



# CHAPTER 16

## OPR Commands

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This chapter provides operate (OPR) commands for the Cisco ONS 15454 SDH, Cisco ONS 15454 M2, and Cisco ONS 15454 M6.



**Note**

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All commands supported on the Cisco ONS 15454 SDH platform are also supported on Cisco ONS 15454 M2 and Cisco ONS 15454 M6 platforms.

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### 16.1 OPR-ACO-ALL

(Cisco ONS 15454 SDH) The Operate Alarm Cutoff All (OPR-ACO-ALL) command cuts off the office audible alarm indication without changing the local alarm indications. It directs the network element (NE) to provide conditioning only on those alarms that are currently active. The command retires the Central Office (CO) alarm audible indicators without clearing the indicators that show the trouble still exists.

There is no need for a RLS-ACO command. This command does not have any effect on future alarms at the NE.

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**Usage Guidelines** None

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**Category** Environment

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**Security** Maintenance

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**Input Format** OPR-ACO-ALL:[<TID>]:[<AID>]:<CTAG>;

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**Input Example** OPR-ACO-ALL:CISCO:SHELF-2:123;  
OPR-ACO-ALL:CISCO::123;

<b>Input Parameters</b>	<AID>	The node or shelf access identifier from the <a href="#">“25.25 SHELF”</a> section on page 25-35. If this parameter is omitted, the node or the first shelf of the node becomes the AID.
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## 16.2 OPR-ALS

(Cisco ONS 15454 SDH) The Operate Automatic Laser Shutdown (OPR-ALS) command is used to restart the laser of an OC-N/STM-N facility and for all of the facilities that support the ALS feature.

<b>Usage Guidelines</b>	None
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<b>Category</b>	Ports
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<b>Security</b>	Maintenance
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<b>Input Format</b>	<b>Cisco ONS 15454 SDH</b> OPR-ALS:[<TID>]:<AID>:<CTAG>[::::];
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<b>Input Example</b>	<b>Cisco ONS 15454 SDH</b> OPR-ALS:CISCO:FAC-1-1:100;
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<b>Input Parameters</b>	<AID>	Access identifier from the <a href="#">“25.2 AidUnionId”</a> section on page 25-11.
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## 16.3 OPR-APC

(Cisco ONS 15454 SDH) The Operate Amplifier Power Control (OPR-APC) command permits the APC application inside the NE to force regulation of the optical power to the entire dense wavelength division multiplex (DWDM) ring.

**Usage Guidelines** None

**Category** DWDM

**Security** Maintenance

**Input Format** OPR-APC[:<TID>]:<AID>:<CTAG>[::<ROLE>];

**Input Example** OPR-APC:15454:WDMSIDE-A:123::

### Input Parameters

**Table 16-1 Parameter Support**

Parameter	Description	Cisco ONS 15454 SDH
<AID>	Access identifier from the <a href="#">“25.32 WDMANS”</a> section on page 25-39.	Y
<ROLE>	The role the unit is playing in the protection group.	Y
• PROT	The entity is the protection unit in the protection group.	Y
• WORK	The entity is the working unit in the protection group.	Y

## 16.4 OPR-EXT-CONT

Cisco ONS 15454 SDH) The Operate External Control (OPR-EXT-CONT) command operates an external control and closes the external control contact. The control can be operated momentarily or continuously.

### Usage Guidelines

- The duration has two values:
  - MNTRY: Momentary duration
  - CONTS: Continuous duration
- In an automatic state, the contact could be opened or closed depending on the provisioned trigger.
- RLS-EXT-CONT changes the state to automatic. Therefore, issuing an OPR-EXT-CONT command when the control is manually open and then issuing a RLS-EXT-CONT command will not revert the state back to Manual Open.
- A NULL value for the duration parameter defaults to MNTRY.
- RLS-EXT-CONT is not allowed during the MNTRY duration; the command is allowed for the CONTS duration. The length of the MNTRY duration is set to be 2 seconds on the ONS 15454 SDH.
- RLS-EXT-CONT cannot change the state to automatic if the existing state is Manual Open.



### Caution

Do not turn on external controls that activate a potential danger; that is, sprinklers or other controls connected to possibly hazardous systems or equipment.

### Category

Environment

### Security

Maintenance

### Input Format

OPR-EXT-CONT:[<TID>]:<AID>:<CTAG>::[<CONTTYPE>],[<DURATION>];

### Input Example

OPR-EXT-CONT:CISCO:ENV-OUT-2:123::AIRCOND,CONTS;

**Table 16-2** Parameter Support

Parameter	Description	Cisco ONS 15454 SDH
<AID>	Access identifier from the <a href="#">“25.12 ENV” section on page 25-23</a> . The AID must not be null.	Y
<CONTTYPE>	(Optional) Environmental control type. A null value is equivalent to ALL. The parameter type is CONTTYPE, which is the environmental control type.	Y
• AIRCOND	Air conditioning	Y

Table 16-2 Parameter Support

Parameter	Description	Cisco ONS 15454 SDH
• ENGINE	Engine	Y
• FAN	Fan	Y
• GEN	Generator	Y
• HEAT	Heat	Y
• LIGHT	Light	Y
• MISC	Miscellaneous	Y
• SPKLR	Sprinkler	Y
<DURATION>	Identifies the duration. A NULL value for the duration parameter defaults to CONTS (Continuous).	Y
• CONTS	Continuous duration	Y

## 16.5 OPR-LPBK-<MOD2>

(Cisco ONS 15454 SDH) The Operate Loopback for 10GFC, 10GIGE, 40GIGE, 1GFC, 1GFICON, 2GFC, 2GFICON, 5GIB, 8GFC, CLNT, D1VIDEO, DS3I, DV6000, E1, E3, E4, ESCON, ETRCLO, ETH, FSTE, G1000, GFPOS, GIGE, HDTV, STM4, STM64, STM1, STM16, OCH, OMS, OTS, OTU3, POS, STM1E, VC3, VC44C, VC38C, VC464C, VC48C, VC4, VC416C, VC42C, VC43C, VC12, VC3, or VC12 (OPR-LPBK-<MOD2>) command operates a signal loopback on an input/output (I/O) card or on a cross-connect. See [Table 27-1 on page 27-1](#) for supported modifiers by platform.

### Usage Guidelines

- The optional <LPBKTYPE> defaults to FACILITY in this command if it is given to a port entity. It defaults to CRS if given to a VC entity.
- The value CRS for the LPBKTYPE parameter is applicable only for the VC modifier. The FACILITY and TERMINAL values are applicable to the ports.
- Loopbacks are only allowed to be set up if the port/interface/VC\_PATH is in Locked-Maintenance or in Locked-AutomaticInService state.
- Cross-connect loopbacks cannot be applied to the destination end of any 1WAY cross-connect.
- A cross-connect loopback can be applied only on one VC path of a cross-connect.
- Far end access control (FEAC) loopbacks can be applied only if the DS-3 is in C-bit framing format. FEAC loopbacks will override existing loopbacks at the near end on the entity and vice versa. This means that if a facility loopback has been applied on a port and the FEAC loopback is also applied, then the facility loopback is released first and then the far-end loopback is applied.
- A Lockout of Protection command is required before putting the span of either a two-fiber or four-fiber multiplex section-shared protection ring (MS-SPRing) line in loopback.
  - A span lockout on one side (for example, the east side) of the two-fiber MS-SPRing is required before operating a Facility (or Terminal) line loopback on the same side of the ring.
  - A span lockout on one Protection side (for example, the east side) of the four-fiber MS-SPRing is required before operating a Facility (or Terminal) line loopback on the same side working line of the ring.

**Note**

LINE and PAYLOAD values are applicable only with the FEND location value. PAYLOAD loopback can be applied by specifying the loopback type as PAYLOAD and the location as FEND.

**Category** Troubleshooting and Test Access

**Security** Maintenance

**Input Format** OPR-LPBK-<MOD2>:[<TID>]:<AID>:<CTAG>::[<LOCATION>],,,[<LPBKTYPE>];

**Input Example** **Cisco ONS 15454 SDH**  
OPR-LPBK-STM4:PTREYES:FAC-4-1:203::NEND,,,FACILITY;

**Table 16-3** *Parameter Support*

Parameter	Description	Cisco ONS 15454 SDH
<AID>	Access identifier from the <a href="#">“25.1 ALL” section on page 25-1</a> . BAND, CHANNEL, DS1, FACILITY, LINE, and VC.	Y
<LOCATION>	(Optional) The location where the operation is to be carried out. It defaults to NEND. The parameter type is LOCATION.	Y
• FEND	Action occurs on the far end of the facility.	Y
• NEND	Action occurs on the near end of the facility.	Y
<LPBKTYPE>	(Optional) Type of loopback signal. The parameter type is LPBK_TYPE, which indicates the type of loopback that is to be operated or released.	Y
• CRS	Path-level loopback that is established at the cross-connect matrix level. A VC level cross-connect loopback causes an AIS-P to be sent on the outgoing direction of transmission.	Y
• FACILITY	Type of loopback that connects the incoming received signal immediately following the optical-to-electrical conversion (after descrambling) to the associated transmitter in the return direction.	Y
• TERMINAL	A loopback that connects the signal that is about to be transmitted (after scrambling but before the electrical-to-optical conversion) and is connected to the associated, incoming receiver.	Y

## 16.6 OPR-LPBK-EFM

(Cisco ONS 15454 SDH) The Operate Loopback Ethernet in the First Mile (OPR-LPBK-EFM) command enables loopback on the Ethernet in the First Mile (EFM) enabled port.

**Usage Guidelines**

- This command is applicable only to GE\_XP and 10GE\_XP cards.
- The card should be in Layer2 over DMDM mode.

**Category**

Ports

**Security**

Provisioning

**Input Format**

OPR-LPBK-EFM:[&lt;TID&gt;]:&lt;AID&gt;:&lt;CTAG&gt;;

**Input Example**

OPR-LPBK-EFM::ETH-12-1-1:1;

**Table 16-4 OPR-LPBK-EFM Command - Parameter Support**

Input Parameters	Description	ONS 15454 SDH
<AID>	Access identifier from the “25.14 ETH” section on page 25-27.	Y

## 16.7 OPR-PROTNSW-<MOD2DWDMPAYLOAD>

(Cisco ONS 15454 SDH) The Operate Protection Switch for 10GFC, 10GIGE, 40GIGE, 1GFC, 1GFICON, 2GFC, 2GFICON, 8GFC, D1VIDEO, DV6000, DVBASI, ETRCLO, FSTE, GIGE, HDTV, ISC1, ISC3, OTU3, or PASSTHRU (OPR-PROTNSW-<MOD2DWDMPAYLOAD>) command initiates a Y-cable protection switch request. User switch requests initiated with this command remain active until they are released by the RLS-PROTNSW-<MOD2DWDMPAYLOAD> command or are overridden by a higher priority protection switch request. See [Table 27-1 on page 27-1](#) for supported modifiers by platform.

**Usage Guidelines**

The switch commands MAN (Manual Switch), FRCD (Forced Switch), and LOCKOUT (Lockout) are supported by the ONS 15454 SDH.

- Manual Switch of Protection Line (to Working Line): If the AID identifies the protection line in a 1+1 protection group, then service will be transferred from the protection line to the working line, unless a request of equal or higher priority is in effect.
- Manual Switch of Working Line (to Protection Line): If the AID identifies a working line, then service will be switched from the working line to the protection line unless a request of equal or higher priority is in effect.
- Force Switch of Protection Line (to Working Line): If the AID identifies the protection line, then service will be transferred from the protection line to the working line unless a request of equal or higher priority is in effect.
- Force Switch of Working Line (to Protection Line): If the AID identifies a working line, then service will be transferred from the working line to the protection line unless a request of equal or higher priority is in effect. A lockout of protection and a signal fail of protection have higher priority than a Force switch command.

- **Lockout of Protection Line:** If the AID identifies the protection line, this switch command will prevent the working line from switching to the protection line. If the working line is already on protection, then the working line will be switched back to its original working line.
- **Lockout of Working Line:** If the AID identifies the working line, this switch command will prevent the working line from switching to protection line. If the working line is already on protection, then the working line will be switched back from protection line to its original working line.

If the command is used against preprovisioned cards, the SROF (Protection Switching Failed) error is returned.

**Category**

DWDM

**Security**

Maintenance

**Input Format**

OPR-PROTNSW-&lt;MOD2DWDMPAYLOAD&gt;:[&lt;TID&gt;]:&lt;SRC&gt;:&lt;CTAG&gt;::&lt;SC&gt;[:];

**Input Example**

OPR-PROTNSW-HDTV:CISCO:FAC-1-1-1:100::FRCD;

**Input Parameters**

<SRC>	Access identifier from the <a href="#">“25.15 FACILITY”</a> section on page 25-27.
<SC>	Switch command that is to be initiated on the paths. The parameter type is SW.
• APS-CLEAR	APS-CLEAR switch state. It is a read-only switch state and is not allowed in the OPR-PROTNSW-xxx commands.
• CLEAR	CLEAR switch state. CLEAR switch state is not allowed in the OPR-PROTNSW-xxx commands.
• EXERCISE	EXERCISE switch state. EXERCISE switch state is not allowed in the OPR-PROTNSW-xxx commands.
• FRCD	Forces a switch unless another FRCD or LOCKOUT is in effect.
• LOCKOUT	Locks the facility out of switching. The system cannot switch to this facility to carry service.
• MAN	Requests a manual switch of the facility.

## 16.8 OPR-PROTNSW-<STM\_TYPE>

(Cisco ONS 15454 SDH) The Operate Protection Switch for STM1, STM4, STM16, or STM64 (OPR-PROTNSW-<STM\_TYPE>) command initiates a SDH line protection switch request. User switch requests initiated with this command remain active until they are released by the RLS-PROTNSW-STM command or are overridden by a higher priority protection switch request. See [Table 27-1 on page 27-1](#) for supported modifiers by platform.



**Usage Guidelines**

The switch commands MAN (Manual Switch), FRCD (Forced Switch), and LOCKOUT (Lockout) are supported by the ONS 15454 SDH.

- Manual Switch of Protection Line (to Working Line): If the AID identifies the protection line, then (only in the 1+1 architecture) service will be transferred from the protection line to the working line, unless a request of equal or higher priority is in effect.
- Manual Switch of Working Line (to Protection Line): If the AID identifies a working line in a 1+1 protection group, then service will be switched from the working line to the protection line unless a request of equal or higher priority is in effect.
- Force Switch of Protection Line (to Working Line): If the AID identifies the protection line, then (only in the 1+1 architecture) service will be transferred from the protection line to the working line unless a request of equal or higher priority is in effect.
- Force Switch of Working Line (to Protection Line): If the AID identifies a working line, then service will be transferred from the working line to the protection line unless a request of equal or higher priority is in effect. A lockout of protection and a signal fail of protection have higher priority than a Force switch command.
- Lockout of Protection Line: If the AID identifies the protection line, this switch command will prevent the working line from switching to the protection line. If the working line is already on protection, then the protection line will be switched back to its original working line.
- Lockout of Working Line: If the AID identifies the working line, this switch command will prevent the working line from switching to protection line. If the working line is already on protection, then the working line will be switched back from protection line to its original working line.

**Note**

- Use the RTRV-COND-ALL or RTRV-ALM-ALL commands to retrieve the protection switching state (Manual, Force, lockout).
- Protection for preprovisioned cards will not succeed.
- If the far end of the same span has a higher protection switching state, for example, the near end is under Manual protection and the far-end is in the Force protection state, the near-end protection switching state will be preempted and will have an APS\_CLEAR switching state. The RTRV-PROTNSW-STM command is used to retrieve the current switching state of a SDH line.
- Sending the following Manual ring switch request on both east and west sides/spans of a two-fiber or four-fiber ring in less than 30 to 45 seconds will cause the system to execute only one (WEST) side MS-RING query and preempt the other (EAST) side query.
  - A single TL1 command with both side/span AIDs (in the list AID format) of the same two-fiber or four-fiber ring
  - The separated (via TL1, CTC, or TL1 and CTC user interfaces) queries on the both sides/spans of the same two-fiber or four-fiber ring

There will be no event messages coming out for the preempted side whose switching state will be in the APS-CLEAR state.

- Protection switch will be denied if a signal degrade/signal fail (SD/SF) condition is already present on the switching path. If SD/SF is generated on the switching path after the switch is performed, the switch will be overwritten by the APS\_CLEAR state. The switch will not be overwritten despite an SD or SF condition if the switch is a Lockout of Protection or a Force switch, because these switches have a higher priority than SD and SF.
- DIRN is an optional parameter. A NULL value defaults to BTH for MS-SPRing protection, BTH for 1+1 bidirectional protection, and RCV for 1+1 unidirectional protection.

- DIRN follows these rules: TRMT will always fail for all protection groups. For two-fiber and four-fiber MS-SPRing protection groups, both the RCV and TRMT directions will fail.
- DIRN is applicable for both 1+1 and MS-SPRing protection groups. For example, OPR-PROTNSW can be performed on a MS-SPRing span/ring as follows:  
OPR-PROTNSW-STM16::FAC-5-1:A::LOCKOUT,SPAN:BTH;
- A Lockout of Protection command is required before putting the span of two-fiber or four-fiber MS-SPRing lines in loopback.
  - A span lockout of one side (for example, the east side) of the two-fiber MS-SPRing is required before operating a Facility (or Terminal) line loopback on the same side of the ring.
  - A span lockout of one protection side (for example, the east side) of the four-fiber MS-SPRing is required before operating a Facility (or Terminal) line Loopback on the same side working line of the ring.
- A span lockout on the working card is not supported.

The following actions will return error messages:

- Sending this command for the common control cards (TCC2,TCC2P, TCC3, XC-VXL-10G, X-CVXL-2.5G, or XC-VXC-10G). A query on a common-control card will generate an Input, Invalid Access Identifier (IIAC) error message. To switch the common control cards, use the SW-DX-EQPT and ALW-SWDX-EQPT commands.
- Sending this command on non-SDH (STM) cards will return the IIAC error message. To switch a non-SDH card, use the ALW-SWTOPROTN/SWTOWKG-EQPT and INH-SWTOPROTN/SWTOWKG-EQPT commands.
- Sending this command to query on a card that is not in a protection group will return the Status, Not in Valid State (SNVS) error message.
- Sending this command to a working card that is failed or missing will return the SROF error message.
- Sending this command to a protect card that is failed or missing will return the SROF error message.
- Sending this command to a card that is already in protection with a higher priority will return the Status, Switch Request Denied (SSRD) error message.
- Sending this command to an STM line with a switching mode that is already in process will return a Already in the Maintenance State (SAMS) error message.
- Sending this command with the EXERCISE or APS\_CLEAR switch operation will return an SROF error message because these operations are not valid according to Telcordia GR-833-CORE. The EX-SW-<STM\_MSSPR> is the correct command for an EXERCISE switch over the MS-SPRing line.

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**Category** Protection

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**Security** Maintenance

**Input Format** OPR-PROTNSW-<STM\_TYPE>:[<TID>]:<AID>:<CTAG>::<SC>,[<SWITCHTYPE>][:<DIRN>];

**Input Example** OPR-PROTNSW-STM16:PETALUMA:FAC-6-1:204::LOCKOUT,SPAN:BTH;

**Table 16-5 Parameter Support**

Parameter	Description	Cisco ONS 15454 SDH
<AID>	Access identifier from the “25.15 FACILITY” section on page 25-27. Identifies the facility in the NE to which the switch request is directed.	Y
<SC>	Switch command that is to be initiated on the paths. The parameter type is SW, which is the type of switch.	Y
• APS-CLEAR	APS-CLEAR switch state. It is a read-only switch state and is not allowed in the OPR-PROTNSW-xxx commands.	Y
• CLEAR	CLEAR switch state. The CLEAR switch state is not allowed in the OPR-PROTNSW-xxx commands.	Y
• EXERCISE	EXERCISE switch state. The EXERCISE switch state is not allowed in the OPR-PROTNSW-xxx commands.	Y
• FRCD	Forces a switch unless another FRCD or LOCKOUT is in effect.	Y
• LOCKOUT	Locks the facility out of switching. The system cannot switch to this facility to carry service.	Y
• MAN	Requests a manual switch of the facility.	Y
<SWITCHTYPE>	(Optional) MS-SPRing switch type. The parameter type is SWITCH_TYPE (switch type).	Y
• RING	MS-SPRing switch type	Y
• SPAN	MS-SPRing span switch type	Y
<DIRN>	(Optional) The direction relative to the entity defined in the AID field. The direction of the switching. DIRN defaults to RCV. The parameter type is DIRECTION (transmit and receive directions).	Y
• BTH	Both transmit and receive directions	Y
• RCV	Receive direction only	Y
• TRMT	Transmit direction only	Y

## 16.9 OPR-PROTNSW-<PATH>

(Cisco ONS 15454 SDH) The Operate Protection Switch for VC3, VC44C, VC38C, VC464C, VC48C, VC4, VC416C, VC42C, VC43C, or VC12 (OPR-PROTNSW-<PATH>) command initiates a SDH path subnetwork connection protection (SNCP) switch request. User switch requests initiated with this command (Manual, Force, and lockout) remain active until they are released through the RLS-PROTNSW-<PATH> command or overridden by a higher priority protection switch request. See [Table 27-1 on page 27-1](#) for supported modifiers by platform.

### Usage Guidelines

- This command applies to SNCP configurations only.
- The VTAID should be the working or protect AID only.
- To retrieve the protection switching state (Manual, Force, lockout), use the RTRV-COND-ALL or RTRV-ALM-ALL commands.
- The protection switch will be denied if a SD/SF condition is already present on the switching path. If SD/SF is generated on the switching path after the switch is performed, the switch will be overwritten by the APS\_CLEAR state. The switch is not overwritten if it is a lockout of protection or a Force switch, because these switch types have a higher priority than SD/SF conditions.

The following actions will return error messages:

- If you send this command on the Drop AID, a DENY (Invalid AID, should use working/protect AID) message will be returned.
- The Telcordia GR-1400 does not allow the LOCKOUT\_OF\_WORKING on the SNCP WORKING path/AID. If this command is sent on the SNCP WORKING path, a SROF error message is returned.
- If this command is sent with an EXERCISE or APS\_CLEAR switch operation, an SROF error message is returned because these operations are not valid according to Telcordia GR-833-CORE.

### Category

Protection

### Security

Maintenance

### Input Format

OPR-PROTNSW-<PATH>:[<TID>]:<SRC>:<CTAG>::<SC>[:];

### Input Example

OPR-PROTNSW-VC4:CISCO:VC4-2-1-1:123::MAN;

Table 16-6 Parameter Support

Parameter	Description	Cisco ONS 15454 SDH
<SRC>	Source access identifier from the “ <a href="#">25.11 CrossConnectId1</a> ” section on page 25-19.	Y
<SC>	The switch command that is to be initiated on the paths. The parameter type is SW, which is the type of switch.	Y
• APS-CLEAR	APS-CLEAR switch state. It is a read-only switch state and is not allowed in the OPR-PROTNSW-xxx commands.	Y
• CLEAR	CLEAR switch state. The CLEAR switch state is not allowed in the OPR-PROTNSW-xxx commands.	Y
• EXERCISE	EXERCISE switch state. The EXERCISE switch state is not allowed in the OPR-PROTNSW-xxx commands.	Y
• FRCD	Forces a switch unless another FRCD or LOCKOUT is in effect.	Y
• LOCKOUT	Locks the facility out of switching. The system cannot switch to this facility to carry service.	Y
• MAN	Requests a manual switch of the facility.	Y

## 16.10 OPR-PROTNSW-OCH

(Cisco ONS 15454 SDH) The Operate Protection Switch Optical Channel (OPR-PROTNSW-OCH) command performs a protection switch on the trunk port of a card that has splitter protection.

**Usage Guidelines** None

**Category** DWDM

**Security** Maintenance

**Input Format** OPR-PROTNSW-OCH:[<TID>]:<AID>:<CTAG>::<SW>;

**Input Example** OPR-PROTNSW-OCH:VA454-22:CHAN-2-2:100::FRCD;

Input Parameters	
<AID>	Access identifier from the “ <a href="#">25.7 CHANNEL</a> ” section on page 25-16. Indicates the trunk port.
<SW>	Switch operation. The parameter type is SW.

• APS-CLEAR	APS-CLEAR switch state. It is a read-only switch state and is not allowed in the OPR-PROTNSW-xxx commands.
• CLEAR	CLEAR switch state. The CLEAR switch state is not allowed in the OPR-PROTNSW-xxx commands.
• EXERCISE	EXERCISE switch state. The EXERCISE switch state is not allowed in the OPR-PROTNSW-xxx commands.
• FRCD	Forces a switch unless another FRCD or LOCKOUT is in effect.
• LOCKOUT	Locks the facility out of switching. The system cannot switch to this facility to carry service.
• MAN	Requests a manual switch of the facility.

## 16.11 OPR-PROTNSW-OTS

(Cisco ONS 15454SDH)

The Operate Protection Switch OTS (OPR-PROTNSW-OTS) command performs a protection switch on the trunk port of TXPP\_MR\_2.5G, MXPP\_MR\_2.5G, Optical Protection Unit, and OTU2-XP cards.

### Usage Guidelines

None

### Category

DWDM

### Security

Maintenance

### Input Format

OPR-PROTNSW-OTS:[<TID>]:<AID>:<CTAG>::<SW>;

### Input Example

OPR-PROTNSW-OTS:VA454-22:LINE-2-2-RX:100::FRCD;

### Input Parameters

<AID>	Access identifier from the <a href="#">“25.7 CHANNEL”</a> section on <a href="#">page 25-16</a> . Indicates the trunk port.
<SW>	The type of switch to be initiated.

## 16.12 OPR-RAMAN

(Cisco ONS 15454 SDH) The Operate RAMAN (OPR-RAMAN) command operates the Raman amplifier.

### Usage Guidelines

None

**Category** DWDM

**Security** Maintenance

**Input Format** OPR-RAMAN:[<TID>]:<AID>:<CTAG>:::[RAMANACT=<RAMANACT>],[AID2=<AID2>],[MEASIDX=<MEASIDX>],[RAMANST=<RAMANST>],[LAMBDA=<LAMBDA>],[DELTAPWR=<DELTAPWR>];

**Input Example** OPR-RAMAN::LINE-2-5-TX:AA:::RAMANACT=DO-TEST,AID2=LINE-2-5-RX,RAMANST=MEASURE,LAMBDA=1,DELTAPWR=0.0;

<b>Input Parameters</b>	<AID>	The LINE aid is used to access Optical Transport Section (OTS) layer of Optical Network units. Applicable only to 15454 DWDM in both SONET and SDH. Format is LINE-[slot]-[port]-[direction].
	<ul style="list-style-type: none"> <li>LINE[-{1-30}]-{1-5,12-16}-{1-5}-{RX,TX}</li> <li>LINE[-{1-30}]-{1-5,12-16}-{1-5}-ALL</li> </ul>	<p>The receive/transmit Lines (COM=1, OSC=2, LINE=3, DC=4, RAMAN=5) in a OPT-RAMP-C cards. Where format is LINE-[shelf]-[slot]-[port]-[dirn]</p> <p>All the Lines (COM=1,OSC=2,LINE=3, DC=4, RAMAN=5) in a OPT-RAMP-C cards. Where format is LINE-[shelf]-[slot]-[port]-ALL</p>
	<RAMANACT>	RAMAN action
	<ul style="list-style-type: none"> <li>DO-MEASURE</li> <li>DO-RSTSM</li> <li>DO-TEST</li> <li>RESTORE</li> <li>DO-CALCPAR</li> <li>ACCEPT</li> <li>FORCE-UPD</li> </ul>	<p>Starts RAMAN Measure.</p> <p>Restarts RAMAN SM.</p> <p>Starts RAMAN test.</p> <p>Restores after RAMAN test.</p> <p>Calculates RAMAN parameters.</p> <p>Accepts tuning parameters.</p> <p>Restores Raman after fiber cut.</p>
	<AID2>	The LINE aid is used to access Optical Transport Section (OTS) layer of Optical Network units. Applicable only to 15454 DWDM in both SONET and SDH. Format is LINE-[slot]-[port]-[direction]
	<ul style="list-style-type: none"> <li>LINE[-{1-30}]-{1-5,12-16}-{1-5}-{RX,TX}</li> <li>LINE[-{1-30}]-{1-5,12-16}-{1-5}-ALL</li> </ul>	<p>The receive/transmit Lines (COM=1, OSC=2, LINE=3, DC=4, RAMAN=5) in a OPT-RAMP-C cards. Where format is LINE-[shelf]-[slot]-[port]-[dirn].</p> <p>All the Lines (COM=1,OSC=2,LINE=3, DC=4, RAMAN=5) in a OPT-RAMP-C cards. Where format is LINE-[shelf]-[slot]-[port]-ALL.</p>
	<MEASIDX>	The RAMAN measure index.
	<RAMANST>	Indicates the Raman setup state.
	<ul style="list-style-type: none"> <li>NOT-TUNED</li> <li>TUNING</li> <li>TUNED</li> </ul>	<p>RAMAN is not tuned. Default values are set</p> <p>RAMAN is tuning</p> <p>RAMAN is tuned but not verified</p>

• FORCE-TUNED	RAMAN is tuned with values not measured but calculated
• ACCEPTED-TUNED	RAMAN setup has been accepted by the user
• TUNED-VERIFIED	RAMAN is tuned and verified
<LAMBDA>	The enumerate number used to indicate the wavelength inside an optical channel port
<DELTAPWR>	The delta power to add at each node interested in the Raman setup. DELTAPWR is a float.

## 16.13 OPR-SLV-WDMANS

(Cisco ONS 15454 SDH) The Operate Span Loss Verification Wavelength Division Multiplexing Automatic Node Set Up (OPR-SLV-WDMANS) command performs the calculation of the expected span loss verification.

### Usage Guidelines

None

### Category

DWDM

### Security

Maintenance

### Input Format

OPR-SLV-WDMANS[:<TID>]:<AID>:<CTAG>[:<ROLE>];;

### Input Example

OPR-SLV-WDMANS:VA454-22:WDMSIDE-E:116;

### Input Parameters

<AID> Access identifier from the [“25.32 WDMANS” section on page 25-39](#).

<ROLE>	The role the unit is playing in the protection group.
• PROT	The entity is the protection unit in the protection group.
• WORK	The entity is the working unit in the protection group.

## 16.14 OPR-SYNCNSW

(Cisco ONS 15454 SDH) The Operate Synchronization Switch (OPR-SYNCNSW) command initiates a switch to the reference specified by the synchronization reference number if the reference supplied is valid and of the same quality.

### Usage Guidelines

- For manual types of switches, the reference to which you want to switch should be of the same quality as the active reference source; otherwise, the command will fail.



- If you want to switch to a reference of lower quality, use the Force switch option.
- The Operate Synchronization Switches are released by the RLS-SYNCNSW command or are overridden by a synchronization reference failure.
- When the switch is effective, a minor alarm, Manual Switch to Primary or Secondary Reference (MANSWTOPRI) is raised.

**Category** Synchronization

**Security** Maintenance

**Input Format** OPR-SYNCNSW:[<TID>]:[<AID>]:<CTAG>::<SWITCHTO>,[<SC>];

**Input Example** OPR-SYNCNSW:CISCO:SYNC-NE:3::PRI,MAN;

**Table 16-7** Parameter Support

Parameter	Description	Cisco ONS 15454 SDH
<AID>	Access identifier from the “ <a href="#">25.28 SYNC_REF</a> ” section on <a href="#">page 25-37</a> . The default is SYNC-NE.	Y
<SWITCHTO>	Access identifier from the “ <a href="#">25.29 SYNCNSW</a> ” section on <a href="#">page 25-37</a> . Identifies the new synchronization reference that will be used.	Y
<SC>	(Optional) Switch command to be initiated on the paths. Only MAN and FRCD switches are allowed for this command. The parameter type is SW, which is the type of switch.	Y
• APS-CLEAR	APS-CLEAR switch state. It is a read-only switch state and is not allowed in the OPR-PROTNSW-xxx commands.	Y
• CLEAR	CLEAR switch state. The CLEAR switch state is not allowed in the OPR-PROTNSW-xxx commands.	Y
• FRCD	Forces a switch unless another FRCD or LOCKOUT is in effect.	Y
• MAN	Requests a manual switch of the facility.	Y

## 16.15 OPR-VLB-REP

(Cisco ONS 15454 SDH) The Operate VLAN Load Balancing Resilient Ethernet Protocol (OPR-VLB-REP) command manually triggers the VLAN Load Balancing (VLB) on REP segment.

### Usage Guidelines

- Enable VLB on the ports to activate VLB.
- This command is applicable only to GE\_XP and 10GE\_XP cards.

**Category** Ethernet

**Security** Provisioning

**Input Format** OPR-VLB-REP:[<TID>]:<AID>:<CTAG>:::<TRIGGERTYPE>;

**Input Example** OPR-VLB-REP::ETH-16-2-1:1::ACTIVATE;

**Table 16-8 OPR-VLB-REP Command - Parameter Support**

Input Parameters	Description	ONS 15454 SDH
<AID>	Access identifier from the <a href="#">“25.15 FACILITY”</a> section on page 25-27.	Y
<TRIGGERTYPE>	Indicates the TRIGGERTYPE.	Y
• ACTIVATE	Activates manual trigger.	Y
• DEACTIVATE	De-activates manual trigger.	Y

## 16.16 OPR-WDMANS

(Cisco ONS 15454 SDH) The Operate Wavelength Division Multiplexing Automatic Node Set Up (OPR-WDMANS) command initiates the Automatic Node Set Up (ANS) application inside the NE to force a recompute of the value assigned to all variable optical attenuators (VOAs) representing the optical path inside the node.

**Usage Guidelines** None

**Category** DWDM

**Security** Maintenance

**Input Format** OPR-WDMANS:[<TID>]::<CTAG>[:];

**Input Example** OPR-WDMANS:PENNGROVE::114;

Input Parameters	
<MODE>	Indicates which mode should operate the WDMANS command.
<AGINMARGIN>	(Optional) Indicates the Agin margin optimal value to be used to calculate the WDMANS parameter without Cisco TransportPlanner. It is a float value expressed in dBm.

