OPR Commands

This chapter provides operate (OPR) commands for the Cisco NCS 2002 and Cisco NCS 2006.

18.1 OPR-ACO-ALL

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.

Usage Guidelines

None

Category

Environment

Security

Maintenance

Input Format

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

Input Example

OPR-ACO-ALL:CISCO:SHELF-2:123;

OPR-ACO-ALL:CISCO::123;

Input Parameters

<AID>	The node or shelf access identifier from the "27.26 SHELF" section on page 27-33. If this parameter is omitted, the node or the first shelf of the node becomes the AID.

18.2 OPR-ALS

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.

Usage Guidelines None

Category Ports

Security Maintenance

Input Format OPR-ALS:[<TID>]:<AID>:<CTAG>[::::];

Input Example OPR-ALS:CISCO:FAC-1-1:100;

Input Parameters

<AID>	Access identifier from the "27.2 AidUnionId" section on page 27-7.

18.3 OPR-APC

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 (NCS) ring.

Usage Guidelines None

Category NCS

Security Maintenance

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

Input Example OPR-APC:NCS:WDMSIDE-A:123::

Input Parameters

Table 18-1 Parameter Support

Parameter	Description
<AID>	Access identifier from the "27.33 WDMANS" section on page 27-37.
<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.

18.4 OPR-CPS

The Operate Control Plane Service (OPR-CPS) command activates a Control Plane Service parameter.

Usage Guidelines

- Specify only the source port to identify the CPS.
- Specify both the source AIDs, if the CPS is of type ADD 2WAY.
- If the AID is invalid, an IIAC (invalid AID) error message is returned.
- The ALL AID is invalid for this command.
- CMPLD response to this command means that CPS Activation is Started.
- Since this operation can take more than a minute, use RTRV-CPS to check when is ended positively.
- If the CPSSTATUS remain in ACTIVATING for more than 10 min the operation is automatically aborted and status return to INACTIVE.
- CLIENT cps type support FAC and VFAC AID type.
- TRUNK cps type support CHAN AID type.
- ADD cps type support CHAN, PCHAN, and LINEWL AID type.

Category

NCS

Security

Provisioning

Input Format

OPR-CPS[:<TID>]:<SRC>:<CTAG>[:::CKTID=<CKTID>],[IGNPATHALM=<IGNPTHALM>],[ACTION=<ACTION>][:];

Input Example

OPR-CPS::CHAN-1-15-10-RX&CHAN-1-14-10-TX:8:::;

OPR-CPS::FAC-1-4-1-1:1:::ACTION=UPGRADE;

Input Parameters

<SRC>	Source AID from the "27.11 CrossConnectId1" section on page 27-16.
<CKTID>	Circuit identification parameter can be used to filter this command.
<IGNPTHALM>	(Optional) Ignore Path Alarms. Parameter type is IGNPATHALM.
<ACTION>	Specifies the action to be performed after the WSON Circuit is established. Parameter Type is ACTION.
• MANRVRT	Manual Revert. Switches the circuit manually to revert state.
• NONE	None.
• FRCD	Forced.
• UPGRADE	Upgrades the circuit to the restored path.

18.5 OPR-EXT-CONT

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 NCS.
- 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 18-2 Parameter Support

Parameter	Description
<AID>	Access identifier from the "27.12 ENV" section on page 27-20. The AID must not be null.
<CONTTYPE>	(Optional) Environmental control type. A null value is equivalent to ALL. The parameter type is CONTTYPE, which is the environmental control type.
• AIRCOND	Air conditioning
• ENGINE	Engine
• FAN	Fan
• GEN	Generator
• HEAT	Heat
• LIGHT	Light
• MISC	Miscellaneous
• SPKLR	Sprinkler
<DURATION>	Identifies the duration. A NULL value for the duration parameter defaults to CONTS (Continuous).
• CONTS	Continuous duration

18.6 OPR-LPBK-<MOD2>

The Operate Loopback for 10GFC, 10GIGE, 40GIGE, 100GIGE, 1GFC, 1GFICON, 2GFC, 4GFC, 2GFICON, 5GIB, 8GFC, CLNT, D1VIDEO, DS3I, DV6000, E1, E3, E4, ESCON, ETRCLO, ETH, EQPT, FSTE, G1000, GFPOS, GIGE, HDTV, STM4, STM64, STM1, STM16, OCH, OMS, OTS, OTU2, OTU3, POS, STM1E, VC3, VC44C, VC38C, VC464C, VC48C, VC4, VC416C, VC42C, VC43C, VC12, VC3, VC12, AUTO, OTU1, OTU4, ISC3STP1G, or ISC3STP2G (OPR-LPBK-<MOD2>) command operates a signal loopback on an input/output (I/O) card or on a cross-connect.

Usage Guidelines

- The command supports the modifier AUTO, OTU1, ISC3STP1G, and ISC3STP2G.
- See Table 29-1 on page 29-1 for supported modifiers by platform.
- 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.
- FEAC loopbacks on the DS-1 interface of a DS3XM card can be applied only if a Virtual Tributary (VT) connection has been created on the DS-1. An attempt to operate or release FEAC loopbacks in the absence of a VT connection will cause an error message.
- The FEAC line is supported only with the FEND value of the LOCN parameter on DS-1/ T3 of the DS3XM-12 card.
- Only the following MOD2 fields are supported in this release: DS1 EC1, G1000, FSTE, OC12, OC192, OC3, OC48, OCH, T1, T3, STS1, STS12C, STS192C, STS24C, STS3C, STS36C, STS48C, STS6C, STS9C, E1, 1GFC, 2GFC, 4GFC, 10GFC, 1GFICON, 2GFICON, 4GFICON, GIGE, 10GIGE, ESCON, STS18C, DV6000, ETRCLO, ISCCOMPAT, ISC3PEER1G, ISC3PEER2R, PASSTHRU, ISC3PEER2G.
- This command supports a new Modifier, EQPT, which operates backplane loopback at card level.
- OPR-LPBK-EQPT command is applicable to 100g cards only. The supported backplane loopback types for this modifier are : BACKPLANE-FACILITY and BACKPLANE-TERMINAL.
- Move the card to OOS,MT state to operate backplane loopback. All the ports provisioned on the card will be moved to loopback state once the crad is in Backplane loopback.
- Ports cannot be provisioned/unprovisioned when the card is in backplane loopback state.
- NEND is the only location supported for Backplane loopback.

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.

- CFP-TXP and CFP-MXP modes loopback is provisioned on the 100G-LC-C virtual ports on VCFAC(OTU3/OTU4) or VCHAN(40GIGE/100GIGE) AIDs and not on the CFP-LC card.

Category Troubleshooting and Test Access

Security Maintenance

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

Input Example

OPR-LPBK-OTU1:PTREYES:VFAC-4-1-1-13:203::NEND,,,FACILITY;

OPR-LPBK-EQPT::SLOT-2:1::NEND,,,BACKPLANE-FACILITY;

Table 18-3 Parameter Support

Parameter	Description
<AID>	Access identifier from the "27.1 ALL" section on page 27-1. BAND, CHANNEL, DS1, FACILITY, LINE, and VC. The AR-MXP, AR-XP, and AR-XPE cards use the VFAC AID.
<LOCATION>	(Optional) The location where the operation is to be carried out. It defaults to NEND. The parameter type is LOCATION.
• FEND	Action occurs on the far end of the facility.
• NEND	Action occurs on the near end of the facility.
<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.
• BACKPLANE-FACILITY	Puts the 100G-LC-C, 10x10G-LC, and CFP-LC cards in facility loopback.
• BACKPLANE-TERMINAL	Puts the 100G-LC-C, 10x10G-LC, and CFP-LC cards in Terminal loopback.
• 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.
• 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.
• 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.

18.7 OPR-LPBK-EFM

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:[<TID>]:<AID>:<CTAG>;

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

Table 18-4 OPR-LPBK-EFM Command - Parameter Support

Input Parameters	Description
<AID>	Access identifier from the "27.14 ETH" section on page 27-23.

18.8 OPR-PROTNSW-<MOD2NCSPAYLOAD>

The Operate Protection Switch for 10GFC, 10GIGE, 40GIGE, 100GIGE, 1GFC, 1GFICON, 2GFC, 2GFICON, 8GFC, D1VIDEO, DV6000, DVBASI, ETRCLO, FSTE, GIGE, HDTV, ISC1, ISC3, OTU3, OTU4, PASSTHRU, 3GVIDEO, SDSDI, HDSDI, AUTO, OTU1, ISC3STP1G, or ISC3STP2G (OPR-PROTNSW-<MOD2NCSPAYLOAD>) 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-<MOD2NCSPAYLOAD> command or are overridden by a higher priority protection switch request. See Table 29-1 on page 29-1 for supported modifiers by platform.

Usage Guidelines The command supports the modifier 3GVIDEO, SDSDI, HDSDI, AUTO, OTU1, ISC3STP1G, and ISC3STP2G.

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

- 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 NCS

Security Maintenance

Input Format OPR-PROTNSW-<MOD2NCSPAYLOAD>:[<TID>]:<SRC>:<CTAG>::<SC>[:];

Input Example OPR-PROTNSW-SDSDI:CISCO:VFAC-1-1-1:100::FRCD;

Input Parameters

<SRC>	Access identifier from the "27.15 FACILITY" section on page 27-23. The AR-MXP, AR-XP, and AR-XPE cards use the VFAC Access Identifier.
<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.

18.9 OPR-PROTNSW-<STM_TYPE>

The Operate Protection Switch for STM1, STM4, STM16, or STM64 (OPR-PROTNSW-<STM_TYPE>) command initiates a NCS 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 29-1 on page 29-1 for supported modifiers by platform.

Usage Guidelines The switch commands MAN (Manual Switch), FRCD (Forced Switch), and LOCKOUT (Lockout) are supported by the NCS.

- 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 NCS 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-NCS (STM) cards will return the IIAC error message. To switch a non-NCS 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.

Category Protection

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 18-5 Parameter Support

Parameter	Description
<AID>	Access identifier from the "27.15 FACILITY" section on page 27-23. Identifies the facility in the NE to which the switch request is directed.
<SC>	Switch command that is to be initiated on the paths. The parameter type is SW, which is the type of switch.
• 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.
<SWITCHTYPE>	(Optional) MS-SPRing switch type. The parameter type is SWITCH_TYPE (switch type).
• RING	MS-SPRing switch type
• SPAN	MS-SPRing span switch type
<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).
• BTH	Both transmit and receive directions
• RCV	Receive direction only
• TRMT	Transmit direction only

18.10 OPR-PROTNSW-<OCN_TYPE>

The Operate Protection Switch for OC3, OC12, OC48, OC192, or OC768 (OPR-PROTNSW-<OCN_TYPE>) command initiates a SONET line protection switch request. User switch requests initiated with this command remain active until they are released via the RLS-PROTNSW-OCN command or are overridden by a higher priority protection switch request.

Usage Guidelines

See Table 29-1 on page 29-1 for supported modifiers by platform.

The switch commands; MAN (Manual Switch), FRCD (Forced Switch), and LOCKOUT (Lockout) are supported.

- 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 (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 protection line. If the working line is already in 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 the protection line. If the working line is already in protection, then the working line will be switched back from protection line to its original working line.

The following actions will return error messages:

- This command cannot be used for the common control cards (TCC2/TCC2P/TCC3 or XCVT/XC10G). A query on a common control card will generate an IIAC (Input, Invalid Access Identifier) error message. For common control card switching, use the SW-DX-EQPT and ALW-SWDX-EQPT commands.
- Sending this command to electrical cards will return an IIAC error message. For electrical card switching, 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 SNVS (Status, Not in Valid State) 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.
- Protection for preprovisioned cards will not succeed.
- Sending this command to a card that is already in protection with a higher priority will return the SSRD (Status, Switch Request Denied) error message.
- Sending this command to an OCN line with a switching mode that is already in process will return a SAMS (Already in the Maintenance State) error message.
- Sending this command with the EXERCISE or APS_CLEAR switch operations will return an error SROF (Invalid Protection Switch Operation) because these operations are not valid according to Telcordia GR-833-CORE. The EX-SW-<OCN_BLSR> is the correct command to perform the EXERCISE switch over the BLSR line.
- Protection switch will be denied if signal degrade/signal fail (SD/SF) 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.

Note

- To get the protection switching state (Manual, Force, and lockout), use the RTRV-COND-ALL or RTRV-ALM-ALL commands.
- If the far end of the same span has a higher protection switching state (for example, the near end is in the Manual protection state and the far end is in the Force protection state) the near-end protection switching state will be preemptive and will have an APS_CLEAR switching state. The RTRV-PROTNSW-OCN command is used to retrieve the current switching state of a SONET line.
- Sending the following Manual ring switch requests on both east and west sides/spans of a two-fiber or four-fiber BLSR in less than 30 to 45 seconds will cause the system to execute only one (WEST) side BLSR 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 both sides/spans of the same two-fiber or four-fiber ring.

  There will be no event messages for the preempted side, whose switching state will be in the APS-CLEAR state.
- DIRN is an optional parameter. A NULL value defaults to BTH for BLSR 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 BLSR protection groups, both the RCV and TRMT directions will fail.
- DIRN is applicable for both 1+1 and BLSR protection groups. For example, OPR-PROTNSW can be performed on a BLSR span/ring as follows:

  OPR-PROTNSW-OC48::FAC-5-1:A::LOCKOUT,SPAN:BTH;
- A Lockout of Protection command is required before putting the span of either a two-fiber or four-fiber BLSR line in loopback.
  - A span lockout on one side (for example, the east side) of the two-fiber BLSR is required before operating a facility (or terminal) line loopback on the same side (for example, the east side) of the ring.
  - A span lockout on one protection side (for example, the east side) of the four-fiber BLSR is required before operating a facility (or terminal) line loopback on the same side Working line (for example, the east side) of the ring.
- A span lockout on the working port is not supported.

Category Protection

Security Maintenance

Input Format OPR-PROTNSW-<OCN_TYPE>:[<TID>]:<AID>:<CTAG>::<SC>,[<SWITCHTYPE>][:<DIRN>];

Input Example OPR-PROTNSW-OC48:CHICKALUMA:FAC-6-1:204::LOCKOUT,SPAN:BTH;

Input Parameters

<AID>	Access identifier from the "27.15 FACILITY" section on page 27-23. Identifies the facility in the NE to which the switch request is directed.
<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. 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.
<SWITCHTYPE>	BLSR switch type. The parameter type is SWITCH_TYPE (switch type).
• RING	BLSR ring switch type
• SPAN	BLSR span switch type
<DIRN>	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).
• BTH	Both transmit and receive directions
• RCV	Receive direction only
• TRMT	Transmit direction only

18.11 OPR-PROTNSW-<PATH>

The Operate Protection Switch for VC3, VC44C, VC38C, VC464C, VC48C, VC4, VC416C, VC42C, VC43C, or VC12 (OPR-PROTNSW-<PATH>) command initiates a NCS 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 29-1 on page 29-1 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 18-6 Parameter Support

Parameter	Description
<SRC>	Source access identifier from the "27.11 CrossConnectId1" section on page 27-16.
<SC>	The switch command that is to be initiated on the paths. The parameter type is SW, which is the type of switch.
• 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.

18.12 OPR-PROTNSW-OCH

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 NCS

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 "27.7 CHANNEL" section on page 27-12. 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.

18.13 OPR-PROTNSW-OTS

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 NCS

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 "27.7 CHANNEL" section on page 27-12. Indicates the trunk port.
<SW>	The type of switch to be initiated.

18.14 OPR-RAMAN

The Operate RAMAN (OPR-RAMAN) command operates the Raman amplifier.

Usage Guidelines None

Category NCS

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;

Input Parameters

<AID>	The LINE aid is used to access Optical Transport Section (OTS) layer of Optical Network units. Format is LINE-[slot]-[port]-[direction].
• LINE[-{1-50}]-{1-5,12-16}-{1-5}-{RX,TX}	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]
• LINE[-{1-50}]-{1-5,12-16}-{1-5}-ALL	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
<RAMANACT>	RAMAN action
• DO-MEASURE	Starts RAMAN Measure.
• DO-RSTSM	Restarts RAMAN SM.
• DO-TEST	Starts RAMAN test.
• RESTORE	Restores after RAMAN test.
• DO-CALCPAR	Calculates RAMAN parameters.

• ACCEPT	Accepts tuning parameters.
• FORCE-UPD	Restores Raman after fiber cut.
<AID2>	The LINE aid is used to access Optical Transport Section (OTS) layer of Optical Network units. Format is LINE-[slot]-[port]-[direction]
• LINE[-{1-50}]-{1-5,12-16}-{1-5}-{RX,TX}	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].
• LINE[-{1-50}]-{1-5,12-16}-{1-5}-ALL	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.
<MEASIDX>	The RAMAN measure index.
<RAMANST>	Indicates the Raman setup state.
• NOT-TUNED	RAMAN is not tuned. Default values are set
• TUNING	RAMAN is tuning
• TUNED	RAMAN is tuned but not verified
• 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.

18.15 OPR-SLV-WDMANS

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 NCS

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 "27.33 WDMANS" section on page 27-37.
<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.

18.16 OPR-SYNCNSW

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 18-7 Parameter Support

Parameter	Description
<AID>	Access identifier from the "27.29 SYNC_REF" section on page 27-34. The default is SYNC-NE.
<SWITCHTO>	Access identifier from the "27.30 SYNCSW" section on page 27-35. Identifies the new synchronization reference that will be used.
<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.
• APS-CLEAR	APS-CLEAR switch state. It is a read-only switch state and is not allowed in the OPR-PROTNSW-xxx commands.

Table 18-7 Parameter Support

Parameter	Description
• CLEAR	CLEAR switch state. The CLEAR switch state is not allowed in the OPR-PROTNSW-xxx commands.
• FRCD	Forces a switch unless another FRCD or LOCKOUT is in effect.
• MAN	Requests a manual switch of the facility.

18.17 OPR-VLB-REP

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 18-8 OPR-VLB-REP Command - Parameter Support

Input Parameters	Description
<AID>	Access identifier from the "27.15 FACILITY" section on page 27-23.
<TRIGGERTYPE>	Indicates the TRIGGERTYPE.
• ACTIVATE	Activates manual trigger.
• DEACTIVATE	De-activates manual trigger.

18.18 OPR-WDMANS

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 NCS

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.