIfGCC12GCCPassThrough), TCM mode
      (optIfODUkTSinkMode), and provisioning of the sink/source LOCK signal
      (optIfODUkTSinkLockSignalAdminState,
      optIfODUkTSourceLockSignalAdminState), as these may cause traffic
      interruptions if improperly set.

      The readable objects in this MIB module (i.e., the objects with a
      MAX-ACCESS other than not-accessible) may be considered sensitive in
      some environments since, collectively, they provide information about
      the performance of interfaces in OTN equipment or networks and can
      reveal aspects of their configuration. In such environments it is
      important to control even GET and NOTIFY access to these objects and
      possibly to encrypt the values of these objects when sending them
      over the network via SNMP.

      SNMP versions prior to SNMPv3 did not include adequate security.
      Even if the network itself is secure (for example by using IPSec),
      there is no control as to who on the secure network is allowed to
      access and GET/SET (read/change/create/delete) objects in this MIB
      module.

      It is RECOMMENDED that implementers consider the security features
      provided by the SNMPv3 framework (see [RFC3410], section 8),
      including full support for the SNMPv3 cryptographic mechanisms (for
      authentication and privacy).

Further, deployment of SNMP versions prior to SNMPv3 is NOT
RECOMMENDED. Instead, it is RECOMMENDED that SNMPv3 be deployed and
cryptographic security be enabled. It is then a customer/operator
responsibility to ensure that the SNMP entity giving access to an
instance of this MIB module is properly configured to give access to
the objects only to those principals (users) that have legitimate
rights to indeed GET or SET (change/create/delete) them.

6. Acknowledgements

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10. Full Copyright Statement

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