



Troubleshooting Guide for Cisco NCS 1010, IOS XR Release 7.7.1

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CHAPTER 1

Troubleshooting of Infrastructure Alarms

This chapter provides a description, severity, and troubleshooting procedure for each commonly encountered Cisco NCS 1010 infrastructure alarm and condition. When an alarm is raised, refer to its clearing procedure.

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Disaster Recovery ISO Image Corruption

Default Severity: Major (MJ), Non-Service-Affecting (NSA)

Logical Object: Instorch

The Disaster Recovery ISO Image Corruption alarm is raised when the ISO image in the CPU or the motherboard disks is corrupted.

Clear the Disaster Recovery ISO Image Corruption Alarm

This alarm is cleared when the ISO image is restored.

The alarm automatically downloads the image from the local repository and gets cleared within 12 hours.

If the alarm does not clear, log into the Technical Support Website at <http://www.cisco.com/c/en/us/support/index.html> for more information or call Cisco TAC (1 800 553-2447).

ESD_INIT_ERR_E

Default Severity: Critical (CR), Service-Affecting (SA)

Logical Object: ESD

The ESD_INIT_ERR_E alarm is raised when the Ethernet Switch Driver (ESD) initialization fails.

Clear the ESD_INIT_ERR_E Alarm

This alarm can be cleared when Cisco IOS XR automatically detects this alarm and clears it by resetting the switch.

If the alarm does not clear, log into the Technical Support Website at <http://www.cisco.com/c/en/us/support/index.html> for more information or call Cisco TAC (1 800 553-2447).

FAN FAIL

Default Severity: Major (MJ), Service-Affecting (SA)

Logical Object: SPI-ENVMON

The FAN FAIL alarm is raised when one of the two fans fails. When a fan fails, the temperature rises above its normal operating range. This condition can trigger the

TEMPERATURE alarm.

Clear the FAN FAIL Alarm

Verify that a fan is correctly inserted. The fan shall run immediately when correctly inserted.

If the alarm does not clear, log into the Technical Support Website at <http://www.cisco.com/c/en/us/support/index.html> for more information or call Cisco TAC (1 800 553-2447).

FPD IN NEED UPGD

Default Severity: Major (MJ), Service-Affecting (SA)

Logical Object: SPI-FPD

The FPD IN NEED UPGD alarm is raised when the Field Programmable Device (FPD) image is not aligned with the available package version.

Clear the FPD IN NEED UPGD Alarm

This alarm is cleared when the respective FPD is upgraded with the "upgrade hw-module location 0/x fpd y" command.

If the alarm does not clear, log into the Technical Support Website at <http://www.cisco.com/c/en/us/support/index.html> for more information or call Cisco TAC (1 800 553-2447).

FAN-POWER-ERROR

Default Severity: Major (MJ), Non-Service-Affecting (NSA)

Logical Object: SPI-ENVMON

The FAN-POWER-ERROR alarm is raised when power to fan tray fails.

Clear the FAN-POWER-ERROR Alarm

This alarm is cleared when the power failure is recovered or the Online Insertion and Removal (OIR) of the fan tray is recovered.

If the alarm does not clear, log into the Technical Support Website at <http://www.cisco.com/c/en/us/support/index.html> for more information or call Cisco TAC (1 800 553-2447).

FAN SPEED SENSOR 0: OUT OF TOLERANCE FAULT

Default Severity: Major (MJ), Service-Affecting (SA)

Logical Object: SPI-ENVMON

The FAN SPEED SENSOR 0: OUT OF TOLERANCE FAULT alarm is raised when one or more fans in the fan tray are faulty.

Clear the FAN SPEED SENSOR 0: OUT OF TOLERANCE FAULT Alarm

This alarm is cleared when the fans in the chassis are replaced.

If the alarm does not clear, log into the Technical Support Website at <http://www.cisco.com/c/en/us/support/index.html> for more information or call Cisco TAC (1 800 553-2447).

FAN-TRAY-REMOVAL

Default Severity: Major (MJ), Service-Affecting (SA)

Logical Object: SPI-ENVMON

The FAN-TRAY-REMOVAL alarm is raised when all the fan trays are removed from the chassis.

Clear the FAN-TRAY-REMOVAL Alarm

This alarm is cleared when the fan trays are inserted into the chassis.

If the alarm does not clear, log into the Technical Support Website at <http://www.cisco.com/c/en/us/support/index.html> for more information or call Cisco TAC (1 800 553-2447).

INSTALL IN PROGRESS

Default Severity: Major (MJ), Service-Affecting (SA)

Logical Object: SPI-INSTALL

The INSTALL IN PROGRESS alarm is raised when the install operation is in progress or if the "install commit" is not performed after activating a new image or package.

Clear the INSTALL IN PROGRESS Alarm

- Step 1** 1) Wait until the install operation is over.
- Step 2** 2) Perform the "install commit" operation after the "install activate" operation.

If the alarm does not clear, log into the Technical Support Website at <http://www.cisco.com/c/en/us/support/index.html> for more information or call Cisco TAC (1 800 553-2447).

PORT_AUTO_TUNE_ERR_E

Default Severity: Major (MJ), Service-Affecting (SA)

Logical Object: ESD

The PORT_AUTO_TUNE_ERR_E alarm is raised when the port auto-tuning fails.

Clear the PORT_AUTO_TUNE_ERR_E Alarm

This alarm cannot be cleared unless another fault is detected on the link that causes Port Reset. For example: unstable link state.

If the alarm does not clear, log into the Technical Support Website at <http://www.cisco.com/c/en/us/support/index.html> for more information or call Cisco TAC (1 800 553-2447).

PID-MISMATCH

Default Severity: Major (MJ), Service-Affecting (SA)

Logical Object: SPI-ENVMON

The PID-MISMATCH alarm is raised when one AC and one DC PSU are connected.

Clear the PID-MISMATCH Alarm

This alarm is cleared when both the PIDS are same.

If the alarm does not clear, log into the Technical Support Website at <http://www.cisco.com/c/en/us/support/index.html> for more information or call Cisco TAC (1 800 553-2447).

POWER MODULE OUTPUT DISABLED

Default Severity: Major (MJ), Service-Affecting (SA)

Logical Object: SPI-ENVMON

The POWER MODULE OUTPUT DISABLED alarm is raised when the power supply is disabled on the active Power Entry Module (PEM).

Clear the POWER MODULE OUTPUT DISABLED Alarm

This alarm is cleared when the user enables the power supply.

If the alarm does not clear, log into the Technical Support Website at <http://www.cisco.com/c/en/us/support/index.html> for more information or call Cisco TAC (1 800 553-2447).

POWER-MODULE-REDUNDANCY-LOST

Default Severity: Major (MJ), Service-Affecting (SA)

Logical Object: SPI-ENVMON

The POWER-MODULE-REDUNDANCY-LOST alarm is raised under one of the following conditions:

- If the power supply to the Power Supply Unit (PSU) is removed.
- If the PEM is removed.

Clear the POWER-MODULE-REDUNDANCY-LOST Alarm

This alarm is cleared when the user re-inserts the power supply or connects the power cable again.

If the alarm does not clear, log into the Technical Support Website at <http://www.cisco.com/c/en/us/support/index.html> for more information or call Cisco TAC (1 800 553-2447).

PORT_INIT_ERR_E

Default Severity: Major (MJ), Service-Affecting (SA)

Logical Object: ESD

The PORT_INIT_ERR_E alarm is raised when the port initialization fails.

Clear the PORT_INIT_ERR_E Alarm

This alarm can be cleared when Cisco IOS XR automatically detects this alarm and clears it by resetting the port.

If the alarm does not clear, log into the Technical Support Website at <http://www.cisco.com/c/en/us/support/index.html> for more information or call Cisco TAC (1 800 553-2447).

SPI_FLASH_CFG_INIT_ERR_E

Default Severity: Critical (CR), Service-Affecting (SA)

Logical Object: ESD

The SPI_FLASH_CFG_INIT_ERR_E alarm is raised when there is an unexpected or unsupported switch firmware version present.

Clear the SPI_FLASH_CFG_INIT_ERR_E Alarm

The ESD automatically recovers the alarm by resetting the Aldrin and restarting the ESD process. If the alarm still exists, reload the 0/Rack.

If the alarm does not clear, log into the Technical Support Website at <http://www.cisco.com/c/en/us/support/index.html> for more information or call Cisco TAC (1 800 553-2447).

SWITCH_ALL_PORTS_DOWN_ERR_E

Default Severity: Critical (CR), Service-Affecting (SA)

Logical Object: ESD

The SWITCH_ALL_PORTS_DOWN_ERR_E alarm is raised when all the monitored switch ports are down.

Clear the SWITCH_ALL_PORTS_DOWN_ERR_E Alarm

This alarm can be cleared when Cisco IOS XR automatically detects this alarm and clears it by resetting the port.

If the alarm does not clear, log into the Technical Support Website at <http://www.cisco.com/c/en/us/support/index.html> for more information or call Cisco TAC (1 800 553-2447).

SWITCH_CFG_INIT_ERR_E

Default Severity: Critical (CR), Service-Affecting (SA)

Logical Object: ESD

The SWITCH_CFG_INIT_ERR_E alarm is raised when the switch configuration fails.

Clear the SWITCH_CFG_INIT_ERR_E Alarm

This alarm can be cleared when Cisco IOS XR automatically detects this alarm and clears it by resetting the switch.

If the alarm does not clear, log into the Technical Support Website at <http://www.cisco.com/c/en/us/support/index.html> for more information or call Cisco TAC (1 800 553-2447).

SWITCH_CRITICAL_PORT_FAILED_E

Default Severity: Critical (CR), Service-Affecting (SA)

Logical Object: ESD

The SWITCH_CRITICAL_PORT_FAILED_E alarm is raised when there is a Critical Port failure.

Clear the SWITCH_CRITICAL_PORT_FAILED_E Alarm

The ESD process auto recovers the alarm by resetting the Aldrin and restarting the ESD process. If the alarm still exists, reload the 0/Rack.

If the alarm does not clear, log into the Technical Support Website at <http://www.cisco.com/c/en/us/support/index.html> for more information or call Cisco TAC (1 800 553-2447).

SWITCH_DMA_ERR_E

Default Severity: Critical (CR), Service-Affecting (SA)

Logical Object: ESD

The SWITCH_DMA_ERR_E alarm is raised when the switch Direct Memory Access (DMA) engine fails.

Clear the SWITCH_DMA_ERR_E Alarm

This alarm can be cleared when Cisco IOS XR automatically detects this alarm and clears it by resetting the switch.

If the alarm does not clear, log into the Technical Support Website at <http://www.cisco.com/c/en/us/support/index.html> for more information or call Cisco TAC (1 800 553-2447).

SWITCH_EEPROM_INIT_ERR_E

Default Severity: Critical (CR), Service-Affecting (SA)

Logical Object: ESD

The SWITCH_EEPROM_INIT_ERR_E alarm is raised when the Switch EEPROM initialization fails.

Clear the SWITCH_EEPROM_INIT_ERR_E Alarm

This alarm can be cleared when Cisco IOS XR automatically detects this alarm and clears it by resetting the switch.

If the alarm does not clear, log into the Technical Support Website at <http://www.cisco.com/c/en/us/support/index.html> for more information or call Cisco TAC (1 800 553-2447).

SWITCH_FDB_ERR_E

Default Severity: Critical (CR), Service-Affecting (SA)

Logical Object: ESD

The SWITCH_FDB_ERR_E alarm is raised when the Switch Forwarding Database (fdb) operation fails.

Clear the SWITCH_FDB_ERR_E Alarm

This alarm can be cleared when Cisco IOS XR automatically detects this alarm and clears it by resetting the switch.

If the alarm does not clear, log into the Technical Support Website at <http://www.cisco.com/c/en/us/support/index.html> for more information or call Cisco TAC (1 800 553-2447).

SWITCH_FDB_MAC_ADD_ERR_E

Default Severity: Critical (CR), Service-Affecting (SA)

Logical Object: ESD

The SWITCH_FDB_MAC_ADD_ERR_E alarm is raised when the switch firmware is unable to add a MAC address to its database.

Clear the SWITCH_FDB_MAC_ADD_ERR_E Alarm

This alarm can not be cleared by manual recovery.

If the alarm does not clear, log into the Technical Support Website at <http://www.cisco.com/c/en/us/support/index.html> for more information or call Cisco TAC (1 800 553-2447).

SWITCH_FIRMWARE_BOOT_FAIL_E

Default Severity: Critical (CR), Non-Service-Affecting (NSA)

Logical Object: ESD

The SWITCH_FIRMWARE_BOOT_FAIL_E alarm is raised when the switch firmware boot fails.

Clear the SWITCH_FIRMWARE_BOOT_FAIL_E Alarm

This alarm can be cleared when the ESD auto clears the alarm by resetting the switch.

If the alarm does not clear, log into the Technical Support Website at <http://www.cisco.com/c/en/us/support/index.html> for more information or call Cisco TAC (1 800 553-2447).

SWITCH_NOT_DISCOVERED_E

Default Severity: Critical (CR), Service-Affecting (SA)

Logical Object: ESD

The SWITCH_NOT_DISCOVERED_E alarm is raised when the switch is not discovered on the Peripheral Component Interconnect express (PCIe) bus.

Clear the SWITCH_NOT_DISCOVERED_E Alarm

This alarm can be cleared when the ESD auto clears the alarm by resetting the switch.

If the alarm does not clear, log into the Technical Support Website at <http://www.cisco.com/c/en/us/support/index.html> for more information or call Cisco TAC (1 800 553-2447).

SWITCH_RESET_RECOVERY_FAILED_E

Default Severity: Critical (CR), Service-Affecting (SA)

Logical Object: ESD

The SWITCH_RESET_RECOVERY_FAILED_E alarm is raised when the Switch Reset operation did not recover the switch.

Clear the SWITCH_RESET_RECOVERY_FAILED_E Alarm

This alarm can be cleared when the ESD auto clears the alarm by reloading the card.

If the alarm does not clear, log into the Technical Support Website at <http://www.cisco.com/c/en/us/support/index.html> for more information or call Cisco TAC (1 800 553-2447).

TEMPERATURE

Default Severity: Minor (MN), Major (MJ), Critical (CR), Non-Service-Affecting (NSA)

Logical Object: SPI-ENVMON

The TEMPERATURE alarm is raised when the temperature is out of the operating range.

Clear the TEMPERATURE Alarm

This alarm is cleared when the temperature falls within the operating range.

Ensure that there are no airflow obstructions, fans are working fine, and the ambient temperature is below 30 degrees.

Use "show environment" to check fan speed and temperature values. Use "show alarms brief system active" to check any alarms on fan trays.

If the alarm does not clear, log into the Technical Support Website at <http://www.cisco.com/c/en/us/support/index.html> for more information or call Cisco TAC (1 800 553-2447).

UNSTABLE_LINK_E

Default Severity: Major (MJ), Service-Affecting (SA)

Logical Object: ESD

The UNSTABLE_LINK_E alarm is raised when there is an unstable link with high number of UP and DOWN state changes.

Clear the UNSTABLE_LINK_E Alarm

This alarm can be cleared when the ESD auto clears the alarm by resetting the port.

If the alarm does not clear, log into the Technical Support Website at <http://www.cisco.com/c/en/us/support/index.html> for more information or call Cisco TAC (1 800 553-2447).

VOLTAGE

Default Severity: Minor (MN), Major (MJ), Critical (CR), Non-Service-Affecting (NSA)

Logical Object: SPI-ENVMON

The VOLTAGE alarm is raised when the voltage is out of the operating range.

Clear the VOLTAGE Alarm

This alarm is cleared when the voltage falls within the operating range.

If the alarm does not clear, log into the Technical Support Website at <http://www.cisco.com/c/en/us/support/index.html> for more information or call Cisco TAC (1 800 553-2447).

OPTICAL-MOD-ABSENT

Default Severity: Critical (CR), Service-Affecting (SA)

Logical Object: Phy1_mgmt

The Line card Is not Present in the Chassis, further contact TAC.

Clear the Optical MOD Absent Alarm

SUMMARY STEPS

1. This alarm clears when the user reinserts the line card and connects the fan.

DETAILED STEPS

	Command or Action	Purpose
Step 1	This alarm clears when the user reinserts the line card and connects the fan.	If the alarm does not clear, log into the Technical Support Website at http://www.cisco.com/c/en/us/support/index.html for more information or call Cisco TAC (1 800 553-2447).

OUT_OF_COMPLIANCE

Default Severity: Critical (CR), Service-Affecting (SA)

Logical Object: plat_sl_client

One Or More Entitlements Are Out Of Compliance.

Clear Out of Compliance Alarm

SUMMARY STEPS

1. This alarm clears when required number of additional licenses are purchased.

DETAILED STEPS

This alarm clears when required number of additional licenses are purchased.

If the alarm does not clear, log into the Technical Support Website at <http://www.cisco.com/c/en/us/support/index.html> for more information or call Cisco TAC (1 800 553-2447).

COMM_FAIL

Default Severity: Major(MJ), Service-Affecting (SA)

Logical Object: plat_sl_client

Communications Failure With Cisco Licensing Cloud.

Clear Communication Fail Alarm

SUMMARY STEPS

1. This alarm is cleared when the license server is reachable from the network element.

DETAILED STEPS

This alarm is cleared when the license server is reachable from the network element.

If the alarm does not clear, log into the Technical Support Website at <http://www.cisco.com/c/en/us/support/index.html> for more information or call Cisco TAC (1 800 553-2447).

SIA_GRACE_PERIOD_REMAINING

Default Severity: Minor (MN), Non-Service-Affecting (NSA)

Logical Object: plat_sl_client

SW Upgrade is still allowed as SIA Grace Period is remaining.

Clear SIA Grace Period Remaining

SUMMARY STEPS

1. This alarm is cleared when SIA licenses are purchased.

DETAILED STEPS

This alarm is cleared when SIA licenses are purchased.

If the alarm does not clear, log into the Technical Support Website at <http://www.cisco.com/c/en/us/support/index.html> for more information or call Cisco TAC (1 800 553-2447).

UPGRADE_LICENSE_UPGRADE_BLOCKED

Default Severity: Major(MJ), Service-Affecting (SA)

Logical Object: plat_sl_client

SW Upgrade will be blocked as Upgrade License Grace Period has expired.

Clear Upgrade License Upgrade Blocked

SUMMARY STEPS

1. This alarm is cleared when required SIA licenses are purchased.

DETAILED STEPS

This alarm is cleared when required SIA licenses are purchased.

If the alarm does not clear, log into the Technical Support Website at <http://www.cisco.com/c/en/us/support/index.html> for more information or call Cisco TAC (1 800 553-2447).

UPGRADE_LICENSE_GRACE_PERIOD_REMAINING

Default Severity: Minor (MN), Non-Service-Affecting (NSA)

Logical Object: plat_sl_client

SW Upgrade is still allowed as Upgrade License Grace Period is remaining.

Clear Upgrade License Grace Period Remaining

SUMMARY STEPS

1. This alarm is cleared when SIA licenses are purchased.

DETAILED STEPS

This alarm is cleared when SIA licenses are purchased.

If the alarm does not clear, log into the Technical Support Website at <http://www.cisco.com/c/en/us/support/index.html> for more information or call Cisco TAC (1 800 553-2447).

SIA_UPGRADE_BLOCKED

Default Severity: Major(MJ), Service-Affecting (SA)

Logical Object: plat_sl_client

SW Upgrade will be blocked as SIA Grace Period has expired.

Clear SIA Grace Period Remaining

SUMMARY STEPS

1. This alarm is cleared when the SIA licences are purchase.

DETAILED STEPS

This alarm is cleared when the SIA licences are purchase.

If the alarm does not clear, log into the Technical Support Website at <http://www.cisco.com/c/en/us/support/index.html> for more information or call Cisco TAC (1 800 553-2447).

DISASTER_RECOVERY_UNAVAILABLE_ALARM

Default Severity: Major(MJ), Service-Affecting (SA)

Logical Object: Instorch

Disaster recovery boot is currently unavailable due to chassis SSD corruption.

Clear the Disaster Recovery Unavailable Alarm

SUMMARY STEPS

1. This alarm clears automatically after the upgrade.

DETAILED STEPS

This alarm clears automatically after the upgrade.

If the alarm does not clear, log into the Technical Support Website at <http://www.cisco.com/c/en/us/support/index.html> for more information or call Cisco TAC (1 800 553-2447).



CHAPTER 2

Troubleshooting of Data Path Alarms

This chapter provides a description, severity, and troubleshooting procedure for each commonly encountered Cisco NCS 1010 data path alarm and condition. When an alarm is raised, refer to its clearing procedure.

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EGRESS-AMPLI-GAIN-HIGH

Default Severity: Non Service-Affecting (NSA)

Logical Object: Controller OTS

The EGRESS-AMPLI-GAIN-HIGH alarm is raised when the EGRESS EDFA module cannot reach the gain setpoint. This condition occurs if the amplifier reaches its range boundaries and the Egress Amplifier Gain Degrade is high.

Clear the EGRESS-AMPLI-GAIN-HIGH Alarm

Step 1 Adjust the gain setting to a correct value.

If the APC value is set to the disabled state, the applied gain results from the configuration. Therefore, you must adjust the gain setting to a high value.

Step 2 Check the overall system settings, performance, and the configured EDFA Gain.

If the APC value is set to the enabled state, it may be due to an unexpected long or short span, or due to other measured channels. If the alarm persists, it may indicate an amplifier hardware failure.

If the alarm does not clear, log into the Technical Support Website at <http://www.cisco.com/c/en/us/support/index.html> for more information or call Cisco TAC (1 800 553-2447).

EGRESS-AMPLI-GAIN-LOW

Default Severity: Minor (MN), Non-Service-Affecting (NSA)

Logical Object: Controller OTS

The EGRESS-AMPLI-GAIN-LOW alarm is raised when the Egress Amplifier Gain Degrade is Low.

Clear the EGRESS-AMPLI-GAIN-LOW Alarm

Step 1 Adjust the gain setting to a correct value.

If the APC value is set to the disabled state, the applied gain results from the configuration. Therefore, you must adjust the gain setting to a low value.

Step 2 Check the overall system settings, performance, and the configured EDFA Gain.

If the APC value is set to the enabled state, it may be due to an unexpected long or short span, or due to other measured channels. If the alarm persists, it may indicate an amplifier hardware failure.

If the alarm does not clear, log into the Technical Support Website at <http://www.cisco.com/c/en/us/support/index.html> for more information or call Cisco TAC (1 800 553-2447).

EGRESS-AUTO-LASER-SHUT

Default Severity: Not Alarmed (NA), Non-Service-Affecting (NSA)

Logical Object: Controller OTS

The EGRESS-AUTO-LASER-SHUT alarm is raised for safety concerns. If the safety-control-mode is set to the auto state on line OTS controller, the Egress EDFA shuts down its Tx power if it is not receiving on the Line Rx port due to a fiber cut.

Clear the EGRESS-AUTO-LASER-SHUT Alarm

Step 1 For controller OTS, check the RX-LOC or RX-LOS-P alarm.

Step 2 Ensure that the fiber is properly plugged and there is no fiber cut on the span.

If the alarm does not clear, log into the Technical Support Website at <http://www.cisco.com/c/en/us/support/index.html> for more information or call Cisco TAC (1 800 553-2447).

EGRESS-AUTO-POW-RED

Default Severity: Not Alarmed (NA), Non-Service-Affecting (NSA)

Logical Object: Controller OTS

The EGRESS-AUTO-POW-RED alarm is raised when the egress amplifier is in power reduction mode for safety reasons.

Clear the EGRESS-AUTO-POW-RED Alarm

Step 1 For Controller OTS, check if the APR configuration is active.

Step 2 Check if the safety conditions of the Egress EDFA are active for APR.

If the alarm does not clear, log into the Technical Support Website at <http://www.cisco.com/c/en/us/support/index.html> for more information or call Cisco TAC (1 800 553-2447).

HIGH-RX-BR-PWR

Default Severity: Minor (MN), Non-Service-Affecting (NSA)

Logical Object: Controller OTS

The HI-RX-BR-PWR alarm is raised when there is a high back reflection power at the ingress port

Clear the HIGH-RX-BR-PWR Alarm

Clean the fiber and port, and reconnect the fiber to the port.

If the alarm does not clear, log into the Technical Support Website at <http://www.cisco.com/c/en/us/support/index.html> for more information or call Cisco TAC (1 800 553-2447).

HIGH-TX-BR-PWR

Default Severity: Critical (CR), Service-Affecting (SA)

Logical Object: Controller OTS

The HI-TX-BR-PWR alarm is raised when there is a high back reflection power at the egress port.

Clear the HIGH-TX-BR-PWR Alarm

Clean the fiber and port, and reconnect the fiber to the port.

If the alarm does not clear, log into the Technical Support Website at <http://www.cisco.com/c/en/us/support/index.html> for more information or call Cisco TAC (1 800 553-2447).

INGRESS-AMPLI-GAIN-HIGH

Default Severity: Minor (MN), Non-Service-Affecting (NSA)

Logical Object: Controller OTS

The INGRESS-AMPLI-GAIN-HIGH alarm is raised when the Ingress EDFA module cannot reach the gain setpoint. This condition occurs if the amplifier reaches its range boundaries.

Clear the INGRESS-AMPLI-GAIN-HIGH Alarm

Step 1 Adjust the gain setting to a correct value.

If the APC value is set to the disabled state, the applied gain results from the configuration. Therefore, you must adjust the gain setting to a high value.

Step 2 Check the overall system settings, performance, and the configured EDFA Gain.

If the APC value is set to the enabled state, it may be due to an unexpected long or short span, or due to other measured channels. If the alarm persists, it may indicate an amplifier hardware failure.

If the alarm does not clear, log into the Technical Support Website at <http://www.cisco.com/c/en/us/support/index.html> for more information or call Cisco TAC (1 800 553-2447).

INGRESS-AMPLI-GAIN-LOW

Default Severity: Minor (MN), Non-Service-Affecting (NSA)

Logical Object: Controller OTS

The INGRESS-AMPLI-GAIN-LOW alarm is raised when the Ingress EDFA module cannot reach the gain setpoint. This condition occurs if the amplifier reaches its range boundaries.

Clear the INGRESS-AMPLI-GAIN-LOW Alarm

Step 1 Adjust the gain setting to a correct value.

If the APC value is set to the disabled state, the applied gain results from the configuration. Therefore, you must adjust the gain setting to a high value.

Step 2 Check the overall system settings, performance, and the configured EDFA Gain.

If the APC value is set to the enabled state, it may be due to an unexpected long or short span, or due to other measured channels. If the alarm persists, it may indicate an amplifier hardware failure.

If the alarm does not clear, log into the Technical Support Website at <http://www.cisco.com/c/en/us/support/index.html> for more information or call Cisco TAC (1 800 553-2447).

INGRESS-AUTO-LASER-SHUT

Default Severity: Not Alarmed (NA), Non-Service-Affecting (NSA)

Logical Object: Controller OTS

The INGRESS-AUTO-LASER-SHUT alarm is raised when the ingress amplifier is off for safety Reasons.

Clear the INGRESS-AUTO-LASER-SHUT Alarm

Step 1 For the controller OTS, check the RX-LOC or RX-LOSP alarm.

Step 2 Check if the safety conditions of the Ingress EDFA ALS are active.

If the alarm does not clear, log into the Technical Support Website at <http://www.cisco.com/c/en/us/support/index.html> for more information or call Cisco TAC (1 800 553-2447).

INGRESS-AUTO-POW-RED

Default Severity: Not Alarmed (NA), Non-Service-Affecting (NSA)

Logical Object: Controller OTS

The INGRESS-AUTO-POW-RED alarm is raised when the ingress amplifier is in power reduction mode for safety reasons.

Clear the INGRESS-AUTO-POW-RED Alarm

For controller OTS, check if the APR configuration is active. Step 2: Check if the safety conditions of the Ingress EDFA for APR are active.

If the alarm does not clear, log into the Technical Support Website at <http://www.cisco.com/c/en/us/support/index.html> for more information or call Cisco TAC (1 800 553-2447).

RAMAN-AUTO-LASER-SHUT

Default Severity: Not Alarmed (NA), Non-Service-Affecting (NSA)

Logical Object: Controller OTS

The RAMAN-AUTO-LASER-SHUT alarm is raised when the raman pumps are off for safety reasons.

Clear the RAMAN-AUTO-LASER-SHUT Alarm

Step 1 For the line OTS controller, check the RX-LOC or RX-LOSP alarm.

Step 2 Check if the safety conditions of the Raman are active.

If the alarm does not clear, log into the Technical Support Website at <http://www.cisco.com/c/en/us/support/index.html> for more information or call Cisco TAC (1 800 553-2447).

RAMAN-AUTO-POW-RED

Default Severity: Not Alarmed (NA), Non-Service-Affecting (NSA)

Logical Object: Controller OTS

The RAMAN-AUTO-POW-RED alarm is raised when the Raman amplifier is in power reduction mode for safety reasons.

Clear the RAMAN-AUTO-POW-RED Alarm

Step 1 For the line OTS controllers, check if the APR configuration for Raman is active.

Step 2 Check if the safety conditions of the Raman for APR are active.

If the alarm does not clear, log into the Technical Support Website at <http://www.cisco.com/c/en/us/support/index.html> for more information or call Cisco TAC (1 800 553-2447).

RAMAN-[1-5]-HIGH-PWR

Default Severity: Minor (MN), Non-Service-Affecting (NSA)

Logical Object: Controller OTS

The RAMAN-[1-5]-HIGH-PWR alarm is raised when the Raman [1-5] pumps have high power.

Clear the RAMAN-[1-5]-HIGH-PWR Alarm

Check the span length and configured Raman pump power for controller OTS.

If the alarm does not clear, log into the Technical Support Website at <http://www.cisco.com/c/en/us/support/index.html> for more information or call Cisco TAC (1 800 553-2447).

RAMAN-[1-5]-LOW-PWR

Default Severity: Minor (MN), Non-Service-Affecting (NSA)

Logical Object: Controller OTS

The RAMAN-[1-5]-LOW-PWR alarm is raised when the raman [1-5] pumps have low power.

Clear the RAMAN-[1-5]-LOW-PWR Alarm

Check the span length and configured Raman pump power for controller OTS.

If the alarm does not clear, log into the Technical Support Website at <http://www.cisco.com/c/en/us/support/index.html> for more information or call Cisco TAC (1 800 553-2447).

RX-LOC

Default Severity: Critical (CR), Service-Affecting (SA)

Logical Object: Line OTS Controller

The RX-LOC alarm is raised when there is a loss in the fiber connection continuity.

Clear the RX-LOC Alarm

To clear this alarm, check for missing fiber connection or a fiber cut.

If the alarm does not clear, log into the Technical Support Website at <http://www.cisco.com/c/en/us/support/index.html> for more information or call Cisco TAC (1 800 553-2447).

RX-LOS-P

Default Severity: Critical (CR), Service-Affecting (SA)

Logical Object: Controller DFB, Controller OSC, Controller OTS-OCH, Controller OMS, Controller OTS, or Controller OCH

The RX-LOS-P alarm is raised when there is a loss of signal payload.

Clear the RX-LOS-P Alarm

Step 1 Check if the threshold setting is as per the expected system performance.

Step 2 Check if the received power is fine.

If the alarm does not clear, log into the Technical Support Website at <http://www.cisco.com/c/en/us/support/index.html> for more information or call Cisco TAC (1 800 553-2447).

SPAN-TOO-SHORT-RX

Default Severity: Minor (MN), Non-Service-Affecting (NSA)

Logical Object: Controller OTS

The SPAN-TOO-SHORT-RX alarm is raised when the input of the OTS span is too short.

Clear the SPAN-TOO-SHORT-RX Alarm

Check for fiber damage on the RX fiber or increase the span of the fiber.

If the alarm does not clear, log into the Technical Support Website at <http://www.cisco.com/c/en/us/support/index.html> for more information or call Cisco TAC (1 800 553-2447).

SPAN-TOO-SHORT-TX

Default Severity: Minor (MN), Non-Service-Affecting (NSA)

Logical Object: Controller OTS

The SPAN-TOO-SHORT-TX alarm is raised when the output of the OTS span is too short.

Clear the SPAN-TOO-SHORT-TX Alarm

Check for fiber damage on the TX fiber or increase the span of the fiber.

If the alarm does not clear, log into the Technical Support Website at <http://www.cisco.com/c/en/us/support/index.html> for more information or call Cisco TAC (1 800 553-2447).

TD-FAILED

Default Severity: Minor (MN), Non-Service-Affecting (NSA)

Logical Object: Controller OTS, Controller OMS, or Controller OCH

The TD-FAILED alarm is raised when the Tone Detection fails.

Clear the TD-FAILED Alarm

This alarm can be cleared when the user stops Tone Detection on the corresponding controller.

If the alarm does not clear, log into the Technical Support Website at <http://www.cisco.com/c/en/us/support/index.html> for more information or call Cisco TAC (1 800 553-2447).

TD-INPROGRESS

Default Severity: Minor (MN), Non-Service-Affecting (NSA)

Logical Object: Controller OTS, Controller OMS, or Controller OCH

The TD-INPROGRESS alarm is raised when the Tone Detection is in progress.

Clear the TD-INPROGRESS Alarm

This alarm can be cleared when the user stops the Tone Detection on the corresponding controller.

If the alarm does not clear, log into the Technical Support Website at <http://www.cisco.com/c/en/us/support/index.html> for more information or call Cisco TAC (1 800 553-2447).

TD-SUCCESS

Default Severity: Minor (MN), Non-Service-Affecting (NSA)

Logical Object: Controller OTS, Controller OMS, or Controller OCH

The TD-SUCCESS alarm is raised when the Tone Detection passes.

Clear the TD-SUCCESS Alarm

This alarm can be cleared when the user stops the Tone Detection on the corresponding controller.

If the alarm does not clear, log into the Technical Support Website at <http://www.cisco.com/c/en/us/support/index.html> for more information or call Cisco TAC (1 800 553-2447).

TG-INPROGRES

Default Severity: Minor (MN), Non-Service-Affecting (NSA)

Logical Object: Controller OTS, Controller OMS, or Controller OCH

The TG-INPROGRES alarm is raised when the Tone Generation is in progress.

Clear the TG-INPROGRES Alarm

This alarm can be cleared when the user stops the Tone Generation on the corresponding controller.

If the alarm does not clear, log into the Technical Support Website at <http://www.cisco.com/c/en/us/support/index.html> for more information or call Cisco TAC (1 800 553-2447).

TX-POWER-FAIL-LOW

Default Severity: Critical (CR), Service-Affecting (SA)

Logical Object: Controller DFB, Controller OSC, Controller OTS-OCH, Controller OMS, or Controller OCH

The TX-POWER-FAIL-LOW alarm is raised when the output of the OTS power reading is below the Fail-Low threshold.

Clear the TX-POWER-FAIL-LOW Alarm

- Step 1** Check if the threshold settings are as per the expected system performance.
- Step 2** Check if the corresponding receiving power is correct. For example, an OTS Controller 2 TX receives power from the controller 0 RX.
- Step 3** Check the EDFA gain value.
- Step 4** Check for any hardware failure.

If the alarm does not clear, log into the Technical Support Website at <http://www.cisco.com/c/en/us/support/index.html> for more information or call Cisco TAC (1 800 553-2447).

Clear the TX-POWER-FAIL-LOW Alarm



CHAPTER 3

Troubleshooting of Optical Application Alarms

This chapter provides a description, severity, and troubleshooting procedure for each commonly encountered Cisco NCS 1010 optical application alarm and condition. When an alarm is raised, refer to its clearing procedure.

- [APC-BLOCKED](#), on page 29
- [APC-OUT-OF-RANGE](#), on page 30
- [RAMAN-TUNE-FAILED](#), on page 30
- [RAMAN_TUNE_GAIN_UNREACHABLE](#), on page 31
- [RAMAN-TUNE-IN-PROGRESS](#), on page 31
- [SPAN-LOSS-OUT-OF-RANGE](#), on page 32

APC-BLOCKED

Default Severity: Minor (MN), Non-Service-Affecting (NSA)

Logical Object: OTS Controller

The APC-BLOCKED alarm is raised when:

- The APC domain (OLT—OLT) is down due to:
 - Fiber cut in one of the spans in the network.
 - Network events such as: OTS controller fail or shutdown, OSC fail or shutdown, LC reload, RP reload, and powercycle events.
- The topology is not discovered by the OSPF end-to-end and the connection bring up is pending.
- The user configured amplifier safety conditions, such as Optical safety remote interlock (OSRI) and Automatic power reduction (APR), and so on.
- Safety condition is triggered due to a High Back Reflection event.
- The participating agent nodes have locally disabled the APC.

Clear the APC-BLOCKED Alarm

This alarm gets cleared when:

- The fiber issues in the network are resolved and the connectivity is restored.
- All the participating nodes are recovered from HA events.
- The OSPF is up end-to-end.
- All the safety conditions are cleared from the network.
- All the agent nodes are APC enabled in the domain.

If the alarm does not clear, log into the Technical Support Website at <http://www.cisco.com/c/en/us/support/index.html> for more information or call Cisco TAC (1 800 553-2447).

APC-OUT-OF-RANGE

Default Severity: Minor (MN), Non-Service-Affecting (NSA)

Logical Object: OTS Controller

The APC-Out-Of-Range alarm is raised when the APC system fails to regulate and achieve the target PSD power level.

The possible conditions are:

- amplifier gain is exhausted in a particular gain range
- WSS range (0-25 dB) is exhausted for a single or multiple channels
- DGE range (0-3 dB) is exhausted for a single or multiple channels
- increased spanloss and the amplifier gain is not enough to achieve the target PSD.

Clear the APC-OUT-OF-RANGE Alarm

This alarm gets cleared in the following conditions:

- If the requested amplifier gain is outside the current configured gain range, change it to the correct gain-range. Once the requested gain is configured, this alarm gets cleared.
- If the WSS range is exhausted for a channel, check and correct the power levels on the add ports and ensure that there is no extra attenuation added due to a bad patchcord.
- check the transponder TX port and ensure that the TX power is configured as required.
- clear the spanloss alarm by rectifying the fiber issues which helps to restore the powerlevel.

If the alarm does not clear, log into the Technical Support Website at <http://www.cisco.com/c/en/us/support/index.html> for more information or call Cisco TAC (1 800 553-2447).

RAMAN-TUNE-FAILED

Default Severity: Not Alarmed (NA), Non-Service-Affecting (NSA)

Logical Object: OTS Controller

The RAMAN-TUNE-FAILED alarm is raised when Raman tuning is blocked due to:

- Raman pumps are shutdown due to a Back Reflection event
- Peer node unreachable due to span down, OSC fail, DFB fail and High Availability events like powercycle and card cold reload

Clear the RAMAN-TUNE-FAILED Alarm

This alarm gets cleared when:

- the Back Reflection (BR) event gets cleared, the Raman Tuner clears the alarm and resumes tuning.
- the neighborhood restores the Raman Tuner and completes calibration.

If the alarm does not clear, log into the Technical Support Website at <http://www.cisco.com/c/en/us/support/index.html> for more information or call Cisco TAC (1 800 553-2447).

RAMAN_TUNE_GAIN_UNREACHABLE

Default Severity: Not Alarmed (NA), Non-Service-Affecting (NSA)

Logical Object: OTS Controller

The RAMAN-TUNE-GAIN-UNREACHABLE alarm is raised when Raman Tuner is unable to achieve the target gain set by the user or algorithm.

Clear the RAMAN_TUNE_GAIN_UNREACHABLE Alarm

This alarm gets cleared when the difference between the Raman Gain target and the actual gain achieved is below 3.5 dB.

If the alarm does not clear, log into the Technical Support Website at <http://www.cisco.com/c/en/us/support/index.html> for more information or call Cisco TAC (1 800 553-2447).

RAMAN-TUNE-IN-PROGRESS

Default Severity: Major (MJ), Non-Service-Affecting (NSA)

Logical Object: OTS Controller

The RAMAN-TUNE-IN-PROGRESS alarm is raised when Raman tuning is initiated and is in progress.

Clear the RAMAN-TUNE-IN-PROGRESS Alarm

This alarm gets cleared when Raman Tuner completes the TUNING (TUNED state) by configuring Raman pumps as per the target provided by the algorithm or the user configured raman gain target.

If the alarm does not clear, log into the Technical Support Website at <http://www.cisco.com/c/en/us/support/index.html> for more information or call Cisco TAC (1 800 553-2447).

SPAN-LOSS-OUT-OF-RANGE

Default Severity: Minor (MN), Non-Service-Affecting (NSA)

Logical Object: OTS Controller

The SPAN-LOSS-OUT-OF-RANGE alarm is raised when the span loss measured is not within the configured threshold range.

Clear the SPAN-LOSS-OUT-OF-RANGE Alarm

To clear this alarm check the fiber issues in the span using OTDR and fix the additional losses incurred.

If the alarm does not clear, log into the Technical Support Website at

<http://www.cisco.com/c/en/us/support/index.html> for more information or call Cisco TAC (1 800 553-2447).