

| Comment | | | | Comment summary | Suggested resolution | Comment is an observation or is a suggestion | Comment is substantive or is an objection | EASA comment disposition | EASA response |
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| 1 | ADAC Luftfahrt Technik GmbH | 3.2.2 below 2nd question | 7 | <p>It is understood that a statement is needed after the necessary testing.</p> <p>However this testing and the corresponding engineering assessment would be successful if no detrimental influence on the existing NVIS is shown.</p> <p>But the existing NVIS approval is affected in any case as the new installation or change would be added to the configuration of the existing NVIS.</p> | <p>Suggested wording as follows:</p> <p>“[...] In both cases after the necessary testing a statement needs to be made in the approval/ICA/RFM (if applicable) highlighting that the <i>change to the NVIS has been assessed positively under current certification rules</i> NVIS approval is not affected by the change. [...]”</p> | Yes | No | Accepted | |
| 2 | ADAC Luftfahrt Technik GmbH | 3.6.2 | 9 | <p>The issue of assistance during first NVIS fleet installations is critical. It is agreed that the Part145 organisation should be supported and trained by the NVIS TC/STC holder.</p> <p>However it is found that a full MG16 type ground and/or flight test should be limited to the TC/STC applicant’s activities during certification of the prototype installation.</p> <p>With the resulting well defined and frozen configuration documented in the type design no additional substantiation should be necessary. From past experience it is found safe that post-installation activities consist of careful conformity and functional checks. An additional dark hangar testing for leaks or general incompatibility issues should complement this assessment.</p> <p>Any determination of acuity loss or even flight testing(!) should not be a part of post-approval Part145 activities.</p> | <p>Suggested wording as follows:</p> <p>“[...] It is also recommended that the NVIS TC/STC holder should train the operator for performing the light leak check, <i>additional compatibility inspections, functional system checks and conformity inspections of the configuration. The training should include as minimum a MG16 type of check (ground and flight test if necessary) as recommended way to verify adequate compatibility.</i> [...]”</p> | Yes | Yes | Partially accepted | <p>The proposed text is now highlighting this paragraph:</p> <p>The ICA should highlight that the first NVIS installation and / or the first NVIS maintenance activities such as:</p> <p><i>light leak check, additional compatibility inspections, functional system checks and conformity inspections of the configuration</i></p> <p>should be done with the collaboration of the NVIS TC/STC holder in case the part 145 (or the maintenance facility) has no previous or recent experience with NVIS modified rotorcrafts</p> |
| 3 | UK CAA | | | Please be advised that the UK CAA have no comments on the above Proposed Certification Memorandum. | | | | Noted | Thanks |
| 4 | NSE Industries | 3.4 | | <p>3.4. Configuration Control</p> <p>How the initial EASA STC will take in account the major change performed by a different DOAH from the first approval ? This regarding the Owner of the last changes.</p> | | Yes | | Noted | If well understood, the question is asking the impact on the initial NVIS approval holder of future NVIS approved modifications. The reply is that each approved NVIS modification will have – if this CM guidance is followed- a RFM and /or an ICA and/or a configuration document established in a similar way of the initial approval holder. This will enable all interested parties to be aware of any changes introduced |
| 5 | NSE Industries | 3.4.1 | | <p>3.4.1. First modifications of non NVIS certified helicopters</p> <p>For the procedure to be established by the applicants, could a generic template be provided to indicate the main chapters?</p> | | Yes | | Noted | If well understood, a generic template of a configuration file is presented in Appendix. This should be applicable for each serial number(s) having identical configuration. Basically this is attempt to provide a standard way to do approvals |

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| 6 | NSE Industries | 3.4.1 | | <p>3.4.1. First modifications of non NVIS certified helicopters</p> <p>How could confidentiality of specific configurations for a fleet be managed ? This also could imply specific Annex for mounting instruction, RFMS, ICA, checking procedure to be approved but only distributed to authorized users.</p> <p>Or in other words, how to avoid that each operator could access to the configuration of his potential competitor?</p> | | Yes | | Noted | Usually The ICA for any change (not necessarily NVIS) contain the installation instructions and specific maintenance instructions. Those ICA are given to the operator and to the Part 145 or maintenance plant. So the question is not clear, the operator would have a collection of ICAs as well as now it is existing for any kit or basic helicopter. |
| 7 | NSE Industries | 3.4.2 | | <p>3.4.2. Follow-up modifications of already NVIS certified Helicopters</p> <p>How did you intend to manage the multiple supplements of the several applicants? (Management of the supplement of the supplement...)</p> | | Yes | | Noted | It is highlighted in 3.4.2 that any change to an approved NVIS helicopter made by a third party (not the initial NVIS approval holder) should be made in a way and format similar to the initial NVIS holder. In this way the operator/maintenance facility will have a collection of similar approvals and this should ease the work |
| 8 | NSE Industries | 3.6.1 | | <p>3.6.1. ICA</p> <p>Should a dedicated process could be developed to standardize the types of checking is OK but are the corresponding tools to be required will be recommended?</p> | | Yes | | Noted | This is an interesting comment. The SPA NVIS is requiring for instance a eye adjustment for NVG. Waiting for a possible proposal from NSE , the CM could then be revised accordingly |
| 9 | NSE Industries | 3.6.2 | | <p>3.6.2. First installation on multiple approval serial number</p> <p>Recommendations and should are used into this paragraph. Could you please confirm that this chosen words are sufficient? Or should it be understood as an obligations?</p> | | | | Noted | The paragraph has been rewritten to put more responsibility on the maintenance facility to either install or maintain the NVIS kit. Recommendations are there as EASA has no approved training so far for NVIS capabilities on maintenance facilities, nor on operators. Once tis will be established then the CM might be accordingly revised |
| 10 | Airbus Helicopters | All | All | <p>The reference is either made only to FAA AC 29-2C MG16 (cover page and § 1.2) or to both AC 27/29 MG16 (§ 3.2.2, 3.4.1 and 3.5).</p> <p>Our understanding is that the scope should be all rotorcrafts, not only large rotorcrafts.</p> | Clarify the scope and add reference to AC 27 MG 16 where only AC 29 MG 16 is referenced. | No | Yes | Accepted | |

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| 11 | Airbus Helicopters | All | All | The use of expressions "...certified NVIS...", "...NVIS certified helicopters...", "...NVIS certification..." is not in line with Part 21 terminology, which considers product (aircraft, engine or propeller) certification and change approvals. | <p>Suggestion is to replace:</p> <ul style="list-style-type: none"> - "certified" by "approved", - "certification" by "approval", except in reserved expressions like "Certification Memorandum", "Certification policy", etc. <p>Special cases:</p> <ul style="list-style-type: none"> - In titles of § 3.2.1 and § 3.4.1, "First modifications of non NVIS certified helicopters" could be changed into "Initial introduction of NVIS compatibility", underlining the fact that this first change is not any change, but a conversion to NVG compatibility, - In § 3.2.2, "For changes to already certified NVIS" could be changed into "For changes to already NVIS approved helicopters", - In § 3.6.1 page 8, "approved NVIS certification" could be changed into "approved NVIS configuration", - In § 3.7, "concerning NVIS certification" could be changed into "concerning NVIS compatibility". | Yes | No | Partially accepted | Where possible the update has been applied |
| 12 | Airbus Helicopters | 1.2 | 4 | Reference is given to AC 29-2C Change 2 MG16, dated 2006. However, a fully reworked MG16 has been submitted to public consultation in the frame of rotorcraft AC revisions and should be introduced in AC 29-2C change 4. | Either reference in advance the future MG16 or add a note indicating that the MG16 is currently under review and the new version shall become applicable as soon as officially issued. Same remark for AC 27 MG 16, not yet referenced in § 1.2 (see Airbus Helicopters' comment #1). | Yes | No | Accepted | The future MG16 has been put in reference. |
| 13 | Airbus Helicopters | 1.3 | 4 | "NVIS Night Vision Image System" This acronym is not the standard one. | Use acronym of "NVIS" as per RTCA DO-275 (NVIS = Night Vision Imaging System) To be also corrected in CM title, § 1.1, and § 2. | No | Yes | Accepted | |
| 14 | Airbus Helicopters | 1.3 | 4 | TGL 34 is not used in the document. | Remove reference to TGL 34. | Yes | No | Accepted | |
| 15 | Airbus Helicopters | 3.2.2 | 6 | As shown by the example of the cable cutter, changes in the aircraft which may impact NVIS compatibility are not necessarily reduced to changes in the NVIS configuration itself. The introduction of this section does not sufficiently highlight this fact. Moreover, sentence "TC/STC holder of an NVIS approval should propose its own criteria for classification of lighting changes having only limited impact on the NVIS approval" tends to highlight a restriction. | The change already suggested in Airbus Helicopters' comment #1 above (i.e. change "For changes to already certified NVIS" into "For changes to already NVIS approved helicopters") is likely to improve this understanding. Another suggestion is to add a sentence to explicitly state that changes possibly impacting the NVIS compatibility might not be restricted to changes in the NVIS configuration itself. At last, the cited text could be amended, changing "lighting changes" into "changes". | Yes | No | Accepted | Option 1 chosen |
| 16 | Airbus Helicopters | 3.2.2 | 7 | Typo: "GM 16 of AC 27/29" | Typo: "MG 16 of AC 27/29" | Yes | No | Accepted | |

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| 17 | Airbus Helicopters | 3.2.2 | 7 | <p>"In both cases after the necessary testing a statement needs to be made in the approval/ICA/RFM (if applicable) highlighting that the NVIS approval is not affected by the change."</p> <p>Statements in approvals/ICA/RFM highlighting that certain changes did not affect existing NVIS approvals does not seem practicable and may inundate those rotorcraft documents. It is therefore not recommended to include such statements.</p> | <p>Operators and maintenance personnel should clearly be made aware of possible effects such changes may have on NVIS by means of appropriate general statements. In addition, whenever such changes proved to adversely affect NVIS approvals after testing, statements in applicable rotorcraft documents shall identify those changes. NVIS operations shall than not be allowed unless equipment can be switched off during those operations.</p> <p>Suggestion is to change the present sentence to the following one:</p> <p>"In both case, if the NVIS check shows an impact of the change on the NVIS approval, a statement needs to be made in the approval/ICA/RFM (if applicable) highlighting that the NVIS approval is affected by the change and how it is affected."</p> | No | Yes | Not accepted | <p>Based on comments received, Another sentence has been introduced: <i>the changes to the NVIS original approval have been positively assessed under current certification rules</i></p> <p>This sentence better reflects the message intended to be provided.</p> |
| 18 | Airbus Helicopters | 3.2.2.1 | 7 | <p>The suggestion that "The existing helicopter NVIS configuration (usually in the ICA) should be amended to include the new change" should not be restricted to the case where the change is made by the original TCH / STCH. It is also valid if the change is made by another stakeholder.</p> | <p>This sentence should be moved out of this specific paragraph.</p> | No | Yes | Not accepted | <p>In case on applicants different than the original TC/STC approval, they cannot modify or amend the existing NVIS ICAs but need to do new ones entitled to them, for this reasons the comment has not been accepted.</p> |
| 19 | Airbus Helicopters | 3.2, 3.2.2.1 and 3.2.2.2 | 7 | <p>The important concept is not whether a change in NVIS configuration is major or minor, but whether the change is performed or not by the original designer (TC or STC holder).</p> <p>Keeping the concept of minor or major is not useful in this context and could be misleading in § 3.2.2.2, as major changes by applicants other than the original TC / STC holder can only be made as an STC, which is not mentioned.</p> | <p>Suggestion is to remove "Minor and major" from the titles of these subparagraphs.</p> <p>Also, § 3.2.2.1 could be suppressed, based on factorisation of the need to update the NVIS configuration documentation (Airbus Helicopter's comment #9 above).</p> <p>At last, the last sentence before § 3.2.2.1 introducing § 3.2.2.1 and 3.2.2.2 as giving possible procedural approaches, could be suppressed.</p> | Yes | No | Not accepted | <p>The text has been deliberately chosen to repeat that an Applicant could do either minor or major changes to an approval, and this Applicant could be not the initial TC/STC holder. While strictly speaking the drafter agrees with AH, for matter of clarity and based on the fact that the CM is intended to be sent to all kind of public (also operators having limited DOA knowledge), it has been decided to keep the original text for matters of clarity.</p> |
| 20 | Airbus Helicopters | 3.4.2 | 8 | <p>1st sentence of this section is misleading; one can question about whether 3 stakeholders are considered (the "applicant", the "organisation other" and the "TC/STC holder").</p> <p>Moreover, the suggested examination and supplementary information to be provided in case of a change impacting the NVIS kit or the NVIS approval should not depend on whether the change is classified minor or major and whether it is made by the initial TC/STC holder.</p> | <p>Suggestion for whole 1st sentence of this section.</p> <p>"Applicants seeking to introduce changes to already approved NVIS kits for which they do not hold the original TC/STC should examine carefully what is already existing as NVIS configuration file, RFM and ICA."</p> | Yes | No | Accepted | |
| 21 | Airbus Helicopters | Annex 1, A.1. | 1 | <p>The list does not include the items mentioned in the main document, paragraph 3.6.1.</p> | <p>Suggest add –</p> <p>d. Hard Landing</p> <p>e. Lightning Strike</p> | Yes | No | Not accepted | <p>This Annex is not intended to replace the ICA document but to provide a guidance for a specific inspection (day and night). It is intended to be an Appendix of the ICA, for this reason it does not cover all situations where it is necessary to be done</p> |

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| 22 | Airbus Helicopters | Annex 1, B.1.b.2) | 1 | Night Unaided can be either without NVG, or with NVG in the stowed position, or with NVG and looking under the NVG – but looking outside of the aircraft. The viewing of the instrument panel should always be unaided. | Update the wording. | Yes | No | Not accepted | The main objective is to look the NVIS mode under the NVGS with human eyes. It is considered that adding all possible ways of doing it will not really improve the Appendix and so for clarity reasons this comment is not accepted | |
| 23 | Airbus Helicopters | Annex 1, B.1.c.3) | 1 | Night Aided is looking through the NVGs, which is not mentioned. The pilot in the left seat will be looking cross cockpit to the right, not to the left. | Suggest – Ability to view the external environment when looking through NVGs -forwards, to the (own) side and cross cockpit. | Yes | No | Partially accepted | Introduced sentence right/left to cover both seat positions | |
| 24 | Airbus Helicopters | Annex 1, V | 7 | The Warning and item 1 indicate "no-light environment" required for NVG operation. | Suggestion: low-light environment Low light conditions could be defined. | Yes | No | Not accepted | It would be too difficult to define what is low light conditions, so no light is still considered to be the best choice for clarity purposes | |
| <p>The comments below from Airbus Helicopters suggest improvements to English and are provided for convenience. Suggested texts may not systematically account for possible changes linked to other comments above and should therefore not be strictly used in all cases.</p> | | | | | | | | | Noted | EASA thanks AH for this additional work, the CM will be surely more readable |
| 25 | Airbus Helicopters | 3.1 | 6 | <p>The comments below suggest improvements to English and are provided for convenience.</p> <p>Suggested texts may not systematically account for possible changes linked to other comments above and should therefore not be strictly used in all cases.</p> <p>"The NVIS certification has been increasing in the latest years. The existing advisory guidance is dated 2006, but the developments on showing of compliance were such that new clarifications were necessary, especially in the field of continued airworthiness. Previous to publication of this Certification Memorandum, updates of guidance coming from certification experience were provided on a case by case basis to each European applicant that intended to perform a NVIS certification project through dedicated Certification Review Items (CRI). This Certification Memorandum complimentary to AC MG16, provides an insight into the content of these CRIs and the agreements between EASA and the design approval holder to be made after each NVIS approval."</p> | "NVIS approval has been increasing in recent years. Existing advisory guidance is dated 2006, and additional advice is required to address means of demonstrating compliance and continued airworthiness and to cover advances in technology. Prior to this Certification Memorandum, additional guidance was provided on a case by case basis through dedicated Certification Review Items (CRI) to each European applicant intending to perform NVIS certification. This Certification Memorandum is complimentary to AC MG16, providing information contained within the CRIs and from agreements between EASA and the design approval holder." | Yes | No | Accepted | | |
| 26 | Airbus Helicopters | 3.2.1 | 6 | "Any new modification that changes an aircraft from non NVIS to NVIS-compliant is considered a major change under Part 21.A.911 because it has an appreciable effect on operational characteristics of the aircraft. Additionally, NVIS lighting modifications are major due to the fundamental effect NVGs have on visual perception and the inherent characteristics of NVIS technology." | "Any new modification that changes an aircraft from non NVIS to NVIS-compliant is considered a major change under Part 21.A.911 because it has an appreciable effect on the operational characteristics of the aircraft. Additionally, NVIS lighting modifications are considered major due to the inherent characteristics of NVIS technology and the fundamental effect the use of NVGs has on visual perception." | Yes | No | Accepted | | |

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| 27 | Airbus Helicopters | 3.2.2 | 6 | <p>"3.2.2. Follow-up modifications of already NVIS certified helicopters</p> <p>For changes to already certified NVIS, 21.A.91 defines the criteria of minor vs. major changes. For NVIS certified helicopters, it has been found that some changes that in first instance seem to be minor according to 21.A.91 could have a potential major effect on the cockpit lighting characteristics and thus on pilot vision through the NVGs. For instance a radio installation could shine directly in the NVG if the screen is not NVG compatible, or a cable cutter could reflect external lighting and affect the pilot NVG aided vision. Therefore the change classification should take into account the effects on cockpit/cabin lighting characteristics and the NVIS. Unfortunately it is difficult to provide a list of minor vs. major lighting changes, mainly because each helicopter will exhibit different lighting characteristics due to the cockpit layout, and the location and type of instruments fitted and this will have a bearing on pilot NVG aided vision. Due to this fact EASA agreed since years that each TC/STC holder of an NVIS approval should propose its own criteria for classification of lighting changes having only limited impact on the NVIS approval, thus to be considered minor. This list depends greatly on the experience and knowledge of the specific kind of NVIS approval."</p> | <p>"3.2.2. Modification of already NVIS approved helicopters</p> <p>For changes to already approved NVIS helicopters, 21.A.91 defines the criteria for minor vs. major changes. For NVIS approved helicopters, it has been found that some changes that initially appear to be minor, according to 21.A.91, may have a significant effect on the cockpit lighting characteristics and thus on pilot vision through the NVGs. For example, a radio installation could shine directly in the NVG if the screen is not NVG compatible, or a cable cutter could reflect external lighting and affect the pilot NVG aided vision. Therefore, the change classification should take into account the effects on cockpit/cabin lighting characteristics and the NVIS. It is difficult to provide a list of minor vs. major lighting changes, primarily because each helicopter will exhibit different lighting characteristics due to the cockpit layout, and the location and type of instruments fitted, and this will have a bearing on pilot NVG aided vision. Due to this, EASA has historically agreed that each TC/STC holder of an NVIS approval should propose their own criteria for classification of lighting changes having only limited impact on the NVIS approval, and therefore to be considered minor. This list depends greatly on the experience and knowledge of the specific organisation and the NVIS approval requested."</p> | Yes | No | Accepted | |
| 28 | Airbus Helicopters | 3.2.2 | 6, 7 | <p>"The logic of classification of changes according to 21.A.91 would be so complemented by adding two additional questions in the loop:</p> <p>1st question: is the change affecting the internal and external lighting?</p> <p><input type="checkbox"/> If no, then apply current 21.A.91 policy. The NVIS approval will not be affected.</p> <p><input type="checkbox"/> If yes, then the change requires a NVIS check according to GM 16 of AC 27/29. In this case the following should be considered:</p> <p>2nd question: Has the applicant agreed with the Agency how to classify changes for their effect on NVIS approved helicopters?</p> <p><input type="checkbox"/> If yes, then the change is classified following the agreement and could be minor.</p> <p><input type="checkbox"/> If no, then the change is deemed to be major."</p> | <p>"The classification logic according to 21.A.91 can be complemented by the following questions:</p> <p>1: Does the change affect the internal and/or external lighting, reflections or HMI?</p> <p><input type="checkbox"/> If no, then apply current 21.A.91 policy. The NVIS approval will not be affected.</p> <p><input type="checkbox"/> If yes, then the change requires a NVIS assessment according to MG 16 of AC 27/29. In this case the following should be considered:</p> <p>2: Has the applicant agreed with the Agency how to classify changes for their effect on NVIS approved helicopters?</p> <p><input type="checkbox"/> If yes, then the change is classified according to the agreement and may be minor.</p> <p><input type="checkbox"/> If no, then the change is deemed to be major."</p> | Yes | No | Partially accepted | Almost all proposed text was introduced |

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| 29 | Airbus Helicopters | 3.2.2 | 7 | <p>"While the number and types of helicopters that are NVIS certified is growing constantly, the awareness concerning the risk of installation of changes that could have a major impact on the NVIS lighting effect to the pilot is still not sufficiently developed. It is therefore important that the final users of the helicopters – the operators – provide great care to this aspect, since finally they will be the ones deciding to change an avionics or to imbed any new equipment producing lighting. As the operators will have through the NVIS approval the complete list of the configuration of the aircraft, they should carefully verify that any future change in the configuration did not affect the NVIS approval.</p> <p>This is mostly relevant in case of the change is made from a Company different from the original NVIS TC/STC holder."</p> | <p>"While the number and types of helicopters that are NVIS approved is growing constantly, the awareness concerning the risk of incorporating changes that could have a major impact on NVIS and the pilot is still not sufficiently developed. It is therefore important that the final users of the helicopters – the operators – exercise caution {or, consider carefully this aspect}, since ultimately they will make the decision to change an equipment or not. The operators, through the NVIS approval, have the complete aircraft configuration. They should carefully verify that any future change in the configuration does not affect the NVIS approval.</p> <p>This is particularly important where the change is made by a Company other than the original NVIS TC/STC holder."</p> | Yes | No | Accepted | |
| 30 | Airbus Helicopters | 3.2.2.2 | 7 | <p>☑ DOA/AP DOA with the appropriate NVIS capability explicitly mentioned in their exposition published in the EASA internet. It is important that also for approvals issued directly by the DOA (minor changes), the operator will have available in his documentation (certificate and RFM/ICA as applicable) the proof of NVIS check.</p> <p>☑ DOA/AP DOA without NVIS capability, and applicants not holding a DOA or AP DOA (typically operators): either the NVIS compatibility check is performed with the help of a DOA having NVIS capability (and the subsequent change approval is highlighting the positive NVIS check), or the new change approval certificate and RFM/ICA should stipulate that no NVIS compatibility check has been done, thus invalidating the original NVIS approval. Under this condition, it will be the responsibility of the operator when installing the change to seek a re-validation of the NVIS approval, prior to release to service for NVIS operations."</p> | <p>☑ DOA/AP DOA with the appropriate NVIS capability explicitly mentioned in their exposition published in the EASA internet. For approvals issued directly by the DOA (minor changes), the operator documentation (certificate and RFM/ICA as applicable) will include proof of the NVIS assessment.</p> <p>☑ DOA/AP DOA without NVIS capability, and applicants not holding a DOA or AP DOA (typically operators): Either the NVIS assessment is performed with the assistance of a DOA having NVIS capability (and the subsequent change approval highlights a positive NVIS assessment), or the new change approval certificate and RFM/ICA should stipulate that no NVIS compatibility assessment has been conducted, therefore invalidating the original NVIS approval. In this case, it will be the responsibility of the operator, when installing the change, to seek a re-validation of the NVIS approval, prior to release to service for NVIS operations."</p> | Yes | No | Accepted | |

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| 31 | Airbus Helicopters | 3.4.1 | 8 | "Applicants seeking an initial NVIS certification of an already approved Night VFR helicopter, should establish a procedure that allows clear identification of each specific cockpit-cabin lighting configuration. This will form the basis on which future modifications or repairs done by third parties will be assessed for any impact on NVIS compatibility and the overall initial NVIS certification. A configuration file should be established, which should be available to the operator and then to the maintenance facility as it will be used to check if the existing helicopter configuration still matches the NVIS approved one. This is typically done as an Appendix of the ICA, detailed per serial number(s) having the same configuration. Please refer to paragraph 3.6 and to Annex 2 to have a possible model of configuration file. Adequate measures should also be put in place to inform operators of the need for caution in making future modifications that could invalidate the original NVIS certification. Please refer to MG16 of AC27/29 for dedicated statements to be inserted on the certificate approval, RFM and ICA. The same guidance material also highlights additional considerations for MMEL and compatibility with other helicopter kits." | "Applicants seeking an initial NVIS approval of an already approved Night VFR helicopter, should establish a procedure that allows clear identification and assessment of each specific cockpit-cabin lighting configuration. This will form the basis on which future modifications or repairs will be assessed for any impact on NVG compatibility and the overall initial NVIS approval . A configuration file should be established and made available to the operator and maintenance facility as it will be used to check the conformance of the existing helicopter configuration to the NVIS approved configuration . The configuration file is typically provided as an Appendix of the ICA, detailing the applicable helicopter serial number(s) . Refer to paragraph 3.6 and to Annex 2 for an example configuration file. Adequate measures should also be put in place to inform operators of the need for caution when incorporating future modifications that could invalidate the original NVIS approval . Refer to MG16 of AC27/29 for dedicated statements to be inserted in the certificate approval, RFM and ICA. The same guidance material also highlights additional considerations for MMEL and compatibility with other helicopter kits." | Yes | No | Partially accepted | Almost all proposed text was introduced |
| 32 | Airbus Helicopters | 3.4.2 | 8 | "Applicants seeking to introduce minor and major changes to already approved NVIS kits from organisations other than the TC/STC holder, should examine carefully what is already existing as NVIS configuration file, RFM and ICA. Any supplementary information should be made in the same format as the existing data in order to facilitate the work of the operator and CAMO/maintenance facility in reviewing the initial NVIS configuration and successive NVIS approved minor or major changes." | "Applicants seeking to introduce minor and/or major changes to already approved NVIS kits, in particular by organisations other than the TC/STC holder, should examine any existing NVIS configuration file, RFM and ICA. Any supplementary information should be developed in the same format as existing data to facilitate the work of the operator and CAMO/maintenance facility in reviewing the initial NVIS configuration and successive NVIS approved minor or major changes." | Yes | No | Not accepted | A new text was adopted coming from another commenter |

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| 33 | Airbus Helicopters | 3.5 | 8 | <p>"For NVIS approvals not limited to specific serial numbers, it is probable that there will be a variety of different pre-existing cockpits on which the same STC will be applied. This might also result in the adoption of different limitations or pilot procedures. For these reasons the applicant of a NVIS STC/major change should propose a plan to cover dedicated RFM supplement for each serial number. A possible solution would have a RFM structured in two parts. One covers the basic helicopter configuration, having the generic normal procedures and limitations. A model of this RFM supplement is found in MG16 of AC27/29 The other one should be an Appendix, specific to serial number(s), containing any additional limitations or procedures relative to specific optional equipment installed (if existing), and a reference to the document (configuration file) having the detailed description per serial number. A model of this RFM Appendix is found in Annex 3. Please refer to the chapter 3.6 to have models of configuration files."</p> | <p>"For NVIS approvals not limited to specific helicopter serial numbers, it is probable that there will be a variety of different, pre-existing cockpits on which the same STC will be applied. This may require different limitations or pilot procedures to be applied. For these reasons the applicant of a NVIS STC/major change should propose a plan to cover dedicated RFM supplements for each serial number(s). A possible solution would have a RFM structured in two parts. The first covering the basic helicopter configuration, having the generic normal procedures and limitations. An example RFM supplement is provided in MG16 of AC27/29. The second part should be an Appendix, specific to applicable helicopter serial number(s), containing any modified or additional limitations or procedures relative to any specific configurations or optional equipment installed, and including a reference to the specific helicopter serial number(s) configuration file. An example RFM Appendix is provided in Annex 3. Refer to chapter 3.6 and Annex 2 for an example configuration file."</p> | Yes | No | Accepted | |
| 34 | Airbus Helicopters | 3.6.1 | 8 | <p>"Routine continued airworthiness tasks such as scheduled maintenance or non-routine tasks such as repairs, that affect NVIS cockpit compatibility could compromise the initial certification. The Applicant of a NVIS STC/major change should update maintenance manual(s) to include a dedicated NVIS paragraph and instructions in order to cover the following occurrences:</p> <ul style="list-style-type: none"> <input checked="" type="checkbox"/> Scheduled and unscheduled maintenance instructions including cockpit disassembly <input checked="" type="checkbox"/> Repairs on NVIS components <input checked="" type="checkbox"/> An inspection to check if the existing cockpit and external lights conform to the approved NVIS certification to be made at the opportunity of any equipment change/repair affecting NVIS components or regularly in a period of time not exceeding 2 years. Any discrepancies must be communicated to the NVIS STC/TC holder. In order to confirm the NVIS certification assumptions, all differences need to be tested against NVIS compatibility." | <p>"Routine continued airworthiness tasks such as scheduled maintenance or non-routine tasks such as repairs that affect the NVIS configuration could compromise the initial NVIS approval. The Applicant of a NVIS STC/major change should update maintenance manual(s) to include a dedicated NVIS paragraph and instructions in order to cover the following occurrences:</p> <ul style="list-style-type: none"> <input checked="" type="checkbox"/> Scheduled and unscheduled maintenance instructions including cockpit disassembly <input checked="" type="checkbox"/> Repairs on NVIS components <input checked="" type="checkbox"/> An inspection to check if the existing cockpit and external lights conform to the approved NVIS certification, to be conducted following the change/repair of any NVIS equipment, or regularly within a period of time not exceeding 2 years. Any discrepancies must be communicated to the NVIS STC/TC holder. In order to confirm the NVIS certification assumptions, all differences need to undergo NVIS assessment." | Yes | No | Partially accepted | Almost all proposed text was introduced |

| Comment | | | | Comment summary | Suggested resolution | Comment is an observation or is a suggestion | Comment is substantive or is an objection | EASA comment disposition | EASA response |
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| NR | Author | Section, table, figure | Page | | | | | | |
| 35 | Airbus Helicopters | 3.6.1 | 9 | <p>"☒ The maintenance instruction should include also a NVIS light leak check to be made at the time of the NVIS inspection. The NVIS light leak check should verify that the NVIS lighting has not been degraded from the one at time of certification. The ICA should indicate that the check has to be done by appropriate personnel capable of judging the new cockpit NVIS compatibility compared to the one installed on the first time and be conducted from all crew stations intended to be used (including cabin) in NVG operations.</p> <p>☒ The light leakage check should also be done after hard landing or after any lightning strike.</p> <p>☒ The following are maintenance items typical to NVIS that should be considered in the scheduled maintenance document as part of ICA manual:</p> <ul style="list-style-type: none"> o Change the windshield/ transparencies if crazed or cracked in a manner to impair vision with NVGs o If the NVIS system has also removable filters installed, they should be checked for condition, cleanliness, security, crazing, and moisture between filter and instrument glass. No cracks, crazing or moisture should be allowed. A day light inspection of the filtered avionics should be made to ensure that the filter did not degrade in a way to impair readability or colour in daylight conditions. o All NVIS bezel lights / map lights/ post lights/ should be checked for condition and security o Wiring diagrams (when changes to wiring are foreseen). <p>Annex 1 contains a model of daylight and night light leakage check that could be part of the ICA.</p> <p>Annex 2 contains a model of configuration file and cover page as ICA appendix related to specific configuration or serial numbers."</p> | <p>"☒ The maintenance instruction should include a NVIS light leak check, to be conducted as part of the NVIS inspection. The NVIS light leak check should verify that the NVIS lighting has not degraded since approval. The ICA should indicate that the assessment is to be conducted by appropriately trained and qualified personnel capable of assessing the existing cockpit compared to the initial NVIS certified configuration. The assessment should be conducted from all crew stations intended to be used (including cabin) during NVG operations.</p> <p>☒ Light leakage checks should also be conducted after a hard landing or lightning strike.</p> <p>☒ The following are maintenance items typical to NVIS that should be considered in the scheduled maintenance as part of the ICA:</p> <ul style="list-style-type: none"> o Change the windshield/ transparencies if crazed or cracked in a manner to impair vision when using NVGs. o If the NVIS configuration includes removable filters, they should be checked for condition, cleanliness, security, crazing, and moisture between the filter and instrument glass. No cracks, crazing or moisture should be allowed. A day light inspection of the filtered avionics should be conducted to ensure that the filter has not degraded in a way to impair readability or colour harmonisation in daylight conditions. o All NVIS bezel lights / map lights / post lights should be checked for condition and security. o Wiring diagrams should be updated to reflect any changes. <p>Annex 1 contains an example daylight and night light leakage check that could be incorporated into the ICA.</p> <p>Annex 2 contains an example configuration file and ICA appendix cover page including applicability to specific configuration or helicopter serial numbers."</p> | Yes | No | Accepted | |

| Comment | | | | Comment summary | Suggested resolution | Comment is an observation or is a suggestion | Comment is substantive or is an objection | EASA comment disposition | EASA response |
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| NR | Author | Section, table, figure | Page | | | | | | |
| 36 | Airbus Helicopters | 3.6.2 | 9 | <p>"3.6.2. First Installation on a multiple approval serial number.</p> <p><i>It is recommended that the first NVIS installation on an operator fleet should be performed with the assistance of the NVIS TC/STC holder. It is also recommended that the NVIS TC/STC holder should train the operator for performing the light leak check. The training should include as minimum a MG16 type of check (ground and flight test if necessary) as recommended way to verify adequate compatibility. This will ensure the operator to be able to communicate to the TC/STC holder if a degradation is perceived in the NVIS compatibility such to impair safe flight.</i></p> <p><i>This paragraph seems to mix appropriate operator training with the need to ensure the first installation of an NVIS kit is validated. Depending on the organisation, it may not be appropriate to train for the conduct of MG16 testing which requires specific training and equipment and in many cases should be conducted by the TC/STC holder."</i></p> | <p>"3.6.2. First Installation on a multiple <i>helicopter serial number</i> approval.</p> <p><i>It is recommended that the first NVIS installation on an operator fleet be performed with the assistance of the NVIS TC/STC holder.</i></p> <p><i>An MG16 based assessment should be conducted on the first aircraft, including ground and flight test as required by appropriately trained and equipped team to verify the installation.</i></p> <p><i>It is also recommended that the NVIS TC/STC holder train the operator to perform an appropriate level of NVIS assessment depending on their organisation and personnel competencies. Training should include as a minimum, light leak checks, lighting harmonisation and detection of NVG incompatibilities. This will ensure the operator is able to communicate to the TC/STC holder if a degradation is perceived in the NVIS installation that may impair safe flight."</i></p> | Yes | No | Partially accepted | The first sentence has been deleted, due to a previous comment, the second one adopted |
| 37 | Airbus Helicopters | Annex 1, Title | 1 | "NVIS COMPATIBLE LIGHTING SYSTEM" | Suggestions: "NVIS Lighting System", or "NVG Compatible Lighting System" | Yes | No | Not accepted | The whole system is compatible to NVGs, title maintained to provide clarity |
| 38 | Airbus Helicopters | Annex 1 III, 2 IV, 2 V, 3 | 2 4 7 | "Windows/doors should represent operation configuration and windscreens should be clean." | "Windows/doors should represent the operational configuration and windscreens should be clean." | Yes | No | Accepted | |