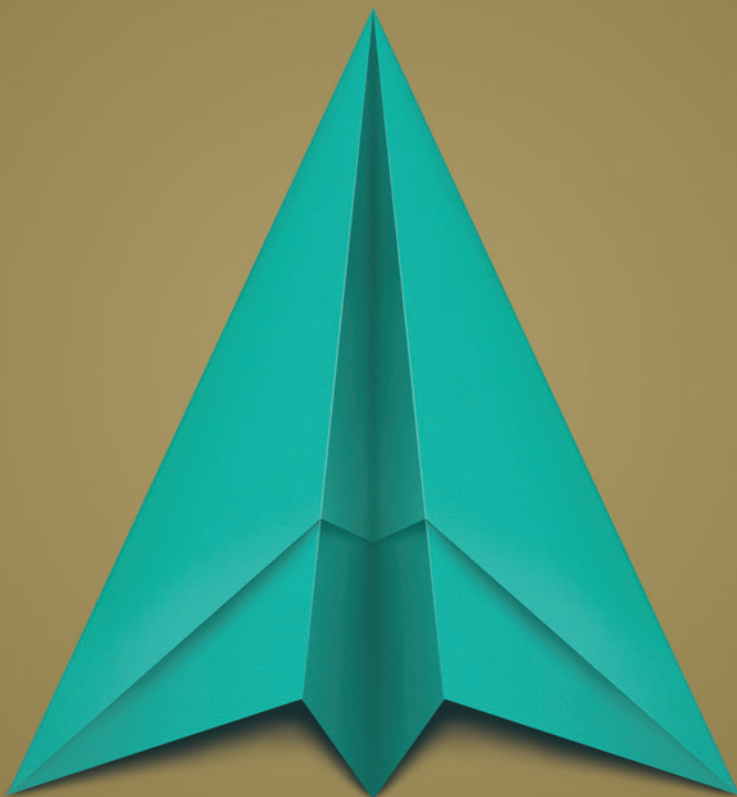


Information Bulletin no. 2018/02

“J-NEWS”



Dear Madam, dear Sir,

We committed to engage even more in a two ways communication between the Agency and the DO community. I am therefore very pleased to introduce the second edition for the year 2018 of the *J-News* bulletin.

This edition tackles five different technical topics and in addition announces the date of the Product Certification & Design Organisation Approval Workshop 2018.

On the forthcoming pages, you will find additional information on the following topics:

Item 1. Occurrence reporting: compliance with 376/2014

Item 2. Nomination of key personnel & Deputy roles

Item 3. FTOM guide Initial Issue 18

Item 4. Rotorcraft - Avionic Changes Table

Item 5. Large antenna installation

Item 6. DOA News – Events to come

I hope the second edition of the *J-News* this year will be helpful to you. And to give you an outlook for the next edition of this bulletin, we are currently drafting articles stemming from topics raised through the survey sent together with the very first electronic version of the *J-News*. As we want you, the DO community, to be fully part of this initiative, we care about your proposals and contributions.

I would like to thank particularly Enrico BENINI, Carmela BOSSO, Mariano LANDI, Dirk RICHARD, Simon SEYMOUR-DALE, Olivier TRIBOUT, Emmanuel LICHERON and Raphaël AUBERT who proposed and contributed to the articles in this edition, especially as this is an additional task to their normal work.

All *Aircraft & Products* newsletters including the *J-News* bulletins are available on our web site.

Yours faithfully,
Markus GÖRNEMANN
Head of the DOA Department

Note: As usual, should you need more information on any of the topics presented, please get in contact with the DOA Team Leader allocated to your DO.



Part 21 implementation

Item 2018/2/1

Occurrence reporting: compliance with 376/2014

Since November 15th 2015 Regulation (EU) 376/2014 is in force, defining amongst other aspects how occurrences shall be reported by the applicable aviation professionals and Organizations.

Regulation (EU) 376/2014 contains therefore the specific reporting requirements which have to be complied with also by all Design Organizations (DOAs and ADOAs) in relation to the “*form and manner established by the Agency*” referred to in the Commission Regulation (EU) 748/2012 Annex I (“Part-21”) § 21.A.3A (b) (2) requirement.

In particular we would like to drive your attention to the following occurrence reporting requirements laid down in Regulation (EU) 376/2014, reminding that not abiding to them constitutes a non-compliance to the above mentioned *Part-21* requirement:

- Reports shall be submitted in an ECCAIRS compatible format (E5X). This can be done either by submitting a report through the Aviation Reporting portal (<http://www.aviationreporting.eu/>) or by developing a suitable IT-tool capable of allowing the Organizations to generate and send to the Agency Occurrence Reports in the E5X format directly (for further details on the E5X file format and technical specifications please refer to (<http://eccairsportal.jrc.ec.europa.eu/>)).

This means that submitting reports in any format (e.g. the old EASA Form-44) other than what described above is not in compliance with the current set of Regulations.

- Follow-up and close-out reports shall also be submitted by the Organization responsible for the investigation of an occurrence (see also the requirements of *Part 21* § 21.A.3A (c)). Reporting obligations are not complied with only by reporting initial occurrence reports.

Guidance material on follow-up reports can be found here:

https://www.easa.europa.eu/sites/default/files/dfu/Guidance%20Material%20on%20follow-up%20reports_0.pdf

The following summary might also be of help:

GUIDANCE ON FOLLOW-UPS FOR DOAS/ADOAS

Question: Unsafe or potential unsafe condition identified?		
INITIAL REPORT		
A: NO — can be delayed and sent when closed, state that no Unsafe condition exists*	A: NO — but Initial report was already sent	A: YES**
↓ Voluntary reporting	↓	
FOLLOW UP REPORT		
N/A	N/A	Provide 30 days update (note: additional information expected)
	↓	
CLOSURE REPORT		
N/A	Closure report should state that no Unsafe condition exists*	As soon as available and in principle no later than in 3 months (recognised that it may take longer for complex investigations). Quality of occurrence analysis should not be affected
<p>* Information expected: cause(s) of the occurrence and TC/STC holder corrective or preventive actions (if any)</p> <p>** In case of “significant hazard”, an immediate reporting to the Agency (cf. AMC 21.A.3A(b)(2)) shall be made prior to the Initial Report</p>		

- The DOH needs to select the EASA logo flag to report the occurrence to EASA.
- A set of mandatory information has to be provided upon submission of an occurrence report (refer to Regulation (EU) 376/2014 Annex I).

For a more exhaustive insight on how to report an Occurrence in accordance to the applicable requirements please also refer to:

<https://www.easa.europa.eu/easa-and-you/safety-management/occurrence-reporting/report-an-occurrence>

Further details on the Occurrence Reporting legal framework can be found here:

<https://www.easa.europa.eu/easa-and-you/safety-management/occurrence-reporting/legal-framework>

Good Practice

Item 2018/2/2

Nomination of key personnel & Deputy roles

Nomination of key personnel

Part-21 and AMC/GM material for the “other management staff” does not provide specific qualification requirements. However, EASA interpretation of 21.A.243(d) is such that if the “other management staff” is also making decisions affecting airworthiness and environmental protection in the Organisation, then the guidance provided in paragraph 3.3 of the related GM also applies to them. 21.A.245(a) is further clarifying the situation, since it refers to “the staff in all technical departments”.

This is the case of “key personnel”, *id est* Head of Design Organisation, Head of Office of Airworthiness and Head of Independent System Monitoring. They hold the EASA Form 4 but they are not strictly “approved” by EASA: their credentials are provided through the Form 4 to show that the nominated job holder fits the agreed process for qualification and nomination. This means that it is expected that Handbook provides information regarding how key personnel is selected, nominated and maintained (trained). When new key personnel is nominated (significant change to DAS), during the investigation the allocated DOATL will verify evidence of the proper application of the nomination/qualification process for the specific job holder. The candidate could be interviewed by EASA Team as well, but the final approval relates to the whole Significant Change and not to the candidate himself.

Nomination of key personnel deputies

It is considered good practice to anticipate temporary absence of the key personnel, but a Form 4 for any deputy function is usually not required. It is expected that the deputy function is established to ensure continuity in the execution of tasks – in absence of the main post holder – while the responsibilities remain with the nominated manager. This delegation of tasks is feasible whilst properly described in the Handbook, making reference to the scope of authorization of the deputy and the maximum period of absence of nominated manager.

However, an exemption should be considered when the key person will be absent for a long time (e.g. maternity leave or extensive sick leave) and cannot be realistically expected to assume responsibility during his/her absence, but is expected to return to his/her nominated function (and thus remaining in the key management position within the company). In this case, a deputy should be nominated to cover the period of absence. This should be considered a significant change to the DAS and, consequently, the nomination of the functional deputy should be made including the EASA Form 4.

A different case is when the responsibilities of one of the EASA Form 4 holder are formally shared between a main job holder and a deputy, meaning that the Handbook mentions it explicitly. Both nominated post-holders must be handled in the same way. Consequently, addition or replacement of a deputy is a significant change to DAS and an EASA Form 4 DOA must be provided for the new person proposed.

EASA regulatory update

Item 2018/2/3

FTOM guide Initial Issue 2018

COMMISSION REGULATION (EU) 2015/1039 introduced in June 2015 the requirement for Design and Production Organisations intending to perform flight tests to establish a Flight Test Operations Manual (FTOM), applicable as of January 1, 2016.

Note: this requirement also applies to organisations holding APDOA as per 21.A.14(b)

This requirement specified for DOA in 21.A.243(a) identifies the elements to be included in the FTOM, accompanied by some AMC providing further clarification on the intent of each required element and some guidance on how to achieve this intent.

Experience however has shown that organisations are still struggling to establish their FTOM and additional guidance and assistance would be highly appreciated.

Due to the variety in flight testing performed by individual organisations there is no one-size-fits-all solution for establishing an FTOM and consequently no standard FTOM template is provided as might have been preferred by some stakeholders. It is also felt that a template might easily hide the lack of expertise in the operational environment.

Instead a Flight Test Operations Manual Guide has been established by EASA Flight Test Experts. It supplements the regulation and its AMC with additional interpretation of the requirement to help organisations to better understand its intent and provides practical advice that should be taken into account (depending on the DOA's own specific scope of activity).

The Flight Test Operations Manual Guide is available under:

<https://www.easa.europa.eu/sites/default/files/dfu/FTOM%20Guide.pdf>

Note: The “Design Organisation Handbook template” provided on EASA website does contain an FTOM template. It is kept available as organisations may find the proposed FTOM structure helpful. It is important to note, however, that referenced regulation is not up-to-date. Links provided in that template are not maintained and thus may be outdated. Organisations making use of that template are strongly advised to take into account the explanations provided in the new FTOM guide.

EASA website update

Item 2018/2/4

Rotorcraft – new guidance material

Two documents providing practical assistance to organisations dealing with changes to rotorcraft have recently been published under <https://www.easa.europa.eu/the-agency/faqs/rotorcraft> and DOA holders are highly recommended to consult them when affected by the subject.

The first one provides a **list of common avionic installation modifications on rotorcraft** and their classification i.a.w. 21.A.91. When performing the change classification take care not to confuse this list with the one established for **GA** as e.g. installation of a certain piece of equipment might be classified differently on rotorcraft than on a small aeroplane.

The second document provides **rotorcraft specific examples for flight test categories** as defined in Appendix XII to Part 21.



Classification of changes to Type Certificate

Item 2018/2/5

Large antenna installation

In order to grant “mobility” and grant access to information and data, each major Airline propose now on board internet access. In order to allow more broadband, a small antenna is not enough and the installation of a large(r) antenna becomes necessary, requiring a big(ger) radome. Therefore many DOA-holders (OEMs per Modification, the other ones per STC) apply for the installation of a “large antenna” on aircraft fuselage, or several antennas at the same time.

An antenna is considered as “small” when the antenna installation is confined within one skin bay (two adjacent frames and two adjacent stringers).

Several disciplines are affected by the installation (and activation) of such a large antenna, as Flight & Performance, Structures, Electrics, Environmental Control Systems. Depending on different configurations of the aircraft, of the location along the fuselage... some JAR / CS-25 requirements may be differently affected (e.g. airflow, ice accretion, bird Strike, impact on the empennage, penetration through pressure bulkheads, etc.).

In addition to the above, some other aspects have to be considered, such as Metallic vs. composite, baseline structure and the Interrelationship with baseline structure, modifications and repairs, the location and the final installation.

It has been determined, that Vibration and buffeting / flutter excitation could be caused at radome location and at the empennage through a flow separation at the antenna radome and subsequent propagation of non-laminar flow. Consequently flight test is typically required, except if a validated and approved analysis method is available. In other case a validation is done with a flight test up to VMO/MMO, with an extrapolation to VD/MD.

Also some design features are not contained in JAR / CS-25 requirements or need a specific showing of compliance. For a structural point of view 2 generic CRIs are raised on large antenna projects. The CRI “Large Antenna Installations” (Means of Compliance / Interpretative Material) as well as one “Vibration / buffeting compliance criteria for large external antenna installation” (Equivalent Safety Finding). Further info can be found on the EASA-Website.

The aerodynamic loads resulting from such a large antenna radome have to be carefully analysed as it can cause for another antenna oscillating vibration loads located to near behind the radome (the so called horseshoe vortex). If the vortex loading will not have dissipated enough before hitting the antenna it may lead this antenna to vibrate, with possible high noise level and which can eventually resulting in the damage of the antenna and its surrounding structure located behind the radome. Typically it may result to damages located outside of the installed large antenna installation position as cracking the upper fuselage. One consequence can be the loss of the vibrating antenna or worse the cracks potentially becoming critical

before the antenna is lost, worst case is hole in the fuselage and rapid decompression leading to catastrophic failure of the aircraft structure... resulting from a so called skin bay flapping event (e.g. case happened on B737 from Southwest Airlines some years ago). In addition to this accurate analysis, the operational context has to be checked in order to perform the right analyses especially regarding FDT as well as ICA, with the right inspection methods and intervals... up to few frame length outside the radome installation area

In a nutshell: the Installation of Large Antenna in a Large Aeroplane is a Major Design Change for EASA and needs a carefully substantiation. Before applying to EASA, the applicant should check its Terms of Approval to ensure that the scope of the DOA holder covers this kind of changes. The applicant should also carefully check the aircraft in order to be sure to know the pre-requisite conditions (e.g. damages, repairs...) and the operational context in order to perform the right analyses especially regarding FDT as well as ICA, with the right inspection methods and intervals. Finally the applicant should make sure that its change does not go against published data by the TC holder.

A split of a large antenna project in two parts, the installation and -later on- the activation, could operatively make sense in order to allow the aircraft to leave earlier the maintenance facility.

As the technology evolves, new antennas will be developed. Possibly with better capacities while being smaller. Therefore it may be tempting to classify as minor the replacement of a smaller and/or lighter antenna within an existing radome. Applicants have to be aware that some aspect like vibration (up to buffeting & flutter) may be worse as the new system Eigen frequency will be different. But also other characteristics could be affected. Therefore such a replacement is more than “open the radome; remove previous antenna; install new antenna; close the radome” and it requires further investigations, from design review via analysis up to possibly new flight test.



General DOA information

Item 2018/2/6

DOA News – Events to come

We are pleased to inform you that the *Product Certification & Design Organisation Approval Workshop 2018* will be held at the **MARITIM Hotel**, Heumarkt 20, D-50667 Köln, Germany on 30th – 31st October 2018.

Registration is open under <https://www.easa.europa.eu/newsroom-and-events/events/product-certification-design-organisation-approval-workshop-2018>

Prior to the Workshop plenary session a Side Meeting day will be organised on 29th October 2018 (limited to Industry representatives only). This Side Meeting event will take place at EASA premises. The registration will be opened in due time; stay tuned!

