



DEFENCE AVIATION SAFETY AUTHORITY

**COMMENT RESPONSE DOCUMENT TO
NPA 2022-007 – DASR SPA.55 NIGHT VISION IMAGING SYSTEM
(NVIS)**

INTRODUCTION

1. **General.** This Comment Response Document (CRD) summarises DASA's agreed regulation changes as a result of the Notice of Proposed DASR Amendment (NPA) process to NPA 2022-007, and finalises public consultation on the NPA. DASA will consider arguments opposing the views expressed in this CRD only in exceptional circumstances. Any member of the regulated community having arguments to support an appeal against the decisions documented in this CRD may petition DASA.
2. **Background.** DASA released NPA 2022-007 (*DASR SPA.55 Night Vision Imaging System*) for regulated community comment on 1 Aug 22. The period for public comment closed on 26 Aug 22. DASA subsequently consulted with each environmental command HQ to ensure the DASA responses to NPA feedback were acceptable.

ANALYSIS OF COMMENTS

General

3. DASA received 120 comments in response to NPA 2022-007. The comments are individually listed in Annex A together with their corresponding DASA responses.

Environmental command endorsement positions

4. Environmental command HQs provided endorsement to NPA 2022-007 as follows:
 - a. HQ AVNCOMD accepted the proposal without change¹
 - b. HQFAA, and HQAC² advised the proposal was acceptable, but would be improved if DASA made the changes detailed in Annex A.
5. **DASA response.** DASA accepted and incorporated the majority of feedback into the revised regulation. DASA forwarded the revised draft back to each environmental command HQ, and received subsequent endorsement.

Environmental command resource implications

6. HQFAA, HQ AVNCOMD and HQAC advised that additional resources are not required as a result of NPA 2022-007.
7. **Transition plan.** DASA incorporated a transition plan with the update to *DASR SPA.55*. In this plan, DASA will provide a nine month transition period, commencing on the

¹ Note, Army raised a number of issues with the draft of *DASR SPA.55* prior to NPA. [BP28817391](#) details the specific issues Army raised, and the DASA responses.

² TED (AWC) advised the proposal was unacceptable without changes defined in Annex A. DASA consulted the revised draft to TED (AWC) and received subsequent endorsement.

date of publication of *DASR SPA.55*. This transition period will allow the regulated community to make the necessary changes to their management systems. DASA will not enforce compliance with *DASR SPA.55* when conducting oversight activity during the transition period. DASA will consider extensions to the transition period on request.

AUTHORITY

8. The content of this Comments Response Document is authorised.

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17 Feb 23

Annex:

- A. NPA 2022-007: *DASR SPA.55 Night Vision Imaging System (NVIS)* – Regulated Community Feedback

NPA 2022-007: DASR SPA.55 NIGHT VISION IMAGING SYSTEM (NVIS) - REGULATED COMMUNITY FEEDBACK

LSN	NPA (Ver 0) Reference: (ie Regulation number, NPA paragraph etc)	Post NPA Regulation Reference: (re-numbered Regulation)	Unit	Unit: Comment or suggested change	Unit: Further Explanation where provided	DASA Response
1	GM SPA.55(a)3	GM SPA.55(a)4	DFSB- DD Investigations CDR D.Cooper	Remove last sentence of para a - 'In one case, the loss of Aircrew vision contributed to an Aircraft CFIT'	References to an accident for which the investigation report has not been finalised or published. This statement is not supported by evidence (report findings and recommendations).	DASA deleted the sentence from GM SPA.55(a)3 (re-numbered GM SPA.55(a)4) that read: <i>In one case, the loss of Aircrew vision contributed to an Aircraft CFIT.</i> Background: Discussions between DD Investigations and DD FLTOPS conducted on 4 August 22. DD FLTOPS agreed in principle to remove this sentence before DASR release, unless DFSB report issued before DASR release and findings support the extant statement. Consulted with DD Investigations (DFSB).
2	NPA general.	NPA general.	HQAC	Footnote references should have specific links to the source document. Generic statements that there was a derivation from something, but no ability to source the detail, leave a hole in the reader's understanding.		DASA incorporated the suggested change. DASA amended the footnotes in the updated regulation (included in Enclosure 1 to the approval DB) to include source references and hyperlinks.
3	Definitions general.	Definitions general.	HQAC	The Glossary is getting very cluttered. If a definition is only applicable to one regulation, does it need to be in the Glossary? Why not just define within GM for the Reg?	Examples in this NPA are: Night aided and unaided, NVD, NVG, DVE (only used in two locations in the reg), NVIS, PFR.	DASA removed DVE, 'Night aided', 'Night unaided' and 'PFR' (used only in SPA.55) from the proposed inclusion into the glossary and instead added these terms to GM SPA.55. DASA retained the remaining terms 'NVD', 'NVG', 'NVIS' for inclusion in the glossary because they are referred to in other DASR. Consulted with DD OPAW (HQAC).
4	Section 1 - 1. NVG Note 2	Section 1 - 1. NVG Note 2	HQAC	Delete the two instances of 'a'.		DASR Glossary definition amended and further action to amend ADG definition will occur during DCP final phase. LSN 69 refers.
5	Section 1 - 2. NVIS	Section 1 - 2. NVIS	HQAC	This definition just does not work when you transplant it into the regulation where there are then uses such as: NVIS technologies, NVIS equipment, an NVIS management system, NVIS Aircrew, NVIS operations, or NVIS-qualified Aircrew, which are already encompassed by the definition. And then there are references to NVIS flight and being 'on NVIS'. Certainly have a declaration in initial GM that all of the elements interact and should be considered as a whole, but does it need to be the definition for NVIS and then be used throughout when NVG or NVD might also work?	CASA use a number of different definitions specific to documents. For instance a Jan 22 CASA multi-part AC - AC 91-13, AC 133-09 and AC 138-06 <i>Night vision imaging - helicopters</i> , defines NVIS simply as: 'a self-contained binocular night vision enhancement device, usually including goggles, that is helmet mounted or otherwise worn by a person; and can detect and amplify light in both the visual and near infra-red bands of the electromagnetic spectrum.' This is the same as their definition for NVG, and then they have a number of definitions that flow from that for NVIS air crew member, compatible lighting etc.	The proposed glossary definition of NVIS is derived from the EASA definition. It includes multiple and integrated elements (not just the device) of the Night Vision Imaging System. The CASA definition of NVIS is similar to the ADG definition for NVG, which does not suit the ADF context. DASA amended the regulation to ensure correct use of the terms NVIS, NVD and NVG, based on the proposed glossary definition of NVIS and the context. Consulted with DD OPAW (HQAC).
6	Section 1 - 2. PFR	Section 1 - 2. PFR	HQAC	Request reconsideration of the purpose and content of this definition. What are examples of systems that would provide critical flight information necessary for Aircraft control that wouldn't be represented on displays or instruments? This appears to be the part of the development of an otherwise easily understood concept, and is possibly an overreach.	There does not appear to be a difference in compliance required in the reg between NVD ops that are, or are not, using PFR (only possibility is GM SPA.55(a)8iii.a.i.(f)). Therefore is there a need for the definition at all?	LSN 9 refers Consulted with DD OPAW (HQAC)
7	Throughout regulation.	Throughout regulation.	HQAC	Delete Sponsor throughout the regulation. Would anyone other than an MAO be operating an Aircraft crewed by NVIS-qualified Crew?		DASA has not deleted reference to 'Sponsor' throughout the regulation. The regulation considers the case where Defence conducts NDR operations using NVDs (including the case where the aircraft is a State aircraft). Sponsors must comply with DASR SPA.55. Consulted with DD OPAW (HQAC).
8	Throughout regulation.	Throughout regulation.	HQAC	(1)Some of the GM get very close to looking like AMC. (2)There is also quite a bit of repetition throughout the regulation as something (eg acuity) might apply to more than one IR. Cutting the volume of GM and having it included in an AC might allow for a more streamlined product.		(1) DASA amended the GM to style it appropriately. Further, DASA has deliberately preferred GM over AMC wherever practicable to minimise the level of prescription, while providing sufficient information to the RC to inform the development effective NVIS. (2) Instead of raising an AC, in due course DASA plans to move much of the GM into DASPMAN Vol 3. DASA minimised repetition of the content in GM. Consulted with DD OPAW (HQAC).
9	SPA.55a GM SPA.55.a GM SPA.55.b.i	SPA.55a GM SPA.55.a GM SPA.55.b.i	HQAC	(1)A change is required to the use of PFR in the construct of the sentences containing 'Primary Flight Reference or as the primary means of vision for Safety Critical tasks'. (2)How is this addressed by other MAA or NAA in their NVIS regulations (noting that PFR as used in this context is a DASA construct)?	Disagree with the informal advice received from AVNOPS DDRregs on 22Aug22 that normal NVGs are a PFR when used to view the display of flight critical information on an aircraft HUD. Not all NVDs can be considered as PFRs; only Helmet Mounted Displays (HMDs) that actually have critical flight information displayed within them. By their definitions, NVGs and NVDs are devices that provide a visible image; they provide an ability to see better than with the naked eye in appropriate conditions. Notwithstanding, why is there a need for this clause using this terminology? There seems to be nowhere in the reg where a distinction is actually drawn between either of these two scenarios (only possibility is GM SPA.55(a)8iii.a.i.(f)).	(1) DASA removed all reference to PFR in DASR SPA.55. DASA amend all instances of 'Primary Flight Reference or as the primary means of vision for Safety Critical tasks' to 'as the primary means of vision for Safety Critical tasks'. DASA amended GM SPA.55 to read: <i>...as the primary means of vision while performing Safety Critical tasks—where Safety Critical tasks in the NVIS context include:</i> <i>i. Aircraft control (ie managing the Aircraft Flight path) during: taxi, take-off, cruise, in-Flight manoeuvring, approach, and landing</i> <i>ii. terrain and obstacle avoidance, Aircraft separation, visual navigation, and other tasks where direction, spacing, distance or rate of closure information is obtained from the NVD.</i> <i>c. Note: DASR SPA.55 does not apply when any NVIS component is utilised for a non-Safety Critical task (eg as a sensor for targeting or search) where the primary defences against Controlled Flight Into Terrain (CFIT) and collision with other Aircraft are achieved via other means. For example, for operations at or above Area Safe Height (ASH), Lowest Safe Altitude (LSALT) or Minimum Sector Altitude (MSA) the regulatory hazard controls contained with SPA.55 defending against CFIT are not applicable. Similarly, when using height blocks or radar trail to ensure de-confliction between Aircraft, the regulatory hazard controls contained with SPA.55 defending against collision with other Aircraft do not apply.</i> Rationale: The type of NVD does not determine whether DASR SPA.55 is applicable. Rather, how the NVD is used determines if DASR SPA.55 is applicable. Ie, if the NVD image is used for the conduct of safety critical tasks (including to inform aircraft control), then DASR SPA.55 is applicable. How the NVD is used determines if it has an effect on safety and therefore whether DASR hazard controls are necessary. If the NVD is used to make decisions critical to safety, including manipulating flight controls (ie to manoeuvre the aircraft to avoid terrain, obstacles or other aircraft) then SPA.55 is applicable. If the NVD is not used to make decisions critical to safety, eg as a mission sensor, then SPA.55 is not applicable. The litmus test for DASR SPA.55 applicability is the impact on the Aviation Safety and need for mitigations in the event of a failure of the NVD. If an NVD failure could detract from safety then the NVD is used for safety critical tasks. (2) Other NAAs and MAAs (eg EASA) regulate for NVIS whenever vision is aided by the use of NVDs. They do not specify when 'used for safety critical tasks' (Of note, CASA does regulate NVIS when used for 'navigation or terrain avoidance'). The proposed regulation deliberately narrows the scope of applicability. Hence, providing more flexibility to the RC. DASR SPA.55 does not apply to NVDs used for non-safety critical roles and tasks (eg as sensors). Consulted with DD OPAW (HQAC)

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10	GM SPA.55.b.ii	GM SPA.55.b.ii	HQAC	Last use of NVIS in the sub-para is a good example of how the definition does not work when tied to other words as a descriptor.	Re previous comment with respect to the definition of NVIS, the last use of NVIS in the para is wrt NVIS as an NVD, not as all the elements of the system per the definition.	DASA incorporated the suggested change. LSN 5 refers.
11	GM SPA.55.c.i	GM SPA.55.c.iii	HQAC	Another contrary use of NVIS in NVIS equipment.		DASA has not incorporated the suggested change. NVIS equipment terminology is narrowing the 'system' elements to just the equipment components within the system. LSN 5 refers.
12	GM SPA.55.c.ii	GM SPA.55.c.iv	HQAC	Delete ', as referred to in extant MAO and Sponsor OIP'	Consider this to be unnecessary.	DASA incorporated the suggestion. DASA deleted 'as referred to in MAO and Sponsor OIP'.
13	SPA .55(a)	SPA .55(a)	HQAC	(1) 'NVIS management system' - a system!! How and where might this system be defined?(2) Gives impression that all the elements have to be grouped together in a specific OIP. Would it not be more appropriate that it be a mix, with some aspects interwoven into the other places where they are applicable, eg Flt Auth.		(1) DASA removed reference to 'management system'. The use of 'management system' for a 'Night Vision Imaging System (NVIS)' is redundant. suggested change incorporated to improve brevity and preserve DASA intent. Phrasing revised by removing 'management system'. Wording changed from 'utilise a defined NVIS management system' to 'utilise a defined NVIS' (ie NVIS is already a system as per new Glossary definition, its construct (to be defined by MAO) is required to include management of the system as per IR). (2) DASA does not seek to prescribe the solution as to how NVIS is defined and incorporated into MAO OIP. However, DASA requires an outcome where the MAO or Sponsor manages NVIS through the inclusion of IR elements. This may be achieved as indicated by including NVIS aspects in existing OIP eg SIs on Night flying, Low Flying, Flight Authorisation etc, or as a separate SI such as 'Night Vision Imaging System' or 'Night Vision Flying', which captures the necessary DASR IR requirements. Consulted with DD OPAW (HQAC).
14	AMC SPA .55(a)3.a.iii	AMC SPA .55(a)4.a.iii	HQAC	Insert a hyphen between NVIS and specific.		DASA incorporated the suggestion. DASA amended to AMC SPA .55(a)3.a.iii (re-numbered AMC SPA .55(a)4.a.iii) to read 'NVIS-specific'.
15	GM SPA .55(a)3.a	GM SPA .55(a)4.a	HQAC	Rewrite 'When planning NVIS operations with friendly third parties (and where practicable), every effort should ' as 'When planning NVIS operations with friendly third parties, every practicable effort should'		DASA incorporated the suggestion. DASA amended the first sentence of the GM SPA.55(a)3.a (re-numbered GM SPA.55(a)4.a) to read: <i>When planning NVIS operations with friendly third parties, MAOs and Sponsors should make every practicable effort...</i>
16	GM SPA .55(a)3.a	GM SPA .55(a)4.a	HQAC	replace 'NVD incompatible light(s)' with 'NVD incompatible lighting'		DASA incorporated the suggestion. DASA replaced 'light(s)' with 'lighting'
17	GM SPA .55(a)3.a	GM SPA .55(a)4.a	HQAC	especially during Aircrew performance of a Safety Critical task while on using NVDs.'	Is the correct term "on NVDs" or "using NVDs"?	DASA incorporated the suggestion. DASA amended 'on NVDs' to read ' while using NVDs'.
18	GM SPA .55(a)3.a	GM SPA .55(a)4.a	HQAC	Third party (eg ship, tanker Aircraft, Aerodrome, etc) use of NVD- <u>NVIS</u> incompatible light(s) during critical phases of flight (eg landing approach or AAR) have resulted in the loss <u>degradation</u> of Aircrew NVD-vision, and compromised Suitability For Flight. In one case, the loss of Aircrew vision contributed to an Aircraft CFIT.	Lighting may be incompatible with the system, rather than just the NVD. Degradation is a better term than 'loss' being of the extreme case. The last sentence refers to the 'Aircrew vision' rather than 'Aircrew NVD vision'.	DASA incorporated the suggestion. DASA amended GM SPA.55(a)3.a (re-numbered GM SPA.55(a)4.a) to read: <i>Third party (eg ship, tanker Aircraft, Aerodrome) use of NVIS incompatible lighting during critical Flight phases (eg landing approach or Air to Air Refuelling (AAR)) have resulted in the degradation of Aircrew vision, and compromised Suitability For Flight.</i>
19	GM SPA .55(a)3.b	GM SPA .55(a)4.b	HQAC	Delete the first sentence. Doesn't matter when it might not be feasible, just what needs to be done when it isn't.		DASA incorporated the suggestion. DASA removed the first sentence from GM SPA .55(a)3.b (re-numbered GM SPA.55(a)4.b Deleted sentence: <i>There will remain situations where planning or coordination with third parties is not feasible (eg non-cooperative third parties, covert and combat missions or training scenarios requiring combat realism).</i>
20	SPA.55(a)4.ii	SPA.55(a)3.ii	HQAC	ii. NVIS maintenance requirements of <u>promulgated in</u> OIP approved by the MAO or Sponsor.	Is the maintenance requirement placed upon the upkeep of the OIP or the serviceability of the NVIS?	DASA incorporated the suggestion. DASA amended the IR wording to read: <i>NVIS maintenance requirements promulgated in OIP approved by the MAO or Sponsor.</i>
21	AMC SPA.55(a)4.a.ii	AMC SPA.55(a)3.a.ii	HQAC	Aircraft components are not NVIS equipment and are therefore out of place here.		DASA amended the IR and AMC SPA.55(a)4.a.ii (re-numbered AMC SPA.55(a)3.a.ii) heading to include 'NVIS-specific Aircraft components'. Rationale: The requirement to ensure those Aircraft components which are critical elements of the NVIS are managed and maintained IAW approved OIP is an essential regulatory hazard control. Consulted with DD OPAW (HQAC).
22	GM SPA .55(a)4.a	GM2 SPA.55(a)3.a	HQAC	The MAO or Sponsor should....' sounds like AMC rather than GM.		Use of 'should consider' in GM is acceptable. DASA retained this guidance as it is not captured in any other policy document available globally to the regulated community. The use of the language 'should' is appropriate in this GM as: 1. the Interim DASR Style Guide does not preclude the use of 'should' in GM 2. the DWM emphasises the use of active voice. DASA did not include this content as AMC to minimise prescription. Consulted with DD OPAW (HQAC).
23	GM SPA .55(a)4.b	GM2 SPA.55(a)3.b	HQAC	'.... NVIS pre-flight checks should be conducted...' sounds like AMC rather than GM.		DASA has not amended the GM. It is an important regulatory hazard control to ensure when an approved checking facility is not available (eg unsupported operations) that Aircrew conduct Pre-flight checks, where required to be conducted pre-flight, IAW an approved procedure, consistent with OEM manuals. It is not appropriate to elevate this clause to AMC, as the parent AMC does not necessarily require 'an approved pre-flight checking facility' nor necessarily does the parent AMC require Aircrew to conduct 'NVD performance checks and calibration' before every flight (allowing the intervals for such checks to be IAW OEM recommendations). LSN 22 refers. Consulted with DD OPAW (HQAC).
24	GM SPA .55(a)4.c	GM2 SPA.55(a)3.c	HQAC	'The MAO or Sponsor may...' sounds like AMC rather than GM.	Consider rephrasing.	DASA has not incorporated the suggestion. The use of 'may' in the context of this GM is acceptable. LSN 22 provides additional rationale.

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25	GM SPA .55(a)4.d	GM2 SPA.55(a)3.d	HQAC	Eye protection is PPE and should be included in sub-para f. Also 'The MAO or Sponsor should....' sounds like AMC rather than GM.	Fixed wing operators don't typically require eye protection whereas rotary wing operations with open doors and dust probably would require eye protection as part of the PPE.	DASA retained the GM paragraph titled 'Eye protection' as a standalone paragraph. Rationale: The GM paragraph titled 'Eye protection' pertains to controlling the hazards associated with the inability to wear a helmet visor with NVD. Whereas the GM paragraph previously titled Personal Protective Equipment (PPE) deals with the integration of NVIS equipment with other PPE worn to defend Aircrew from hazards not specific to NVIS operations. To enhance clarity, DASA retitled this paragraph as follows: 'NVIS equipment integration with other Personal Protective Equipment PPE'. DASA has not amended the wording. DASA used the phrase 'The MAO or Sponsor should consider...' to emphasise the content as GM and not AMC. Further, this phrasing provides the necessary flexibility to the MAO or Sponsor to consider not providing Aircrew with eye protection in applications where it is not feasible to do so (eg for Flight Crew in applications where eye protection is neither compatible with the NVD nor necessary PPE). Consulted with DD OPAW (HQAC).
26	GM SPA .55(a)4.d	GM2 SPA.55(a)3.d	HQAC	is there a specific reference within the DHM?		No there is not a specific reference in the DHM relating to eye protection where the helmet visor cannot be worn with NVDs. DASA removed the reference to the DHM in the 'Eye protection' para. Instead, DASA added further guidance on the type of eye protection to be worn, informed by page 107 and page 244 of RAAF IAM Document- <i>Aviation Medicine for ADF Aircrew</i> , 3rd edition, 2012 AL6, para titled 'Eye Protection'.
27	SPA.55(a)5	SPA.55(a)4(i)	HQAC	Is compliance with Aircrew.10 not part of a functioning FMS and therefore this section should be a sub-section of SPA.55(a)3?		DASA incorporated the suggested change. Aircrew training, categorisation and currency is integral to a functioning FMS and therefore all existing FMS elements have been moved under a common FMS IR SPA.55(a)4. Aircrew training, categorisation and currency is re-numbered SPA.55(a)4i. SPA.55 restructure to bring other FMS related elements IR under IR SPA.55(a)4, re-numbered includes: i. Aircrew composition, qualifications, Currency and training ii. Flight Authorisation iii. SMS iv. OIP A review of IR structure was conducted as a result of this suggested change, and resulted in DASA grouping equipment related IR together for simplification.
28	AMC SPA.55(a)5.c.v.(a) and (d)	AMC SPA.55(a)4(i).c.v.(a) and (d)	HQAC	What are critical flight phases?		The MAO should determine critical Flight phases for their CRE. Critical Flight phases are those in which NVD vision degradation or loss, without prompt and effective treatment, could lead to an adverse safety outcome. Critical Flight phases are higher risk phases of flight including taxiing, departure, recovery, low flying, formation manoeuvring, Air to Air Refuelling, tactical manoeuvring, intercepts, combat manoeuvring, and weapons or payload delivery. DASA added GM accordingly. Of note, this interpretation of critical Flight phase is based upon EASA Annex I and FAA CFR 121, contextualised for Defence's CRE. According to EASA Annex I Definitions of (EU) 965/2012 Air Operations : 'Critical phases of flight in the case of aeroplanes means the take-off run, the take-off flight path, the final approach, the missed approach, the landing, including the landing roll, and any other phases of flight as determined by the pilot-in-command or commander.' 'Critical phases of flight in the case of helicopters means taxiing, hovering, take-off, final approach, missed approach, the landing and any other phases of flight as determined by the pilot-in-command or commander.' According to FAA CFR 121 definition 'critical phases of flight includes all ground operations involving taxi, take-off and landing, and all other flight operations conducted below 10,000 feet, except cruise flight.' Note, the phrase 'critical Flight phases' is distinct from the DASR Glossary defined term 'Critical Phase of Flight'.
29	AMC SPA.55(a)5.c.v.(a)	AMC SPA.55(a)4(i).c.v.(a)	HQAC	(a) actions during NVIS critical flight phases for NVD faults, failures or events that result in NVD vision degradation or loss'	Use the prefix NVIS when describing critical flight phases.	DASA incorporated the suggested change. DASA amended the AMC to read: ...during NVIS critical flight phases...
30	AMC SPA.55(a)5.c.v.(d)	AMC SPA.55(a)4(i).c.v.(d)	HQAC	(d) weather-related loss of visibility or entry into IMC during NVIS critical phases of flight'	Use the prefix NVIS when describing critical flight phases.	DASA incorporated the suggested change. DASA amended the AMC to read: ...during NVIS critical flight phases.
31	AMC SPA.55(a)5.e and f	AMC SPA.55(a)4(i).f and g	HQAC	The previous sub-para had a heading and therefore these two un-headed paras would be considered to be connected to the first, but they aren't.		DASA incorporated the suggested change. Para d, e and f are standalone paras, not connected to previous paras. DASA added para headings to e. 'Single-pilot NVIS operations' and f. 'AVMED training' for improved clarity. Note: The previous AMC SPA.55(a)5 para numbering was in error (para c used twice). Hence, DASA renumbered paras e and f to AMC SPA.55(a)4(i).f and g.
32	AMC SPA.55(a)5.e	AMC SPA.55(a)4(i).f	HQAC	Is this to do with training? Seems out of place here.		LSN 31 refers
33	AMC SPA.55(a)5.c.v.(e)	AMC SPA.55(a)4(i).c.v.(e)	HQAC	(e) Aircraft non-normal and emergency actions while operating on with NVDs'	There may be cases whereby the NVD may need to be removed whilst not actually being on NVIS eg smoke and fumes when a quick don is required to remove the helmet.	DASA incorporated the suggested change. DASA amended AMC SPA.55(a)5.e (re-numbered AMC SPA.55(a)4(i).e) to read 'operating with NVDs'. LSN 17 refers.
34	AMC SPA.55(a)5.f	AMC SPA.55(a)4(i).g	HQAC	Why 'Flying supervisors' responsible, why not just a requirement that: 'Aircrew complete'?		DASA incorporated the suggested change. DASA deleted 'Flying supervisors should ensure' and amended to read 'Aircrew should...'
35	AMC SPA.55(a)7	AMC SPA.55(a)4(iii)a	HQAC	Delete. AMC here and for iii and iv ends up with repetition. Just have an AMC for each sub-para i to iv.		DASA incorporated the suggested change. DASR removed the AMC for SPA.55(a)7 (re-numbered SPA.55(a)4(iii)) and moved the AMC content into SPA.55(a)7i to iv AMCs (re-numbered SPA.55(a)4(iii)a to d).

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36	AMC SPA.55(a)7.a.i & others	AMC SPA.55(a)4(iii)a.a.i	HQAC	Replace references to MRPs with 'risk assessments'. Therefore 'the establishment of Mission Risk Profiles (MRPs)' becomes 'the conduct of risk assessments'.	MRPs are not standard across the Services and so better to refer to Risk assessment as a generic term.	DASA did not incorporate the suggestion. DASA amended the AMC to read: <i>The MAO or Sponsor should define NVIS safety management controls for NVIS roles and tasks, utilising Core Risk Profiles (CRP), Mission Risk Profiles (MRP), and Risk Management Plans (RMP) as necessary</i> Rationale: The DASM, Defence's corporate solution for aviation SMS, includes the terms (and definitions) MRP, CRP and RMP in the DASM Glossary. DASM Chapter 2, <i>Safety Risk Assessment and Mitigation</i> , para 2.9 headed <i>Responsibilities</i> reads: <i>Commanders must:</i> <i>1. produce Core Risk Profiles (CRP), Mission Risk Profiles (MRP), and Risk Management Plans (RMP) as necessary, and ensure their integration into aviation activities</i> DASA retained the reference to CRP, MRP and RMPs. Rationale: Although DASR SMS is under review, DASA does not intend to amend the language calling out CRP, MRP or RMPs. However, DASA takes a purposive approach to oversight. Where a MAO or Sponsor's risk management contains all the functional elements required under DASR SMS (and where applicable in due course SPA.55) DASA does not intend to find against such artefacts on the basis of title alone. Consulted with DD OPAW (HQAC)
37	AMC SPA.55(a)7.a.i	AMC SPA.55(a)4(iii)a.a	HQAC	Delete DASR AIRCREW.65	DASR Aircrew.65 is an incorrect reference - it is to do with AVR training, not the conduct of risk management.	DASA deleted reference to 'AIRCREW.65' from AMC SPA.55(a)7.a.i (re-numbered AMC SPA.55(a)4(iii)a.a). Additionally, DASA reformatted this clause (LSN 35 refers).
38	AMC SPA.55(a)7.a.v	AMC SPA.55(a)4(iii)a.a.iii	HQAC	1.Is FIHA the only compliance requirement for aircraft lighting? 2.What about exercises and other NAA/MAA considerations?	Lighting requirements in mixed civil/military use airspace requires see and avoid principles to be risk managed (ie how does a non aided aircraft see and avoid a dark aircraft at night?). In exercise and an operational context, there may be alternatives to simple compliance with civil lighting standards.	1. Yes, FIHA is the only compliance requirement for ADF Aircraft lighting. Specifically, FIHA General Rules of the Air is the reference for ADF Aircraft lighting rules (not civil lighting standards). FIHA includes NVD lighting rules for operation in Military and civil airspace. 2.a. For exercises, FIHA includes clauses allowing for operations with reduced or no external visible lighting, subject to various conditions, not excluding exercises. Specifically, FIHA ENR 1.11 <i>Aircraft Lighting</i> , 1.12 <i>ARMY - Aircraft Lighting</i> . FIHA ENR paras 1.11.4, 1.11.5 and 1.12.4 prescribe the rules for NVD operations with reduced or no external visible lighting. 2.b. Other NAA or MAA requirements are applicable when operating NDR. DASR NDR details the requirements to comply with recognised NAA or MAA regulatory requirements. In the case where a Defence registered Aircraft operates in airspace subject to the jurisdiction of a foreign NAA or MAA, FIHA 1.11.4.b is germane. FIHA 1.11.4.b requires specific authorisation in the case an ADF aircraft operates with reduced or no visible external lighting. This Flight Authorisation requirement infers an obligation on the FLTAUTHO to ensure that the requirements of any applicable DIPLCR (including any specific NAA or MAA requirements) or SPINS, ACP etc are met.
39	GM SPA.55(a)7i	GM SPA.55(a)4(iii)a	HQAC	Reads very like an AMC with the uses of 'MAO or Sponsor should' in many paras.		LSN 22 refers.
40	GM SPA.55(a)7i(a)	GM SPA.55(a)4(iii)a.a	HQAC	(a) The MAO or Sponsor should consider (and mitigate where necessary) the following NVIS characteristics and limitations which may impact NVIS operations:	Rephrase GM to be factual rather than a AMC-like compliance requirement.	DASA has not deleted the struck through text. It is appropriate for GM to direct the regulated community's attention to relevant considerations, <i>inter alia</i> . Use of the phrase 'The MAO or Sponsor should consider...' does not necessitate formatting as AMC. DASA placed this material in GM to both clearly articulate relevant risk management considerations; and convey it as non-mandatory guidance. Note, DASA amended GM SPA.55(a)7i(a) (re-numbered GM SPA.55(a)4(iii)a.a) to clarify the list of risk management considerations is not exhaustive as follows: <i>The MAO or Sponsor should consider (and mitigate where necessary) NVD characteristics and limitations, which may impact NVIS operations, including:</i> Consulted with DD OPAW (HQAC).
41	GM SPA.55(a)7i(d).ii	GM SPA.55(a)4(iii)a.d.i	HQAC	ii. The MAO or Sponsor should consider the following controls relating relate to weather when planning NVIS operations:	Rephrase GM to be factual rather than a AMC-like compliance requirement.	LSN 40 and 42 refers
42	GM SPA.55(a)7i.d.ii	GM SPA.55(a)4(iii)a.d.i(a)	HQAC	This should be a sub-para of i, ie (a), as per the format of controls for terrain and obstacles.		DASA re-formatted GM SPA.55(a)7i.d.ii 'Weather' (re-numbered GM SPA(a)4(iii)a.d.i) to mirror GM SPA.55(a)7i.d.iii <i>Terrain and obstacles</i> (re-numbered GM SPA.55(a)4(iii)a.d.i(a)) as per the suggested change.
43	GM SPA.55(a)7i.d.iii.(a).(vii)	GM SPA.55(a)4(iii)a.d.iii(g)	HQAC	(vii) Crew coordination and communication skills, and defined Aircrew roles and responsibilities during NVIS Safety Critical operations'	Use prefix NVIS.	DASA incorporated the suggested change. DASA amended GM SPA.55(a)7i.d.iii.(a).(vii) (re-numbered GM SPA.55(a)4(iii)a.d.iii(g), inserting 'NVIS' as per suggested change.
44	GM SPA.55(a)7i.d.iii.(b).i	GM SPA.55(a)4(iii)a.d.iii(i)	HQAC	(i) terrain threat recognition-recovery training, including:	Query the terminologies used here. 'terrain threat recognition' would be a preventative control as it is training to not get into trouble to start off with. Is 'recognition' meant to be 'recovery'?	DASA amended to read 'terrain threat recognition and recovery training, including.'. Further, DASA restructured GM SPA.55(a)7i.d.iii.(b).ii to simply refer to 'controls' rather than preventative and recovery controls. Consulted with DD OPAW (HQAC).
45	AMC SPA.55(a)7iii	AMC SPA.55(a)4(iii)c	HQAC	Content is jumbled. Para b should come first and then follow-on headed sub-paras for defined wx, visibility, and illum level with the content from the existing paras.		DASA incorporated the suggested change.
46	AMC SPA.55(a)7iii.a	AMC SPA.55(a)4(iii)c.a.iii	HQAC	The para describing illumination levels be rephrased as Defence policy and moved to become GM.		DASA has not incorporated the suggested change. Firstly, the the DASRs do not detail Defence policy. Secondly, there is a need for a common terminology for quantifying illumination that is relatable to the supervision/authorisation of aided flight. Hence, DASA included AMC SPA.55(a)7iii.a (re-numbered AMC SPA.55(a)4(iii)c.a.iii) as AMC. However, DASA amended AMC SPA.55(a)7iii.a (re-numbered AMC SPA.55(a)4(iii)c.a.iii) as follows: <i>MAO and Sponsors should define illumination level minimums for all the relevant Aircraft Type's NVIS roles and tasks. To aid operational planning, risk decision making, OIP development, authorisation, and to improve standardisation across Defence, MAOs and Sponsor should use the Illumination Levels defined in Table 1, or specify a minimum illumination in millilux (mlx), when defining illumination minimums for the relevant Aircraft Type's NVIS roles and tasks.</i> Consulted with DD OPAW (HQAC).

LSN	NPA (Ver 0) Reference: (ie Regulation number, NPA paragraph etc)	Post NPA Regulation Reference: (re-numbered Regulation)	Unit	Unit: Comment or suggested change	Unit: Further Explanation where provided	DASA Response
47	AMC SPA.55(a)7iii.b	AMC SPA.55(a)4(iii)c.a	HQAC	Requires a para-heading of 'Environmental minimums.'		DASA has not incorporated the change. DASA restructured the AMC as per LSN 45 feedback. The AMC restructure negated the need for a para heading 'Environmental minimums'. LSN 45 refers. Consulted with DD OPAW HQAC
48	AMC SPA.55(a)7iii.c	AMC SPA.55(a)4(iii)c.a.i	HQAC	Delete	VMC is dependant upon the class of airspace being operated within and the separation from cloud requirements are irrelevant if operating IFR on NVIS. Why do NVIS operators need to be in sight of ground or water when operating above a cloud layer below LSALT eg fog? Likewise it is not unsafe to operate between layers of cloud under certain circumstances.	DASA amended AMC SPA.55(a)7iii.c (re-numbered AMC SPA.55(a)4(iii)c.a.i) to read: <i>When utilised as the primary means of vision for Safety Critical tasks, the MAO or Sponsor should ensure Aircrew only operate NVDs in VMC (as defined in FIHA ENR 1.2).</i> ICW STANDO AMG DASA retained the requirement to maintain VMC when utilised as the primary means of vision for Safety Critical tasks. DASA notes that AMG OIP details VMC as a hazard control for NVD operations below LSALT in various circumstances. DASA further notes the AMG staff intention to further refine the WX minimum hazard controls. DASA agrees to consider a Minor amendment to DASR SPA.55, pending a proposal from AMG, to further refine the weather minima for NVD operations. LSN 50 refers Consulted with STANDO (AMG) Consulted with DD OPAW (HQAC)
49	AMC SPA.55(a)7iii.d	AMC SPA.55(a)4(iii)c.a.ii	HQAC	Delete	Operating SVFR should be no different by day or night when using NVIS. The underlying principle should be that the aircraft has the visual acuity to avoid obstacles when operating below LSALT, IAW minima promulgated by the MAO.	DASA has not incorporated the suggested change. Only the Aeroplane SVFR minima is more restrictive than FIHA SVFR. Both Aeroplane (>LSALT) and Helicopter (>700ft) SVFR minima (3000m) is less restrictive than normal VMC (5000m) minimum. NVD design limitations, characteristics and Human Factors prevent NVIS operations being treated the same as unaided day operations ie they do not turn night into day. Special VFR was originally applicable for day only (note, SVFR approval is day only in CASRs). However, this rule was relaxed in FIHA in 2017 to include night NVD to primarily provide greater flexibility for Army Aviation NVD operations. The unintended consequence of the 2017 FIHA change allows for aeroplane Special VFR down to 1600m on NVD. Not factoring NVD performance, at 180-240KIAS 1600m equates to 12-17 secs available for collision avoidance, compared to 45-60sec when VMC is 5000m. Unlike Helicopters, Aeroplanes do not have the ability reduce speeds rapidly or significantly. Use of FIHA Aeroplane SVFR for NVIS poses an unacceptable risk of collision or CFIT and is not defensible. For this reason, DASA requires an Aeroplane SVFR minimum of 3000m vice existing FIHA SVFR minimum of 1600m (note, CASA has conditions for application of NVIS operations in reduced VMC to 3000m). Only the Aeroplane SVFR minima is more restrictive than FIHA. Consulted with DD OPAW (HQAC).
50	AMC SPA.55(a)7iii	AMC SPA.55(a)4(iii)c	HQAC	Is there any consideration for IFR below LSALT NVIS minima?		DASA added the following to AMC SPA.55(a)7iii (renumbered AMC SPA.55(a)4(iii)c): <i>Note, NVIS operations may be filed and operated under IFR. However, NVIS may not be used as the primary means of separation from terrain and other obstacles when operating below LSALT in IMC. Where a MAO or Sponsor intends to operate below LSALT in IMC an alternate means of ensuring separation from terrain and obstacles is required (eg TFR; or, if operating over the high seas, RADALT).</i> DASA amended AMC SPA.55(a)4(iii)c ICW STANDO AMG: <i>...However, NVDs may not be used as the primary means of separation from terrain and other obstacles when operating in less than VMC below ASH, LSALT or MSA unless the Aircraft Captain meets the requirements for visual approach as detailed in FIHA ENR 1.14.6 and 2.11.3.</i> Additionally, DASA amended all instances of 'LSALT' to read 'ASH, LSALT or MSA'. DASA modelled this hazard control on the AMG OIP suite in respect of NVIS operations. DASA understands AMG intends to develop a more refined hazard control than 'VMC' in respect of NVD operations below LSALT for en-route descent and operations. DASA intends to consider any DCP AMG submits for a Minor change to DASR SPA.55 with a view to refining the VMC hazard control for en-route descent and operations, pending development of an updated and risk managed proposed AMG FMS. Consulted with STANDO (AMG) Consulted with DD OPAW (HQAC)
51	GM SPA.55(a)7iii.a-d	GM SPA.55(a)4(iii)c.a-d	HQAC	This 'should' is phrased like AMC.		LSN 22 refers.
52	GM SPA.55(a)7iii.d	GM SPA.55(a)4(iii)c.d	HQAC	Is there a recommendation missing in the AMC to define a visual acuity limit?		No, there is no missing recommendation in the AMC to define a visual acuity limit. The AMC requirement to which this GM provides additional guidance is the requirement to 'establish weather minimums' (AMC SPA.55(a)4(iii)c). This GM provides guidance that when establishing those weather minimums, the MAO or Sponsor should consider the effect of various environmental factors on visual acuity when using NVIS. Consulted with DD OPAW (HQAC).
53	GM SPA.55(a)7iii.d & e	GM SPA.55(a)4(iii)c.d & e	HQAC	Combine paras, the second is just a long-winded repeat of the first. Sub-paras could be shortened and not be an insult to the intelligence of the reader wrt distance per 30secs.	i. Helicopter. Minimum of 30 secs flight time based on KGS, not less than 800m (0.5nm). ii. Aeroplane. Minimum of 30 secs flight time based on KGS, not less than 5000m (3nm).	DASA retained the two separate paras. The first paragraph provides guidance to the MAO or Sponsor when setting environmental limits to give consideration to the effect on visual acuity. The second provides guidance that Aircrew should continuously monitor the actual visual acuity to ensure continued safe NVIS operations. DASA revised both paragraphs to minimise redundant text and remove the explanation of the calculation of minimum distances based on ground speed. DASA amended GM SPA.55(a)7iii.d & e (re-numbered GM SPA.55(a)4(iii)c.d & e) to read: d. Considering visual acuity when setting environmental minimums. <i>When establishing environmental minimums, the MAO or Sponsor should consider the effect of weather, visibility, illumination and contrast may have on NVIS performance, and the resultant visual acuity. Defined minimums increases safety by establishing the parameters of an operating environment to enable the appropriate visual acuity. This enables Aircrew to identify terrain and obstacles with ample time for detection, reaction and avoidance. Defining a minimum visual acuity based on low level operating speed ranges will reduce the threat of CFIT or collision. In most circumstances, visual acuity out to a distance equivalent to a minimum of 30 seconds flight time is sufficient. DASA recommends the following minimum visual acuity:</i> <i>i. Helicopter Minimum of 30 secs flight time based on ground speed, but not less than 800 m (0.5 nm*) (*rounded up to nearest 0.5 nm)</i> <i>ii. Aeroplane Minimum of 30 secs flight time based on ground speed, but not less than 5000 m (3 nm*) (*rounded up to nearest 0.5nm).</i> e. Monitoring and maintenance of visual acuity. <i>Aircrew should continuously assess the actual visual acuity experienced airborne to ensure conditions remain safe for NVIS operations. MAO or Sponsor defined environmental minimums may not guarantee the required visual acuity to safely conduct roles and tasks. Actual visual acuity may be significantly less than anticipated, based on forecast weather, visibility, illumination and contrast conditions. Visual acuity may also be degraded by obscurants such as dust, haze, fog, smoke or sea spray; or NVD performance degradation (eg activation of automatic gain reduction when subjected to bright light sources). Reducing flying speeds with decreasing visual acuity may reduce the risks of CFIT. However, it may not be tactically sound, or may compromise Aircraft manoeuvrability and safety by reducing aerodynamic performance.</i> Consulted with DD OPAW (HQAC).

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54	GM SPA.55(a)7iii.g	AMC SPA.55(a)4(iii)c.b	HQAC	This 'should' is phrased like AMC.	Note that forecasts aid flying supervision and flight planning considerations, however the actual lighting is often variable and different due to cultural light reflections from cloud, and even bushfire activity!	DASA elevated the content of GM SPA.55(a)7iii.g to AMC SPA.55(a)7iii (re-numbered AMC SPA.55(a)4(iii)c.b)
55	GM SPA.55(a)7iii.j	GM SPA.55(a)2(iii)c.i	HQAC	This 'should' is phrased like AMC.		LSN 22 refers.
56	AMC SPA.55(a)7iv.a	AMC SPA.55(a)4(iii)d.a	HQAC	Include 'Aircrew' in the first sentence with Aircraft equipment.		DASA incorporated the suggested change. DASA amended the AMC to include 'Aircrew' equipment
57	GM SPA.55(a)8i.a	GM SPA.55(a)4(iv)a.a	HQAC	Delete NVIS and replace with NVD. 'NVDs require natural light	Ties with mismatch and misuse of NVIS as defined.	DASA incorporated the suggested change. DASA amended the GM to replace 'NVIS' with 'NVD'. LSN 5 refers.
58	GM SPA.55(a)8i.b	GM SPA.55(a)4(iv)a.b	HQAC	This 'should' is phrased like AMC.		DASA amended the GM para replacing 'should define the low illumination level' with: <i>When defining low illumination levels (below which additional qualification, training or hazard controls are necessary) the MAO or Sponsor should consider the following factors:</i> LSN 22 refers
59	GM SPA.55(a)8ii.a	GM SPA.55(a)4(iv)b.a	HQAC	Delete 'non' from 'non-normal'.		DASA incorporated the suggested change. DASA amended the GM replacing 'non-normal' with 'normal'
60	GM SPA.55(a)8ii.a	GM SPA.55(a)4(iv)b.a	HQAC	This 'should' is phrased like AMC.		LSN 22 refers
61	AMC SPA.55(a)8iii.a	AMC SPA.55(a)2(iv)c.a	HQAC	Delete 'additional'. It is not in the wording of the IR.		DASA incorporated the suggested change. DASA amended the AMC removing the word 'additional' as suggested.
62	AMC SPA.55(a)8iii.a.ii	AMC SPA.55(a)4(iv)c.a	HQAC	Delete. Emergency procedures have already been directed in 8ii.		DASA incorporated the suggested change. DASA removed AMC SPA.55(a)8iii.a.ii. Emergency procedures are covered in AMC SPA.55(a)8ii (re-numbered AMC SPA.55(a)4(iv)b).
63	GM SPA.55(a)8iii.a	GM SPA.55(a)4(iv)c.a	HQAC	This 'should' is phrased like AMC.		LSN 22 refers.
64	GM SPA.55(a)8iii.a.i.(f)	GM SPA.55(a)4(iv)c.a.i.(f)	HQAC	Only when NVIS as the PFR (which should be abbreviated), or also when as the primary means of vision for Safety Critical tasks?	A minimum height should be declared for all operations.	DASA incorporated the suggested change. DASA updated the GM to include the 'primary means of vision for safety critical tasks' as suggested. DASA amended GM to read: <i>Minimum height permitted above terrain, water or obstacles when using NVDs as the primary means of vision for Safety Critical tasks.</i>
65	GM SPA.55(a)8iii.a.i.(k)	GM SPA.55(a)4(iv)c.a.i.(k)	HQAC	Cut and paste into ii.		DASA has not incorporated the suggested change. GM SPA.55(a)8iii.a.i.(k) formation considerations are for operations below LSALT. GM SPA.55(a)8iii.a.ii is general formation considerations. Consulted with DD OPAW (HQAC).
66	GM SPA.55(a)8iii.a.iii	GM SPA.55(a)4(iv)c.a.iii	HQAC	'with NVIS', 'on NVIS'. See general comment wrt definition of NVIS and its use as a descriptive term.	'with NVDs', 'on NVDs', using NVD.	DASA incorporated the suggested change. DASA amended GM to read: <i>...normal and emergency procedures while using NVDs.</i>
67	GM SPA.55(a)8iii.a.xii	GM SPA.55(a)4(iv)c.a	HQAC	Delete. Not completely sure why this is here, or what it means by in-flight reporting. Safety reporting was covered in AMC SPA.55(a)7. If it is to do with events during a task that might be discussed with the FLTAUTH, that is part of ORO.30 which is SPA.55(a)6.		DASA incorporated the suggested change. GM SPA.55(a)8iii.a.xii removed, as equipment unserviceability reporting is covered in AMC SPA.55(a)4.a.iv (re-numbered AMC SPA.55(a)3.a.iv) - reporting equipment unserviceability, safety reporting requirements in AMC SPA.55(a)7.a.iii (re-numbered AMC SPA.55(a)4(iii)a.b)
68	SPA.55(b)	SPA.55(b)	HQAC	Delete. Should be part of SPA.55(a)3.	SOIU management is an element of ORO.30(sic) with which an NVIS management system is directed to be integrated with in SPA.55(a)3.	DASA deleted SPA.55(b). The requirement to conduct operations IAW the SOIU is captured in DASR ORO.05(a)1. Consulted with DD OPAW (HQAC)
69	Section 1 Definitions	Section 1 Definitions	HQ AFTG	Section 1, Night Vision Goggles (NVG), note 2 Note 2 is absent an object. Is this meant to read: '2. Plural form (Night Vision Goggles) refers to a binocular equipment and the singular form (Night Vision Goggle) refers to a monocular equipment.'		DASA incorporated the suggested change. Further action to amend ADG definition will occur during DCP final phase. LSN 6 refers. DASA amended glossary definition Notes to read: <i>Notes: 1. Night vision goggles can be either hand-held or helmet-mounted. 2. Plural form (Night Vision Goggles) refers to binocular equipment and the singular form (Night Vision Goggle) refers to monocular equipment</i>
70	Section 1 Definitions	Section 1 Definitions	HQ AFTG	Section 1, Primary Flight Reference (PFR) Display, instrument or system While there may be multiple items comprising a Primary Flight Reference System, each item will be a 'display or instrument' composing the system.		DASA incorporated the suggested change..
71	GM SPA.55.c.ii	GM SPA.55.c.iv	HQ AFTG	lowercase. The parenthesis content (note, use of the term ...) is a continuation of the preceding text. As 'note' is not a proper noun, the first word inside parenthesis is not capitalised.		DASA incorporated the suggested change.
72	AMC SPA.55(a)3.a.iii(d)	AMC SPA.55(a)4.a.iii(d)	HQ AFTG	Who is the 'their' referred to in 'and their respective equipment'? Presumably it is the third parties; however, the wording is ambiguous. Replace: '... and the third parties equipment ...'		DASA incorporated the suggested change.
73	AMC SPA.55(a)3.a.iii(d)(i)	AMC SPA.55(a)4.a.iii(d)(i)	HQ AFTG	type The 'type' of lighting is, in each instance, the appropriate word vice the plural 'types'. Each type of lighting, while there may be many types, has unique characteristics that need to be considered.		DASA incorporated the suggested change.
74	GM SPA.55(a)3.a	GM SPA.55(a)4.a	HQ AFTG	lights Use of 'light' requires rewording the preceding phrase 'use of an NVD incompatible light'.		DASA incorporated the suggested change. LSN 16 refers. DASA amended the GM to read: <i>...use of NVIS incompatible lighting.</i>
75	GM SPA.55(a)4.b	GM2 SPA.55(a)3.b	HQ AFTG	manuals While there may be only one manual for a specific item of equipment, there will be many manuals for many pieces of equipment. Use of 'manual' requires rewording the preceding text 'IAW the OEM manual ...'.		DASA incorporated the suggested change. LSN 23 refers. DASA amended the GM to read 'The OEM manual ...'
76	GM SPA.55(a)4.e	GM2 SPA.55(a)3.e	HQ AFTG	Use italics or quotation marks, not both.		DASA incorporated the suggested change.
77	GM SPA.55(a)4.f	GM2 SPA.55(a)3.f	HQ AFTG	change 'of' to 'about'		DASA incorporated the suggested change.

LSN	NPA (Ver 0) Reference: (ie Regulation number, NPA paragraph etc)	Post NPA Regulation Reference: (re-numbered Regulation)	Unit	Unit: Comment or suggested change	Unit: Further Explanation where provided	DASA Response
78	AMC SPA.55(a)5.a	AMC SPA.55(a)4(i).a	HQ AFTG	AMC SPA.55(a)5.a Incorrect use of an em rule. Replace with a comma.		DASA incorporated the suggested change.
79	AMC SPA.55(a)5.c.iii	AMC SPA.55(a)4(i).c.iii	HQ AFTG	An em rule is not correct punctuation and 'which' is descriptive whereas 'that' is defining. Replace: HMI that impacts existing Aircraft capabilities, functions or procedures, or causes operational impacts to Aircraft).		DASA incorporated the suggested change. DASA amended the AMC to read: <i>NVIS equipment or the Human Machine Interface (HMI) that impacts existing Aircraft capabilities...</i>
80	AMC SPA.55(a)5.c.iv(b)	AMC SPA.55(a)4(i).c.iv(b)	HQ AFTG	AMC SPA.55(a)5.c.iv(b) A hyphen is required after 'MAO' to link the MAO and the Sponsor to the word 'specified'. Rework: (b) a MAO- or Sponsor-specified		DASA incorporated the suggested change.
81	AMC SPA.55(a)5.c.v(b)	AMC SPA.55(a)4(i).c.v(b)	HQ AFTG	The example 'eg the requirement to establish positive vertical or lateral deconfliction' could be set apart by a comma from the preceding clause avoiding the double		DASA incorporated the suggested change.
82	AMC SPA.55(a)5.c	AMC SPA.55(a)4(i).d	HQ AFTG	(the second one on p 10) Incorrect use of a parenthetical phrase. Text in parenthesis is descriptive and may be omitted. The phrase 'where feasible' is not required because the word 'should' automatically imports practicality in to the implementation. 2.Incorrect use of a parenthetical phrase. Text in parenthesis is descriptive and may be omitted. The phrase 'if suitable' is not required because the word 'should' automatically imports practicality in to the implementation.	1. (where feasible)2.(if suitable)3. (where feasible and adds value)	DASA incorporated the suggested change.
83	AMC SPA.55(a)5.e	AMC SPA.55(a)4(i).f	HQ AFTG	Incorrect use of an em rule. The following text is appropriate in parenthesis. Replace: ... CFIT (due to the loss of NVIS redundancy and increased aircrew workload).		DASA incorporated the suggested change.
84	GM SPA.55(a)7i.d.iii(a)(v)(F)	GM SPA.55(a)4(iii)a.d.ii(e)(vi)	HQ AFTG	The list within GM SPA.55(a)7i.d.iii(a) is a list of incomplete sentences: full stop appears only after the final sentence.		DASA incorporated the suggested change.
85	GM SPA.55(a)7i.d.iii(b)(i)(C)	GM SPA.55(a)4(iii)a.d.ii(i)(iii)	HQ AFTG	The list within GM SPA.55(a)7i.d.iii(b) is a list of incomplete sentences: full stop appears only after the final sentence.		DASA incorporated the suggested change.
86	AMC SPA.55(a)7iii.c	AMC SPA.55(a)4(iii)c.a.i	HQ AFTG	Incorrect use of an em rule. Rework: and in sight of ground or water when operating below the LSALT.		DASA incorporated the suggested change.
87	AMC SPA.55(a)7iii.d	AMC SPA.55(a)4(iii)c.a.ii	HQ AFTG	Lowercase: not a proper noun.	Para heading 'visibility' not 'Visibility'	DASA incorporated the suggested change.
88	AMC SPA.55(a)7iii.d	AMC SPA.55(a)4(iii)c.a.ii	HQ AFTG	eliminated and otherwise minimised	replace 'reduced'	DASA incorporated the suggested change.
89	AMC SPA.55(a)7iii.d.i	AMC SPA.55(a)4(iii)c.a.ii(a)	HQ AFTG	fixed wing Aircraft Use of 'fixed wing' correlates with SPA.05. Aircraft is a defined DADR term.		DASA has not incorporated the suggested change. Aeroplane is a defined DADR glossary term.
90	AMC SPA.55(a)7iii.d.i	AMC SPA.55(a)4(iii)c.a.ii(a)&(b)	HQ AFTG	Reformat in to sub-paragraphs, vis i. fixed wing Aircraft (a) 3000 m when above LSALT (b) 3000 m for departure and arrival below LSALT IAW Special VFR ii. rotary wing Aircraft (a) 3000 m visibility when above 700 ft AGL or ASL (b) 800 m visibility when below 700 ft AGL or ASL (c) 800 m visibility IAW Special VFR. A non-breaking space is required between a value (eg 3000) and the unit of measure (eg m), ie '3000 m'; 700 ft; 800 m. Sentences must not begin with a number.		DASA incorporated the suggested change. However, DASA retained the term 'Aeroplane' (vice fixed-wing) and 'Helicopter' (vice rotary-wing), aligning with both FIHA and the DADRMAN glossary.
91	GM SPA.55(a)7iii.d.i	GM SPA.55(a)4(iii)c.e.i	HQ AFTG	Units of measure are not pluralised and kt is the recognised abbreviation for 'knot': 60 kt.		DASA incorporated the suggested change.
92	GM SPA.55(a)7iii.h	AMC SPA.55(a)4(iii)c.g	HQ AFTG	GM SPA.55(a)7iii.h Incorrect use of an em rule, replace with a space.		DASA incorporated the suggested change.
93	AMC SPA.55(a)7iv.a.i(e)	AMC SPA.55(a)4(iii)d.a.i(e)	HQ AFTG	lights	lights not 'light(s)'	DASA incorporated the suggested change.
94	SPA.55(a)8i.a.i	AMC SPA.55(a)2(iv)a.a.i	HQ AFTG	levels Using 'level' requires rewording the preceding text 'the illumination level'.		DASA incorporated the suggested change.
95	AMC SPA.55(a)8i.a.i	AMC SPA.55(a)4(iv)a.a.i	HQ AFTG	levels Only using levels vice level for continuity from SPA.55(a)8		DASA incorporated the suggested change.
96	AMC SPA.55(a)8i.a.iii	AMC SPA.55(a)4(iv)a.a.iii	HQ AFTG	level Multiple levels will require definition of policy for each level. There may be one level or many levels but each level requires policy.		DASA incorporated the suggested change.
97	GM SPA.55(a)8i.b	GM SPA.55(a)4(iv)a.b	HQ AFTG	level, 3 instances		DASA incorporated the suggested change.
98	GM SPA.55(a)8iii.a.i(c)	GM SPA.55(a)4(iv)c.a.i(c)	HQ AFTG	incorrect use of em rule		DASA incorporated the suggested change.
99	GM SPA.55(a)8iii.a.i(d)	GM SPA.55(a)4(iv)c.a.i(d)	HQ AFTG	1. incorrect use of em rule 2.role While an aircraft may have many roles, each role needs to be considered individually in respect of the use of NVD		DASA incorporated the suggested change.
100	GM SPA.55(a)8iii.a.i(g)	GM SPA.55(a)4(iv)c.a.i(g)	HQ AFTG	Incorrect use of an em rule. Replace with 'are'.		DASA incorporated the suggested change.

LSN	NPA (Ver 0) Reference: (ie Regulation number, NPA paragraph etc)	Post NPA Regulation Reference: (re-numbered Regulation)	Unit	Unit: Comment or suggested change	Unit: Further Explanation where provided	DASA Response
101	GM SPA.55(a)8iii.a.i(h)	GM SPA.55(a)4(iv)c.a.i(h)	HQ AFTG	use colon vice semi-colon after 'avoidance'		DASA incorporated the suggested change.
102	GM SPA.55(a)8iii.a.vi	GM SPA.55(a)4(iv)c.a.vi	HQ AFTG	sites Use of 'site' requires restructuring the preceding text 'for the landing site'. Alternatively, one could use 'for each landing site'		DASA incorporated the suggested change.
103	Section 1 Definitions	GM SPA.55(a)4(iv)c.a.i(g)	AWC	para 2 Before "DVE can lead to ..." ADD: Notably, DVE can also occur in period of high illumination but very low contrast whereby the NVD spectral response is uniform across the image not providing any definition to the observer. Examples may include operating over vast flat areas (eg sre-numbered, water, even paddocks with certain textures). In these circumstances, aircrew will have difficulty discerning terrain, height and / or obstacle avoidance. Revised text via email: Notably, DVE will also occur in periods of high illumination but in areas of very low contrast whereby the NVD spectral response is uniform across the image not providing definition to the observer. Examples may include operating over vast flat areas (eg over water flight, featureless terrain or agricultural paddocks with uniform texture). In these circumstances, aircrew will have difficulty discerning exact height above terrain and perceiving gradual climb and descent rates, with the potential to compromise obstacle and terrain clearance.	Definition is inadequate and incomplete. The low contrast DVE condition has been causal to many CFIT accidents over the years. In its most extreme circumstance, DVE can occur over vast plateaus of sre-numbered or water in a millpond state by day.	DASA removed the definition of DVE from the glossary, LSN 3 refers. DASA moved the content from the NPA definition of DVE (drawn from AAP 7210-023 - 16 Aircraft Standardisation Manual MRH90 Glossary) to GM SPA.55(a)8iii4(iv)c. DASA added the following to GM SPA.55(a)8iii4(iv)c, immediately following the original definition of DVE: <i>Notably, DVE can also occur in circumstances of high illumination but very low contrast—where the NVD spectral response is uniform across the image, and hence not providing any definition to the observer. Examples include operating over vast flat areas (eg over water, featureless terrain or paddocks with uniform texture). In these circumstances, Aircrew can have difficulty discerning height above terrain, and perceiving gradual climb and descent rates, with the potential to compromise obstacle and terrain clearance.</i> Consulted with SO2 HQ TED (AWC).
104	SPA.55(a)4	SPA.55(a)3	AWC	DASA should consider finding a more appropriate category than ALSE	NVIS being categorised as life support equipment has for a for a long time been misplaced that is not correlating the complexity and critical nature of the NVD as an integral component to the man- machine interface (system of the aircraft). The sensory elements of the NVD is fundamental to aircrew operation of the air vehicle (attitude and look-out) and to safe visual flight (see and avoid). The NVD is a primary conduit for judgement and all that encompasses in that environment. The failure of NVD in critical phases of flight (eg take-off / landing / close formation / terrain flight) is illustrative. The GM (in draft) at para (b) referring use of NVD for "Primary Flight Reference" and "as the primary means of vision while performing Safety Critical Tasks" is testament. The capabilities of a basic helmet are distinctly different whereas the provisions of HUD is differentiated by being part of the TC. Many civil aircraft re-numbered have listed NVD approved for us within the TC, beyond which is not permitted.	DASA has not incorporated the suggested change. DASA ALSE Decision Brief of 18 Sep 19 (BJ3579669) recommended NVIS equipment be considered under DASR ORO.40. The re-classification of NVIS Equipment from ALSE to another category is outside the scope of this regulation. DIA is currently reviewing the ADRM NVIS classification and certification process as part of an ongoing separate task. However, until such a time as recommendations and determinations are made, the current certification framework remains in place (ie DASR ORO.40 for NVIS equipment certification). Consulted with SO2 HQ TED (AWC).
105	AMC SPA.55(a)7iii -Table 1; Standardised Defence Illum Levels	AMC SPA.55(a)4(iii)c.a.iii -Table 1; Standardised Defence Illum Levels	AWC	Add Note: Defence Illumination Levels define the atmospheric conditions for given location. Aircrew must be cognisant that consideration of illumination without considering the contrast conditions of the environment will be misleading and may result in erroneous planning invoking higher risk to NVIS operations	Defining a standardised Illumination Level is a great idea but many operators naively over rely on forecast conditions. There remains poor appreciation of the true effect of the contrast of the environment and education / caution to this reality is beneficial	DASA incorporated the suggested change. DASR amended Table 1- notes to read: <i>Note 2: Defence Illumination Levels define the atmospheric conditions for given location. Illumination level alone will not adequately inform an NVD performance estimate, without consideration of other environmental factors such as weather, visibility and contrast conditions. Failure to consider weather, visibility and contrast conditions may result in higher risk to NVIS operations.</i>
106	AMC SPA.55(a)7iii.b	AMC SPA.55(a)4(iii)c.a	AWC	Add: (iv) Contrast conditions for relevant phases of flight	Environmental minimums – ADD contrast assessment.	Consulted with SO2 HQ TED (AWC). DASA has not incorporated the suggestion. SPA.55 GM guides MAOs and Sponsors to consider contrast. Specifically: 1. GM SPA.55(a)7ia.ii <i>Visual acuity and contrast</i> , discusses environmental factors such as low contrast. 2. GM SPA.55(a)7id.d <i>Environmental threats</i> discusses: a. terrain contrast as an important factor in NVD performance b. environmental predictions, including terrain contrast, as important pre-flight measures. Establishing contrast minimums via AMC is infeasible for the RC to implement. Consulted with SO2 HQ TED (AWC).
107	AMC SPA.55(a)7iii.d.i	AMC SPA.55(a)4(iii)c.a.ii	AWC	Delete term: "special VFR" Amend to reduced weather conditions as drafted	Special VFR is not permitted at night. Refer AIP & FIHA ENR 1.2.1 "By day, when VMC does not exist ..." ATC kre-numbered this and reject special VFR clearance requests under this rule.	DASA has not deleted the term 'Special VFR'. LSN 48 and 49 refer. FIHA allows for Special VFR 'by Day or NVD/NVG' as follows: <i>FIHA 1.2.1.1 ADF- Military CTR/CTA/RA - By day or NVD/NVG, when VMC do not exist, the ATC unit responsible for a Military CTR/CTA/RA may issue, at pilot request, a Special VFR clearance for flight inside military Restricted Areas and in terminal area or control zone surrounding a military aerodrome.</i> (DASA bolded text for emphasis) Consulted with SO2 HQ TED (AWC).
108	GM SPA.55(a)7iii.c	GM SPA.55(a)4(iii)c.c	AWC	Add: (iv) Contrast conditions for relevant phases of flight	Environmental minimums – ADD contrast assessment.	LSN 106 refers. Consulted with SO2 HQ TED (AWC).
109	GM SPA.55(a)7iii.d	GM SPA.55(a)4(iii)c.d	AWC	Amend first sentence to: "When establishing weather minimas, the MAO or sponsor should consider the effect of weather, visibility, illumination and contrast conditions may have on NVIS"	Environmental minimums – ADD contrast assessment.	DASA incorporated the suggested change. DASA amended the GM to read: <i>When establishing environmental minimums, the MAO or Sponsor should consider the effect weather, visibility, illumination and contrast may have on NVD performance...</i> Consulted with SO2 HQ TED (AWC).
110	GM SPA.55(a)7iii.e	GM SPA.55(a)4(iii)c.e	AWC	Amend third sentence to: "Actual visual acuity may be significantly less than anticipated, based on forecast weather and illumination conditions and contrast sensitivity in the environment."	Environmental minimums – ADD contrast assessment.	DASA incorporated the suggested change. DASA moved this sentence into para d, and modified it to read: <i>Actual visual acuity may be significantly less than anticipated, based on forecast weather, visibility, illumination and contrast conditions.</i> Consulted with SO2 HQ TED (AWC).

LSN	NPA (Ver 0) Reference: (ie Regulation number, NPA paragraph etc)	Post NPA Regulation Reference: (re-numbered Regulation)	Unit	Unit: Comment or suggested change	Unit: Further Explanation where provided	DASA Response
111	Section 1	Section 1	HQ FAA	DVE Definition: Delete last sentence.	Last sentence of DVE definition is speculation and not a definition of DVE.	LSN 103 refers. Consulted with SO1 CAS FAA
112	GM SPA.55(a)7i (para a.v) (page 13)	GM SPA.55(a)4(iii)a.v	HQ FAA	Add "or reference to Stabilised Horizon Bar is lost" to 5th sentence	Stabilised Horizon Bars are utilised in the embarked environment to prevent spacial disorientation	DASA incorporated the suggested change. DASA amended the sentence to read: <i>When the NVD image becomes degraded to the point where the horizon is not visual, or ground reference (or reference to Stabilised Horizon Bar), is lost...</i> Consulted with SO1 CAS FAA
113	AMC SPA.55(a) 7iii d (page 17-18)	AMC SPA.55(a)4(iii)c.a.ii	HQ FAA	Delete "...in exceptional circumstances."	Special VFR does not require the caveat of in exceptional circumstances.	DASA incorporated the suggested change.
114	AMC SPA.55(a) 7iv a.ii.(h) (page 21)	AMC SPA.55(a)4(iii)d.a.ii(h)	HQ FAA	Add "where fitted and certified." to NVIS HUD.	NVIS HUD cannot be utilised to set attitudes in DVE operations when not certified.	DASA incorporated the suggested change.
115	AMC SPA.55(a) 8i a.i (page 21)	AMC SPA.55(a)4(iv)a.a.i	HQ FAA	Change "aircraft roles" to "NVIS roles"	As per the definition of NVIS, it is more than just the aircraft	DASA incorporated the suggested change.
116	General	General	HQ AAVNCMD	Nothing further to add from pre-NPA CRD		Communicated to DASA by SO 1 OPAW HQ AAVNCMD by Voice.
117	GM SPA.55(a)7i.d	GM SPA.55(a)4(iii)a.d	DD FLTOPS	Use of the term 'NVIS' in the first sentence which reads 'NVIS performance depends on the availability of light and environmental visibility' is incorrect as per the proposed NVIS (broad system) definition. NVG performance depends on both illumination and visibility whereas some NVDs (such as FLIR) do not require illumination but still require visibility. For technical accuracy, suggest the sentence be changed to read 'NVD performance ...'.		DASA incorporated the suggested change. DASA amended the GM (re-numbered GM SPA.55(a)4(iii)a.d) to read: <i>NVD performance depends on the availability of light and environmental visibility.</i>
118	GM SPA.55(a)8i.a	GM SPA.55(a)4(iv)a.a	DD FLTOPS	First sentence 'NVIS require natural light...'. Improper use of NVIS in this context. NVGs require light to produce an image, whereas other NVDs (such as FLIR) may not require illumination. Replace NVIS with NVG in this context.		DASA incorporated the suggested change. DASA amended the GM (re-numbered GM SPA.55(a)4(iv)a.a) to read 'NVGs require natural light...'. See also LSN 5
119	GM SPA.55(a)8iii.a.vi	GM SPA.55(a)4(iv)c.a.vi	DD FLTOPS	Delete 'but not limited to'. Rationale: IAW GM AO.GEN.00, 'includes' means 'includes but is not limited to'. DASA deleted 'but not limited to'.		DASA incorporated the suggested change. DASA amended GM SPA.55(a)8iii.a.vi (re-numbered GM SPA.55(a)4(iv)c.a.vi) by deleting 'but not limited to' and changing the word 'includes' to read 'including'.
120	SPA.55(a)2	SPA.55(a)2	DG DASA	Approval is subject to rework of SPA.55(a).2 in consultation with DDIA. Reference to the ADRM in the Implementing Regulation needs to be removed. Instead the IR should use a broader description, such as 'approved equipment design and certification reqts', with reference to the ADRM included in AMC. Please work with DDIA and DD DTS on the revised wording and associated GM/AMC. I will do a final approval of all DASR updates as part of the scheduled Feb 23 release. DG DASA		DASA (in consultation with DDIA) incorporated the suggested change. DASA amended SPA.55(a)2 to read: ...2. compliance to approved equipment design requirements DASA added AMC SPA.55(a)2 as follows: AMC SPA.55(a)2 – Night Vision Imaging System (NVIS) equipment design and certification (AUS) <i>The MAO or Sponsor should ensure NVIS equipment complies with the approved design requirements prescribed in the Airworthiness Design Requirements Manual (ADRM).</i>