

linear future RNAV and RNP criteria world)."

FAA Response: SFAR 97 addresses specific safety issues existing in Alaska. Further, the SFAR only addresses the enroute lateral navigation capability of GPS and is not intended as a model for future rulemaking on RNP in the International Airspace System. Nothing in SFAR 97 precludes development of more capable technologies and systems.

"2. The NPRM sets precedents with regard to inappropriate definitions and concepts that are inconsistent with and adversely interfere with necessary "Global" navigation systems evolution (e.g., Special MEA: 4000G)."

FAA Response: SFAR 97 addresses a specific safety need, is limited in geographic application, and is not proposed as a model for the future. As stated in Section 2 of SFAR 97, the definitions of this rule apply only to this SFAR. It is anticipated that this SFAR may be terminated when the national RNAV rule is in place. Therefore, FAA finds this SFAR does not "adversely interfere with necessary 'Global' navigation systems evolution."

"3. By its issuance, the NPRM could inappropriately set a precedent, inferring that this type SFAR is needed when it is not, and thus imply that other better and more capable (e.g., RNP-based or GNSS based) systems may not be useable or eligible for MEA, route, or procedure credit, or that even some current operations (e.g., Alaska Airlines RNP operations) may be addressed by such an SFAR which in fact is not necessary."

FAA Response: As stated in the NPRM for SFAR 97, the current regulatory structure does not accommodate the use of GPS/WAAS technology for IFR RNAV outside the operational service volume of ground-based navigation aids. The FAA does not agree that the operations envisioned by SFAR 97 are appropriately conducted without this regulatory action. Nothing herein is intended to preclude or otherwise address certification, use, or operational approval of "other better and more capable" systems.

"4. The intended Capstone related capability can more easily and readily be achieved other ways (e.g., by FAA approval or specific means via Op Spec, FSDO LOA, or various FAA Orders and associated AIM changes). Even if an SFAR was desired (and it should not be necessary), it could be done via a very simple SFAR issuance that essentially says that 'Other routes, procedures, navigation systems, or operations may be authorized in Alaskan airspace, as determined by the Administrator'."

FAA Response: As noted, the current regulatory structure does not accommodate the use of GPS/WAAS technology for IFR RNAV outside the operational service volume of ground-based navigation aids. Operations envisioned under SFAR 97 include Parts 91, 121, 129, and 135. The FAA finds that due to the disparity in type of operations, no single administrative remedy could address all operators, and such an approach would be overly and unnecessarily burdensome for both the FAA and operators alike. The FAA finds that regulatory action is appropriate in resolving the existing regulatory deficiency for use of GPS systems in Alaska for IFR RNAV outside the operational service volume of ground-based navigational aids.

"5. The currently proposed SFAR appears to set criteria that may actually be harmful to expeditious and beneficial Alaska airspace management and evolution by implicitly invoking airspace standards that are overly restrictive and constraining (e.g., not recognizing the credit of linear criteria capable systems, or better systems related to RNP and networks of LAAS, or limiting airspace planning to very narrowly defined specific systems such as for special GPS MEAs [4000G], when other combinations of navigation systems could provide equal or better airspace performance."

FAA Response: SFAR 97 relaxes current existing regulatory requirements for surface based navigation capability only for aircraft equipped with appropriate TSO C145a/C146a GPS equipment. This rulemaking is not intended to address current or future capabilities attainable with appropriately installed and approved RNP capable systems. The FAA finds that permitting operations beyond service volume of ground based navigation aids adds previously unattainable and beneficial flexibility to management of and safe navigation through Alaskan airspace. The FAA anticipates that that experience gained through these Alaskan operations may provide a more precise and accurate basis for the formulation of future policies on airspace design that are now a work in progress.

"6. Language of the NPRM is technically flawed in that it make assertions like ' * * * (GNSS) encompasses all satellite ranging technologies', when in fact the performance of some satellite-based systems may or may not alone meet specific RNP provisions (e.g., some international systems), particularly in some regions of Alaska airspace."

FAA Response: SFAR 97 makes no attempt to address or compare RNP performance to performance of existing satellite systems and only addresses operations with TSO C145a/C146a equipment in Alaska.

"7. The NPRM appears to exclusively attempt to credit systems meeting criteria only of TSO C145a/C146a. This is not appropriate technically because of certain characteristics of those systems which can be contrary to the general direction navigation needs to evolve in an RNP-based global system (e.g., aspects of inappropriate angular criteria of C146 versus the more appropriate linear criteria of RNP; and system pilot interface issues). While these C145a/C146a systems may be beneficially purchased and operationally used, their inappropriate (e.g., angular) characteristics should not be the basis (and certainly not exclusive basis) for future INAS procedure or airspace design, even in a limited region, in limited circumstances."

FAA Response: As previously noted, the FAA intends SFAR 97 to address specific safety issues existing in Alaska, limits applicability to operations based on GPS within Alaska, addresses lateral navigation capabilities only, and is not proposed as a model for future rulemaking on RNP in the International Airspace System. The purpose of this SFAR is to address en route operations and is not intended to address approach procedures. FAA further finds nothing in SFAR 97 that precludes continued development of more capable technologies or eventual evolution of global RNP systems as eventually determined appropriate.

"8. Application of any of this SFAR to FAR 129 Operators is most inappropriate (e.g., international operators flying in U.S. airspace). International Operations and international operators should be planning and equipping exclusively based on RNP-based criteria, ILS, LAAS, and GLS. Even if WAAS is used as a sensor in RNAV systems, international navigation criteria should be principally focused on RNP capability, not be defined as sensor specific."

FAA Response: SFAR 97 neither precludes or requires international operators to equip with navigation systems other than as currently provided in existing regulations and operations specifications. Additionally, nothing in SFAR 97 addresses operations other than within Alaskan airspace. The rule gives part 129 operators the ability to operate in areas (including lower altitudes) that are outside the service volume of ground-based navigational rules.