COMMENT RESPONSE DOCUMENT (CRD)
TO NOTICE OF PROPOSED AMENDMENT (NPA) 2009-09

for amending Decision No 2003/19/RM of the Executive Director of the Agency of 28 November 2003 on acceptable means of compliance and guidance material to Commission Regulation (EC) No 2042/2003 of 20 November 2003 on the continuing airworthiness of aircraft and aeronautical products, parts and appliances, and on the approval of organisations and personnel involved in these tasks

'De-Icing/Anti-Icing'

Explanatory Note

I. General

1. The purpose of the Notice of Proposed Amendment (NPA) 2009-09, dated 2 September 2009 was to propose an amendment to Decision 2003/19/RM of the Executive Director of the European Aviation Safety Agency of 28 November 2003[1].

II. Consultation

2. The NPA 2009-09 was published on the website (http://www.easa.europa.eu) on 4 September 2009.

   By the closing date of 2 December 2009, the European Aviation Safety Agency ('the Agency') received 66 comments from 17 National Aviation Authorities, professional organisations and private companies.

III. Publication of the CRD

3. All comments received have been acknowledged and incorporated into this Comment Response Document (CRD) with the responses of the Agency.

4. In responding to comments, a standard terminology has been applied to attest the Agency's acceptance of the comment. This terminology is as follows:

   - **Accepted** — The comment is agreed by the Agency and any proposed amendment is wholly transferred to the revised text.
   - **Partially Accepted** — Either the comment is only agreed in part by the Agency, or the comment is agreed by the Agency but any proposed amendment is partially transferred to the revised text.
   - **Noted** — The comment is acknowledged by the Agency but no change to the existing text is considered necessary.
   - **Not Accepted** — The comment or proposed amendment is not shared by the Agency.

   The resulting text highlights the changes as compared to the current rule.

5. The Executive Director Decision on 'De-Icing/Anti-Icing' will be issued at least two months after the publication of this CRD to allow for any possible reactions of stakeholders regarding possible misunderstandings of the comments received and answers provided.

   Such reactions should be received by the Agency not later than **12 July 2010** and should be submitted using the Comment-Response Tool at http://hub.easa.europa.eu/crt.

IV. Summary of comments received and main changes introduced after the NPA

6. Many comments to the NPA have required to restrict the applicability of the NPA to airplanes with non-powered flight controls. The Agency believes that instead of defining a group of airplanes by design characteristics, TC holders should state how much a type of aircraft may be affected by the residue problem and provide operators with instructions to mitigate the risk of build-up of residues during de-icing/anti-icing operations and how and when to inspect them.

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[1] Decision No 2003/19/RM of the Executive Director of the European Aviation Safety Agency of 28 November 2003 on acceptable means of compliance and guidance material to Commission Regulation (EC) No 2042/2003 of 20 November 2003 on the continuing airworthiness of aircraft and aeronautical products, parts and appliances, and on the approval of organisations an personnel involved in these tasks. Decision as last amended by Decision 2010/002/R of 28 April 2010.

7. Some comments have referred to the need of regulating service providers, certification of fluids, or controlling their availability at the airports. This was not the intent of this rulemaking task. Similar comments were received also at the time of A-NPA 2007-11 and they were already replied in the correspondent CRD.

8. Also some comments have reacted to the NPA, understanding that the need to perform the assessment for an inspection of residues (and consequent inspections and unscheduled cleanings) was a mandatory requirement and the only way to control the build-up of residues, and proposing also the possibility to control them through scheduled checks identified in the maintenance program (see comment 10 and others). The NPA, drafted at the level of AMC, already allowed for different means for having an aircraft 'clean' of residues. Nevertheless paragraph AMC to M.A.301-1 has been re-drafted to be more explicit.

9. Another comment, received through different communication means and not captured in this CRD, proposed to delete '… eliminate frozen water…' when defining what should be understood as maintenance activity in AMC M.A.201 (h), since 'de-icing' eliminates frozen water and is not a maintenace action. Although the Agency believes that this extract of the sentence was taken out of context, the words 'frozen water' have been removed from this paragraph and from others to avoid misunderstandings.

10. Also UK CAA commented on the reduction of paragraph AMC M.A.201 (h), proposing a new text. The Agency considered the text proposed more adequate and the text has been incorporated. See comment 42 for details. Other paragraphs were changed consistently.

11. Finally some of the comments received have questioned about the detail of this NPA, expressing there was no need at all for the NPA, or asking for more material (training related). The Agency has considered that the level of this NPA is adequate aiming at the establishement of better methods to control the accumulation of fluid residues by operators affected and their cleaning.

12. Read chapter IV for more details and answers to other comments not mentioned in this summary.

V. CRD table of comments, responses and resulting text

(General Comments)	-

comment	4	comment by: *Association of Dutch Aviation Technicians NVLT*
	This NPA is a good solution in the prevention of potential safety hazards associated with the residues of fluids used for the de-icing and anti-icing of aircraft, a proper implementation of this NPA will enhanced the flight safety level.	
response	*Noted*	

comment	12	comment by: *KLM*
	We fully recognize the risk associated with the use of thickened de-icing/anti-icing fluids and that an operator should have a system in place to assess these risks and take appropriate counter measures to prevent stiff/frozen flight controls via the maintenance system. However, the source of the problem is found in the characteristics of the various thickened de-icing/anti-icing fluids on the market (formation residues). Therefore the primary focus should be of a preventative nature: setting clear requirement for residue behaviour of qualified fluids. Ultimately airlines would like to limit the hours involved in inspection and cleaning to a minimum. Not only from a cost point of view, but also from a safety point of view (possible adverse effect of repeated cleaning and re-lubrication).	
response	*Partially accepted*	
	We recognise that better liquids would diminish the problem of residues, but today the standards for liquids' qualification are still being discussed at technical level by some associations (SAE), without achieving a solution able to provide no residues with reasonable HOT. EASA is contributing to these discussions, but has not been tasked to rule on them, nor was the intent of this NPA.	

comment	19	comment by: *Swedish Transport Agency, Civil Aviation Department (Transportstyrelsen, Luftfartsavdelningen)*
	The Swedish Transport Agency, Civil Aviation Department is supporting the content of NPA 2009-09.	
response	*Noted*	

comment	23	comment by: *European Regions Airline Association*
	ERA has consistently raised the profile of safety issues concerning 'winter operations' and the urgent need for regulatory action concerning the potential adverse effects of de-/anti-icing fluid residues on aircraft, particularly those with un-powered flight controls. The UK AAIB recommended that EASA *'considered the future need for the training and licensing of companies who provide a de/anti-icing service, so that*	

	anti-icing fluids are applied in an appropriate manner on all aircraft types'. Similarly the German BFU commented that, in order to maintain the airworthiness of aircraft, aircraft de-icing *'should be accomplished by certified and approved companies under the supervision of civil aviation authorities'.* The BFU go on to say that *'If aircraft de-icing is not accomplished by an operator or an approved maintenance organisation the ground service 'aircraft de-icing' should be subject to appropriate aeronautical regulation'.* There can only be one 'best way' to de-ice or anti-ice a particular aircraft type, yet the current situation, whilst placing on operators the burden of ensuring a 'clean wing on rotation', allows individual ground icing agencies outside their control to undertake their activities with no regulatory supervision and with no obligation for consistency in practice or technique. ERA has a very clear postion in respect of aircraft de/anti-icing, namely: 1. We agree with the AAIB and BFU in so far as we support the need for the training and licensing of companies who provide a de/anti-icing service, so that anti-icing fluids are applied in an appropriate manner on all aircraft types 2. A mechanism is required to ensure that the range of de-icing and anti-icing fluids , as required by both operators and the prevailing meteorolgical conditions, is made available at all appropriate locations 3. It remains important and urgent that further research is mandated to develop the range of available fluids to increase their performance, hold-over times and to minimize or eradicate residues and to mitigate corrosion on vital aircraft components. Europe has experienced one or two mild winters of late and lets hope that this continues until this issue is resolved once and for all. I will ensure that ERA supports your efforts on these issues to the maximum of our resources. Finally, can the Agency respond to the comments of M. Sivel some time ago, in which he stated that the second extension into the regulation of airports would give the Agency a "legal hook" on which to base future regulation of service providers. Is this legal hook still envisaged to be available?
response	*Not accepted*
	The intent of this NPA was defined as a change in AMC for continuing airworthiness rules (EC 2042/2003) not aiming to regulate de-icing service providers. The certification, directly or indirectly, of service providers will not solve, by itself the build-up of fluid residues. Nevertheless, Regulation EC 1108/2009 extended the Agency's remit to the safety of aerodrome operations at aerodromes above a certain threshold. EASA believes that essential requirements for aerodromes as published in Annex Va of regulation EC 1108/2009 entitles the establishment of dedicated requirements for safe aerodrome operations. The interpretation of these ER and the development of these implementing rules are subject to the future rulemaking process and a different NPA that is expected in the autumn of next year. In the meantime responsibilities remain with the appropriate bodies within the Member States.

comment	*60*	comment by: *Luftfahrt-Bundesamt*
	The LBA has no comments on NPA 2009-09.	
response	*Noted*	

comment	68	comment by: *Claude Mas*
	1. AFFECTED PARAGRAPH: **Insert a new paragraph (1.1.17)** within Appendix I to AMC M.A.302 and AMC M.B.301 (b) Content of the maintenance programme **2. PROPOSED TEXT / COMMENT:** **1 General requirements** **….** 1.1.17 In addition to the inspection included in the pre flight, if applicable, details of specific assessment to confirm that, as the result of meteorological conditions and deicing/ antiicing fluids having been previously applied on aircraft's external surfaces and engines, there are no frozen water or fluid residues that could endanger flight safety 1.1.18 A cross-reference to other documents approved by the Agency which contain the details of maintenance tasks related to mandatory life limitations, Certification Maintenance Requirements (CMR's) and ADs. …	
response	*Not accepted*	
	The proposed assessment is not considered a maintenance activity but part of the pre-flight inspection, so it is not supposed to be referenced in the maintenance programme.	

comment	69	comment by: *Claude Mas*
	1. AFFECTED PARAGRAPH: **add a new :** **AMC M.A.706 (f) Personnel requirements** **2. PROPOSED TEXT / COMMENT:** Additional training in aircraft on ground deicing/antiicing process and associated inspection standards and maintenance procedures should be required to continuing airworthiness management organisations' technical personnel. **3. JUSTIFICATION:** A new AMC shall be added on the subject to complete Personnel requirements.	
response	*Partially accepted*	
	We agree with the need for additional training in relation with this specific issue, but we believe that AMC M.A. 301 -1- para 3. already requires training for the individuals performing in total or partially the pre-flight inspection. So, the Agency sees no need to add a new paragraph in AMC M.A.706 (f).	

A. Explanatory Note — II. Consultation p. 3-4

comment	*65*	comment by: *Steve Sells - Flyglobespan*
	Proposal - That the Agency should coordinate a Workshop following the NPA Comments to include Operators, TCHs, Industry Specialists, De-icing/Anti-Icing Providers to fully review the impact of this proposal. To go forward as currently drafted will introduce a lot of ambiguity, uncertainty and lack of consistency across the Industry.	
response	*Partially accepted*	
	EASA will rephrase some paragraphs in order to resolve misunderstandings reported by commentors, without changing the original intent of the NPA. The NPA has served also to collect reactions from the industry. If considered necessary, final text will be presented to industry/authorities' forums.	

A. Explanatory Note — IV. Content of the draft Decision p. 4-5

comment	*1*	comment by: *EASA*
	Although I fully agree on the scope of this Decision, there is , from my prospect, a potential ambiguity I would like to discuss in order to avoid any granting of exemption for the required additoional maintenance to "aircraft with powered flight control systems". If "powered flight controls" refers to fly by wire type of primary controls, it's true that , apart from the hinges to its surface, the outside annular area between the housing and the rods and also the sensors feed back interface , there is no specific place for trapping de icing residues along wing or empennage, as the signalling is provided electrically and the power, hydraulically (electrically on very last generation airplanes) with the interested components junctions being sealed. Conversely, if it refers only to controls including a conventional servo actuator , having a mechanical input lever, the risk is rather close to the one of a non powered systems, because there is a long section of mechanical leakage between the fuselage/vertical fin and the servo(s) and also in the return mechanism betwen servo output and input. Finally, about mechnaically "powered" secondary flight controls (eg flaps or stabilizer), there might be also a significant exposure to retain residues, in some of their sections exposed to the ambient conditions, such as for example their attachments or grease venting orifices.	
response	*Partially accepted*	
	The proposed AMC should be considered only for these circumstances and aircraft likely to be impacted by fluid residues problem, and when other satisfactory means to prevent the accumulation of fluid residues affecting the aircraft airworthiness are not suitable. EASA has rephrased the proposed text to avoid misinterpretations.	

comment	*5*	comment by: *Association of Dutch Aviation Technicians NVLT*

	AMC M.A.201 (h) is amended to clarify that the inspection for and the removal of fluid residues is a maintenance activity if there is the need to access inside panels, covers or cowls or use special tools. Question; opening and closing from panels, covers, cowls or the use of special tools will be considered as maintenance activities, the proper procedure by means of certification by the appropriate authorized person in the Aircraft technical log should be taken in account. Is that correct?
response	*Accepted*
	After any maintenance action a release to service is required in accordance with EC 2042/2003.

comment	*14*	comment by: *KLM*
	In the "Explanatory Note", item IV "Content of draft Decision", the description of the problem is stated: The events of stiff or frozen flight control systems have particularly been reported on aircraft with non-powered flight control systems. This observation is supported. However, in the "Draft Decision" the applicability is set to <u>all</u> aircraft,. This enlargement of the scope is unsufficiently supported by the previous paragraphs of the NPA and also not supported by KLM Engineering. Only 'non powered' sections/parts of aircraft with powered flight controls should additionally be considered at best (if TC holder analyses shows they can be affected by de-icing/anti-icing application).	
response	*Partially accepted*	
	See comment 1.	

comment	*26*	comment by: *Airbus*
	Airbus takes the opportunity of the NPA review process to remind EASA that there is no evidence of de-ice residues affecting Airbus aircraft and there have been no incidents of jammed flight controls linked to frozen, rehydrated de-icing fluid residues. The Airbus position, based on the evidence, is that no additional inspections are required, and Airbus will provide guidance to its operators to that effect. Airbus believes the NPA accommodates such an approach. Nevertheless Airbus is not complacent and has provided repeated Operator Information Telex's since 1998. These telex's are in line with the EASA requirements. In response to A-NPA 2007-11 and EASA letter released in 2009 to type-certificate holders, Airbus released SIL 30-029, which provides more information on de-icing fluid residue issue, cleaning procedures and guidance on reviewing operational information from flight crews and maintenance staff.	
response	*Noted*	
	See comment 1.	

comment	*28*	comment by: *IACA International Air Carrier Association*

	IV 9.2 **Comments:** According to the problem description, and more particularly the safety recommendations by AAIB and BFU, the issue is limited to aircraft with non-powered flight control systems. IACA is not aware of icing problems on large aircraft with powered flight controls. **Proposal**: Limit the proposed amendments to aircraft with non-powered flight controls, unless EASA has sufficient evidence to include large aircraft with powered flight controls in this NPA.
response	*Partially accepted*
	See comment 1.

comment	*36*	comment by: *UK CAA*
	Page No: 5 of 10 **Paragraph No:** 10 **Comment:** An effective training syllabus should be in place for all 'responsible persons'. **Justification:** Effective, and focused training is essential to ensure that the safe and informed decisions are made.	
response	*Partially accepted*	
	The Agency has decided not to be more explicit at the level of this AMC in respect to training syllabus, level of training required, target population or timescales. Affected organisations responsible for the continuing airworthiness of the aircraft and maintenance organisations should develop their own training programmes to cover these aspects and refer to them in the organisations' manual.	

comment	*37*	comment by: *UK CAA*
	Page No: 5 of 10 **Paragraph No:** 11 **Comment:** It appears that the NPA seeks to impose maintenance requirements on operators to regularly check for accumulated ice/de-icing fluid residue in areas around the control surfaces of aircraft with non-powered flight controls. As part of these checks panels may need to be opened that would not otherwise be opened during regular line maintenance.	
response	*Accepted*	
	If impacted, the procedure to be developed by operators should identify when there is a need for inspections to be performed by maintenance organisations and which panels should be opened during these inspections.	

comment	*53*	comment by: *CAA-NL*
	The CAA-NL recognizes the problem of stiff or frozen flight control systems and is a warm supporter of the actions taken so far by the Agency to mitigate the	

	related risks. We understand that certain de-icing/anti-icing fluids may leave residues that can freeze in a later stage and pose a risk for proper working of flight controls. As long as these fluids are being used it is our opinion that the way to counter the related risks in winter flying is in proper awareness by all related personal of these risks and the ways to mitigate these. Therefore the publication of the Safety Information Notice (SIN 2008-29) was very much welcomed by the CAA-NL to make all operators aware of this problem and the possible mitigating actions. This together with the letter to the TC-holders to update their information and guidelines of the application of de-icing/anti-icing fluids set the systems in place to fulfill their intended functions. All related certificate holders in the rest of the chain AOC, CAMO or MOA have a working quality system that is obliged to adapt the system when applicable to new developments. The information from the agency and the TC holders to the operators as well as the CAMO's and MOA's triggered an update of the relevant procedures and an addition to the (recurring) training programs. In general the CAA-NL thinks that the current proposal is in conflict with the principles of SMS and performance-based rulemaking being the policy ICAO and EASA have adopted. Furthermore the proposal not necessarily reaches the aim it intends to and even can be counterproductive on the long run when this kind of detailed regulation will continue to be added into general principals. The problem we see with the introduction of further details into the regulatory material is, that, when in the future some details are not mentioned specifically the risks occurs that the relevant organizations or personal do not work out the general principals into properly detailed procedures and just copy the EASA headings or even text. The detailed proposals of the Explanatory Note Para 11 leads to some detailed comments.
response	*Partially accepted*
	The content of this NPA goes beyond from what it is established at the SIN, providing more information for the operators and maintenance organisations. On the other hand, EASA recognises that the content of part of the NPA may fit under the category of GM. The status of some AMC sentences may be reclassified during rulemaking task MDM.055, but at this stage is not changed for consistency reasons with already adopted AMC paragraphs. Also, the SMS concept does not conflict with the need for prescriptive rules: Depending on the hazards identified and the related assessment of risks, prescriptive rules will remain as one option. Moreover, SMS requirements have not yet been implemented in the area of continuing airworthiness regulations and it can be expected that it will take some time before organisations will have mature safety management systems.

comment	*54*	comment by: *CAA-NL*
	Para 11, First intent AMC M.A.201(h): Any action requiring to access inside panels, covers or cowls or use special tools is a maintenance activity, this is well known to everybody in the industry and to mention this here would only trigger doubts at other places were it is not mentioned specifically that there may be a some exception to this generic principle. CAA-NL suggests not introducing the proposed text. PS: Reading the AMC M.A.201(h), The current first 4, maybe 5 paragraphs are	

	not only related to CAT operators but to all the owners / operators of an aircraft and may better be renumbered as AMC to M.A.201(a).
response	*Partially accepted*
	The proposal is retained as presented (some minor changes are introduced due to other comments) in the NPA for consistency reasons with existing AMC paragraphs. Comment on PS will be considered during rulemaking task MDM.055.

comment	*55*	comment by: *CAA-NL*
	Para 11, Second and third intent AMC M.A.301-1(f) and AMC M.N.306-(a): The examples given in AMC to 301 are very generic with the intention to trigger the person who prepares the pre-flight inspection checklist or the person who performs the pre-flight inspection to think of the situation and the possible risks that may occur. To add this detailed information for one specific situation is crossing the more generic updating principle and may lead to the above mentioned risk of lazy organizations, where we need active participation in safety. CAA-NL suggests not introducing the proposed text.	
response	*Not accepted*	
	The Agency does not agree that the proposed text is a more specific situation compared to other situations already considered in existing AMC (i.e. presence of sand or dust).	

comment	*56*	comment by: *CAA-NL*
	Para 11, Forth intend AMC M.B.102 and AMC 145.B.10. There may be some remit in this to make the Airworthiness oversight functions aware of the possible impact of operational procedures on continuous airworthiness or maintenance. This cross fertilization will however be in place soon with the implementation of the results of NPA 2008-22 for one safety management system within the Competent Authority of the MS. CAA-NL suggests not to introduce the proposed text for now and to wait for Part AR.	
response	*Partially accepted*	
	The paragraph is left as proposed since this NPA will be adopted prior to the adoption of NPA 2008-22. If necessary, this reference will be removed at the time of task MDM.055.	

comment	*57*	comment by: *CAA-NL*
	Para 11, Fifth intent AMC M.A.606 (h) 2, AMC 145.A30 (g) and AMC and GM for 145.A.30 (j): The other examples given in these paragraphs are covering this more specific item, for instance current d. in AMC M.A.606 (h) 2. CAA-NL suggests not introducing the proposed text. PS: If the proposed text is kept we have the following remark: AMC 145.A.30 (j)(4) 2.(ii) is building upon 2(i), so there is no need to add a para l, but it is better to change the second sentence 'In addition to paragraph 2(i)(a) to **(e)**	

	other ……
response	*Partially accepted*
	The proposed statement as a new item in the list adds clarity about the acceptability of the task to be performed by a pilot on behalf of the maintenance organisation. The statement in PS is accepted. Text is modified in AMC 145.A.30 (j)(4) 2.(ii) as proposed by this comment.

comment	*58*	comment by: *CAA-NL*
	Para 11, Sixth intent AMC 145.A.70 (a): Again to add this detailed information for one specific situation is crossing the more generic updating principle and may lead to the above mentioned risk of passive organizations in the long run. CAA-NL suggests not introducing the proposed text.	
response	*Not accepted*	
	The Agency has received comments from the industry about lack of preparation of maintenance companies to identify fluid residues. Adding the proposed statement on the NPA to the AMC should contribute to improve this situation.	

comment	*61*	comment by: *Steve Sells - Flyglobespan*
	Comment - The Safety Recommendations referred to in the NPA make reference to Aircraft with non powered Flight Controls. Proposed Change - The NPA should be revised to exclude Aircraft with powered Flight Controls until further review is carried out to fully evaluate the practical aspects of applying the Proposal. See later comments	
response	*Partially accepted*	
	See comment 1.	

A. Explanatory Note — V. Regulatory Impact Assessment p. 5-7

comment	*11*	comment by: *TYROLEAN AIRWAYS*
	We can not agree that option 2 has not a high economical impact. As mentioned before in comment to AMC M.A. 301-1 there are types of aircraft where this inspection can only be done with special ground equipment and by type rated certifying staff. This results for an operator to provide/cater for equipment and Pt-145 type rated certifying staff on all destinations depending on meteorological conditions!!! Where the equipment mostly will be available at airports there is a lack of appropriate type rated Pt-145 organisations and staff has to be flown in - which has a major impact on cost!	
response	*Partially accepted*	
	It is believed that only a small number of operators of certain aircraft will need to perform the inspections and if necessary cleaning, out of their base. Only for those operators the impact may be high.	

comment	13	comment by: *KLM*
	In the “Explanatory Note”, item V “Regulatory Impact Assessment”, the economic impact is underestimated. A typical cleaning action would imply; cleaning of all areas, lubrication of all cleaned lubrication points, areas and cables and CIC application in cleaned area. These actions are to be performed in the hangar and require considerable access and drying times (CIC). For example for KLM 737, up to 18 manhours (net) are to be spent on cleaning which includes the access to balance panels. This cleaning program is to be performed regularly which affects the aircraft availability considerably.	
response	*Partially accepted*	
	The impact assessment does not assess the economical cost to clean the aircraft since this NPA is not proposing higher frequency cleaning, but the need to do it in certain unscheduled situations and locations depending on type of operations. The number of times that this would happen might be restricted to a small number if inspections and cleaning are planned during stops for schedule maintenance at base, and only a minor number of them have to be performed at other location, before returning to base.	

comment	22	comment by: *European Regions Airline Association*
	16. Summary and Final Assessment ERA cannot agree that option 2 does not have a high economical impact. As mentioned before in comment to AMC M.A. 301-1, there are types of aircraft where this inspection can only be performed with specialised ground equipment and by type rated certifying staff. This could results in an operator having to provide access equipment and Part 66 type rated certifying staff at all destinations depending on meteorological conditions. Even where some of this equipment is available at an airport , it is unlikely that appropriate type rated staff will be, all of which could have a major impact on costs.	
response	*Partially accepted*	
	See comment 11. It is true that there is an economical impact for certain operators; however safety is paramount, and the NPA is a way to improve, in the short term, the uncontrolled situation of residues build-up. Also, NPA has introduced provisions so that the maintenance activity may be certified by the pilot on behalf of the maintenance organisation (AMC 145.A.30 (j) (4).	

comment	29	comment by: *IACA International Air Carrier Association*
	RIA 15.a.i **Comment**: The safety benefit is limited to aircraft with non-powered flight controls.	
response	*Accepted*	
	The safety benefit of applying the proposed method is for those that could be impacted by the presence of fluid residue. Aircraft not impacted are not affected by this NPA in any sense.	

comment	30	comment by: *IACA International Air Carrier Association*
	RIA 15.a.ii **Comment**: Staff training, procedure implementation and aircraft turnaround time are underestimated.	
response	*Partially accepted*	
	See comment 11. For certain operators the impact might be significant if they are unable to plan the inspections ahead.	

comment	31	comment by: *IACA International Air Carrier Association*
	RIA 15.a.ii **Comment**: In remote de/anti-icing operations, maintenance personnel would need to be brought in only for this assessment, where none are required now. This poses additional and serious logistical and resource burdens, which, incidentally, are not reflected in this RIA. **Proposal**: Do not amend AMC M.A. 301-1 but rather AMC M.A. 302 Maintenance programme.	
response	*Not accepted*	
	The assessment for the need of maintenance action is not foreseen to be performed by maintenance staff but by flight crew (or by staff tasked with the pre-flight inspection), following company procedures developed considering manufacturer information and own company experience, using input information such as the times that the a/c has been de-iced after last cleaning, type of fluid used, and any other information relevant for the determination to inspect/clean fluid residues. The procedure should allow determining when, depending on those circumstances, an inspection should be performed by a maintenance organisation. Companies able to plan inspections/cleanings to be performed at base will not need to take any actions at remote locations. When planning in advance the cleaning of residues is not an option but the a/c might have residues that could affect the flight safety, this NPA proposes to inspect and clean them before flight. Also, NPA has introduced provisions so that the related maintenance activity may be certified by the pilot on behalf of the maintenance organisation (AMC 145.A.30 (j) (4))	

comment	32	comment by: *IACA International Air Carrier Association*
	RIA 15.a.ii **Comment**: Describing costs to airlines as revenue for maintenance organisations is irrelevant.	
response	*Partially accepted*	
	It is irrelevant for operators, not for maintenance organisations. This NPA is also addressed to them.	

comment	38	comment by: *UK CAA*

	Page No: 6 of 10 **Paragraph No:** 14 **Comment:** Operators of aircraft are not specifically mentioned. **Justification:** Operators of aircraft (and particularly the aircraft commander) also have a responsibility to ensure that the airframe is free of any ice that may affect flight. **Proposed Text (if applicable):** Organisations responsible for the operation of aircraft, continuing airworthiness of aircraft, maintenance organisations and competent authorities are concerned.
response	*Accepted*
	Accepted (although they are implicitly in the group as responsible for the continuing airworthiness of the aircraft).

comment	*39*	comment by: *UK CAA*
	Page No: 6 of 10 **Paragraph No:** 15 a ii) **Comment:** It is agreed that training for *all* staff involved in the de/anti-icing process is essential. The requirements for training should be set by EASA. The AEA training document could be used as a starting point. **Justification:** Effective training programmes will enhance knowledge and understanding of this subject.	
response	*Partially accepted*	
	See comment 36. Referred document is a good guide for operators developing their de-icing programmes and understanding the residue problem. Maintenance organisation inspecting for residues would need to train their personnel for inspection and removal techniques considering the aircraft type specificities.	

comment	*40*	comment by: *UK CAA*
	Page No: 7 of 10 **Paragraph No:** 16 c **Comment:** It is agreed that Option 2 should be the preferred option, however, this NPA (or a new NPA) should also consider the poor general availability of Type I fluid. **Justification:** Thickened fluid is often used when Type I fluid would be sufficient, but its availability is not widespread. Type I fluid is non-thickened, and therefore does not carry the residue re-hydration risk.	
response	*Partially accepted*	
	Noted. The aim of this NPA was limited to continuing airworthiness aspects and does not regulate the applied fluids. Thickened fluids should be used only when necessary to obtain necessary extra HOT compared to what it could be obtained using type I fluid only. EASA cannot impose that the fluid is available at airports. Oversight of airports/ground services providers is not an EASA responsibility. National rules for airports apply today.	

comment	41	comment by: *UK CAA*
	Page No: 7 of 10 **Paragraph No:** 16 **Comment:** This NPA is a very good start, and should be used as a starting point for a review of aircraft de/anti-icing methods within Europe, fluid type availability, areas of responsibility and for the training of staff.	
response	*Noted*	

comment	49	comment by: *REGIONAL (Christophe WERMELINGER)*
	Attachment #1	
	see attched file: 15.a.ii, second paragraph: last sentence [~~Part of these costs would be revenues for maintenance organisations that would be asked from air operators to inspect/remove fluid residues on their aircraft.~~] *shall be removed as a cost is a cost ...*	
response	*Partially accepted*	
	See comment 32.	

comment	62	comment by: *Steve Sells - Flyglobespan*
	RIA Section 15 a ii Economic Minor negative impact - The impact of the ambiguities introduced by this NPA, and the data issued by the TCH, will lead to a lot of difficulty in implementation and consequently a higher economic impact than 'minor'. The procedural aspects should not be considered to be a minor impact - this will have a significant impact to establish and maintain. Medium negative impact - How is an operator expected to manage this ambiguous requirement. Trying to schedule suitable resources across an operating network to manage Pre Flight Inspections based on changing weather condition, plus scheduling Aircraft Inspections for cleaning, relubrication and re-application of Corrosion Compound on a monthly (or more frequent) basis in a Line Maintenance environment is a significant impact. As an operator, I am not interested in generating revenue for maintenance organisations and consider the inclusion of this in the NPA to be an unnecessary comment. Positive Impact - I would request that the NPA seek to quantify this 'expected' benefit.	
response	*Not accepted*	
	Some operators affected by the residue problem may plan scheduled inspections and cleaning up of residues at their main base in advance without the need to inspect at a remote location. Some other operators, because subsequent applications of thickened de-icing/anti-icing fluids without being inspected/cleaned, will need to determine the need for an inspection prior to their return to base. It is believed that the need to inspect for and clean of fluid residues at remote locations will not be very frequent for most operators using affected aircraft, but this will certainly depend on the number of times that the aircraft was anti-iced with thickened fluids between cleanings, for aircraft affected. See comment 32.	

	It cannot be quantified the safety benefit with this NPA, but tries to reduce the number of flight incidents occurring due to fluid residues problem.

B. DRAFT RULES — I Draft Decision AMC to Part-M — AMC M.A.201(h) p. 8

comment	*9*	comment by: *TYROLEAN AIRWAYS*
	The new text should (if at all) rather be addressed as a "Note" or GM but not as an AMC. The content by the nature of the examples is superfluous since these are clear Pt-145 activities and do not have to be addressed here again.	
response	*Partially accepted*	
	We believe that after the first sentence in the current AMC M.A.201 (h) 2, it is beneficial to clarify that the actions quoted in this paragraph proposal are to be considered as maintenance and this is the right place to place it.	

comment	*20*	comment by: *European Regions Airline Association*
	The new text should, if required at all, be addressed in the form of a "Note" or Guidance Material and not as an AMC. The nature of the examples given within the revised text is, in the opinion of ERA, superfluous since these are clearly Part 145 activities and do not need to be addressed within this paragraph.	
response	*Partially accepted*	
	See comment 9.	

comment	*42*	comment by: *UK CAA*
	Page No: 8 **Paragraph No:** AMC M.A.201(h)2 **Comment:** The proposed text would imply that where an inspection does not require removal of panels or special tools etc, it can be carried out by unapproved organisations or persons. The detection of de-icing / anti-icing fluid residue build up may be difficult to see until it is re-hydrated, it appears in a variety of ways. It can appear as an oily slimy film, a dry grey to white mass or powdery substance, a hardened black deposit or a gel ranging through shades of green, blue, grey and black in colour. This inspection therefore requires specific training / knowledge irrespective of whether panel removal or special tools are required. The word 'Performance' should be replaced with 'Application' as this would make it a little clearer and not imply that the second part of the paragraph can be accomplished by an unapproved Organisation. **Justification:** The effectiveness of the inspection may be compromised if it is not carried out by suitably trained / authorised personnel and therefore has a direct effect on safety. **Proposed Text (if applicable):** The application of ground de-icing and anti-icing activities does not require a Part 145 approval. Nevertheless, inspections required to detect and when necessary eliminate frozen water or de-icing and/or anti-icing fluid residues is	

	considered maintenance. Such inspections may only be carried out by suitably authorised personnel.
response	*Accepted*
	Text proposed is adopted although with changes.

comment	*50*	comment by: *REGIONAL (Christophe WERMELINGER)*
	Attachment #2	
	AMC M.A.201(h) 2. : The new text should (if at all) rather be addressed as a "Note" or GM but not as an AMC. The content by the nature of the examples is superfluous since these are clear Pt-145 activities and do not have to be addressed here again.	
response	*Partially accepted*	
	See comment 9.	

comment	*59*	comment by: *Aero-Club of Switzerland*
	The Aero-Club of Switzerland agrees with the first sentence of the paragraph. For the rest of the paragraph, however, we think, a difference should be made between panels, cowls or covers that are normally opened by the ground crew or the flight crew and such which are not. Our reasoning: The opening of a baggage compartment for instance always requires the same steps, the reason of the opening is of no relevance and is no maintenance task. Please consider these responsibilities at least partly to be a "pre-flight task". We suggest the following wording: 2. The performance of ground de-icing and anti-icing activities does not require a Part-145 approval. When panels, cowls, covers or doors which may be opened by ground crews or flight crews to inspect for and to eliminate frozen water or de-icing or/and anti-icing fluid residues the activity is considered to be a pre-flight task. If special tools are to be used the activity is considered maintenance.	
response	*Partially accepted*	
	See comment 42 with new text proposal. The maintenance action is the inspection of residues itself irrespective of the doors/panels opened.	

comment	*66*	comment by: *Claude Mas*
	1. AFFECTED PARAGRAPH: **AMC M.A.201(h) Responsibilities** **2. PROPOSED TEXT / COMMENT:** 2. The performance of ground deicing and antiicing activities does not require a Part145 or Part M/F approval. Nevertheless, the removal/closure of panels, cowls or covers, and use of special tools to inspect for and, when necessary,	

	eliminate frozen water or deicing or/and antiicing fluid residues is considered as maintenance. **3. <u>JUSTIFICATION</u>:** This requirement shall apply to all possible maintenance organization in charge of aircraft.
response	*Noted*
	The reference to Part-145 organisations was because paragraph 201(h) is applicable to commercial air transport (requiring Part-145 organisations). Nevertheless, the comment is taken into consideration, and text proposal is changed by referring to 'maintenance organisations', since the same scenario may arise for operators other than commercial air transport.

B. DRAFT RULES — I Draft Decision AMC to Part-M — AMC M.A.301 -1 p. 8

comment	*3*	comment by: *Transport Canada Civil Aviation Standards Branch*
	This is TCCA's comment on the regulation.	
response	*Noted*	
	It is noted there are no comments.	

comment	*6*	comment by: *Association of Dutch Aviation Technicians NVLT*
	To clarify the maintenance process in the ground de icing and anti icing activities, we are suggesting to alter AMC M.A.201(h) Responsibilities in the following: 2. The performance of ground de icing and anti icing activities does not require a Part145 approval. Nevertheless, the removal/closure of panels, cowls or covers, and use of special tools to inspect for and, when necessary, eliminate frozen water or de icing or/and anti icing fluid residues is considered maintenance and has to be ensured by means of a Certificate of release to service.	
response	*Not accepted*	
	The need for a Certificate of Release to Service is implicit since this is required after any maintenance action (see M.A.801 b and 145.A.50 b).	

comment	*7*	comment by: *Association of Dutch Aviation Technicians NVLT*
	If the person who is accomplishing the following action (f) from AMC M.A.301 1 Continuing airworthiness tasks with regard to the pre-flight inspection has determined that the following maintenance activities such as the removal/closure of panels, cowls or covers, and use of special tools to inspect for and, when necessary, eliminate frozen water or de icing or/and anti icing fluid residues should be accomplished. He or she should before the start of these maintenance activities made a defect entry in the Aircraft technical log, see M.A.403 Aircraft defects. M.A.403 Aircraft defects (d) Any defect not rectified before flight shall be recorded in the M.A.305 aircraft maintenance record system or M.A.306 operator's technical log system as	

	applicable.
response	*Partially accepted*
	The decision for the need of an inspection following the application of the company procedure should be traceable. When an inspection is required, the use of a technical log seems the easiest way to sign later on for the release to service of the aircraft by the certifying staff. However, M.A.403 d) requires the use of the technical log for defects not rectified before flight. This rule task does not aim to change this.

comment	*8*	comment by: *Association of Dutch Aviation Technicians NVLT*
	If all continuing airworthiness tasks 1 to 3 inclusive from AMC M.A.301 -1- are accomplished by the person who is performing the pre-flight inspection, the pre-flight inspection should be ensured in the Aircraft technical log by a sign-off signature of this person. If one of these tasks f.i. task (f) has operational consequences due the fact that anti icing activities are not performed on the spot where the most of the pre-flight inspection tasks has been performed, but commonly used by operators on a remote spot where the person who is ensuring the pre-flight inspection is not available. What should be the procedure in this case?	
response	*Not accepted*	
	As described in AMC M.A.301 -1- some of the tasks may be accomplished by other organisations/personnel appropriately trained. Pre-flight activities are considered continuing airworthiness tasks, and as such described in the continuing airworthiness exposition of the operator. The operator is finally responsible for the complete accomplishment of the pre-flight inspection. This NPA does not change anything in this respect.	

comment	*10*	comment by: *TYROLEAN AIRWAYS*
	text change proposal: ... ice, snow, sand, dust etc and provided there are no other alternate means which can assure this condition an assessment that, as the result of ..... Justification: There are types of aircraft where the "free of frozen water or de-icing/anti-icing fluid residues" -condition can be achieved by alternate operational procedures and additional regular maintenance tasks - therefore these should be considered as "Alternate means" to the preflight inspection requirement	
response	*Accepted*	
	The concept of AMC implies directly that other means are possible, and the means introduced are not mandatory. Nevertheless, since various reactions to the NPA were in line with this comment #10, the Agency has decided to be more explicit in this paragraph. Text is changed although not as proposed.	

comment	*15*	comment by: *KLM*
	In the “Draft Decision”, AMC M.A.301-1- “Continuing airwortiness tasks” it can be understood that a check or assessment is to be made during the Preflight Inspection. However, in KLM opinion, the rule should allow the operator to establish a cleaning and/or control program as an option to an inspection in the	

	Preflight Inspection program. This assessment should consider the TC-holder information on flight control system parts/details which are susceptible for de-icing/anti-icing fluid rehydration and subsequent freezing (and can have an impact on flight safety), combined with the operator assessment and experiences and the operator/airport procedures on de-icing/anti-icing fluids application (f.e. two-fase or one-fase and type of fluid). This assessment could lead to a periodic cleaning program or periodic inspection inside or outside the Preflight Inspection program as part of the operator maintenance program. If the check/control would be introduced in the Preflight Inspection of all aircraft, the implications could be that before every departure in the winter periods or after a number of de-icing/anti-icing fluid applications, the aircraft needs to be inspected at all flight control locations at close proximity, requiring ladders and/or stands on the platforms to reach spoilers and or horizontal stabilizers, elevators and/or rudders on (large) aircraft. This is an unacceptable situation with a large economic burden.
response	*Partially accepted*
	The NPA introduced the need for inspections when there is a risk of existence of residues that could jeopardise the flight. In order to determine the need of such inspection, company procedures developed based on TC holder instructions and owned experience is required. When the company controls the build-up of residues by means of scheduled inspections and cleanings, so they will not put the flight at risk, there is no need for additional unscheduled inspections. Depending on the type of operations, frequency of return to base, frequency and type of thickened fluids applied on the aircraft, etc., some operators will not be able to guarantee an aircraft 'cleaned enough' of residues by regular inspections/cleaning at base only. See comment 10.

comment	*21*	comment by: *European Regions Airline Association*
	text change proposal: ... ice, snow, sand, dust etc and provided there are no other alternate means which can assure this condition an assessment that, as the result of ..... Justification: There are types of aircraft where the "free of frozen water or de-icing/anti-icing fluid residues" -condition can be achieved by alternate operational procedures and additional regular maintenance tasks - therefore these should be considered as "Alternate means" to the preflight inspection requirement	
response	*Accepted*	
	See comment 10.	

comment	*27*	comment by: *Airbus*
	As previously explained in comment # 26, the Airbus position, based on the evidence, is that no additional inspections are required, and Airbus will provide guidance to its operators to that effect. Airbus believes the NPA accommodates such an approach.	
response	*Noted*	
	The NPA accommodates for that.	

comment	33	comment by: *IACA International Air Carrier Association*
	Comment: The proposal suggests extending the pre-flight inspection with an assessment. This is interpreted to mean an assessment **each time** after de-/anti-icing fluids have been applied. However, the flight safety effects of the residues only manifest themselves after cumulative applications, and not after a single application. It would therefore be better to include in the **maintenance programme** frequent hangar inspections in times when de/anti-icing typically or actually takes place. **Proposal**: Do not amend AMC M.A. 301-1 but rather AMC M.A. 302 Maintenance programme.	
response	*Partially accepted*	
	NPA accommodates for other methods of controlling satisfactorily the build-up of residues. See comment 15. The number of applications of thickened fluid until an inspection for residues is required should be determined by the company procedures referred to in the proposal for change of AMC to M.A.306.	

comment	34	comment by: *IACA International Air Carrier Association*
	Comment: In addition, in remote de/anti-icing operations, maintenance personnel would need to be brought in only for this assessment, where none are required now. This poses additional and serious logistical and resource burdens, which, incidentally, are not reflected in the RIA. **Proposal**: Do not amend AMC M.A. 301-1 but rather AMC M.A. 302 Maintenance programme.	
response	*Not accepted*	
	The assessment is not foreseen to be performed by maintenance personnel. When the assessment determines the need for an inspection, this should be performed by a maintenance organisation. See also comment 10.	

comment	35	comment by: *IACA International Air Carrier Association*
	Comment: It would also be better from a human factors approach to include frequent hangar inspections in the maintenance program for residue accumulation. The spot assessments during line operations under challenging environmental conditions (cold, dark, remote) are inferior to inspections in a hangar environment. **Proposal**: Do not amend AMC M.A. 301-1 but rather AMC M.A. 302 Maintenance programme.	
response	*Partially accepted*	
	Comment noted. The NPA accommodates for scheduled inspections if this is suitable depending on the type of operations, but this might not be suitable for all operators. No need for pre-flight inspection action when residues build-up are	

	satisfactorily controlled by means of scheduled maintenance. See also comment 10.

comment	*43*	comment by: *UK CAA*
	Page No: 8 **Paragraph No: AMC M.A.301 – 1 f** **Comment: 1.** "and other contaminants" has not been included from the EU Ops 1 title, **Comment: 2.** Performance of the aircraft has not been considered. See underlined change below. **Comment: 3.** Rephrasing of the proposal for clarification **Proposed Text (if applicable):** a control that all the aircraft's external surfaces and engines are free from ice, snow, sand, dust and other contaminants etc and an assessment that, as the result of meteorological conditions and previous application of de-icing/anti-icing fluid, there are no frozen water or fluid residues that could endanger flight safety or the performance of the aircraft.	
response	*Not accepted*	
	The proposed text ('other contaminant' instead of 'etc') does not change the intent of the existing text. EASA prefers not to change the original text if there is not a specific reason for it, to avoid readers' false assumptions. The aircraft performance may be affected without endangering the flight safety. The comment is not taken into account.	

comment	*51*	comment by: *REGIONAL (Christophe WERMELINGER)*
	Attachment #3	
	AMC M.A301-1 (f) text shall be modified as follows: a control that all the aircraft's external surfaces and engines are free from ice, snow, sand, dust etc and,: - **either** an assessment that, as the result of meteorological conditions and deicing/antiicing fluids having been previously applied on it, there are no frozen water or fluid residues that could endanger flight safety, - **or an alternative mean, based on company experience and manufacturer recommendations, that can assure that there are no frozen water or fluid residues that could endanger flight safety.**	
response	*Partially accepted*	
	See comment 10.	

comment	*63*	comment by: *Steve Sells - Flyglobespan*
	Comment - It is impractical to expect an engineer or crew to make this assessment in a preflight environment without a significant procedural system in place and is considered not an effective task. Proposal - delete this requirement from the Pre Flight Inspection; in the event of assessments being required for non powered flight control Aircraft there should	

	caried out in a hangar environment to align with schedule Base Maintenance visits. For Powered Flight Control Aircraft, further evaluation is required to determine the necessity for the changes proposed by the NPA.
response	*Partially accepted*
	A company procedure has been foreseen (see proposal for change to AMC to M.A.306) in order to make the assessment. Also, see comments 1 and 10.

comment	*67*	comment by: *Claude Mas*
	1. AFFECTED PARAGRAPH: **AMC M.A.301 1Continuing airworthiness tasks** **2. PROPOSED TEXT/ COMMENT:** (f) a control that all the aircraft's external surfaces and engines are free from ice, snow, sand, dust etc and an assessment to confirm that, as the result of meteorological conditions and deicing/ antiicing fluids having been previously applied on it, there are no frozen water or fluid residues that could endanger flight safety. ... **3. JUSTIFICATION:** To help the reading of the proposed requirement.	
response	*Accepted*	
	Text proposal is taken into consideration.	

B. DRAFT RULES — I Draft Decision AMC to Part-M — AMC M.A.306 (a) — Section 3 p. 8

comment	*44*	comment by: *UK CAA*
	Page No: 8 **Paragraph No:** AMC M.A.306(a) **Comment:** Rewritten to include UK CAA comments on M.A.301 –1(f) **Justification:** To provide clarity **Proposed Text (if applicable):** and an assessment that, as a result of meteorological conditions and previous application of de-icing/anti-icing fluid, there is no frozen water or de-icing/anti-icing fluid residues that could endanger flight safety or aircraft performance.	
response	*Not accepted*	
	See comment 43.	

comment	*52*	comment by: *REGIONAL (Christophe WERMELINGER)*
	Attachment #4	
	AMC M.A.306 (a) Section 3 vi. shall be modified as follows:	

	and, **if applicable,** any other information required by the operator's procedure to allow the assessment that, as the result of meteorological conditions and deicing/antiicing fluids having been previously applied on it, there are no frozen water or fluid residues that could endanger flight safety,
response	*Accepted*
	The proposed text in this CRD is redrafted (para. AMC M.A.301) to unambiguously allow for other ways to control the build-up of residues. If other satisfactory means are used, the pre-flight assessment is not applicable. No need for text change in this paragraph.

comment	*64*	comment by: *Steve Sells - Flyglobespan*
	Comment - It is not practical to include this type of information on a Technical Log. Proposal - delete this change and further evaluate with Operators and TCHs the practical aspects of this type of requirement.	
response	*Not accepted*	
	Operators will need to record any necessary information, so afterwards they would be able to determine whether the aircraft requires an inspection for residues. Operators already record information of the fluid being applied in the technical log.	

B. DRAFT RULES — I Draft Decision AMC to Part-M — AMC M.A.606(h)2 p. 8

comment	*45*	comment by: *UK CAA*
	Page No: 8 **Paragraph No:** AMC M.A.606(h)2 **Comment:** Change to the wording as a result of the proposed UK CAA change to AMC M.A.201(h)2 as it would imply that if removal of panels is not required it could be done by unauthorised personnel. In addition, the term 'Demanding skills' will be subject to various interpretations and therefore should be clearly defined. **Proposed Text (if applicable):** Inspection for and removal of frozen water or de-icing/anti-icing fluid residues, **including** removal/closure of panels, cowls or covers that are easily accessible but not requiring the use of special tools or demanding skills.	
response	*Accepted*	
	Text is accepted as proposed but excluding the reference to 'demanding skills'. The reference to the 'demanding skills' has been removed since it would be a controversial definition and the decision whether the pilot is capable of performing the task is to be determined by the maintenance organisation, responsible for the competence of the staff.	

B. DRAFT RULES — I Draft Decision AMC to Part-M — Appendix V to AMC M.A.704 — Part 1 p. 9

comment	*16*	comment by: *KLM*
	It can be understood that a check or assessment is to be made during the Preflight Inspection. However, in KLM opinion, the rule should allow the operator to establish a cleaning and/or control program as an option to an inspection in the Preflight Inspection program. This assessment should consider the TC-holder information on flight control system parts/details which are susceptible for de-icing/anti-icing fluid rehydration and subsequent freezing (and can have an impact on flight safety), combined with the operator assessment and experiences and the operator/airport procedures on de-icing/anti-icing fluids application (f.e. two-fase or one-fase and type of fluid). This assessment could lead to a periodic cleaning program or periodic inspection inside or outside the Preflight Inspection program as part of the operator maintenance program. If the check/control would be introduced in the Preflight Inspection of all aircraft, the implications could be that before every departure in the winter periods or after a number of de-icing/anti-icing fluid applications, the aircraft needs to be inspected at all flight control locations at close proximity, requiring ladders and/or stands on the platforms to reach spoilers and or horizontal stabilizers, elevators and/or rudders on (large) aircraft. This is an unacceptable situation with a large economic burden. It should be possible to establish a program outside the Preflight Inspection itself. Note: Alternatively, the TC-holder could, as part of the MRB/MSG-3 process, be expected to review the described failure mode and publish a MRB/MPD maintenance task, if required (ref AMC 25.685(a)).	
response	*Partially accepted*	
	See comment 15. TC holders are required by Part-21 to produce intructions for continuing airworthiness of the aircraft.	

B. DRAFT RULES — II Draft Decision AMC and GM to Part-145 — AMC 145.A.30 (g) p. 9

comment	*25*	comment by: *Lufthansa Technik Group*
	For the Part145 Maintenace Organsation: For "A" authorized staff a training will be necessary, as this kind of personnel is "task trained". But for all the other staff involved targeted training should be provided. Is EASA planning to define the targets for this training? (e. g. training with the aim to identify potential areas prone to these conditions, recognise symptoms to look for, when inspecting for residues, use of special tools/material that might be required).	
response	*Partially accepted*	
	See comments 36 and 39.	

comment	*46*	comment by: *UK CAA*
	Page No: 9 **Paragraph No:** AMC.145.A.30(g) **Comment:** Change to the wording as a result of the proposed UK CAA change to AMC M.A.201(h)2 . Although it is recognised that the inspection/cleaning could fall into the Line Maintenance category, the aircraft may at times require hangar space for the necessary access. Some operators have experienced problems with the airport authority for accomplishing this task on the line due to excessive water required to carry out the appropriate cleaning being used on the ramp that subsequently freezes, causing associated danger to personnel. In addition, the motorised ground equipment to access areas of the aircraft may be more appropriate to the hangar environment (especially the elevator of a BAe146). **Proposed Text (if applicable):** Inspection for and removal of frozen water or de-icing/anti-icing fluid residues, including removal/closure of panels, cowls or covers or the use of special tools.	
response	*Partially accepted*	
	The text is accepted as proposed. Note: Being line maintenance category does not exclude the need for a hangar or special ground equipment as required by 145.A.25 and 145.A.40.	

B. DRAFT RULES — II Draft Decision AMC and GM to Part-145 — AMC 145.A.30 (j)(4) — 2. (i) p. 9

comment	*24*	comment by: *Lufthansa Technik Group*
	For the Operator: Due to the change in the content of the Pre-Flight Inspection (PFI) and Technical Log system training should be provided/requested to llight crews and personnel that are authorised to perform PFI and record data in the A/C Technical Log.	
response	*Noted*	
	EASA understands that the need for the requested training is already mentioned in AMC M.A.301 -1- paragraph 3 and therefore there is no need for further AMC in this respect.	

comment	*47*	comment by: *UK CAA*
	Page No: 9 **Paragraph No:** AMC.145.A.30(j)(4) **Comment: Delete this change** **Justification:** For Commercial Air Transport and Large aircraft, it is not considered that the level of inspection and maintenance proposed for flight crews to carry out under AMC.145.A.30(j)4 paragraph 2(i)**,** is in line with that already allowed under this paragraph. It may however be appropriate for such tasks to be carried out by Flight Engineers under AMC.145.A.30(j)4 paragraph 2(ii)	
response	*Not accepted*	
	We acknowledge that the level of maintenance allowed by this new provision may exceed those already established in the AMC. However, due to the special nature and sometimes impossibility to plan ahead for this maintenance action, the Agency has decided to allow the maintenance organisation to issue limited certification authorisation to the commander for the inspection/removal of residues, when requirements for 145.A.30 j (4) are satisfied and under provisions of 145.A.30 (e). The provision, although not being restricted to non-commercial air transport, is assumed to be more interesting for these operators.	

B. DRAFT RULES — II Draft Decision AMC and GM to Part-145 — AMC 145.A.70(a) p. 10

comment	*48*	comment by: *UK CAA*
	Page No: 10 of 10 **Paragraph No:** AMC 145.A.70 (a) L2.2 **Comment: 1,** "and other contaminants" has not been included from the EU Ops 1 title, **Justification:** Consistency with EU-OPS **Proposed Text (if applicable):** Line maintenance procedures related to servicing/fuelling/deicing including inspection for/removal of frozen water or deicing/anti icing fluid residues, sand and other contaminants. etc	
response	*Not accepted*	
	See first part of the reply given to comment 43.	

Appendix A — REVISED TEXT AFTER CRD

B. Draft Decision

The text of the amendment is arranged to show deleted text, new text or new paragraph as shown below:

1. deleted text is shown with a strike through: ~~deleted~~
2. new text is highlighted with grey shading: new
3. … indicates that remaining text is unchanged in front of or following the reflected amendment.

I Draft Decision AMC to Part-M

…

AMC M.A.201(h) Responsibilities

…

2. The performance of ground de-icing and anti-icing activities does not require a ~~Part-145~~ maintenance organisation approval. Nevertheless, inspections required to detect and when necessary eliminate de-icing and/or anti-icing fluid residues is considered maintenance. Such inspections may only be carried out by suitably authorised personnel.

AMC M.A.301 -1- Continuing airworthiness tasks

…

(f) a control that all the aircraft's external surfaces and engines are free from ice, snow, sand, dust etc and an assessment to confirm that, as the result of meteorological conditions and de-icing/anti-icing fluids having been previously applied on it, there are no fluid residues that could endanger flight safety. Alternatively to this pre-flight assessment, when the type of aircraft and nature of operations allows for so, the build up of residues may be controlled through scheduled maintenance inspections/cleanings identified in the approved maintenance program.

…

AMC M.A.306 (a) Operators technical log system

…

Section 3 …

vi. …; provision for the time when ground de-icing and/or anti-icing was started and the type of fluid applied, including mixture ratio fluid/water and any other information required by the operator's procedures in order to allow the assessment on whether inspections for and/or elimination of de-icing/anti-icing fluid residues that could endanger flight safety are required.

…

AMC M.A.606(h)2 Personnel requirements

…

c. Role changes, e.g., stretcher fit, dual controls, FLIR, doors, photographic equipment etc.

d. Inspection for and removal of de-icing/anti-icing fluid residues, including removal/closure of panels, cowls or covers that are easily accessible but not requiring the use of special tools.

e.~~d.~~ Any check/replacement involving simple techniques consistent with this AMC and as agreed by the competent authority.

…

AMC M.B.102 (c) Competent authority – Qualification and training

…

(e) continuing airworthiness management.

(f) operational procedures when affecting the continuing airworthiness management of the aircraft or the maintenance.

…

Appendix V to AMC M.A.704 Continuing airworthiness management organisation exposition.

…

PART 1 CONTINUING AIRWORTHINESS MANAGEMENT PROCEDURES

1.11 Pre-flight inspections

…

e) Control of snow, ice dust, residues from de-icing or anti-icing operations and sand contamination to an approved standard

…

II Draft Decision AMC and GM to Part-145

AMC 145.A.30 (g) Personnel requirements

…

p. The de-activation only of sub-systems and aircraft components as permitted by the operator's minimum equipment list where such de-activation is agreed by the competent authority as a simple task.

q. Inspection for and removal of de-icing/anti-icing fluid residues, including removal/closure of panels, cowls or covers or the use of special tools.

r. ~~q.~~ Replacement of any other component as agreed by the Agency for a particular aircraft type only where it is agreed that the task is simple.

…

AMC 145.A.30 (j)(4) Personnel requirements

…

2. (i) …

c. Role changes e.g. stretcher fit, dual controls, FLIR, doors, photographic equipment etc.

d. Inspection for and removal of de-icing/anti-icing fluid residues, including removal/closure of panels, cowls or covers that are easily accessible but not requiring the use of special tools..

e.~~d.~~ Any check/replacement involving simple techniques consistent with this AMC and as agreed by the competent authority.

…

2. (ii) …

In addition to paragraph 2(i)(a) to ~~(d)~~ (e) other typical minor maintenance or simple defect rectification tasks that may be carried out are included in the following list:

…

AMC 145.A.70(a) Maintenance organisation exposition

…

L2.2 Line maintenance procedures related to servicing/fuelling/de-icing including inspection for/removal of de-icing/anti-icing fluid residues, etc

…

AMC 145.B.10 (3) Competent authority – Qualification and training

…

e. continuing airworthiness management.

f operational procedures when affecting the continuing airworthiness management of the aircraft or the maintenance.

…

GM 145.A.30(j)(4) Personnel Requirements (Flight crew)

…

- Cabin/cockpit/emergency equipment;
- De-icing/anti-icing related maintenance activities;
- Ground handling and servicing;

…

Appendix B — Attachments

Pages 6 of NPA 2009-09+comments_V2.pdf
Attachment #1 to comment #49

Pages 8 of NPA 2009-09+comments_V2.pdf

Attachment #2 to comment #50

Pages 8 of NPA 2009-09+comments_V2.pdf

Attachment #3 to comment #51

Pages 8 of NPA 2009-09+comments_V2.pdf

Attachment #4 to comment #52