



Zhone Technologies, Inc.

@Zhone Way
7001 Oakport Street
Oakland, CA 94621
Phone: 510.777.7000
Fax: 510.777.7001

www.zhone.com

FIELD ADVISORY BULLETIN

Date: 2/15/2011

Product: IMACS Power Supply OOS Alarm (8901/8902 or 890220)

1. Summary:

A product issue has been found with IMACS Power Supplies in slots PS1 and/or PS2 reporting an OOS alarm condition when the power supply is actually functioning properly.

2. Root Cause:

The issue, noted primarily in DC powered systems using the 8902/890220 power supplies, occurs when the OOS alarm is raised and cleared several times in a short period of time. The CPU could potentially miss the required message to clear the OOS alarm resulting in an invalid OOS alarm in the active alarm banner located in the upper right hand side of the menu session.

3. Corrective Action:

Identify whether the OOS alarm condition in the active alarm banner is valid or invalid.

Figure 1 below illustrates a valid OOS alarm for PS2/F2.



```

unknown | 11-14-07 12:31
Slot  Installed  Status      Slot  Installed  Status
C1    CPU XCON   ssss       IF    INTF+modem
C2                    U1    SRU-232x10 ssssssssss
P1                    U2
P2                    U3
P3                    U4
W1    DSX+DSX   ss        U5
W2                    U6
W3                    U7
W4                    U8    SRU-232x10 ssssssssss
F1    PS1
F2    PS2      OOS      RI

Alarms | Config | Del | accepT | Xcon | sVs | Logout | sEr | Oos | cpusWtch
    
```

Figure 1 Valid PSU Alarm

Figure 2 below illustrates an invalid OOS alarm on PS2/F2. Note the power supply does not have an alarm, but the alarm banner is displaying an alarm on the power supply.

```

unknown | 11-14-07 12:37
Slot  Installed  Status      Slot  Installed  Status
C1    CPU XCON   ssss       IF    INTF+modem
C2                    U1    SRU-232x10 ssssssssss
P1                    U2
P2                    U3
P3                    U4
W1    DSX+DSX   ss        U5
W2                    U6
W3                    U7
W4                    U8    SRU-232x10 ssssssssss
F1    PS1
F2    PS2
Alarms | Config | Del | accepT | Xcon | sVs | Logout | sEr | Oos | cpusWtch
    
```

Figure 2 Invalid PSU Alarm



Invalid alarm:

Work Around: It is **not** necessary to re-seat the power supply to clear the alarm. The user should login to the IMACS system, move the cursor to highlight the power supply that has the false alarm raised against it, depress the letter O to OOS the power supply and clear the alarm. The PSU will remain in-service when this command is issued, but the alarm will be cleared.

A software change has been implemented to handle the OOS alarm reporting differently in firmware release 5.4.10 and in the 6.x.y firmware release. This change has not been added to the CPU-3 3.x.y software stream.

The change implements a check to determine if the OOS alarm is active on F1 and/or F2. The CPU will check the status of PS1 and/or PS2 and, if the status is not OOS, the system will check the respective ground of each Power Supply and, if the ground is valid, the system will OOS the power supply to clear the alarm.

Valid alarm:

If the alarm has been identified as a valid condition, below is a list of items to check in order to correct the condition:

Note: Some of the actions described below will be service affecting. If you are unsure, please contact Zhone Global Service and Support (GSS) before continuing.

- Yellow LED on the power supply. The IMACS power supplies monitor their own output, and if the output is less then the power supply should be generating, then the yellow LED is illuminated. A power supply with the yellow LED on indicates a bad power supply, and it should be replaced.
- One of the power supplies could be not capable of carrying the load. To validate this, pull one power supply to verify that the second supply can hold the load and, if not, put the removed power supply back in the shelf and pull the other supply. Please note however, that should one of the power supplies be defective in this manner, a shelf outage will occur when the single power supply is in the shelf. This procedure should be done during a maintenance window. The power supplies are load sharing and if one power supply is degraded the other power supply may not be able to hold the shelf load on its own.
- Power feeds on DC VA or VB not equal and/or dead.
- Faulty CPU reporting OOS on one or both power supplies; switch to redundant CPU and/or replace the suspect CPU. Please note that a switch of activity will cause an outage on the IMACS shelf. This procedure should be done during a maintenance window.



- Bad wiring harness cable between the power supply backplane and the system backplane. This cable is discussed in the next bullet, and the removal and replacement of this cable is detailed in Tech Tip #33 and Tech Tip #34.
- Bad physical connection on the wiring harness cable due to oxidation or poor environmental conditions. Remove the wiring harness and clean with a degreaser, apply NO-OX-ID lubricant and reconnect the wiring harness. Refer to Tech Tip #33 for the IMACS-900 shelf power cable cleaning procedure, and Tech Tip #34 for IMACS-600 / IMACS-800 shelf power cable cleaning procedure.
- Refer to section 3.6 of the IMACS System Reference Guide (latest revision is release 6.0.0, document 830-01958-01 revision B) to ensure proper grounding practices have been followed. Any potential on the buss can cause a power supply to report a false OOS alarm condition.

If the alarm cannot be cleared after checking all of the above, please contact the Zhone GSS IMACS technical support group.

Zhone GSS can be contacted at:
1-877-ZHONE20 (877-946-6320) and then follow the voice prompt menu and press 3-1-1 for IMACS technical support