

CMIC/32/09/06 23.02.09 ITEM 11

FLIMSY # 1

THE MANAGEMENT OF NON-MODE S COMPLIANT STATE AIRCRAFT POST 31ST MARCH 2009

- Submitted by EUROCONTROL Mode S & ACAS Programme and DCMAC -

EXECUTIVE SUMMARY

Mode S installation programmes for State aircraft will not be completed during the agreed State Aircraft Transition Period, which terminates on 31 March 2009. The relatively large number of State aircraft that will remain non Mode S compliant after this date will inevitably raise technical and operational difficulties for European ATM systems that are increasingly dependent upon Mode S surveillance.

This paper outlines the agreed framework mechanism to manage non Mode S compliant State aircraft after the end of the agreed transition period.

The principal objective of this framework is for a simple mechanism that can be easily understood, applied and managed.

Under the terms of this framework, the National Aviation Authority (NAA) of each Mode S implementing State will promulgate, in accordance with a defined template, details of the airspace notified for Mode S, dates from which operational constraints might have to be applied to non Mode S compliant State aircraft and contact points for dispensation requests. Prior to these promulgated dates, a general dispensation will apply to all non Mode S compliant State aircraft included in the 2009 airborne equipage plans submitted by State military authorities and accepted by NAAs. After these dates, dispensations may be granted on a local basis.

The NAAs request two additional annual updates to the Mode S airborne equipage plans. These are to be submitted by the State Aircraft Authorities to DCMAC in 2010 and 2011 and will not present any additional concessions over and above this framework.

RECOMMENDATIONS

The CMIC is invited to

- a) Note the NAAs agreed framework to manage non-Mode S compliant State aircraft post 31
- b) Support the NAAs request for additional annual updates to the Mode S airborne equipage plans in 2010 and 2011
- c) Note the dates identified by NAAs after which dispensations may be granted on a local basis only.

FRAMEWORK TO MANAGE NON-MODE S COMPLIANT STATE AIRCRAFT POST 31ST MARCH 2009

1. Current Mode S Transition Arrangements for State Aircraft

The <u>Mode S Harmonisation of the Transition Arrangements for State Aircraft</u> document, as approved at CMIC/21 and acknowledged at PC/22, provides a framework used by the Regulatory Authorities of Mode S implementing States to monitor the Mode S compliance status and the fleet based exemptions granted to State aircraft during the transitional period until 31st March 2009.

The Agency, through the Mode S & ACAS Programme (MSA) supported by DCMAC, facilitates the activities of the Regulatory Authorities to apply a coordinated exemption policy for State aircraft, conditional upon measures to support the monitoring of compliance, which include:

- Collecting from State aircraft operators the Mode S airborne equipage plans for applicable aircraft identified for the year 2005 and subsequent updates for 2006 through 2009.
- Supporting the activities of the Mode S Regulators Task Force (MSR TF) by submitting each
 year the consolidated Mode S airborne equipage plans for review.

2. State Aircraft - Mode S Compliancy - Current Position

The 2008 updates for the Mode S airborne equipage plans submitted show that the percentage of State aircraft that will not be Mode S ELS or EHS compliant by 31st March 2009 is 53% for ECAC (3339 aircraft) and 37% for North America (US and Canada) (4560 aircraft). This significant shortfall is likely to impact adversely upon the increasingly widespread application of Mode S ground ATC infrastructures.

It is clear, therefore, that to efficiently manage such numbers of non Mode S compliant aircraft after existing coordinated exemption arrangements cease (31st March 2009), an uncomplicated, cohesive and harmonised mechanism is essential.

DCMAC will collect and consolidate the 2009 update to the Mode S equipage plans and present these to the MSR TF for review.

3. Procedure with Effect from 1st April 2009

The agreed framework is based upon the promulgation, by each Mode S implementing State, of dates after which operational constraints might be applied to non Mode S compliant State aircraft within notified airspace.

From 1st April 2009, until such dates identified and promulgated by each State, a general dispensation will apply to all non Mode S compliant State aircraft included in the 2009 airborne equipage plans submitted by State military authorities and accepted by NAAs. The promulgation of such dates does not, however, preclude NAAs from imposing prior operational constraints on non Mode S compliant State aircraft, should the situation warrant. After these dates, further locally managed dispensations may be granted, subject to approval by the appropriate NAA. Such dispensations, however, may be withdrawn or amended by NAAs at any time to make provision for unexpected flight safety or operational efficiency issues.

Updates to the 2009 State Aircraft Mode S Airborne Equipage Plans will be required for 2010 and 2011, to enable NAAs to monitor future rates of compliancy.

Full details of the airspace concerned and effective dates will be disseminated by NAAs through the completion and promulgation of a template document, an example of which is reproduced at Annex A.

Completed documents will be promulgated to Military Aviation Authorities by EUROCONTROL (DCMAC) through CMIC and to appropriate ANSPs by the NAAs concerned. Completed documents for Belgium, France, Germany, the Netherlands, Switzerland and the United Kingdom are attached as Annexes B through G.

NAAs will adopt suitable mechanisms to process dispensation requests received for non Mode S compliant flights after the notified dates.

It should be noted that within this framework, no distinction is drawn between 'own' and 'other' State aircraft.

4. Recommendations

The CMIC is invited to:

- Note the NAAs agreed framework to manage non-Mode S compliant State aircraft post 31
 Mar 09
- b) Support the NAAs request for additional annual updates to the Mode S airborne equipage plans in 2010 and 2011
- c) Note the dates identified by NAAs after which dispensations may be granted on a local basis only.

5. Annexes

- A. Example Management of Flights by Non Mode S Compliant State Aircraft State X.
- B Management of Flights by Non Mode S Compliant State Aircraft BELGIUM.
- C Management of Flights by Non Mode S Compliant State Aircraft FRANCE.
- D Management of Flights by Non Mode S Compliant State Aircraft GERMANY
- E Management of Flights by Non Mode S Compliant State Aircraft The NETHERLANDS.
- F Management of Flights by Non Mode S Compliant State Aircraft SWITZERLAND.
- G Management of Flights by Non Mode S Compliant State Aircraft The UNITED KINGDOM.

Management of Flights by Non Mode S Compliant State Aircraft - State X

Mode S compliance required for OAT and GAT flights or GAT flights only (as appropriate for State concerned – State to insert appropriate text)

Airspace as Notified in AIP/AIC ¹	Date from which Operational Constraints may be applied to Non Mode S Compliant State aircraft ²	Dispensation Contact Points
Airspace notified for Mode S EHS applicable for IFR flights only (HTML Link to appropriate AIP/AIC section/page)	dd/mm/yyyyy ³ if not Mode S EHS or ELS compliant	Dispensation from the carriage of Mode S airborne equipment may be granted. Contact XXXX tel; 00000, Fax: 1111, e-mail NNNN@NN.CC (If dispensation is required for OAT flights, include appropriate military contact)
Airspace notified for Mode S ELS applicable for IFR flights only (HTML Link to appropriate AIP/AIC section/page)	dd/mm/yyyy ³ if not Mode S ELS compliant	Dispensation from the carriage of Mode S airborne equipment may be granted. Contact XXXX tel; 00000, Fax: 1111, e-mail NNNN@NN.CC (If dispensation is required for OAT flights, include appropriate military contact)
Airspace notified for Mode S EHS in airspace where VFR flights permitted (HTML Link to appropriate AIP/AIC section/page)	dd/mm/yyyyy ³ if not Mode S EHS or ELS compliant	Dispensation from the carriage of Mode S airborne equipment may be granted. Contact XXXX tel; 00000, Fax: 1111, e-mail NNNN@NN.CC (If dispensation is required for OAT flights, include appropriate military contact)
Airspace notified for Mode S ELS for VFR flights (HTML Link to appropriate AIP/AIC section/page)	dd/mm/yyyy ³ if not Mode S ELS compliant	Dispensation from the carriage of Mode S airborne equipment may be granted. Contact XXXX tel; 00000, Fax: 1111, e-mail NNNN@NN.CC (If dispensation is required for OAT flights, include appropriate military contact)

¹ The lateral and vertical boundaries of notified airspace may also be included in circumstances where it is simply defined (e.g. Amsterdam FIR ≥ FL245).

² Operational Constraints may involve, non acceptance of the flight, re-routing, re-timing, non optimal imposed flight level or altitude.

³ Different dates may apply, dependent upon airspace concerned.

Management of Flights by Non Mode S Compliant State Aircraft - BELGIUM

Mode S compliance required for GAT flights only

Airspace as Notified in AIP/AIC	Date from which Operational Constraints may be applied to Non Mode S Compliant State aircraft ¹	Dispensation Contact Points
Airspace notified for Mode S EHS applicable for IFR flights only Brussels FIR (above FL 245) AIC to be published	01/04/2009 if not Mode S EHS or ELS compliant	Dispensation from the carriage of Mode S airborne equipment may be granted. Contact CAA-NL tel: +31/884890000, Fax: +31/704562424, e-mail: informatie.centrum@ivw.nl or Maastricht Upper Area Control Centre tel: +31/433661306, Fax: +31/433661352, e-mail: masuac.info@eurocontrol.int
Airspace notified for Mode S ELS applicable for IFR flights only Brussels FIR (below or at FL 245) AIC 05/2008 http://www.eurocontrol.int/msa/public/standard_page/modes_aics_belgium.html	01/01/2011 if not Mode S ELS compliant	Dispensation from the carriage of Mode S airborne equipment may be granted. Contact BCAA tel: +32/27240226, Fax: +32/27030671, e-mail: civilair@mobilit.fgov.be
Airspace notified for Mode S EHS in airspace where VFR flights permitted Brussels FIR (above FL 245) Not applicable for Belgium	Not applicable	Not applicable
Airspace notified for Mode S ELS for VFR flights Brussels FIR (below or at FL 245) AIC 05/2008 http://www.eurocontrol.int/msa/public/standard_page/modes_aics_belgium.html	01/01/2011 if not Mode S ELS compliant	Dispensation from the carriage of Mode S airborne equipment may be granted. Contact BCAA tel: +32/27240226, Fax: +32/27030671, e-mail: civilair@mobilit.fgov.be

¹ Operational Constraints may involve, non acceptance of the flight, re-routing, re-timing, non optimal imposed flight level or altitude.

Management of Flights by Non Mode S Compliant State Aircraft - FRANCE

Mode S compliance required for GAT flights only

Dates may be precised in the future depending on the creation of Mode S airspace

Airspace as Notified in AIP/AIC	Date from which Operational Constraints may be applied to Non Mode S Compliant State aircraft	Dispensation Contact Points
Airspace notified for Mode S EHS applicable for IFR flights only No such airspace yet projected in 2009	No date yet defined	
Airspace notified for Mode S ELS applicable for IFR flights only All French Metropolitan Airspace AIC A 08/07 https://www.sia.aviation- civile.gouv.fr/aip/enligne/fr/%5CPDF_AIPparSSectio n%5CAIP%20FRANCE%5CGEN%5C1%5C0903_G EN-1.5.pdf	To IFR GAT From 01/04/2014 if not Mode S ELS compliant	Dispensation from the carriage of Mode S airborne equipment may be granted. Contact: CDAOA- Bureau survol (Diplomatic clearance office) French Military Air Force Headquarter, BA117-PARIS tel: 0033 + 1 45 52 9141 or 9142 or 8685
Airspace notified for Mode S EHS in airspace where VFR flights permitted No such airspace yet projected in 2009	No date yet defined	
Airspace notified for Mode S ELS for VFR flights No such airspace yet projected in 2009	No date yet defined	

¹ Operational Constraints may involve, non acceptance of the flight, re-routing, re-timing, non optimal imposed flight level or altitude.

Management of Flights by Non Mode S Compliant State Aircraft - GERMANY

Mode S compliance required for OAT and GAT flights

Airspace as Notified in AIP/AIC	Date from which Operational Constraints may be applied to Non Mode S Compliant State aircraft ¹	Dispensation Contact Points
Airspace notified for Mode S EHS applicable for IFR flights only All IFR flights in German Airspace with a maximum certificated take-off mass of more than 5700 kg or a true airspeed (TAS) capability of more than 250 knots; AIP Germany GEN 1.5-1 §3 refers (FSAV-Flugsicherungsausrüstungs Verordnung) (No HTML links of the German AIP available.)	01/04/2009 if not Mode S EHS or ELS compliant	Dispensation from the carriage of Mode S airborne equipment may be granted. Contact tel: (+49) (0) 172 2514247 Fax: (+49) (0) 228 300 807 1151 e-mail: Mode-S-Ref-Ast-Lr23@bmvbs.bund.de
Airspace notified for Mode S ELS applicable for IFR flights only All IFR flights in German Airspace AIP Germany GEN 1.5-1 §3 refers (FSAV-Flugsicherungsausrüstungs Verordnung) (No HTML links of the German AIP available.)	01/04/2009 if not Mode S ELS compliant	Dispensation from the carriage of Mode S airborne equipment may be granted. Contact tel: (+49) (0) 172 2514247 Fax: (+49) (0) 228 300 807 1151 e-mail: Mode-S-Ref-Ast-Lr23@bmvbs.bund.de
Airspace notified for Mode S EHS in airspace where VFR flights permitted No regulation	N/A	N/A

¹Operational Constraints may involve, non acceptance of the flight, re-routing, re-timing, non optimal imposed flight level or altitude.

Airspace as Notified in AIP/AIC	Date from which Operational Constraints may be applied to Non Mode S Compliant State aircraft ¹	Dispensation Contact Points
Airspace notified for Mode S ELS for VFR flights Class C Airspace or Class D Airspace (not control zone) Transponder mandatory zones (TMZ) during night in controlled airspace with power-driven aircraft, except for gliders, above 5000 ft MSL or above a high of 3500 ft GND, which ever is higher AIP Germany GEN 1.5-2 §4 refers (FSAV-Flugsicherungsausrüstungs Verordnung) (No HTML links of the German AIP available.)	01/04/2009 if not Mode S ELS compliant	Dispensation from the carriage of Mode S airborne equipment may be granted Contact tel: (+49) (0) 172 2514247 Fax: (+49) (0) 228 300 807 1151 e-mail: Mode-S-Ref-Ast-Lr23@bmvbs.bund.de

Management of Flights by Non Mode S Compliant State Aircraft - NETHERLANDS

Mode S compliance required for OAT and GAT flights

Airspace as Notified in AIP/AIC	Date from which Operational Constraints may be applied to Non Mode S Compliant State aircraft ¹	Dispensation Contact Points
Airspace notified for Mode S EHS applicable for IFR/GAT flights only • Amsterdam FIR ≥ FL245 AIP GEN 1.5. http://www.ais-netherlands.nl/aim/090101- 090212/eAIP/html/index-en-GB.html	01/04/2010 if not Mode S EHS or ELS compliant	Dispensation from the carriage of Mode S airborne equipment may be granted. For GAT flights: Contact Civil Aviation Authority the Netherlands, tel; +31 88 489 0000, e-mail: aviation-approvals@ivw.nl. For OAT flights: Contact military Aviation Authority the Netherlands, tel: + 31 70 3167275, e-mail: mla@mindef.nl.
Airspace notified for Mode S ELS applicable for IFR flights only • Amsterdam FIR AIP GEN 1.5. http://www.ais-netherlands.nl/aim/090101- 090212/eAIP/html/index-en-GB.html	01/04/2010 if not Mode S ELS compliant	Dispensation from the carriage of Mode S airborne equipment may be granted. For GAT flights: Contact Civil Aviation Authority the Netherlands, tel; +31 88 489 0000, e-mail: aviation-approvals@ivw.nl. For OAT flights: Contact military Aviation Authority the Netherlands, tel: + 31 70 3167275, e-mail: mla@mindef.nl.
Airspace notified for Mode S EHS in airspace where VFR flights permitted • Amsterdam FIR ≥ FL245 AIP GEN 1.5. http://www.ais-netherlands.nl/aim/090101- 090212/eAIP/html/index-en-GB.html	01/04/2010 if not Mode S EHS or ELS compliant	Dispensation from the carriage of Mode S airborne equipment may be granted. For GAT flights: Contact Civil Aviation Authority the Netherlands, tel: +31 88 489 0000, e-mail: aviation-approvals@ivw.nl. For OAT flights: Contact military Aviation Authority the Netherlands, tel: +31 70 3167275, e-mail: mla@mindef.nl.

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¹ Operational Constraints may involve, non acceptance of the flight, re-routing, re-timing, non optimal imposed flight level or altitude.

Airspace as Notified in AIP/AIC	Date from which Operational Constraints may be applied to Non Mode S Compliant State aircraft ¹	Dispensation Contact Points
Airspace notified for Mode S ELS for VFR flights	01/04/2010 if not Mode S ELS compliant	Dispensation from the carriage of Mode S airborne equipment may be granted.
 Amsterdam FIR, except class G airspace below 1200ft (excluding the North Sea Area 		No dispensation from Mode S carriage for flights in NSAA.
Amsterdam, see AIP ENR 2.2) AIP GEN 1.5.		For GAT flights: Contact Civil Aviation Authority the Netherlands, tel; +31 88 489 0000, e-mail: aviation-approvals@ivw.nl.
http://www.ais-netherlands.nl/aim/090101-090212/eAIP/html/index-en-GB.html		For OAT flights: Contact military Aviation Authority the Netherlands, tel: + 31 70 3167275, e-mail: mla@mindef.nl.

Management of Flights by Non Mode S Compliant State Aircraft - SWITZERLAND

Mode S compliance required for GAT flights only

Airspace as Notified in AIP/AIC	Date from which Operational Constraints may be applied to Non Mode S Compliant State aircraft	Dispensation Contact Points
Airspace Switzerland notified for Mode S EHS applicable for IFR flights only. Airspace of Swiss territory according AIP Switzerland ENR 2, including FIR and UIR Switzerland. (No HTML links of the Swiss AIP available.)	01/01/2014 if not Mode S EHS or ELS compliant	Dispensation from the carriage of Mode S airborne equipment is granted at least until 01/01/2014. Contact details post 01/01/2014 to be confirmed.
Airspace Switzerland notified for Mode S ELS applicable for IFR flights only. Airspace of Swiss territory according AIP Switzerland ENR 2, including FIR and UIR Switzerland. (No HTML links of the Swiss AIP available.)	01/01/2014 if not Mode S ELS compliant	Dispensation from the carriage of Mode S airborne equipment is granted at least until 01/01/2014. Contact details post 01/01/2014 to be confirmed.
Airspace Switzerland notified for Mode S EHS in airspace where VFR flights permitted. Airspace of Swiss territory according AIP Switzerland ENR 2, including FIR and UIR Switzerland. (No HTML links of the Swiss AIP available.)	01/01/2014 if not Mode S EHS or ELS compliant	Dispensation from the carriage of Mode S airborne equipment is granted at least until 01/01/2014. Contact details post 01/01/2014 to be confirmed.
Airspace Switzerland notified for Mode S ELS for VFR flights. Airspace of Swiss territory according AIP Switzerland ENR 2, including FIR and UIR Switzerland. (No HTML links of the Swiss AIP available.)	01/01/2014 if not Mode S ELS compliant	Dispensation from the carriage of Mode S airborne equipment is granted at least until 01/01/2014. Contact details post 01/01/2014 to be confirmed.

¹ Operational Constraints may involve, non acceptance of the flight, re-routing, re-timing, non optimal imposed flight level or altitude.

Management of Flights by Non Mode S Compliant State Aircraft – UNITED KINGDOM

Mode S compliance required for OAT and GAT flights

Airspace as Notified in AIP/AIC	Date from which Operational Constraints may be applied to Non Mode S Compliant State aircraft ¹	Dispensation Contact Points
Airspace notified for Mode S EHS applicable for IFR flights only: As of 31/03/2009, the affected UK airspace is the vertical and lateral bounds of the London TMA. This airspace is likely to be expanded in early 2010.	01/04/2009	Dispensation from the carriage of Mode S airborne equipment will be considered only if the aircraft is equipped with a Mode A with Mode C altitude reporting SSR transponder. A notification period of at least 10 working days is required. Contact details are:
Notified Mode S Enhanced Surveillance Airspace is detailed in UK AIP GEN 1.5, available at: (http://www.nats-uk.ead-it.com/aip/current/gen/EG_GEN_1_5_en.pdf)		Airspace Utilisation Section (AUS) Directorate of Airspace Policy K7 CAA House 45-59 Kingsway London, WC2B 6TE Tel: +44 (0)20-7453 6599 Fax: +44 (0)20-7453 6593
Airspace notified for Mode S ELS applicable for IFR flights only: At 31/03/2009, the affected airspace is: (a) At and above FL 100. (b) Controlled Airspace below FL 100. (c) Within airspace notified as a Transponder Mandatory Zone. Notified 'Transponder Mandatory Zone' Airspace. is detailed in UK AIP GEN 1.5, available at:	01/04/2012	No dispensation from the carriage of Mode S airborne equipment will be granted after this date unless the operator is in possession of a specific exemption for the flight.

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¹ Operational Constraints may involve, non acceptance of the flight, re-routing, re-timing, non optimal imposed flight level or altitude.

Airspace as Notified in AIP/AIC	Date from which Operational Constraints may be applied to Non Mode S Compliant State aircraft ¹	Dispensation Contact Points
Airspace notified for Mode S EHS in airspace where VFR flights permitted As of 31/03/2009, the affected UK airspace is the vertical and lateral bounds of the London TMA. This airspace is likely to be expanded in early 2010. Note: Much of current and future EHS airspace is Class A and access for VFR traffic is not normally permitted. Notified Mode S Enhanced Surveillance Airspace is detailed in UK AIP GEN 1.5, available at: (http://www.nats-uk.ead-it.com/aip/current/gen/EG_GEN_1_5_en.pdf)	01/04/2009	Dispensation from the carriage of Mode S airborne equipment will be considered only if the aircraft is equipped with a Mode A with Mode C altitude reporting SSR transponder. A notification period of at least 10 working days is required. Contact details are: Airspace Utilisation Section (AUS) Directorate of Airspace Policy K7 CAA House 45-59 Kingsway London, WC2B 6TE Tel: +44 (0)20-7453 6599 Fax: +44 (0)20-7453 6593
Airspace notified for Mode S ELS for VFR flights: At 31/03/2009, the affected airspace is: (a) At and above FL 100. (b) Within airspace notified as a Transponder Mandatory Zone. Notified 'Transponder Mandatory Zone' Airspace. is detailed in UK AIP GEN 1.5, available at: (http://www.nats-uk.ead-it.com/aip/current/gen/EG GEN 1 5 en.pdf)	01/04/2012	No dispensation from the carriage of Mode S airborne equipment will be granted after this date unless the operator is in possession of a specific exemption for the flight.