



Friday, 28 April 2023

To Japan Digital Communications Ltd.

As you are aware, on Sunday 16 April at 21.14 UTC, our I-4 F1 (4F1) satellite suffered a partial loss of power from one of its solar arrays, believed to be due to a short circuit. This can only be confirmed after a formal review with the manufacturer. As the satellite is centred over the Australian and Asian-Pacific region, you will have encountered, and in some cases are still encountering, issues with your L-band services.

The incident that occurred on 4F1 has been unique in the history of Inmarsat. We appreciate and apologise for the disruption this has caused for our customers and partners and are deploying our full resources to address them.

Whilst we have restored most services, we acknowledge that some issues still remain, and I wanted to take this opportunity to provide a run-down on what occurred and what we are doing to rectify the situation to get our POR clients back on air as soon as possible.

The reduction in power started automatic procedures that caused the satellite to lose earth and align with the sun to provide maximum access to power. This resulted in a full-service outage at approximately 23:05 UTC in the 4F1 coverage area (East Asia and Pacific region).

I can confirm that the outage was not triggered by a space debris impact or an external malicious act. The event itself is highly unusual and there is no indication of a systemic issue.

The residual power situation continues to be analysed with the manufacturer. While not expected to be substantial, our engineers are currently optimising services within the available power.

Incident response and service status

Our incident team immediately began the process to recover the platform, the payload and restore services. However, this has been an exceptionally complex recovery. Our engineering team needed to carefully monitor the available power on the satellite as each service was recovered.

- In line with our IMSO safety operational process, we began the process of transferring GMDSS Inmarsat C services to the dedicated Contingency satellite network, which enabled us to restore maritime safety services.
- All services other than GMDSS were affected but where the ground and network configuration allowed, we transferred services from 4F1 to adjacent overlapping satellites as soon as possible. This included the BGAN family of services (FB, SB, etc.) and leases. We also optimised capacity on existing IDP beams.
- While we took these mitigating steps to restore services in the overlapping regions, our engineers focused on recovering the satellite, which was achieved on 18 April.

From this point, we took the following actions in relation services:

- Restored Classic Aero.
- Restored Maritime Inmarsat C safety services, which were transferred back to 4F1 from the Contingency satellite network.
- Restored the BGAN family of services on 4F1 in the area between the adjacent satellites.



- To preserve power on 4F1, the overlapping area of 4F1 was not restored.
- We continue to work on a solution for some BGAN M2M services, which require manual repointing by end-users to 4F2 to restore service.
- Some BGAN M2M customers have already repointed their terminals.
- Restored Lease services, except for those that were kept on adjacent satellites in agreement with the customer.
- Restored Navigation Payload.
- Restored IDP services to selected areas, in consultation with the customer.

GSPS service restoration continues to be worked on.

Currently in the 4F1 footprint, GSPS is only operational over Japan and the overlapping area with 4F3. We are exploring solutions for GSPS and maximising the available power and will communicate the strategy to you when this work is completed.

Some ongoing issues with certain Aero Terminals

While Classic Aero and SBB were restored last week (w/e 21 Apr), we have identified a residual issue related to users with SBB/Classic Aero Cooperative Mode terminals. We are working on identifying a solution as quickly as we can and will keep customers advised.

Next steps

Many of you have been asking about transferring services to our new L-band satellites. As you are aware, we have now launched both of our hybrid I6 satellites and are currently preparing them for commercial service introduction.

Our new I-6 F1 (6F1) satellite is undergoing final testing and the L-band services are due to enter service in Q3 2023. Some service transition between satellites and additional overlap is planned, creating further resilience. Acceleration of these plans is being assessed. We will provide updates on this as soon as we can.

In the meantime, we continue to focus on optimising performance of the 4F1 satellite and addressing residual issues in the services that have been restored. Throughout this situation, our main objective has been to recover services as fast as possible while we work through how to speed up plans to re-organise our L band fleet to bring in to service the new L band satellites.

Optimisation is an ongoing process, and we are asking our partners and customers to inform us of any issues that are still occurring on the 4F1 services by either contacting our GCO team or reaching out to your G2 account manager, so that we can continually log and address these.

Whilst recognising that you may currently be experiencing sub optimal service delivery, I want to assure you that our excellent track record of reliability, spanning over four decades, has been brought to the fore by this incident as it has reinforced the vital importance of reliability and caused us to redouble our efforts to maintain the certainty you require from Inmarsat. We are currently building more satellites now that at any time in our history and will shortly be announcing our plans to build a fleet of additional L-band satellites to provide further redundancy for our safety services.

I thank you for your patience and can assure you I will reach out to provide updates as they become available. In the meantime, please continue liaising with our GCO and Account Management team with any issues.

Yours sincerely

Todd McDonell



President, Inmarsat Global Government