CISCO SYSTEMS

Cisco ONS 15454 SONET and SDH TL1 Command Quick Reference Guide, Release 4.7

This guide lists TL1 commands and autonomous messages by category. It includes basic descriptions and input and output formats supported by Cisco ONS 15454 and Cisco ONS 15454 SDH, Release 4.7.

TL1 commands conform to the following syntax:
a:b:c:d:e: ...z;
where:
"a" is the Command Code
"b" is the Target Identifier (TID)
"c" is the Access Identifier (AID) or the User Identifier (UID)
"d" is the Correlation Tag (CTAG)
"e: ...z;" are other positions required for various commands
The TID, AID, and CTAG parameters route and control the TL1 command.
The remaining parameters provide additional information required to complete the action requested by the command.

1 DWDM

Table 1 **DWDM**

COPY-RFILE:[<TID>]:[<SRC>]:<CTAG>::TYPE=<XFERTYPE>,[SRC=<SRC1>,] [DEST=<DEST>,][OVWRT=<OVWRT>,][FTTD=<FTTD>];   Downloads a new software package or file from the location specified by the FTP URL.
DLT-EQPT:[<TID>]:<AID>:<CTAG>[:::];   Deletes a card from the Network Element (NE).
DLT-LNK-<MOD2O>:[<TID>]:<FROM>,<TO>:<CTAG>;   Deletes an optical link between two optical connection points.
DLT-OSC:[<TID>]:<AID>:<CTAG>;   Deletes the Optical Service Channel (OSC) group of the NE.
DLT-<PAYLOAD>:[<TID>]:<AID>:<CTAG>;   Deletes a port connection from a client port to a supported payload type.
DLT-WLEN:[<TID>]:<AID>:<CTAG>:::[CMDMDE=<CMDMDE>][:];   Deletes the provisioned wavelength (WLEN).
ED-10GIGE:[<TID>]:<AID>:<CTAG>:::[NAME=<PORTNAME>,][MACADDR=<MACADDR>]: [<PST>],[<SST>];   Edits the 10 GBit/sec parameters for the 10GIGE port.
ED-ALS:[<TID>]:<AID>:<CTAG>:::[ALSMODE=<ALSMODE>,][ALSRCINT=<ALSRCINT>,] [ALSRCPW=<ALSRCPW>,][:];   Edits the Automatic Laser Shutdown (ALS) attributes of an OC-N facility and all facilities that support the ALS feature.
ED-APC:[<TID>]::<AID>::<CTAG>:::[APC-ENABLE=<APCENABLE>][:];   Edits Amplification Power Control (APC) application attributes.
ED-ESCON:[<TID>]:<AID>:<CTAG>:::[ENCAP=<ENCAP>,][CMDMDE=<CMDMDE>][:] [<PST>[,<SST>]];   Edits the attributes for an Enterprise System Connection (ESCON) interface.
ED-EQPT:[<TID>]:<AID>:<CTAG>:::[PEERID=<PEERID>,] [REGENNAME=<REGENNAME>,][PWL=<PWL>,][CARDMODE=<CARD_MODE>];   Edits the attributes for a given equipment slot in the NE. If the card is in an equipment slot, this command is allowed only on the working AID.
ED-FFP-OCH::[<TID>]:<AID>:<CTAG>:::[PROTID=<PROTID>,][RVRTV=<RVRTV>,] [RVTM=<RVTM>,][PSDIRN=<PSDIRN>][:];   Edits the provisioning for the default protection group on the DWDM port of a TXP_MR_2.5G or TXPP_MR_2.5G card.

Table 1   DWDM (continued)

ED-GIGE:[<TID>]:<AID>:<CTAG>:::[ENCAP=<ENCAP>,][CMDMDE=<CMDMDE>[:]
[<PST>[<,<SST>]];
Edits the Gigabit Ethernet-specific parameters for the port.

ED-LNK-<MOD2O>:[<TID>]:<FROM>,<TO>:<CTAG>::::<PST>,[<SST>];
Edits an optical link.

ED-<MOD2DWDMPAYLOAD>:[<TID>]:<AID>:<CTAG>:::[NAME=<NAME>,]
[CMDMDE=<CMDMDE>]:<PST>,[<SST>];
Edits the operating parameters for a DWDM facility.

ED-OCH:[<TID>]:<AID>:<CTAG>:::[NAME=<PORTNAME>,][SFBER=<SFBER>,]
[SDBER=<SDBER>,][ALSMODE=<ALSMODE>,][ALSRCINT=<ALSRCINT>,]
[ALSRCPW=<ALSRCPW>,][COMM=<COMM>,][GCCRATE=<GCCRATE>,]
[OSDBER=<OSDBER>,][DWRAP=<DWRAP>,][FEC=<FEC>,]
[PAYLOAD-MAP=<PAYLOADMAP>,][RLASER=<RLASER>,][SOAK=<SOAK>]:[<PST>],
[<SST>];
Edits the operating parameters of an Optical Channel (OCH) facility.

ED-<OCN_TYPE>:[<TID>]:<AID>:<CTAG>:::[NAME=<PORTNAME>,][DCC=<DCC>,]
[GCC=<GCC>,][AREA=<AREA>,][SYNCMSG=<SYNCMSG>,][SENDDUS=<SENDDUS>,]
[PJMON=<PJMON>,][SFBER=<SFBER>,][SDBER=<SDBER>,][MODE=<MODE>,]
[MUX=<MUX>,][SOAK=<SOAK>,][OSPF=<OSPF>,][LDCC=<LDCC>,][NAME=<NAME>,]
[EXPTRC=<EXPTRC>,][TRC=<TRC>,][TRCMODE=<TRCMODE>,]
[TRCFORMAT=<TRCFORMAT>,][CMDMDE=<CMDMDE>]:<PST>,[<SST>];
Edits the attributes (service parameters) and state of an OC-N facility.

ED-OMS:[<TID>]:<AID>:<CTAG>:::[RDIRN=<RDIRN>,][EXPBAND=<EXPBAND>,]
[VOAATTN=<VOAATTN>,][VOAPWR=<VOAPWR>,][CALOPWR=<CALOPWR>,]
[CHPOWER=<CHPOWER>]:[<PST>],[<SST>];
Edits the attributes (service parameters) and state of an Optical Multiplex Section (OMS) facility.

ED-OSC:[<TID>]:<AID>:<CTAG>:::[RINGID=<RINGID>,][NODEID=<NODEID>];
Edits the Optical Service Channel (OSC) group attributes.

ED-OTS:[<TID>]:<AID>:<CTAG>:::[RDIRN=<RDIRN>,][VOAATTN=<VOAATTN>,]
[VOAPWR=<VOAPWR>,][OFFSET=<OFFSET>,][CALTILT=<CALTILT>,][OSRI=<OSRI>,]
[AMPLMODE=<AMPLMODE>,][CHPOWER=<CHPOWER>,][EXPGAIN=<EXPGAIN>,]
[NAME=<NAME>,][CMDMDE=<CMDMDE>]:[<PST>],[<SST>];
Edits the attributes (service parameters) and state of an OTS facility.

ED-SLV-WDMANS:[<TID>]:[<AID>]:<CTAG>:::[HIGHSLVEXP=<HIGHSLVEXP>,]
[LOWSLVEXP=<LOWSLVEXP>][:];
Provisions the expected span loss verification.

Table 1   DWDM (continued)

ED-TRC-OCH:[<TID>]:<SRC>:<CTAG>:::[EXPTRC=<EXPTRC>,][TRC=<TRC>,]
[TRCMODE=<TRCMODE>,][TRCLEVEL=<TRCLEVEL>,][TRCFORMAT=<TRCFORMAT>][:];
Edits trace-related optical channel facilities.

ED-WDMANS:[<TID>]:<AID>:<CTAG>:::[POWERIN=<POWERIN>,]
[POWEROUT=<POWEROUT>,][POWEREXP=<POWEREXP>,][NTWTYPE=<RINGTYPE>,][:];
Edits the optical node setup application attributes.

ED-WLEN:[<TID>]:<AID>:<CTAG>:::[SIZE=<SIZE>]:[<PST>],[<SST>];
Edits wavelength (WLEN) provisioning.

ENT-EQPT:[<TID>]:<AID>:<CTAG>::[<EQPTTYPE>]:[PEERID=<PEERID>,]
[REGENNAME=<REGENNAME>,][PWL=<PWL>,][CARDMODE=<CARD_MODE>];
Creates the card type and attributes for a given equipment slot in the NE. It also automatically enters
all facilities supported by the card, assigning default values to all port and path attributes.

ENT-LNK-<MOD2O>:[<TID>]:<FROM>,<TO>:<CTAG>::::<PST>,[<SST>];
Creates an optical link between two optical connection points.

ENT-OSC:[<TID>]:<AID>:<CTAG>:::[RINGID=<RINGID>,]NODEID=<NODEID>,]
[EAST=<EAST>,][WEST=<WEST>];
Creates the OSC (optical service channel) group of the NE.

ENT-<PAYLOAD>:[<TID>]:<AID>:<CTAG>;
Creates a port connection from a client port to a supported payload type.

ENT-WLEN:[<TID>]:<AID>:<CTAG>::[<WCT>]:[SIZE=<SIZE>]:[<PST>],[<SST>];
Allocates a wavelength.

INIT-REG-<MOD2>:[<TID>]:<AID>:<CTAG>::<MONTYPE>,,[<LOCN>],[<DIRN>],
[<TMPER>][,,];
Initializes the performance monitoring registers on an OMS card.

OPR-ALS:[<TID>]:<AID>:<CTAG>[:::::];
Restarts the laser of an OC-N facility and all facilities that support the ALS feature.

OPR-APC:[<TID>]::<CTAG>[::::];
Permits the Amplifier Power Control (APC) application inside the NE to force regulation of the
optical power to the entire DWDM ring.

OPR-LNK:[<TID>]::<CTAG>;
Permits the optical link application inside the NE to calculate all the automatic optical links between
end points that can be univocally identified by the NE.

OPR-PROTNSW-OCH:[<TID>]:<AID>:<CTAG>[::];
Performs a protection switch on the trunk port of a TXPP_MR_2.5G card.

Table 1   *DWDM (continued)*

OPR-SLV-WDMANS:[<TID>]:<AID>:<CTAG>[:::];
Invokes the calculation of the expected span loss verification.

OPR-WDMANS:[<TID>]::<CTAG>;
Operates the Automatic Optical Node Setup (AONS) application inside the NE to force a recompute of the value to be assigned to all variable optical attenuators (VOAs) representing the Optical Path inside the node.

RLS-PROTNSW-OCH:[<TID>]:<AID>:<CTAG>[::];
Performs a protection switch on the trunk port of a TXPP_MR_2.5G card.

RMV-<MOD2_IO>:[<TID>]:<AID>:<CTAG>::[<CMDMODE>],[<PST>],[<SST>];
Removes a facility from service.

RST-<MOD2_IO>:[<TID>]:<AID>:<CTAG>[::];
Provisions a facility in-service.

RTRV-10GIGE:[<TID>]:<AID>:<CTAG>[::::];
Retrieves the 10 GBit/sec parameters for the 10GIGE port.
Output format:

```
   SID DATE TIME
M  CTAG COMPLD
  "<AID>::[NAME=<PORTNAME>,][MACADDR=<MACADDR>,][LBCL=<LBCLCURR>,]
  [OPT=<OPTCURR>,][OPR=<OPRCURR>]:<PST>,[<SST>]"
;
```

RTRV-ALM-ALL:[<TID>]::<CTAG>::[<NTFCNCDE>],[<CONDITION>],[<SRVEFF>][,,,];
Retrieves and sends the current status of all active alarm conditions.
Output format:

```
   SID DATE TIME
M CTAG COMPLD
  "[<AID>],[<AIDTYPE>]:<NTFCNCDE>,<CONDTYPE>,<SRVEFF>,,,,:[<DESC>],[<AIDDET>]"
;
```

RTRV-ALM-EQPT:[<TID>]:<AID>:<CTAG>::[<NTFCNCDE>],[<CONDTYPE>],
[<SRVEFF>][,,,];
Retrieves and sends the current status of alarm conditions associated with the equipment units.
Output format:

```
   SID DATE TIME
M  CTAG COMPLD
  "[<AID>],[<AIDTYPE>]:<NTFCNCDE>,<CONDTYPE>,<SRVEFF>,,,,:[<DESC>]"
;
```

Table 1   DWDM (continued)

RTRV-ALM-<MOD2ALM>:[<TID>]:<AID>:<CTAG>::[<NTFCNCDE>],[<CONDTYPE>],
[<SRVEFF>][,,,]::

Instructs the NE to retrieve and send the current status of an alarm condition.

Output format:

  SID DATE TIME
M CTAG COMPLD
  "<AID>,[<AIDTYPE>]:<NTFCNCDE>,<CONDTYPE>,<SRVEFF>,[<OCRDAT>],[<OCRTM>],,
  :[<DESC>]"
;

RTRV-ALMTH-<MOD2>:[<TID>]:<AID>:<CTAG>::<ALMTHR>[,,::];

Retrieves the alarm threshold values.

Output format:

  SID DATE TIME
M CTAG COMPLD
  "<AID>,<MOD>:<CONDTYPE>,,,<THLEVEL>"
;

RTRV-ALS:[<TID>]:<AID>:<CTAG>[:::::];

Retrieves the ALS attributes of an OC-N facility and all facilities that support the ALS feature.

Output format:

  SID DATE TIME
M CTAG COMPLD
  "<AID>,<AIDTYPE>::[ALSMODE=<ALSMODE,>][ALSRCINT=<ALSRCINT>,]
  [ALSRCPW=<ALSRCPW>,][LSRSTAT=<LSRSTAT>]:"
;

RTRV-APC:[<TID>]::<AID>::<CTAG>[::::];

Retrieves the APC application attributes.

Output format:

  SID DATE TIME
M CTAG COMPLD
  "::[APCENABLE=<APCENABLE>,][APCSTATE=<APCSTATE>][:]"
;

Table 1   DWDM (continued)

RTRV-COND-ALL:[<TID>]::<CTAG>::[<TYPEREQ>][,,,];
Retrieves the current standing condition for all entities.
Output format:

  SID DATE TIME
M CTAG COMPLD
  "<AID>,[<AIDTYPE>]:[<NTFCNCDE>],<TYPEREP>,[<SRVEFF>],[<OCRDAT>],
  [<OCRTM>],,,[<DESC>]"
;

RTRV-COND-EQPT:[<TID>]:<AID>:<CTAG>::[<TYPEREQ>][,,,];
Retrieves the equipment conditions.
Output format:

  SID DATE TIME
M CTAG COMPLD
  "<AID>,[<AIDTYPE>]:[<NTFCNCDE>],<TYPEREP>,[<SRVEFF>],[<OCRDAT>],
  [<OCRTM>],,,[<DESC>]"
;

RTRV-COND-<MOD2ALM>:[<TID>]:<AID>:<CTAG>::[<TYPEREQ>][,,,];
Retrieves the current standing condition or/and state associated with an entity.
Output format:

  SID DATE TIME
M CTAG COMPLD
  "<AID>,[<AIDTYPE>]:[<NTFCNCDE>],<TYPEREP>,[<SRVEFF>],[<OCRDAT>],
  [<OCRTM>],,,[<DESC>]"
;

RTRV-ESCON:[<TID>]:<AID>:<CTAG>;
Retrieves the attributes for an ESCON interface.
Output format:

  SID DATE TIME
M CTAG COMPLD
  "<AID>::[NAME=<PORTNAME>,]ENCAP=<ENCAP>:<PST>,<SST>"
;

Table 1   DWDM (continued)

RTRV-EQPT:[<TID>]:<AID>:<CTAG>;
Retrieves card level attributes.
Output format:

  SID DATE TIME
M CTAG COMPLD
  "<AID>:<EQPTTYPE>,<EQUIP>,[<ROLE>],[<STATUS>]:[PROTID=<PROTID>,]
  [PRTYPE=<PRTYPE>,][RVRTV=<RVRTV>,][RVTM=<RVTM>,]
  [CARDNAME=<CARDNAME>,][PEERID=<PEERID>,][REGENNAME=<REGENNAME>,]
  [PWL=<PWL>,][CARDMODE=<CARD_MODE>:]<PST>],[<SST>]"
;

RTRV-FAC:[<TID>]:<SRC>:<CTAG>[::::];
Retrieves facility data (port data).
Output format:

   SID DATE TIME
M CTAG COMPLD
  "<SRC>::PAYLOAD=<PAYLOAD>:<PST_PSTQ>,[<SSTQ>]"

;

RTRV-FFP-OCH:[<TID>]:<AID>:<CTAG>[::::];
Retrieves the protection group information for the TXPP_MR_2.5G trunk port.
Output format:

  SID DATE TIME
M CTAG COMPLD
  "<WORK>,<PROTECT>::[PROTTYPE=<PROTTYPE>,][PROTID=<PROTID>,]
  [RVRTV=<RVRTV>,][RVTM=<RVTM>,][PSDIRN=<PSDIRN>]"
;

RTRV-GIGE:[<TID>]:<AID>:<CTAG>;
Retrieves the Gigabit Ethernet-specific parameters for the port.
Output format:

  SID DATE TIME
M CTAG COMPLD
  "<AID>::[ADMINSTATE=<ADMINSTATE>,][LINKSTATE=<LINKSTATE>,]
  [MTU=<MTU>,][FLOWCTRL=<FLOWCTRL>,][OPTICS=<OPTICS>,]
  [DUPLEX=<DUPLEX>,][SPEED=<SPEED>,][ENCAP=<ENCAP>]:<PST>[SST>]"
;

Table 1   *DWDM (continued)*

RTRV-INV:[<TID>]:<AID>:<CTAG>[::::];
Queries the NE and returns a listing of the equipment inventory. For each unit in the system, it identifies the unit's firmware numbers and the unit's Common Language Equipment Identification (CLEI) code.
Output format:

```
  SID DATE TIME
M  CTAG COMPLD
  "<AID>,<AIDTYPE>::[PN=<PN>],[HWREV=<HWREV>],[FWREV<FWREV>],
  [SN=<SN>],[CLEI=<CLEI>],[TWL1=<TWL1>],[TWL2=<TWL2>],[TWL3=<TWL3>],
  [TWL4=<TWL4>]" "
;
```

RTRV-LNK:[<TID>]::<CTAG>;
Retrieves all the optical links created in the NE.
Output format:

```
  SID DATE TIME
M  CTAG COMPLD
  "<FROM>,<TO>::[OLNKT=<OLNKT>,][CTYPE=<CTYPE>,][RDIRN=<RDIRN>,]
  [BAND=<BAND>,][WLEN=<WLEN>]:<PST>,[<SST>]"
;
```

RTRV-LNK-<MOD2O>:[<TID>]:<AID>:<CTAG>:::[OLNKT=<OLNKT>,][CTYPE=<CTYPE>,]
[RDIRN=<RDIRN>];
Retrieves any optical link associated with the entered AIDs or AID range.
Output format:

```
  SID DATE TIME
M  CTAG COMPLD
  "<FROM>,<TO>::[OLNKT=<OPTICALLINKTYPE>,][CTYPE=<CREATIONTYPE>,]
  [RDIRN=<RDIRN>,][BAND=<BAND>,][WLEN=<WLEN>]:<PST>,[<SST>]"

;
```

RTRV-<MOD2DWDMPAYLOAD>:[<TID>]:<AID>:<CTAG>[::::];
Retrieves the configuration parameters of a DWDM Client.
Output format:

```
  SID DATE TIME
M  CTAG COMPLD
  "<AID>,<AIDTYPE>::[NAME=<NAME>,][LBCL=<LBCL>,][OPT=<OPT>,][OPR=<OPR>]:
    <PST_PSTQ>,[<SST>]"
;
```

Table 1 **DWDM (continued)**

RTRV-NE-APC:[<TID>]::<CTAG>;
Retrieves the APC application ports that are involved in node setup regulation.
Output format:

   SID DATE TIME
M CTAG COMPLD
  "<AID>,<AIDTYPE>::[MODIFDAT=<MODIFDAT>,][MODIFTM=<MODIFTM>,]
  [CHECKDAT=<CHECKDAT>,][CHECKTM=<CHECKTM>, [:]"
;

RTRV-NE-WDMANS:[<TID>]:[<AID>]:<CTAG>[::::];
Retrieves the optical node setup application ports involved in node setup regulation.
Output format:

   SID DATE TIME
M CTAG COMPLD
  "<AID>,<AIDTYPE>::[REGULATED=<REGULATED,>][PARAM=<PARAM>][:]"
;

RTRV-OCH:[<TID>]:<AID>:<CTAG>;

Retrieves the attributes (service parameters) and state of an OCH facility.
Output format:
SID DATE TIME
M CTAG COMPLD
"<AID>:,,,[<STATUS>]:[NAME=<PORTNAME>,][SFBER=<SFBER>,]
[SDBER=<SDBER>,][ALSMODE=<ALSMODE>,][ALSRCINT=<ALSRCINT>,]
[ALSRCPW=<ALSRCPW>,][COMM=<COMM>,][GCCRATE=<GCCRATE>,]
[DWRAP=<DWRAP>,][FEC=<FEC>,][PAYLOAD-MAP=<PAYLOADMAP>,]
[OFSBER=<OFSBER>][OSDBER=<OSDBER>][MACADDR=<MACADDR>,]
[SYNCMSG=<SYNCMSG>,][SENDDUS=<SENDDUS>,][LSRSTAT=<LSRSTAT>,]
[LBCL=<LBCL>,][OPT=<OPT>,][OPR=<OPR>][SOAK=<SOAK>]:,PST>,[<SST>]"
;

Table 1   *DWDM (continued)*

RTRV-<OCN_TYPE>:[<TID>]:<AID>:<CTAG>[:::::]

Retrieves the attributes (service parameters) and state of an OC-N facility.

Output format:

  SID DATE TIME
M CTAG COMPLD
  "<AID>:,,[<ROLE>],[<STATUS>]:[NAME=<PORTNAME>,][DCC=<DCC>,]
  [GCC=<GCC>,][NAME=<NAME>,][CMDMDE=<CMDMDE>,][EXPTRC=<EXPTRC>,]
  [INCTRC=<INCTRC>,][TRC=<TRC>,][TRCMODE=<TRCMODE>,]
  [TRCFORMAT=<TRCFORMAT>,][AREA=<AREA>,][TMGREF=<TMGREF>,]
  [SYNCMSG=<SYNCMSG>,][SENDDUS=<SENDDUS>,][PJMON=<PJMON>,]
  [SFBER=<SFBER>,][SDBER=<SDBER>,][MODE=<MODE>,][WVLEN=<WVLEN>,]
  [RINGID=<RINGID>,] [BLSRTYPE=<BLSRTYPE>,][MUX=<MUX>,]
  [UNIC=<UNIC>,][CCID=<CCID>,][NBRIX=<NBRIX>,][SOAK=<SOAK>,]
  [SOAKLEFT=<SOAKLEFT>,][SSMRCV=<SSMRCV>,][OSPF=<OSPF>,]
  [LDCC=<LDCC>,][LBCK=<LBCL>,][OPT=<OPT>,][OPR=<OPR>:]<PST>,[<SST>]"

;

RTRV-OMS:[<TID>]:<AID>:<CTAG>;

Retrieves the attributes (service parameters) and state of an OMS facility.

Output format:

  SID DATE TIME
M CTAG COMPLD
  "<AID>::RDIRN=<RDIRN>,OPTYPE=<OPTICALPORTTYPE>,[OPWR=<POWER>,]
  EXPBAND=<EXPBAND>,[ACTBAND=<ACTBAND>,][ILOSS=<ILOSS>,]
  [VOAMODE=<VOAMODE>,][VOAATTN=<VOAATTN>,][VOAPWR=<VOAPWR>,]
  [VOAREFATTN=<VOAREFATTN>,][VOAREFPWR=<VOAREFPWR>,]
  [REFOPWR=<REFOPWR>,][CALOPWR=<CALOPWR>,][CHPOWER=<CHPOWER>]:<PST>,
  [<SST>]"

;

RTRV-OPM:[<TID>]:<AID>:<CTAG>[::::];

Retrieves the optical power monitoring parameters that are present at the OCH layer in a
reconfigurable optical add/drop multiplexing (ROADM) node.

Output format:

  SID DATE TIME
M CTAG COMPLD
  "<AID>::[POWEROUT=<POWEROUT>,][POWERADD=POWERADD>,]
  [POWEREPT=<POWEREPT>][:]

;

Table 1   **DWDM (continued)**

RTRV-OSC:[<TID>]:<AID>:<CTAG>;
Retrieves the OSC information of the NE.
Output format:

  SID DATE TIME
M CTAG COMPLD
  "<AID>::[RINGID=<RINGID>,][NODEID=<NODEID>,][EAST=<EAST>,][WEST=<WEST>]"
;

RTRV-OTS:[<TID>]:<AID>:<CTAG>[::::];
Retrieves the attributes (service parameters) and state of an OTS facility.
Output format:

  SID DATE TIME
M CTAG COMPLD
  "<AID>:RDIRN=<RDIRN>,OPTYPE=<OPTICALPORTTYPE>,[OPWR=<POWER>,]
  [ILOSS=<ILOSS>,][VOAMODE=<VOAMODE>,][VOAATTN=<VOAATTN>,]
  [VOAPWR=<VOAPWR>,][VOAREFATTN=<VOAREFATTN>,]
  [VOAREFPWR=<VOAREFPWR>,][OSRI=<OSRI>,][AMPLMODE=<AMPLMODE>,]
  [CHPOWER=<CHPOWER>,][GAIN=<GAIN>,][EXPGAIN=<EXPGAIN>,]
  [REFOPWR=<REFOPWR>,][OFFSET=<OFFSET>,][REFTILT=<REFTILT>,]
  [CALTILT=<CALTILT>,][ASEOPWR=<ASEOPWR>,][DCULOSS=<DCULOSS>,]
  [AWGST=<AWGST>,][HEATST=<HEATST>,][NAME=<NAME>]:<PST>,[<SST>]"
;

RTRV-PM-<MOD2>:[<TID>]:<AID>:<CTAG>::[<MONTYPE>],[<MONLEV>],[<LOCN>],
<DIRECTION>,[<TMPER>],[<DATE>],[<TIME>];
Retrieves the values of performance monitoring parameters for the specified card type.
Output format:

  SID DATE TIME
M CTAG COMPLD
  "<AID>,[<AIDTYPE>]:<MONTYPE>,<MONVAL>,[<VLDTY>],[<LOCN>],<DIRECTION>,
    [<TMPER>],[<MONDAT>],[<MONTM>]"
;

Table 1   **DWDM (continued)**

RTRV-PMSCHED-<MOD2>:[<TID>]:<AID>:<CTAG>;
Retrieves the performance monitoring (PM) reporting schedule that was set for the NE by the
SCHED-PMREPT-OTS command.
Output format:

```
  SID DATE TIME
M  CTAG COMPLD
  "<AID>,[<AIDTYPE>]:<REPTINVL>,<REPTDAT>,<REPTTM>,[<NUMINVL>],,
  [<MONLEV>],<LOCN>,,[<TMPER>],[<TMOFST>],[<INHMODE>]"
;
```

RTRV-PROTNSW-OCH:[<TID>]:<AID>:<CTAG>;
Retrieves the protection switch status of a TXPP_MR_2.5G card.
Output format:

```
  SID DATE TIME
M  CTAG COMPLD
  "<AID>:<SW>,<SWTYPE>"
;
```

RTRV-SLV-WDMANS:[<TID>]:[<AID>]:<CTAG>[::::];
Retrieves the options provisioned by the ED-SLV-WDMANS command.
Output format:

```
  SID DATE TIME
M  CTAG COMPLD
  "<AID>::[HIGHSLVEXP=<HIGHSLVEXP>,][LOWSLVEXP=<LOWSLVEXP>,]
  [SLVACT=<SLVACT>,][RESOLUTION=<RESOLUTION>][:]"
;
```

RTRV-TH-<MOD2>:[<TID>]:<AID>:<CTAG>::[<MONTYPE>],[<LOCN>],<TMPER>[::];
Retrieves the current threshold level of one or more monitored parameters.
Output format:

```
  SID DATE TIME
M  CTAG COMPLD
  "<AID>,[<AIDTYPE>]:<MONTYPE>,[<LOCN>],,<THLEV>,[<TMPER>]"
;
```

Table 1   DWDM (continued)

RTRV-TRC-OCH:[<TID>]:<SRC>:<CTAG>::[<MSGTYPE>],[<TRCLEVEL>][::];
Retrieves the sent trace string, expected trace string, received trace string, trace mode, and trace level
for the SONET J0 Section Trail Trace Identifier (TTI) Path and Section monitoring levels of the
DWDM facility.
Output format:

  SID DATE TIME
M CTAG COMPLD
  "<CHANNEL>,<MOD>::[TRCLEVEL=<TRCLEVEL>,][EXPTRC=<EXPTRC>,][TRC=<TRC>,]
  [INCTRC=<INCTRC>,][TRCMODE=<TRCMODE>,][TRCFORMAT=<TRCFORMAT>]"
;

RTRV-WDMANS:[<TID>]:<AID>:<CTAG>{::::};
Retrieves the automatic optical node setup application attributes.
Output format:

  SID DATE TIME
M CTAG COMPLD
  "<AID>::[POWER-IN=<POWERIN>,][POWEROUT=<POWEROUT>,]
  [POWER-EXP=<POWEREXP>,][NTWTYPE=<RINGTYPE>,]
  [OPTICALTYPE=<OPTICALTYPE>,][LASTRUNDAT=<LASTRUNDATE>,]
  [LASTRUNTM=<LASTRUNTM>][:]"
;

RTRV-WLEN:[<TID>]:<AID>:<CTAG>[::::];
Retrieves the wavelength provisioning information.
Output format:

  SID DATE TIME
M CTAG COMPLD
  "<AID>:<WCT>:[SIZE=<SIZE>]:[<PST>],[<SST>]"
;

SCHED-PMREPT-<MOD2>:[<TID>]:<SRC>: <CTAG>::[<REPTINVL>],[<REPTSTATM>],
[<NUMREPT>],,[<MONLEV>],[<LOCN>],,[<TMPER>],[<TMOFST>];
Schedules/reschedules the NE to report the performance monitoring data for an OMS facility, using
an automatic REPT^PM message. It also allow the user to remove a previously created schedule.

SET-ALMTH-<MOD2>:[<TID>]:<AID>:<CTAG>::<CONDTYPE>,<THLEV>[,,,];
Sets the alarm thresholds on a facility/port/channel.

SET-TH-<MOD2>:[<TID>]:<AID>:<CTAG>::<MONTYPE>,<THLEV>,[<LOCN>],,[<TMPER>];
Sets the thresholds for PM and the alarm thresholds for a card facility.

CISCO SYSTEMS