

	AVS Quality Management System	QPM # AIR-001-007-F1	Revision 0
		Title: Document Review Log	Date: June 19, 2009

1. Document No.: AC 20-150B	2. Project Manager: Dave Robinson	3. Reviewing Office: Reviewer's Name & phone #:202.267.9057 AIR-132 Combined Field Comments	4. Date of Review: 11/06/14	5. Date of Disposition: November 7, 2014
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Instructions for Completing the Document Review Log

Blocks 1 & 2: To be completed by project manager prior to sending out for comments.
 Blocks 3 & 4: To be completed by reviewing office. Enter office symbol, reviewers name and phone number.
 Block 5: To be completed by project manager after receiving comments from reviewing office. Enter date of disposition.
 The below columns are to be completed by the reviewing office, except for the "Disposition" column.
 Project manager's disposition in comments in the last column below. Enter the reasons for non-incorporated comments. Identify each disposition as:

- Adopted;
- Partially Adopted;
- Non-Concur;
- Concur but Outside of Scope (Will be considered in next change/revision); or
- Answer to Question or Statement.

Item No:	Page and Paragraph No:	Comment:	Reason:	Recommendation:	Disposition:
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1.	AIR-500 Page 1, Paragraph 4 and Universal	The spaces between sentences throughout the document are inconsistent: sometimes 2 spaces are used and sometimes 3 spaces are used.	Grammar and consistent formatting	Perhaps by using the "show paragraph marks" option in MS Word, please review the document and make all such spacing consistent by using 1 or two spaces between sentences.	Concur, change made.
2.	AIR-500 Page 2, Paragraph 5-1	"TSO" follows "Technical Standard Order," which seems redundant -- unless the acronym is to be established here.	Grammar and ease of reading	If accurate, please place "TSO" in parentheses at its first use to establish that acronym: "...should meet Technical Standard Order (TSO) C159b, ..."	Concur, change made.
3.	AIR-500 Page 2, Paragraph 5.5	The following sentence appears in 5.5: "Push-to-talk (PTT) operation should be maintained in all aircraft operations, but only to the extent that the flightcrew must actuate a PTT key to be heard by the ground user." Question: Is this clear?	Clarity of text	Please ensure that this sentence is logical and says what you want it to say. I get somewhat tripped over the second phrase when I get to "the flightcrew must..."	Comment acknowledged, language is clear to designers, manufacturers and operators. No change required.

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4.	AIR-500 Page 3, Paragraph 6.3	6.3 introduces a list that follows, but uses a dash at the end of the introductory phrase.	Grammar	A colon (:) is typically used to indicate that a series or list follows. Please consider replacing the dash with a colon. "Some of the safety assessment considerations include:"	Concur, change made.
5.	AIR-500 Page 3, Paragraph 6.3.2	An extra space appears after the first hyphen.	Grammar and consistent formatting	Strike the extra space after "software-".	Concur, change made.

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6.	AIR-500 Page 4, Paragraph 8.1 And Page 5, Paragraph 8.4 (Note: see the end of the first line in Paragraph 11.5 where "which" is used and punctuated properly to introduce a nonessential clause.)	In the fourth line of 8.1 and again in 8.4, the word "which" is used before the clause that follows.	Grammar	Please replace "which" with "that." Here is the standard rule: <i>That</i> introduces essential clauses, which add information that is vital to the point of the sentence. <i>Example: I do not trust products that claim "all natural ingredients" because this phrase can mean almost anything.</i> <i>Which</i> introduces a nonessential clause, which adds supplementary information.	Concur, change made.
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7.	AIR-500 Page 7, Paragraph 12	In the third line of Paragraph 12, there is an extra space between the word "urgency" and the closing parenthesis.	Grammar and consistent formatting	Please strike the space after the word "urgency." "...to place a priority 1 (distress or urgency) call, both with..."	Concur, change made.
8.	AIR-500 Page B-1, Paragraph B.1	In the fourth line, the telephone number and fax numbers listed should be separated by a semi-colon and not a comma.	Grammar	Please strike the comma and replace with a semi-colon. "Telephone 202-512-1800; fax 202-512-2250."	Concur, change made.
9.	AIR-500 Page B-1, Paragraph B.2.2 and B.2.3	Italics should be used only for the title of the AC, and when italicized, the title should not also have quotation marks around it.	Gram mar	Please use italics only for the title of the AC document, and remove the quotations marks in B.2.3.	Concur, change made.
10.	ANM-100 p. 2, §5.1 0 ANM-100D	C159b needs correct date.	C159b is dated 09/29/14.		Concur, change made.

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11.	ANM-106B Page 2, Paragraph 5.2 Page B-1, Paragraph B.2 J. Pei,	Should add AC 20-115B for software qualification	Paragraph 5.1 refers to TSO-C132 which requires DO-178B for software qualification. AC 20-115B is applicable to TSO articles and should be included as an acceptable guidance for software qualification.		Comment acknowledged, AC 20-115C, <i>Airborne Software Assurance is referenced in section B.2.1.</i> No change required.
12.	ANM-100D p. 2, §5.5, NOTE	Change “cockpit crewmember” to “flightcrew.”	Maintain consistent terminology with the remainder of the document.	Replace “cockpit crewmember” to “flightcrew” in the note.	Concur, change made.

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13.	ANM-117 P2; para 6 L. Le,	The scope of the safety assessment is not clearly described.	For both brevity and completeness, I recommend pointing to the installation rules of 2X.1309 and associated advisory materials.	Change paragraph to say: The applicant should show the installed system meets the requirements of 14 CFR part 2X.1309, and in accordance with associated AC materials. The safety assessment should consider the intended functions, including the use of the system in the oceanic/remote area environment. The integration of the LRCS in the overall aircraft architecture should also be considered.	Concur, change made.
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14.	ANM-117 P2; para 6.1 and 6.2 L. Le,	Although I agree we should provide a minimum acceptable baseline (i.e. minor hazard classification) we should word it more clearly that this classification is contingent upon the installation (i.e. integration with other systems).	Clarity	Revise paragraphs to say: The system availability (failure probability) and integrity (development assurance level) should be commensurate with the hazard classification determined by the safety assessment. Modification to the operational environment or use of satellite voice as a sole means of routine ATS communications may increase the system criticality beyond the minor hazard classification.	Comment acknowledged, see change 14.
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15.	ANM-111 P2; 6.2 N. Khaouly,	What is meant by “sole means?”	If Sole means implies use satellite voice only, note that currently, all airspaces require HF voice communication.	Define “Sole Means” and explain the intent of its use. If we are shedding HF systems and replacing HF with voice communication over satellite we should say it clearly.	Comment acknowledged, the statement is merely describing a deviation scenario. “If then condition”. No change required.
16.	ANM-100D p. 5, §9.4	Remove comma following “unlock,” and following the closed parenthesis, “code),”	Unnecessary	Remove comma following “unlock,” and following the closed parenthesis “code),”	Concur, change made.
17.	ANM-100D Page B-2, Paragraph B.4	Should add DO-178B	Paragraph 5.1 refers to TSO-C132 which requires DO-178B for software qualification. AC 20-115B is applicable to TSO articles and should be included as an acceptable guidance for software qualification.	Page B-2, Paragraph B.4	Comment acknowledged, see B.4.2 RTCA/DO-178C. No change required language per template.

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18.	ANE-150 Page 2 para 5.2	Instead of putting just the date AC 20-115 dated July 19, 2013, can a phrase be added “or latest AC revision at the date of project application.”?	Prevent the AC’s from going out of date just because a referenced AC was revised.		Comment acknowledged, No change required, language per template.
19.	ANE-100 Page 2 para 5.3	Instead of putting just the date AC 20-152 dated June 30, 2005, can a phrase be added “or latest revision at the date of project application.”?	Prevent the AC’s from going out of date just because a referenced AC was revised.		Comment acknowledged, No change required, language per template
20.	ANE-100 Page 2, para 5.4	Can a “note” be added “The FAA recommends that the systems contain the option of autonomously transmitting the vehicle’s ID, position and velocity vector data every 3 minutes across the uplink.”	It would be cheaper to require this as a mandatory function that mount another recovery search for a lost airliner.		Comment acknowledged, No change required, language per template

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21.	ANE-100 Page 3, para 7	Please define the use of the term "camp-on".	Is this term specific to a limited set of manufacturers?		Comment acknowledged, see 7.4 The satellite voice equipment may also allow flightcrew members to place their call request at the top of a queue that is, to camp-on while awaiting free resources. No change required.
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22.	ANE-100 Page 3, para 7.2	Wording is currently: “If a satellite voice channel is in use and the ground station wants to send a higher priority call, the satellite voice equipment should clear the lower priority channel. If all available channels are in use, the equipment should preempt the channel supporting the lowest priority channel in favor of the higher priority call.”	Consider the alternative: “If a satellite voice channel is in use and the ground station wants to send a higher priority call, the satellite voice equipment should give preference to higher priority voice/data traffic. If all available bandwidth is in use, the equipment should preempt the bandwidth supporting the lowest priority voice/data in favor of the higher priority connection.”---- Connections can generally be either voice or data and the use of the bytes flying through the connection is transparent. I understand that the AC is written specifically for voice. Does the equipment really strictly for voice? Most terrestrial land lines are digitized. It doesn't generally matter whether the data is voice or not, other than timeliness of delivery. Are these really “channel” devices with dedicated voice circuits?		Comment acknowledged, the equipment is design to offer separate voice and data channels with separate priority schemes available for each channel. No change required.
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23.	ANE-100 Page 3, para 7.3	Suggestion: Change the use of the word “call” to “connection”.	A connection more infers either TCP or UDP and could contain either data or voice.		The term call is universally understood as voice communication. Connection can be confused with several layers of connectivity within the layered protocol and not necessarily the end connection. No change required.
24.	ACE-100 Page 2, para 5.5	States “Flight crew must actuate a PTT...”Can the design institute a separate PTT, or should it be the existing PTT”?	Clarity of definition	Consider changing the sentence to clarify that existing PTT should be maintained.	Comment acknowledged, language is clear to designers, manufacturers and operators. No change required.

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25.	ACE-100 Page 3, para 7.4	Define term: Camp-on	Clarity of definition	Camp-on: communication feature that enables the system to complete an access attempt in spite of a user blocking signal. This feature places you in a queue whereby the moment the line clears, the call will be put through.	Comment acknowledged, see 7.4 The satellite voice equipment may also allow flightcrew members to place their call request at the top of a queue that is, to camp-on while awaiting free resources. No change required
26.	ACE-100 Page 6, para 11.2	Add references to AC 23.1311-1C, AC 25-11A and AC 25-1322	These ACs provide guidance on being consistent with a particular aircraft flight deck design philosophy	Add: Reference AC 23.1311-1C, AC 25-11A & AC 25.1322-1)	Comment acknowledged, see section B.2. No change required.
27.	ACE-100 Page 4, 5, para 8.2, 8.3, 8.7, 8.8, 8.9, 8.10 & 8.12	Group like or similar subjects	Group like or similar requirements to provide usability of the AC	Group together para 8.2, 8.7, 8.12 Group together para 8.3, 8.9 Group together para 8.8, 8.10	Comment acknowledged, No change required.

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28.	ACE-100 Page 5, para 9	Recommend referencing the flight deck controls AC, AC 20-174	Added positive information	The controls AC can add additional information similar to the existing reference to AC 25-11.	Concur, change added to section B.2
29.	ACE-100 Page 6, para 11.2	Recommend adding the second sentence to section 8 of the AC.	Added positive information	This statement also has to do with designing the system to be consistent with the flight deck color philosophy and demonstrating compliance to 2X.1322	Comment acknowledged, see section B.2. No change required.
30.	ACE-100 Page 6, Para 11.7	Recommended adding reference to 25.1302	Rule related to system design related to error.		Concur, change added.
31.	ACE-100 Page 6-7, para 11	Should the antenna and the system performance be demonstrated in maneuvering flight?	Question	Most navigation and communication equipment perform some sort of demonstration of performance during maneuvering flight. Since this could be used during an emergency. Should the system be demonstrated to be used during maneuvering flight?	Concur, change added.

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32.	AFS-300 Page 2, Para 6.1	Should system level source docs be referenced relevant to hazard classification?	Para 6 on Page 2 makes reference to safety assessment. As part of the assessment and conclusion it might be a good idea to footnote the system source docs associated with minor hazard determination similar to AC 25.1309-1A, RTCA DO-178C hazard classification tables/definitions etc.		Comment acknowledged, language is clear to designers, manufacturers and operators. No change required.
33.	AFS-300 Page 7, Para 11.7	Consider additional language.	Impact on SATCOM, SELCAL during critical phases of flight from a distraction/human factors perspective.	Suggest incorporating “distraction” into Para 11.7, with an emphasis on distractions classified as minor to no effect.	Comment acknowledged, SELCAL system is not required for Satcom systems. No change required.
34.	AFS-300 General – TSO		Consider including RTCA DO-326A and DO-355 as a reference, since there are sections regarding TSO items in these recently released guidance documents.		Comment acknowledged, security requirements are not applicable for minor hazard class. No change required.

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