

**Fortieth Meeting of the
Informal South Pacific ATS Coordinating Group
(ISPACG/40)**

**Brisbane, Australia
May 2026**

Agenda Item X: Global Datalink Network Outages

**Oceanic Data Link Network: Considerations on Oversight, Outage Notification, and
Operational Response**

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SUMMARY

This paper will provide discussion on ongoing work to ensure the reliability and availability of the oceanic data link network being accomplished in the North Atlantic Region and explore the idea of contingency separation arrangements during data link network outages.

1. INTRODUCTION

- 1.1 The network provided by communication and satellite service providers is a critical component of the modern oceanic air traffic environment. This network has become integral in supporting operators and air navigation service providers in the enhancement of both efficiency and safety.
- 1.2 In recent years the FAA has experienced an increase in the frequency of unplanned outages and service degradations of the data link network, with peak frequency having occurred in Q1 of CY2024. These outages have increased controller workload and delayed critical communication, undermining the provision of safe and efficient air traffic services.
- 1.3 At ISPACG/39 in Port Moresby, PNG, the FAA's WP04 reported on the creation of a project team in the North Atlantic Safety Oversight Group, formed for the purpose of exploring oversight of Communication Service Providers (CSPs) and Satellite Service Providers (SSPs). This paper will summarize some key outcomes from that project team (OCS PT), as well as resultant work in the North Atlantic Technical Interoperability Group (NAT TIG). It will also summarize a working paper brought to the 42nd meeting of the ICAO Assembly on the topic of contingency separation during network outage events.

2. DISCUSSION

- 2.1 In the OCS PT report to the 32nd Meeting of the NAT SOG (Appendix A refers), the OCS PT acknowledged the complexities of their task due to factors such as the lack of consistency in approach to the contracting of satellite data services, as well as their being no agreed-upon definition for an "outage," nor guidance on how to measure or report the impact of an outage or degradation of data link service.
- 2.2 The report pointed to the CSP contractual deliverable requirement of 99.9% (availability/continuity) to meet the RCP240 standard. The definition of 'continuity' assumes

that the system is available at the initiation of the transaction, so may not capture those transactions which are initiated when the system is unavailable, as during an outage. This may demonstrate the reason for differences between the reported service provided by the CSPs and the experience of those services as received by ANSPs.

- 2.3 The PT determined that contracts between CSPs and ANSPs cover variable levels of service, acceptable durations of outages, escalation procedures, and consequences of failing to meet contractual obligations. This disparity between contracts also exists between Operators and CSPs. This variability in contractual obligation leaves the responsibility for the evaluation of performance to the customer. The PT recommended a common set of minimum standards and requirements for CSP services and suggested a contract template (Appendix B refers).
- 2.4 The OCS PT identified a number of gaps in current requirements and oversight. In addition to no mandated standard for CSP performance existing, there are also significant technical challenges in measuring parts of the end-to-end system, which renders it difficult if not impossible to ascertain compliance were a standard to be developed. The PT was also limited to evaluating CSP contracts, as inter-networking contracts and SSP contracts are opaque and unavailable to customers. They also noted that current documentation on system availability is aspirational at best. The safety impacts of unplanned outages are not currently well-captured, given the lack of standard definition of an outage or the impacts of such events. These events are not being reported in the NAT SOG Annual Safety Report.
- 2.5 The OCS PT delivered several recommendations in their report. One such was for states and ANSPs to consider the feasibility of contracting with two CSPs, and whether this would enable increased resilience. At NAT TIG/20, the meeting reviewed the outcomes of the OCS PT report. Two member states, Canada and the UK, contract with two CSPs. They were invited to share their experience at NAT TIG/21.
- 2.6 At NAT TIG/21, NAV Canada reported that they have maintained a dual CSP arrangement with Collins and SITA for more than a decade. Their stated benefits were improved continuity of service during CSP outages, and greater flexibility for European operators with their higher use percentage with SITA specifically. UK NATS also relies on a multiple-CSP arrangement in the Shanwick FIR. They listed similar benefits to NavCanada and also pointed to the notion that due to this multi-provider environment they were better able to support performance benchmarking, enabling comparative assessment of service behavior, incident response, and service-level outcomes.
- 2.7 Challenges with multiple CSP connections are experienced by both NavCanada and UK NATS. NavCanada highlighted the need to develop custom software which supports simultaneous connections and prevents message duplication. Their current system does not indicate to the controller which CSP an aircraft is using, therefore controller awareness during CSP outages is limited, constraining the operational scope of redundancy. UK NATS noted that the arrangement introduces operational complexity, including the need for coordinated incident management, shared fault identification, and harmonized escalation processes. They also spoke to the increased challenges with issue and performance reporting.
- 2.8 NAT TIG/21 concluded that while dual CSPs may offer resilience benefits for some types of service interruptions, feasibility studies should be conducted by ANSPs to consider limitations and challenges, which are technical, operational, and financial, prior to implementation.
- 2.9 NAT TIG/21 also discussed the work of the Network Outage Detection and Reporting (NODAR) project team, and the associated template for outage reporting, brought to ISPACG/38 in Santiago, Chile, by both Airways New Zealand as well as the FAA. The

NODAR project team had subsequently disbanded, having achieved an agreement on the e-mail notification template and taxonomy with the CSPs, SSPs, and the NAT ANSPs under the supervision of the NAT Implementation Management Group (IMG). The implementation timeline for the four companies was variable, as was compliance. NAT TIG/21 agreed to reconvene the NODAR project team to account for developments within the respective organizations and develop Version 2 of the NODAR template. Their objectives (Appendix C refers) also include assisting the CSPs by providing a comprehensive set of examples for realistic outage scenarios to support ANSPs accurate interpretation of the information, thereby the ability to build a suitable air traffic response.

- 2.10 These actions represent significant cooperative work on the part of NAT ANSPs, CSPs and SSPs, as well as industry groups like IATA to shape the future of this critical system on which we have all come to rely for safety and efficiency. While civil aviation will continue to strive towards the aspirational metrics on availability and continuity laid out in our data link network documentation, the reality of ongoing occasional service disruptions is inescapable.
- 2.11 At the 42nd Session of the ICAO Assembly, Japan brought WP/188, “Expanding Airspace Capacity by Introducing New Separation Standards in Oceanic Control Areas.” (Found in Appendix D) This paper featured a description of the multi-phase North Pacific (NOPAC) redesign project between the FAA’s Anchorage FIR and Japan’s Fukuoka FIR. This project saw the addition of novel ATS routes spaced at 25NM, the use of those limited to those aircraft with the most advanced PBCS equipage. The project also deleted other ATS routes, expanding the airspace available for User-Preferred Routing. The compression of the ATS routes to the north aligned them with the great circle route, shortening the flight path for many aircraft flying between the United States and Asia. The operational benefits for airspace users are immense.
- 2.12 The project progressed on schedule until early 2024, when the FAA and Japan experienced several months of regular data link network outages. The nature of the 25NM-spaced ATS routes is such that in the event of a data link outage, the 25NM ATS routes must immediately be divested from, and aircraft re-routed to obtain the required 50NM lateral separation requirements. Aircraft in the Free-Route Airspace must be vertically separated, leading to significant unsolicited altitude changes for traffic. These large-scale movements of aircraft are disruptive and labor intensive for controllers, HF radio frequency operators, and flight crews. The high volume of priority clearances over HF delays the transmission of position reports, which reduces position confidence and situational awareness on the part of the controller. The FAA and the Japanese Civil Aviation Bureau elected to pause the project, which delayed Phase 3 of NOPAC Redesign for over a year.
- 2.13 Japan closes WP/188 by concluding that in order to maintain the benefits of reduced separation enabled by PBCS, action is necessary to mitigate the impact of data link failures. They encourage the Assembly to introduce new separation standards, and the request is made to streamline a framework for emergency response procedures during data link failure events.
- 2.14 The FAA is interested in collision risk estimates for allowing aircraft to temporarily remain separated from one another using PBCS-enabled minima during data link network outages. Analysis is needed to understand the comparative risk between allowing aircraft to maintain already-established PBCS minima in the event of data link network disruption wherein they become unqualified due to disconnection, versus the risk inherent in large-scale, emergency aircraft movement to establish procedural separation.

3. ACTION BY THE MEETING

3.1 The meeting is requested to consider:

- The report from the OCS PT presented to NAT SOG/32 as WP04, and how the South Pacific may support the goal of oversight into the availability and reliability of the Data Link Network provided by CSPs and SSPs.
- The OCS PT CSP Suggested Contract Content
- The pros and cons of a dual-CSP connectivity arrangement
- The evolution of the NODAR project team
- The concept of the temporary continuation of PBCS separation during data link outages

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