

NAT DISTREX Report

ICAO EUR SAR Task Force Meeting and Joint ICAO EUR/NAT and ACAO SAR Workshop

Paris, France | 19-21 November 2025





 **NAT DISTREX**

23 APRIL 2025 (1300-1500 UTC)

Exercise Objectives



Test LADR Notification Flow

Validate communication between operators, rescue coordination centers, air navigation service providers.



Assess Response Actions

Evaluate stakeholder compliance with established emergency procedures and coordination protocols during distress scenarios



Identify Operational Gaps

Detect inconsistencies in coordination, communication timing, and information flow between international partners

Methodology and Assumptions



Participants

NAT ANSPs:

Shanwick, Gander (Oceanic), Santa Maria, New York (OAC EAST), Reykjavik, Bodo

RCC:

UK, Canada, United States, Portugal, Iceland, Norway

AIRCRAFT OPERATOR:

Delta Airlines

TEST BENCH:

LADR Contributor (COSPAS-SARSAT), EUROCONTROL, IFALPA, ICAO (LADR):

Controlled Test Environment

ADT device activated from test bench using CNES simulator—no actual aircraft involved to ensure safety and regulatory compliance

Operational GADSS Links

All Global Aeronautical Distress and Safety System communication channels assumed fully functional throughout exercise duration

Proper Device Configuration

ADT device correctly coded with operational hexadecimal identifiers and activated following standard procedures

Notification Distribution

Alerts delivered via LADR email system to all subscribed stakeholders including operators, RCCs, and ANSPs

Transmission Duration

ADT transmission window set for 5–20 minutes to provide adequate data for comprehensive system evaluation

Real-Time Coordination

Microsoft Teams platform utilized for live communication and coordination among exercise participants



Scenario 1: New York / Gander / Santa Maria FIRs

Flight Details

- **Flight:** DAL9701 (Boeing 777-200)
- **Route:** Bermuda (TXKF) → London Heathrow (EGLL)
- **Souls on Board:** 212 total (197 passengers, 15 crew)

Distress Activation

- **ADT Activation Time:** 13:05Z
- **Position:** 44°23'23"N / 42°02'31"W
- **Status:** Transferring from New York ARTCC to Gander ACC

Last Known Data

- **Last ADS-C:** 13:00Z at FL330
- **Last CPDLC:** 12:45Z (unable FL350 until 13:30Z)
- **FIR Coverage:** New York, Gander, Santa Maria





Scenario 2: Gander / Reykjavik / Shanwick FIRs

1

Flight Profile

DAL9702 (Boeing 777-200) operating Los Angeles (KLAX) to Paris CDG (LFPG) with **212 souls on board** (197 passengers, 15 crew)

2

Distress Event

ADT activated at **13:45Z** near position 61°05'48"N / 30°42'14"W during transfer from Gander ACC to Shanwick ACC

3

Communication History

Last ADS-C at **13:40Z** at **FL370**; Last CPDLC at 13:24Z reporting unable FL390 until 14:30Z





Scenario 3: Reykjavik / Bodo FIRs

Aircraft Information



DAL9703 (Boeing 777-200) New York JFK (KJFK) → Helsinki (EFHK) 212 souls: 197 passengers, 15 crew

Distress Details



ADT activation: **14:15Z** Position: 64°14'31"N / 1°48'16"W Transfer: Reykjavik ACC → Bodo ACC

Last Communications



ADS-C: 14:08Z at **FL370** CPDLC: 13:45Z Unable FL390 until 15:00Z



CNES Simulator Configuration



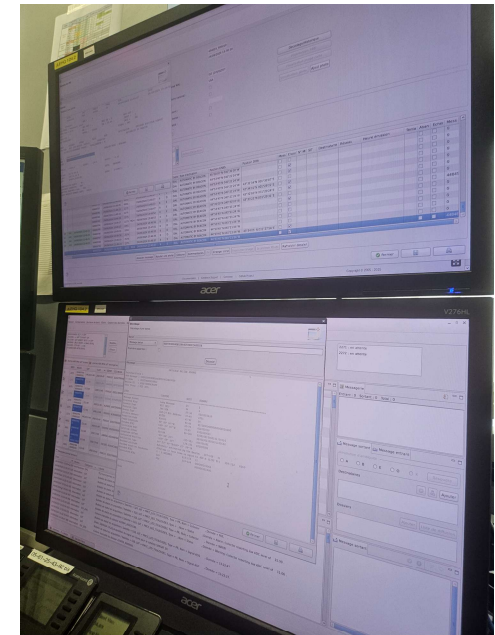
Technical Setup

The CNES simulator was programmed with the operational hexadecimal beacon code and configured to transmit realistic burst patterns accounting for aircraft trajectories and speeds across North Atlantic routes.

SIT605-type messages were distributed to all Mission Control Centers (MCCs) participating in the Cospas-Sarsat program, ensuring international coordination and alert distribution.

Exercise Parameters

- Location
Toulouse, France (43°55'9"N, 1°48'7"E)
- Timing
23 April 2025, 13:00–15:00 UTC
- Beacon ID
2DD27800083FDFF
- Transmission
Three 10-minute sequences during 2-hour window
- Coverage
Simulated GNSS positions: North Atlantic and Norwegian Sea





470886
GEO et MEO
SW1

2DD27800083DFDF

FIRST_ALERT

iquement) :

in) : [Changer le délai](#)

N° MCC	Heure création	LUT	Satellite	TCA	Frequ	Soluti	Explo	Type d'activation	Position GNSS	Position DGA	Mess	Echec	N° M	SIF	Destinataire	Reseau	Heure émission	Tenta	Aban	Echec	Message
77438442	23/04/2025 13:18:05	2472	MTG-11	23/04/2025 13:18:05	4	E	DAL	AUTOMATIC BY EXTERNAL	43 30 00 N 042 00 00 W		<input type="checkbox"/>	<input type="checkbox"/>	1957	132	USMCC	FTP	23/04/2025 13:18:40	1	<input type="checkbox"/>	<input type="checkbox"/>	101511
77438442	23/04/2025 13:18:26	2472	MTG-11	23/04/2025 13:18:05	4	E	DAL	AUTOMATIC BY EXTERNAL	43 30 00 N 042 00 00 W		<input type="checkbox"/>	<input type="checkbox"/>	1957	132	USMCC	FTP	23/04/2025 13:18:41	1	<input type="checkbox"/>	<input type="checkbox"/>	101511
77438443	23/04/2025 13:18:26	2472	MTG-11	23/04/2025 13:18:05	4	E	DAL	AUTOMATIC BY EXTERNAL	43 30 00 N 042 00 00 W		<input type="checkbox"/>	<input type="checkbox"/>	1957	132	USMCC	FTP	23/04/2025 13:18:41	1	<input type="checkbox"/>	<input type="checkbox"/>	101511
77438444	23/04/2025 13:18:27	2275	MTG-11	23/04/2025 13:18:00	8	E	DAL	AUTOMATIC BY EXTERNAL	43 23 36 N 042 02 28 W	43 33 11 N 001 30 14 E	<input checked="" type="checkbox"/>	<input type="checkbox"/>	1957	142	USMCC	FTP	23/04/2025 13:18:42	1	<input type="checkbox"/>	<input type="checkbox"/>	101512
77438447	23/04/2025 13:18:29	2273	MTG-11	23/04/2025 13:18:05	4	E	DAL	AUTOMATIC BY EXTERNAL	43 23 36 N 042 02 28 W		<input type="checkbox"/>	<input type="checkbox"/>									
77438448	23/04/2025 13:18:29	2273	MTG-11	23/04/2025 13:18:05	4	E	DAL	AUTOMATIC BY EXTERNAL	43 23 36 N 042 02 28 W		<input type="checkbox"/>	<input type="checkbox"/>									
77438451	23/04/2025 13:18:32	2275	MTG-11	23/04/2025 13:18:05	8	E	DAL	AUTOMATIC BY EXTERNAL	43 30 00 N 042 00 00 W	43 33 36 N 001 28 34 E	<input type="checkbox"/>	<input type="checkbox"/>									

Nom : 470886_F00010
Date de création : 23/04/2025 13:18:26

Classe utilisateur balise 406 : ELT (DT)/ELTDT
Pays Balise : USA

Présent dans le registre national :
Balise en mode test :
N° du dossier précédent : 434018
RLM acquitté par la balise :
Nombre d'alertes : 1

[Decodage/Historique](#)
[Informations RDD](#)
[Visualisation image carto](#)
[Visualisation photo](#) [Ajout photo](#)

N° MCC	Longitude du centre	Rayon/Label	Etat
	001°48'16" W	20.0	Supprimée
	000°00'00" E	0.0	Supprimée

[Activer/Desactiver](#)



FMCC Response Timeline

1

13:18:05 UTC

First Alert Received FMCC detects initial distress signal from CNES simulator and begins processing alert data

2

13:18:40 UTC

Alert Distribution FMCC transmits validated alert to USMCC and LADR system—**35-second response time** from initial detection

3

Ongoing

Continuous Updates: All subsequent position updates and alert modifications automatically forwarded to LADR subscribers

The rapid alert processing and distribution demonstrates the effectiveness of the international Cospas-Sarsat network and automated notification systems in real-world distress scenarios.

Exporter Envoyer les messages sélectionnés Rafraîchir

Résultats par page : 20 1 2 3 ... 2238

<input type="checkbox"/>	Numéro de message	Dossier	Alerte	Type	Code balise	Aircraft address 24bits	Aircraft Operator Designator	Position	Date à la position	Heure de création	Statut	Heure d'envoi
<input type="checkbox"/>	44740	434002	69467797	FGB	1C121A3A443FDFF	347488	WFL	52.31222 4.7588887	24/09/2024 13:01:23	24/09/2024 13:01:33	SENT	24/09/2024 13:01:34

47086
GEO et MED
SW1

2002780003J0FF

FRST_ALERT

iquement :

in) :

Centre

Longitude du centre	Rayon/Label	Etat
001°48'16"W	20.0	Supprimée
000°00'00"E	0.0	Supprimée

Activer/Désactiver

N° MCC	Heure création	A	LUT	Satellite	TCA	Préq	Souff	Explo	Type d'activation	Position GCS	Position DOA	Mess	Envoi	N° MI	SIT	Destinataire	Reseau	Heure émission	Torita	Aban	En	Message
77438442	23/04/2025 13:18:26	2472	MTG-I1	23/04/2025 13:18:05	4	E	DAL	AUTOMATIC BY EXTERNAL	43 30 00 N 042 00 00 W					1957	132	USMCC	FTP	23/04/2025 13:18:40	1			101511
77438443	23/04/2025 13:18:26	2472	MTG-I1	23/04/2025 13:18:05	4	E	DAL	AUTOMATIC BY EXTERNAL	43 30 00 N 042 00 00 W					1957	132	USMCC	FTP	23/04/2025 13:18:41	1			0
77438444	23/04/2025 13:18:27	2275	MTG-I1	23/04/2025 13:18:00	8	E	DAL	AUTOMATIC BY EXTERNAL	43 33 36 N 042 02 28 W	43 33 11 N 001 30 14 E				1957	142	USMCC	FTP	23/04/2025 13:18:42	1			101512
77438447	23/04/2025 13:18:29	2275	MTG-I1	23/04/2025 13:18:00	4	E	DAL	AUTOMATIC BY EXTERNAL	43 33 36 N 042 02 28 W													0
77438448	23/04/2025 13:18:29	2275	MTG-I1	23/04/2025 13:18:05	4	E	DAL	AUTOMATIC BY EXTERNAL	43 30 00 N 042 00 00 W													0
77438451	23/04/2025 13:18:32	2275	MTG-I1	23/04/2025 13:18:05	8	E	DAL	AUTOMATIC BY EXTERNAL	43 30 00 N 042 00 00 W	43 33 36 N 001 28 34 E												0

Alert Distribution to LADR

Message LADR

- 101511
- 101511
- 0
- 101512
- 0
- 0
- 0
- 101513
- 0
- 101514
- 0
- 0
- 0
- 0
- 0



Comprehensive Coverage
Every new alert generated by the CNES simulator was successfully transmitted to the Location-specific Aircraft Data Repository (LADR) in real time

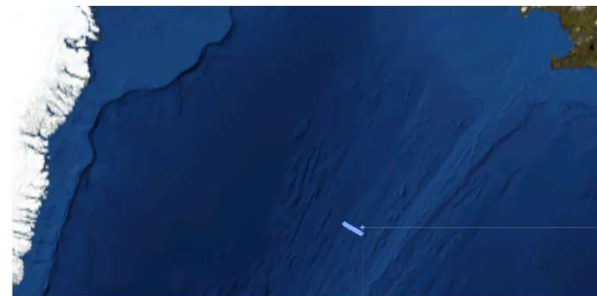
Multi-Stakeholder Distribution
LADR automatically distributed alerts to subscribed operators, RCCs, ANSPs, and international partners across all affected FIRs

System Validation
Exercise confirmed reliable end-to-end notification flow from initial detection through final stakeholder receipt and acknowledgment



FMCC Mapping and Data Visualization

All distress signals received at the French Mission Control Center (FMCC) were processed and plotted on the operational interface, providing real-time situational awareness across multiple scenarios and geographic regions.



The visualization system successfully tracked all three scenarios across North Atlantic and Norwegian Sea airspace, demonstrating precise geolocation capabilities and comprehensive coverage.

Key Achievement: 100% successful plotting of all ADT activations with accurate position data and timestamp correlation across international boundaries

Conclusions



ICAO

The LADR is operational and able to send notifications to subscribed ANSPs, RCCs, and Aircraft Operators. To that end, those entities should ensure that they have provided appropriate email contact information for LADR notifications to aircrafttracking@icao.int. LADR subscribers will also need to ensure they have created a DNA account to access the LADR site.

Subscribers to the LADR will also need to ensure that their accounts are appropriately configured to receive notifications for their areas of responsibility. The most recent version of the LADR User Manual is included in Appendix C to the NATIMG/66-WP/14.

NAT ANSPs should consider how they plan to utilize LADR notifications (e.g., situational awareness, outreach to aircraft operator, RCC, etc.) and examine existing procedures to identify any gaps or required modifications.

NAT State ANSPs and RCCs should review existing agreements and procedures to determine expected actions to be taken by each stakeholder in the event of a distress device activation, either by LADR or other mechanisms.

While implementation of ADT is global, a review of pertinent NAT Documents, ANSP to ANSP Letters of Agreement, or other regional SAR related material may be prudent to ensure a harmonized approach to coordination and overall implementation. Further, NAT occurrence reporting and analysis by the NAT SG and NAT SOG should still be considered.