

Customer Support Notice – CSN 0056

Disabling Iridium MSSTM Validation to Avoid Loss of Iridium Communications

June 27, 2020

Priority

✓	Urgent	Critical configuration change to be performed immediately
	High	Critical upgrade or service to be performed prior to next deployment
	Medium	Replace or rework during next scheduled service interval
	Low	Fix to be replaced or reworked at customer's convenience

Liquid Robotics' long term reliability and customer feedback programs are in place to identify and address potential performance issues. This Customer Support Notice identifies reliability improvements available from the Company.

Issue:

Some versions of Regulus have a bug in the handling of a status message response that will prevent Iridium communications. The Iridium network has recently changed behavior with one status message, the -MSSTM command, that has revealed incorrect handling of the message in Regulus. The problem is visible as a loss of Iridium communications because Regulus believes, incorrectly, that the Iridium network is unreachable.

The problem will appear in the Regulus log as:

```
2020-06-25T17:28:14.908Z@20.0046157,-155.882971 ? iridiumModem: Modem is not synced with GSS
```

When in this state the wave glider will be unable to communicate using Iridium. The issue will not typically resolve itself in a reasonable amount of time.

All releases of Regulus after 1.1.3 exhibit the problem. Regulus 1.1.3 and earlier are not affected.

Solution:

Use of the problematic status message can be disabled by changing Regulus configuration. The configuration change takes effect immediately and is persistent. The configuration change causes Regulus to avoid use of the problematic -MSSTM command.

What to Do:

For all wave gliders that are fully or partially dependent upon Iridium service for communications and are running Regulus 2.0 or later the following Write Console Script command should be executed using the Virtual Relay Cell Communication Channel (**Please do not copy and paste the command**):

```
%config.writePath("devices.iridiumModem.useMSSTMandSBDLOE", false)
```

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LIQUID ROBOTICS
A Boeing Company

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This command will disable Regulus use of the Iridium MSSTM and SBDLOE commands.

To **verify** the value is correctly applied, issue the following Write Console Script command (**Please do not copy and paste the command**):

```
%config.readPath("devices.iridiumModem.useMSSTMandSBDLOE")
```

The desired response should be **"false"**. If **"true"** is returned, reapply the patch using the %config.writePath(...) command.

The Write Console Script interface on WGMS is accessed via the 'More Commands' button on the left-hand menu, and should look like this:

The screenshot displays the 'Write Console Script' interface within the Liquid Robotics WGMS. The interface is divided into a left-hand menu and a main command form. The left-hand menu includes buttons for 'Data View', 'Follow', 'Hold State', 'Follow', 'Set', 'C', 'More Commands', 'End Mission', 'Show State', and 'LRI Ops: Ben Harp'. The 'More Commands' button is highlighted. The main command form is titled 'Vehicle Command Info' and contains several fields. The 'Command Reason' field is highlighted with a black box and contains the command '%config.writePath("devices.iridiumModem.useMSSTMandSBDLOE", false)'. The 'Vehicle' field is set to 'Elite SV3N (HOP-390 baseline vehicle)'. The 'Command Type' is set to 'Write Console Script'. The 'Board Address' field is set to '0'. The 'Com Channel' is set to 'VirtualRelayCell Communication Channel'. The 'Script Buffer' field is also highlighted with a black box and contains the same command. At the bottom of the form are buttons for 'Copy ...', 'Send', and 'Cancel'.

Liquid Robotics - Customer Support Operations

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Best Regards,

Liquid Robotics, Customer Support