

DOCUMENT FIELD COMMENT METRIC

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| Originating Office: AIR-130 | Document Description: AC 20-158A, The Certification of Aircraft Electrical and Electronic Systems for Operation in the High-intensity Radiated Fields (HIRF) Environment | Project Lead: Lee Nguyen | Reviewing Office: Field | Date of Review: 1/8/2014 |
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| No. | Company & Group | Page & Paragraph | Comment | Rationale for Comment | Recommendation | Disposition |
|-----|--|--------------------------------|---|---|---|--|
| 1 | ACE-118C, Khailaa Hosny, 847-294- 7134 | Page 6 Section 6 (b) (2) | The paragraph identified that a safety assessment related to HIRF must be performed and referred to the guidance found in AC 23.1309-1E, AC 25.1309-1A, SAE ARP 4754A, and SAE ARP 4761. It didn't explain how the HIRF assessment would be different from the 1309 analysis required for xx.1309 compliance. | Failures endured by HIRF environment are unique and are not the same as the analysis done for showing compliance with 1309. HIRF environment usually impacts the hardware, but if the software fails to accommodate the hardware effects in a safe manner, the system can cause adverse effects. Why not focus EMI compliance into two efforts: 1) Identify impact of the environment on the Hardware, then 2) demonstrate that the software can tolerate the hardware effects on a safe manner pending operation of the aircraft and needed software filters and integration software fault counts for the various signals. This approach would provide a more controlled safety and eliminate safety holes that could exist with the existing approach for certification. Besides, it would be less costly for the applicant. | Provide guidance into how to perform HIRF safety analysis that are more focused on the unique nature of susceptibilities to HIRF environment, and behaviors of the system or signal under those environment. For example, a HIRF environment may cause changes to memories that may not impact operation during the specific operational set up used during the test, but may exhibit adverse effects under other environmental or operational scenarios during flight. | Partially accepted The draft AC 20158A invokes SAE ARP 5583A which provides guidance for the issue commented on. Paragraph 5.2 in SAE ARP 5583A states: "The Safety Assessment should include all significant modes of operation, functions with their failures, and their subsequent effect upon the aircraft, considering the stage of flight and operating conditions." Paragraph 5.2.1 states: "When analyzing failure conditions associated with HIRF, consideration must be given to the unique effects of HIRF upon the aircraft functions since the presence of HIRF environments may induce failures in ways not encountered under other operating conditions", and "The HIRF regulations address 'adverse effects' to electrical and electronic systems and the functions they perform, Therefore, an important part of the safety assessment is to thoroughly define the adverse effects for the aircraft functions and systems." |

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| | | | | | | Action: Added SAE ARP 5583A to the last sentence in paragraph 6.(b)(2) as-“Further guidance on performing the safety assessment can be found in AC 23.1309-1E, AC 25.1309-1A, SAE ARP 4754A, SAE ARP 4761, and ARP 5583A.” |
| 2 | ACE-118C, Khailaa Hosny, 847-294-7134 | Page 7 Table-1 (HIRF Failure Conditions and System HIRF Certification Levels) | Please explain the Intent of identifying HIRF certification levels as “A”, “B”, and “C”. The HIRF environment in the aircraft does not change with system criticality. | There are different HIRF levels listed in the AC for different equipment or functional criticality. If the system is identified as “Major” criticality level, why a reduced level of the HIRF would be acceptable, although the system will experience the same External/Internal HIRF levels as a critical system. | All systems if tested need to be tested at the A level, or not tested at all if non critical, but the pass/fail criteria of a “Major” system may be negotiated based on the specific system/function/ signal criticality. | Not accepted. The recommendation contradicts the referenced regulations §§ 23.1308, 25.1317, 27.1317, and 29.1317 (corresponding appendices) and the guidance in the draft AC. Table-1 in the draft AC cites the specific requirements for aircraft system with catastrophic, hazardous, or major failure conditions and assigns appropriate HIRF certification level A, B, or C. The draft AC then provides guidance on establishing the appropriate test environment for these aircraft systems. |

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| 3 | ACE-111 James Brady 816-329-4132 | Page 13 7. Margins | There is an extra period after “substantiated.” | | Remove period | Accepted Changed as suggested. |
| 4 | ACE-111 James Brady 816-329-4132 | Page 13 7. Margins | The change in wording of the sentence on margins leads to this being a requirement. “Margins are required when determining compliance based on analysis or similarity where there is limited substantiation for the data.” | This is more likely to be misread as a requirement in all cases. Recommend using current wording. | Where data have limited substantiation, a margin may be required depending on the available justifications. | Accepted Changed as suggested. |
| 5 | ACE-111 James Brady 816-329-4132 | Page 13 b. HIRF | Two fonts are used in this paragraph | | Fix font | Accepted Changed as suggested. |
| 6 | ACE-111 James Brady 816-329-4132 | Page 15 Item (e) | See comment on Margins page 13 | This is likely to be misread as a requirement in all cases. | When data have limited substantiation, a description and justification for margins to account for similarity uncertain. | Accepted Changed senetence as: “When data have limited substantiation, a description and justification for margins to account for similarity uncertainty.” |

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| 7 | ACE-111 James Brady 816-329-4132 | Page 23, Paragraph 9.j(2), last sentence | The change in wording of the sentence leads to a new interpretation of the requirement on the low-level direct-drive test. | This is likely to be misread as a requirement in all cases. | Use current wording: "This test method has improved sensitivity over the low-level swept-current tests and may be necessary for small aircraft or aircraft with high levels of airframe shielding." | Not accepted The wording in the draft AC correctly states: "The low-level direct-drive test is more effective than low-level swept-current tests for frequencies from 10 kHz to the first airframe resonant frequency, and may be necessary for small aircraft or aircraft with high levels of airframe shielding." |
| 8 | ACE-111 James Brady 816-329-4132 | Page 28 Paragraph (7) | "this demonstrates by analysis" has meaning in the certification process | "this analysis demonstrates" and "this demonstrates by analysis" can be interpreted as two different concepts. | Use the current wording: "this demonstrates by analysis" | Accepted Changed as suggested. |
| 9 | ACE-111 James Brady 816-329-4132 | Page 29 b. Step 2 | Same as above | | Use the current wording. | Not accepted The wording in the draft AC correctly describes guidance on defining the HIRF protection features applicable to the aircraft and its Level B and C systems. |

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| 10 | ACE-111 James Brady 816-329-4132 | Page 30 g. Step 7 | Missing a period after compliance | | Add period | Accepted Changed as suggested. |

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| 11 | ASW-112 Schwab | Pg. 3, para.3.c | This paragraph is silent to Part 27/29 guidance on Equipment, Systems and Installations (2X.1309) | Appropriate guidance for those applicants pursuing approval of rotorcraft installations should utilize the appropriate guidance for rotorcraft. | Include reference to AC 27.1309, which is included in Mega AC-27-1B. And include reference to AC 29.1309, which is included in Mega AC-29-2C | Accepted Added reference to AC-27-1B and AC-29-2C as suggested. |
| 12 | ASW-112 Schwab | Pg. 6, para 6.b(2) | This paragraph is silent to Part 27/29 guidance on Equipment, Systems and Installations (2X.1309) | Appropriate guidance for those applicants pursuing approval of rotorcraft installations should utilize the appropriate guidance for rotorcraft. | Include reference to AC 27.1309, which is included in Mega AC-27-1B. And include reference to AC 29.1309, which is included in Mega AC-29-2C | Accepted Added reference to AC-27-1B and AC-29-2C as suggested. |
| 13 | ASW-112 Schwab | Pg. 13, para 6 (g) | Need to emphasize the re-use of a HIRF special condition is inappropriate for systems and equipment added or changed. | Several applicants, including delegated organizations, have sought to use the HIRF special condition to projects subsequent to the sunset of paragraph (d) of the HIRF rule. | Include a closing statement clarifying a change to a system previously certified with a HIRF special condition will necessitate showing the new system, as installed, must meet the HIRF rule for certification. | Not accepted The last sentence in paragraph 6.g states: "Since December 1, 2012, section (d) of the HIRF regulations and paragraph 6.g of this AC was no longer applicable." This sentence meets the intent of the recommendation. |

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| ID | Author | Location | Description | Action | Status | Comments |
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| 14 | ASW-112 Schwab | Pg. 13, para 7 | Typographical error between second and third sentence. | Extra space and extra period | Correct | Accepted Changed as suggested. |
| 15 | ASW-112 Schwab | Page 13, para 7 | To date, applicants have not presented margins, but have repeatedly claimed attenuation, without substantiation. Possibly in this area of the document would be an appropriate area to discuss attenuation. | | Consider moving attenuation discussion to this portion of the document. | Not accepted The draft AC appropriately discusses guidance on establishing HIRF attenuation by aircraft test, analysis, or similarity in paragraphs 6.d(2), 9.e, 9.k, 9.l, 10.d, and appendix 1. |
| 16 | ASW-112 Schwab | Page 13, para 8.b | Font change between first and second sentence. | | Recommend correcting font to same size throughout paragraph. | Accepted Changed as suggested. |

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| 17 | ASW-112 Schwab | Page 20/21, para 9.e(1) | Expected attenuation for rotorcraft should be zero, unless substantiated by data. | To date, several rotorcraft projects have assumed attenuation that could not be justified and was actually determined to be virtually zero, when finally pushed to measure attenuation for credit. Much time, effort and applicant money would have been saved if zero attenuation credit had been established as the baseline for rotorcraft. | Add statement that rotorcraft attenuation should be expected to be zero, unless substantiated by test. Analysis of attenuation is not, typically, acceptable. | Not accepted The designated attenuation should follow the guidance in appendix 1. The attenuation for any aircraft depends on the structural materials, size and location of windows and doors, and the installation of the systems. (Also, see disposition to comment 33 on paragraph 2.b(1) on page A1-1.) |
| 18 | ASW-112 Schwab | Page 21, para 9.e(3) | I disagree with the third sentence in paragraph. | My opinion is that equipment connected to the system under test (SUT), should be connected during testing. I agree that those units, if they do not relate to the catastrophic functions of the SUT, they would not need to pass the test, but the SUT needs to be representative of the installed equipment. | Re-write the third sentence to remove acceptance of a non-conformed SUT configuration for testing. | Not accepted The guidance discussed in paragraph 9.e(3) is appropriate. For the system under test, if the connected equipment is not related to the functions with catastrophic failures, these items may be simulated by test sets, if the test sets accurately represent the terminating circuit impedance of the sensor. However, the connected equipment should meet the appropriate HIRF requirements required for their failure condition classification. For modern complex aircraft, the recommendation would lead to having all aircraft systems in the lab at one time. That is impractical because of sheer size. |

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| 19 | ASW-112 Schwab | Page 21, para 9.e(4) | Recommend adding “for Level A display systems only” after generic transfer functions. | Applicants have miss interpreted this statement, with the belief this sentence allows (or does not preclude) generic transfer function attenuation to be applied to non-Level A display systems. | See comment for suggested change. | Accepted Added “for Level A display systems only” after “generic transfer functions”. |
| 20 | ASW-112 Schwab | Page 21, para 9.e(7) | Recommend adding/reminding applicants that presentation of hazardously misleading information needs to be considered in the pass/fail criteria. | Some HIRF test plans are presented with no reference to HMI. Clarifying that HMI needs to be considered may save a step in the approval of a test plan process. | Incorporate adding reference to HMI as pass/fail criteria. | Accepted Changed the last sentence in paragraph 9.e(7) as: “Any system susceptibility, including system malfunctions such as displaying hazardously misleading information, upset, or damage should be recorded and evaluated based on these previously defined pass/fail criteria.” |
| 21 | ASW-112 Schwab | Page 22, para 9.e(9) | Second sentence is not necessary and entices applicant to define their system as “simple”, for which there is no clear definition. | Applicants are quick to define the system as simple, if it will reduce the test requirements of that system. The criticality of the system should drive the level of test, not the complexity of the system. | Delete the second sentence of this step. | Partially accepted Reworded the last sentence in paragraph 9.e.(9) to remove the words ‘for simple systems’, so that the sentence reads, “However, these standard RTCA/DO-160, Section 20 tests may be sufficient if paragraphs 9e(2) and (3) of this |

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| | | | | | | step are met.” Rationale: The system setup for the DO-160 tests needs to include the appropriate interconnected LRUs or simulated LRUs. This is adequately explained in paragraphs 9e(2) and (3). |
| 22 | ASW-112 Schwab | Page 22, para 9.f(1) | Referenced paragraph is a different font than the bulk of the rest of the document. | Typographical issue | Correct font | Accepted Changed as suggested. |
| 23 | ASW-112 Schwab | Page 22, para 9.f(1)(2)(3) | Similarity for HIRF is a very difficult approach. | System similarity for HIRF assessment should be labeled system identity. Even very minor changes in equipment or installation can have very significant differences in HIRF characteristics. | Either rename the step System Identity Assessment, or delete the whole step. | Not accepted System similarity assessments, as discussed in paragraph 9.f, is an acceptable means of showing compliance. |
| 24 | ASW-112 Schwab | Page 22, para 9.g(1) | The third sentence speaks to Level A display systems. There needs to be a definition to clarify what parts of the display system are entitled to invoke the generic tables in Appendix 1 to this AC. | Applicants have expanded the display system components to include systems that act as sensors to other critical systems, such as ADAHARS, which is a part of the display system, but is also used for autopilot and other critical systems. | Define what components of the display system are eligible to invoke the generic tables e.g. display tubes, control panel, etc. | Accepted Added a new paragraph 9.g (2), with the following paragraph numbers changed. (2) Integrated display systems include the display equipment, control panels, and the sensors that provide information to the displays. In some systems, the sensors also provide information to level A systems that are not displays, such as flight or engine |

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| | | | | | | controls. In these systems, the sensors cannot use the generic transfer functions of the level A display system for compliance. |
| 25 | ASW-112 Schwab | Page 22, para 9.g(2) | The second sentence states that analysis is not adequate to show HIRF compliance to Level A systems. Analysis is not adequate for any HIRF testing, at this point. | It has yet to be shown that HIRF analysis modeling has any validity. | Remove the limitation to level A systems and change the statement to be applicable to all systems. | <p>Not accepted</p> <p>Paragraphs 8.b and 8.b(2) in the draft AC, allow analysis as an acceptable method in a HIRF compliance plan. However, these paragraphs and paragraphs 9.g(2) and 9.g(3) appropriately discusses the limitations of HIRF analysis.</p> <p>Section 9 specifically addresses Level A systems. The HIRF regulations in 14 CFR 23.1308, 25.1317, 27.1317, and 29.1317 (b) and (c) require exposure to HIRF Test Levels 1, 2, or 3, so this already tends to preclude analysis for level B and C systems.</p> |
| 26 | ASW-112 Schwab | Page 23, para 9.g(3) | Analysis, alone, is not an adequate showing of compliance to HIRF. | The last sentence in this sub step states that testing “may” be required. | Remove the word “may” from the last sentence and replace it with “will”. | <p>Accepted</p> <p>Changed the last sentence as: “Significant testing, including aircraft level testing, is required to support the analysis.”</p> |

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| 27 | ASW-112 Schwab | Page 26, para 9.k(1) | Level A system components need to be defined. | To prevent components that are part of the display system, but also part of other critical systems, to be tested at a reduced level, by taking advantage of the generic attenuation tables. | Add statement to define or further explain what parts of the display systems may, or may not; be appropriately tested at generic levels. | Accepted (Already addressed in response to previous comment 24 on paragraph 9.g(1)). |
| 28 | ASW-112 Schwab | Page 26, para 9.k | Add sub step to state that rotorcraft should be assumed to have zero attenuation. | This is due to large apertures and little similarity to fixed wing, in regard to airframe attenuation. | See comment for suggestion. | Not accepted This is not the appropriate paragraph in the draft AC addressed by the comment. All the guidance for applying generic attenuation is in appendix 1. The designated attenuation should follow the guidance in appendix 1. (See disposition to comment 33 on paragraph 2.b(1) on page A1-1.) |
| 29 | ASW-112 Schwab | Page 27, para 9.l(3) | Need to emphasize that similarity is a difficult path | See earlier rationale, very small changes in design/construction and installation can have significant changes on HIRF susceptibility. Identicality needs to be the measure, not similarity. | Add statement or remove word similarity from document. | Not accepted Paragraph 9.l(3) appropriately discusses the limitations of HIRF similarity assessment. (Also, see response to previous comment 23 on paragraphs 9.f(1)(2)(3).) |
| 30 | ASW-112 Schwab | Page 28, para 9.m(8) | Second sentence speaks to “significant” configuration differences. Significant needs to be better defined. | Small changes in installation can have significant changes in HIRF susceptibility. Not sure how to better define this, but there needs to be presented case for similarity (or nearly identicality) before FAA | Try to clarify that similarity will necessitate a presentation of the applicant’s case for approval by the FAA. | Accepted Added the following as the new paragraph 9.m(10): “You should provide the similarity assessment and supporting rationale to the FAA for approval.” |

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| | | | | acceptance/approval is granted. | | |
| 31 | ASW-112 Schwab | Page 29, para 10.b | Rotorcrafts typically do not offer any significant airframe attenuation. | Rotorcraft applicants that have sought airframe attenuation have, thus far, been unsuccessful in showing any significant airframe attenuation. System design can be incorporated to attenuate HIRF susceptibility. | Add statement that rotorcraft need to measure any attenuation if such credit is being sought for HIRF testing. | Not accepted The attenuation for any aircraft depends on the structural materials, size and location of windows and doors, and the installation of the systems. (Also, see dispositions to comment 17 on paragraph 9.e(1)) |
| 32 | ASW-112 Schwab | Page 29, para 10.e | Need to clarify that similarity of these systems may be appropriate if no credit for airframe attenuation is sought. | Slight differences in airframe can derive very different HIRF susceptibility qualities. Applicant needs to be cognizant that any attenuation needs to be substantiated. | Add statement to address this point. | Not accepted The regulations for HIRF (14 CFR 23.1308, 25.1317, 27.1317, and 29.1317) do not address attenuation if using HIRF equipment test levels 1 and 3. These test levels are applied to equipment and are not based on aircraft attenuation. |
| 33 | ASW-112 Schwab | Page A1-1, 2.b(1) | Need to add sentence that rotorcraft typically will be in this “no attenuation” group, unless measured attenuation is shown. | Rotorcrafts have not been shown to provide any significant attenuation to HIRF. | Add statement to address this point. | Accepted Reworded this paragraph as shown: (1) No Attenuation. No attenuation credit can be used when the level A display |

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| | | | | | | equipment and associated wiring are located in aircraft areas with no HIRF shielding, such as areas with unprotected nonconductive composite structures, areas where there is no guarantee of structural bonding, or other open areas where no shielding is provided. Display units installed in rotorcraft typically have no attenuation unless specific shielding is provided in the bulkhead, glareshield, panel, and doors. You may choose to use no attenuation for equipment that may be installed in a broad range of aircraft areas. |
| 34 | ASW-112 Schwab | Page A1-2, 3 | This is the approach most appropriate for rotorcraft | See above | Add statement to address this point. | Not accepted The guidance in paragraph 3 in appendix 1 includes applicability to rotorcraft. |
| 35 | AIR-500 | Page 1, Subject line | Incorrect format | | Remove the capital letters and use the title case. | Accepted Changed as suggested. |
| 36 | AIR-500 | Page 1, Paragraph 1 and 2, Heading | Retitle Heading. | There is no need to write the heading as a question. | Rewrite paragraph 1 to read: " Purpose" and paragraph 2 to read "Applicability" | Accepted Changed as suggested. |

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| 37 | AIR-500 | Global/Throughout Document | Incorrect formatting for citing reference and using section symbol (§). | Non-compliance to the Federal Register Document Drafting Handbook. | Do not use the section (§) symbol or the word “section” when the reference follows “XX CFR”. Only use the section symbol (§) when referring to different paragraphs/subparagraphs within the same section. For example: Correct way to cite: 14 CFR 23.1308 Incorrect: 14 CFR § 23.1308 | Accepted Changed as suggested. |
| 38 | AIR-500 | Page 1, Paragraph 1a | Incorrect capitalization | The titles in 14 CFR have the word “intensity” in lowercase | Rewrite as “High-intensity Radiated Fields” | Accepted Changed as suggested. |
| 39 | AIR-500 | Page 1, Paragraph 1d | Cancellation should be its own separate paragraph. | | Rewrite paragraph 1d as a new paragraph 3 titled “: “Cancellation” | Not accepted Agree with the comment. However, describing cancellation in its own separate paragraph affects the interconnectivity of cross-referenced paragraphs within this AC may lead to other errors. In addition, describing cancellation in paragraph 1.d does maintain the flow of the document well. |

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| 40 | AIR-500 | Page 1, Paragraph 3a | Incorrect citation | | Delete the word "Title" and rewrite to read: "14 CFR." | Accepted Changed as suggested. |
| 41 | AIR-500 | Page 2 through end, Header | Incorrect header format | Odd and even page headers are always the same. | Don't alternate header format. The date is always on the left and the AC number is always on the right. Also, remove the word "DRAFT" from the header. | Accepted Changed as suggested. |
| 42 | AIR-500 | Page 2, Paragraph 3c, second sentence | Incorrect capitalization | | Capitalize "Regulatory" in RGL | Accepted Changed as suggested. |
| 43 | AIR-500 | Global/through out document | Incorrect paragraph alignment. | Subparagraphs should be located directly under the first letter of the text in the preceeding paragraph. | See Pg. 2, paragraph 3e(1) for an example. The (1) should be located directly under the E in European. Align entire document accordingly. | Accepted Changed as suggested. |
| 44 | AIR-500 | Global/through out document | Incorrect use of bold | Do not bold paragraph or table references | Remove bold. For example, see Pg. 2, paragraph 3e(1). The reference to paragraph 3f(1) should not be in bold. | Accepted Changed as suggested. |
| 45 | AIR-500 | Global/through out document | Incorrect use of bold | In the outline, do not bold the numbers and letters in parenthesis. | Remove the bold from (1) and beyond. See Pg. 2, paragraph 3e (1) and (2) | Accepted Changed as suggested. |

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| 46 | AIR-500 | Page 3, Paragraph 4a(5) | Incorrect punctuation. | | Remove the comma after “and” at the end of the line | Accepted Changed as suggested. |
| 47 | AIR-500 | Page 3, Paragraph 5 | Inconsistent punctuation. | Use periods instead of colons | Follow each definition title with a period instead of a colon | Accepted Changed as suggested. |
| 48 | AIR-500 | Page 3, Paragraph 5 | Incorrect capitalization | Each definition text should start with a capital letter | Start each definition with a capital letter. See pg. 3, paragraph 5b for an example. The word “term” should be capitalized. | Accepted Changed as suggested. |
| 49 | AIR-500 | Page 4, Paragraph 5k | Acronym defined earlier | | Rewrite title to read “External HIRF Environmemnt” | Accepted Changed as suggested. |
| 50 | AIR-500 | Page 4, Paragraph 5m. | Acronym defined earlier | | Rewrite title to read “HIRF Environment” | Accepted Changed as suggested. |
| 51 | AIR-500 | Page 6, Paragraph 6b(1), 4 th sentence | Extra space | | Remove the extra spacing between “encounter” and “should.” | Accepted Changed as suggested. |
| 52 | AIR-500 | Page 6, Paragraph 6b(1), 4 th sentence. | Incorrect punctuation | Need to use possessive case | Rewrite to read: “...its system’s safety....” | Not accepted The term systems refers to more than one systems. |

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| 53 | AIR-500 | Global/All Tables and Figures | Incorrect/Inconsistent punctuation | | In the table and figure titles, remove the hyphen and replace with a period. For example, write as “Table 1. HIRF Failure...” | Accepted Changed as suggested. |
| 54 | AIR-500 | Page 12, Table 5 | Inconsistent spacing | | Move the 2 nd column title up one space so that it starts on the same line as the other column titles | Accepted Changed as suggested. |
| 55 | AIR-500 | Page 13, Paragraph 6g, last sentence | Sentence is confusing as written. | | Rewrite to read “Since December 1, 2012, section (d) of the HIRF regulations is no longer applicable.” | Partially accepted Changed sentence as: “Since December 1, 2012, section (d) of the HIRF regulations and paragraph 6.g of this AC were no longer applicable.” |
| 56 | AIR-500 | Page 13, Paragraph 7, after 2 nd sentence | Typo. Extra period | | Remove extra period. | Accepted Changed as suggested. |
| 57 | AIR-500 | Page 13, Paragraph 7, last sentence | Incorrect capitalization | | “Paragraph” should be written as “paragraph.” | Accepted Changed as suggested. |
| 58 | AIR-500 | Page 13, Paragraph 8a, 3 rd sentence | Missing commas | | Insert commas around “and submitted to” | Accepted Changed as suggested. |

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| 59 | AIR-500 | Page 13, Paragraph 8a(3). | Incorrect punctuation | | Remove the comma at the end of the line. | Accepted Changed as suggested. |
| 60 | AIR-500 | Page 13, Paragraph 8b, 2 nd sentence. | Incorrect reference, clarity needed | Refer to text as paragraphs instead of sections. Sections are found in longer ACs. | Rewrite to read: "See paragraphs 9 and 10 of this AC, and SAE...." | Accepted Changed as suggested. |
| 61 | AIR-500 | Page 13 through end Footers | Incorrect footer format | There is no difference between the footer on even vs odd pages | Center page numbers in center of footer, like it appears earlier in the AC. | Accepted Changed as suggested. |
| 62 | AIR-500 | Page 14, Paragraph 8b(1)(a), 8b(2), and 8b(3). | Incorrect punctuation | Use a colon when preceding a list. | Replace the dash at the end of the line with a colon. | Accepted Changed as suggested. |
| 63 | AIR-500 | Page 15, Paragraph 8b(3)(c) and 8b(3)(d) | Conjunction is located on the incorrect line | | Remove "and" at the end of the line (c) and add the "; and" at the end of (d) | Accepted Changed as suggested. |
| 64 | AIR-500 | Page 15, Paragraph 8d, 2 nd sentence | Add text for clarity | | Rewrite to read: "...described in paragraphs 9 and 10 of this AC." | Accepted Changed as suggested. |
| 65 | AIR-500 | Page 15, Paragraph 8d | Extra comma | | Remove the comma after Figure 3 in the 4 th sentence. | Accepted Changed as suggested. |

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| 66 | AIR-500 | Page 20, Paragraph 9a, 3 rd sentence | Incorrect capitalization | | Change “Figures” to “figures.” | Accepted Changed as suggested. |
| 67 | AIR-500 | Page 20, Paragraph 9b | Extra space. | | Remove extra spacing between “doors” and “(see...)” | Accepted Changed as suggested. |
| 68 | AIR-500 | Global/through out document | Incorrect capitalization | | The word “step” as in “step 5” should be lowercase. | Accepted Changed as suggested. |
| 69 | AIR-500 | Page 20, Paragraph 9d, 1 st sentence | Clarify section 20 is referring to the RTCA doc | | Rewrite to read: “...of RTCA / DO – 160E (or latest version), Section 20, may be...” | Accepted Changed as suggested. |
| 70 | AIR-500 | Page 20, Paragraph 9d, 2 nd sentence | Add comma | | Rewrite to read: “ ...of RTCA / DO-160, Section 20 or to...” | Accepted Changed as suggested. |
| 71 | AIR-500 | Page 22, Paragraph 9e(9), 1 st sentence | Add parenthetical to clarify reference | | Rewrite to read: “...in RTCA / DO – 160E (or latest version), Section 20...” | Accepted Changed as suggested. |
| 72 | AIR-500 | Page 22, Paragraph 9e(9), 2 nd sentence | Add comma | | Rewrite to read: “...these standard RTCA / DO-160, Section 20...” | Accepted Changed as suggested. |
| 73 | AIR-500 | Page 22, Paragraph 9f(1) | Incorrect font and alignment | | Ensure font is 12pt and the paragraph is left justified | Accepted Changed as suggested. |

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| 74 | AIR-500 | Page 25, Paragraph 9j(2), last sentence | Extra space. | | Remove the extra space between “than” and “low-level...” | Accepted Changed as suggested. |
| 75 | AIR-500 | Page 28, Between Paragraphs 9o and 10 | Extra space. | There should be only one space between paragraphs | Remove the extra space between 9o and paragraph 10. | Accepted Changed as suggested. |
| 76 | AIR-500 | Page 31, Signature block | Update organization title | | Update organization title | Accepted Changed as suggested. |
| 77 | AIR-500 | Page 31, Feedback paragraph and template | Missing paragraph referring to to feedback template and the template itself . | | Add feedback paragraph and add the template as an appendix. | Accepted Changed as suggested. |
| 78 | AIR-500 | Blank page after page 31. | | | Delete the blank page | Accepted Changed as suggested. |
| 79 | AIR-500 | Page A1-1, Appendix 1 title | Incorrect font size | | Ensure font is 12pt | Accepted Changed as suggested. |
| 80 | AIR-500 | Appendix 1. | Incorrect figure location | | Figures should be located after the first reference. For example, figures A1-1 through A1-5 should fall after para. 1c. | Accepted Changed as suggested. |
| 81 | AIR-500 | Page A1-2 through A1-8, Title | The title of the appendix should appear only on the first page of the appendix | | Delete appendix title at the top of pages A1-2 through A1-8 Deborah: page numbering in Footer | Accepted Changed as suggested. |

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| 82 | AIR-500 | Page A1-3 through A1-8, Font | Inconsistent font | | All figures must use the same font as the rest of the document. Change to Times New Roman, 12 pt. | Accepted Changed as suggested. |
| 83 | AIR-500 | Page A1-3 through A1-7, Information under the Figures. | Missing labels | Is the information under the figure a title, a note, etc.? | Label appropriately. Suggest adding to figure title. | Accepted Changed as suggested. |
| 84 | AIR-500 | Page A1-5, Header. | Incorrect format | | Correct header format. Appendix 1 should appear under the AC number | Accepted Changed as suggested. |
| 85 | ANE-110 | General | As long as this AC is it would be helpful to have a Table of Contents | Readability | Incorporate a TOC | Not accepted The AC format provides good readability of the document without the Table of Contents. AIR-500, Planning and Program Management Division, concurs with the AC format without the Table of Contents. |
| 86 | ANE-110 | General | Although the "A" revision does not change the issue, but it does seem that the AC is a bit repetitive of the ARP. | It does not seem necessary to repeat the text or the figures that are in the ARP | Consider | Not accepted In some cases, there are differences in the text and figures in the current AC/draft revision A and the SAE ARP. For example, Table 7 in SAE ARP 5583A does not address catastrophic failure condition and system HIRF Certification Level A, whereas |

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| | | | | | | Table 1 in the draft AC does. The additional information in Table 1 in the AC are necessary and useful. The repeating provisions in the AC facilitate the readability and the flow of the document. |
| 87 | ANM130S | Page 1/Paragraph 3.a and 31/Paragraph 11.a | 25.1729 and 26.11 also make up ICA and are missing from other ICA sections referenced in the advisory circular. | It is important to differentiate protection that is for separation or protection for HIRF environment from that which is installed for physical (heat, abrasion, liquids) or manufacturing (bundling/grouping) reasons. | Add 25.1729 and 26.11 (when the latest regulation is not required). | Accepted. Added §§25.1729, Instructions for Continued Airworthiness: EWIS, and 26.11, Electrical Wiring Interconnection Systems (EWIS) Maintenance Program, (when the latest regulation is not required). |
| 88 | ANM130S | Page 13/Paragraph 8.b | See sections 9 and 10, and SAE ARP5583A refers to 9 and 10 of the advisory circular. | Advisory circulars have paragraphs and RTCA documents and regulations have sections. | Change the word 'sections' to 'paragraph' | Accepted. Changed 'sections' to 'paragraph'. |
| 89 | ANM130S | Page 3, 3.a. | Missing §25.1729. | §25.1729 should be added to cover maintenance requirements for electrical wiring interconnection system (EWIS) related to the HIRF projections. | Add §25.1729. | Accepted. See resolution to comment 1. |
| 90 | ANM130S | Page 12 Table 5 Third row, last column | Extra period. | See comment. | Delete the extra period. | Accepted. Deleted the extra period. |

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| 91 | ANM130S | Page 13 7. Margin | An empty sentence in the middle of the paragraph. | See comment. | Delete the empty sentence (spaces and period). | Accepted. Deleted the empty sentence (spaces and period). |
| 92 | ANM130S | Page 31 11.a. | Missing §25.1729 | §25.1729 should be added to cover maintenance requirements for electrical wiring interconnection system (EWIS) related to the HIRF projections. | Add §25.1729. | Accepted. See resolution to comment 1. |