NOTICE

U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION
Air Traffic Organization Policy

N JO 7210.663

Effective Date:
June 25, 2007

Cancellation Date:
June 25, 2008

SUBJ: Operational Error Reporting, Investigation, and Severity Policies

1. Purpose of This Notice. This Notice implements the separation conformance method of categorizing the severity of operational errors (OE), and creates a new category of incident (Proximity Event) and an associated form (7210-6) to identify and track the most minor of airborne non-wake turbulence losses of separation. This Notice implements other process changes approved by the Air Traffic Organization (ATO) Executive Council, Safety Services, and the Air Traffic Safety Oversight Service (AOV) as approved changes to ATO's policy regarding separation losses. This change separates the measured loss of required separation minima from the evaluation of performance deficiencies. The change is an improved way to measure safety, organizational performance and to improve safety, efficiency and productivity. It establishes requirements for consistent data collection; and, it implements a loss of separation analysis protocol to identify causal and contributing factors that supports meaningful reporting and decision-making to improve safety in the ATO. The changes described in this Notice are essential to transition to an outcome based severity classification and provide standard processes that will give greater transparency and ultimately increased understanding by our customers, owners and employees. As the ATO transitions to a formal Safety Management System (SMS), this Notice describes a consistent incident investigative process that commits to and supports accountability, understanding, root-cause analysis, decision-making, and continuous improvement. The ATO's Safety Services office provides policy interpretations concerning administration of this Notice.

2. Audience. This notice applies to the all Washington headquarters, Air Traffic Organization offices including all air traffic field facilities; service center offices; the William J. Hughes Technical Center; and the Mike Monroney Aeronautical Center.

3. Where Can I Find This Notice? This notice is available on MyFAA employee Web site at https://employees.faa.gov/tools_resources/orders_notices/ and on the air traffic publications Web site at http://www.faa.gov/airports_airtraffic/air_traffic/publications.

4. Action. Air traffic facility managers shall ensure that the provisions of this notice are briefed to all front-line managers, controllers-in-charge (CIC), and air traffic controllers, prior to conducting operations on or after the effective date.

5. Procedures. Change the following paragraphs in Federal Aviation Administration Order (FAAO) 7210.56, Air Traffic Quality Assurance.

a. Amend Paragraph 5-1-1, Definitions, by deleting subparagraphs a through h, and insert the following:

5-1-1. DEFINITIONS

a. Closest Proximity. The closest proximity is defined as the point at which the combined lateral and vertical separation results in the lowest slant range, regardless of geometry, as determined by the separation conformance calculator. Closest proximity is entered into Block 7 of the Preliminary OE/OD Report (Form 7210-2) and Block 8 of the Final OE/OD Report (Form 7210-3), and the appropriate block of the Proximity Event Report (new), Form 7210-6.

b. Final Report. Refers to FAA Form 7210-3, "Final Operational Error/Deviation Report."

c. No Severity. Refers to losses of the separation minima that do not qualify for a separation conformance rating; e.g., minimum vectoring altitude (MVA), oceanic, surface, non-radar, and military formation flights.

d. Operational Deviation (OD). An occurrence attributable to an element of the air traffic system in which applicable separation minima as required by FAA Order 7110.65 or other national directive was maintained, but:

(1) Less than the applicable separation minima existed between an aircraft and adjacent airspace without prior approval; or

(2) An aircraft penetrated airspace that was delegated to another position of operation or another facility without prior coordination and approval; or

(3) An aircraft penetrated airspace that was delegated to another position of operation or another facility at an altitude or route contrary to the altitude or route requested and approved in direct coordination or as specified in a letter of agreement (LOA), pre-coordination, or internal procedure; or

(4) An aircraft is either positioned and/or routed contrary to that which was coordinated individually or; as specified in a LOA/directive between positions of operation in either the same or a different facility; or

NOTE:
This does not apply to inter/intra-facility traffic management initiatives.

(5) An aircraft, vehicle, equipment, or personnel encroached upon a landing area that was delegated to another position of operation without prior coordination and approval.

e. Operational Error (OE). An occurrence attributable to an element of the air traffic system in which:

(1) Less than 90% of the applicable separation minima results between two or more airborne aircraft, or less than the applicable separation minima results between an aircraft and terrain or obstacles (e.g., operations below minimum vectoring altitude (MVA); aircraft/ equipment / personnel on runways), as required by FAA Order 7110.65 or other national directive; or

(2) An aircraft lands or departs on a runway closed to aircraft operations after receiving air traffic authorization, or

(3) An aircraft lands or departs on a runway closed to aircraft operations, at an uncontrolled airport and it was determined that a NOTAM regarding the runway closure was not issued to the pilot as required.

f. Performance. Human conduct including actions (or inactions) leading to, during, and after an OE/PE/OD.

g. Preliminary Report. Refers to FAA Form 7210-2, "Preliminary Operational Error/Deviation Report."

h. Proximity Event. A loss of separation minima where 90 percent or greater separation is retained in either the horizontal or vertical plane, and does not include any violation of wake turbulence separation minima. A Proximity Event is not an operational error.

i. Proximity Event Report. Refers to FAA Form 7210-6, "Proximity Event Report."

j. Regional Operations Center (ROC). One of nine communications center serving the FAA's local Regional offices and the ATO's Service Area and Service Center offices.

k. **Remaining hazards.** Primary and/or contributing causes of operational errors identified as still present following an operational error investigations or analysis.

l. Separation loss. The amount of separation (feet or nautical miles) less than the prescribed separation minima.

m. Separation retained. The amount of separation remaining (feet or nautical miles) when the separation loss is subtracted from the prescribed separation minima.

n. Separation Conformance. A numerical indicator of the percentage of the separation maintained as a function of the separation required at the point of closest proximity. An electronic calculator is available (see Appendix B to this Notice) to calculate the separation conformance number and the associated severity category. If unable to access the calculator, multiple tables are available (see Appendix C to this Notice) to determine the severity category. Separation distances (lateral and vertical) used to classify any separation loss are entered into Block 22 of the Preliminary OE/OD Report (Form 7210-2) and Block 65 of the Final OE/OD Report (Form 7210-3) using the format: "SC _____ *(lateral distance in NM)* / _____ *(vertical distance in ft)*, _____ *(severity category)*." Separation conformance is not calculated for "No Severity" events.

o. Separation Conformance Index. Aggregate number that results from adding multiple composite slant range numbers together and dividing by the total number of (incidents) numbers used in the aggregate.

p. Service Area. Replaces regional Air Traffic Division (ATD) throughout the previous version of Order 7210.56C.

q. Severity Category. Refers to the scale used to classify OEs and Proximity Events; A, B, and C categories refer to a group of OEs with similar proximity outcomes, with Category A being the most severe form of OE. Proximity Event refers to the most minor of airborne losses of separation.

r. Significant event. A suspected or actual separation loss involving a member of the Congress, involves Presidential Aircraft, or the media that may generate significant media interest.

s. Slant Range. The straight line distance between two aircraft.

t. Training & Proficiency Record (FAA Form 3120-1). The record for recording air traffic control technical training.

u. Washington Operations Center (WOC). Communications center serving the FAA's Headquarters and key ATO offices.

b. Amend Paragraph 5-1-2, Suspected Event, replacing all existing text with the following:

5-1-2. SUSPECTED EVENT

All separation losses must be individually investigated and analyzed to determine the performance of the air traffic control system, and to determine the correct actions to take to ensure that the providing of air traffic services is both predictable and maintains the target level of safety.

NOTE-
1. *Maintaining an efficient and safe air traffic control system requires that all deficiencies (including losses of separation) in our system be identified for analysis and reporting. Separation losses, even small losses such as Proximity Events, must be immediately reported to any available management official or controller-in-charge (CIC), even if not electronically detected. Proximity Events must be reported regardless of the probable cause.*

2. *To support the agency's initial determination as to whether an investigation is warranted, employees must be verbally notified they have been associated with a possible OE/OD and must provide the preliminary information of which they have knowledge, when requested by the management official or CIC. This phase is meant only to determine the need for an investigation and is not investigatory.*

c. Amend Paragraph 5-1-3, Initial Investigations, replacing all existing text with the following:

5-1-3. INITIAL INVESTIGATIONS

a. The initial investigation should be fact finding in nature. It determines what occurred in the system, ensures corrective action is initiated to maintain system integrity, and provides for appropriate reporting and future analysis.

NOTE-
There are occasions when higher levels of management may require further review of a suspected incident, and this further review may result in the discovery of an incident not previously identified.

b. The management official, or the CIC when a management official is not available, must determine the validity of suspected OE/PE/OD, and if valid, must ensure the following items are accomplished.

NOTE-
Other facility personnel must help the management official and/or CIC gather data to conduct the initial investigation, when possible.

(1) When information indicates that an OE/PE/OD may have occurred in another facility, advise that facility's management official or CIC immediately, and conduct a QAR in accordance with section 4-1-3 of Order 7210.56C.

(2) When preliminary review indicates that 90% or more of the required vertical or lateral separation was maintained, and wake turbulence separation did not apply to an airborne separation loss, consider the incident to be a Proximity Event.

NOTE-
Minimize the operational disruptions for any investigation of Proximity Events.

(3) When the preliminary review indicates that less than 90% of the required vertical or lateral separation was maintained, or wake turbulence separation did apply to an airborne separation loss, consider the incident to be an Operational Error.

(4) An employee may be withheld from performing operational duties while the separation maintained and/or pilot action/responses during the event are being verified. Regardless of the preliminary OE/PE/OD review findings, the investigation must proceed in accordance with paragraphs 10-12 of this Notice.

NOTE-
1. *Involved employees participating in suspected OE/OD investigations may need to remain in the facility beyond their scheduled shifts to complete their statements, be interviewed, and participate in the initial investigations.*

2. *Removal from operational duties, pending determination that an OE/OD has occurred, does not constitute decertification.*

d. Amend Paragraph 5-1-4, changing the title to Multiple Losses of Separation or Multiple Deviations During a Single Event, and replacing all existing text with the following:

5-1-4. MULTIPLE LOSSES OF SEPARATION OR MULTIPLE DEVIATIONS DURING A SINGLE EVENT

a. During a single incident in which multiple OE/PE/ODs reported and/or discovered and are determined to be the result of employee performance, each OE/PE/OD must be reported individually by completing a separate FAA Form 7210-2 or 7210-6. Each form should describe the individual OE/PE/OD, including a reference, if necessary for clarity, to the other related incidents.

b. When an OE/PE/OD occurs, and the reaction to that incident creates a chain reaction of additional OEs, PEs or ODs, the multiple incidents will be considered as a single incident only for

return to operational duty purposes, performance skill checks, and training actions or plans, and entries in FAA Order 3120-1.

e. Amend Paragraph 5-1-5, Investigative Process, adding an introductory subparagraph ahead of the first subparagraph, replacing subparagraph c, and adding the following subparagraphs:

5-1-5. INVESTIGATIVE PROCESS

If at any time the investigation of a separation loss reveals that an operational error/deviation actually occurred, process that incident in accordance with Chapter 5 of FAA Order 7210.56C and the following changes. Ensure that investigations are conducted in accordance with any negotiated agreements between the FAA and pertinent labor organizations.

c. If the review of radar data cannot occur immediately following a suspected OE/OD, record the incident, and report the incident using estimated closest proximity, (FAA Form 7210-2, block 7) until such time a review of radar data can occur.

NOTE-
This review should occur in a timely manner, i.e., next business day.

d. Review available radar data (see Appendix 1, Radar Data Processing, FAA Order 7210.56C), flight strips, and appropriate computer data. Many new systems retain data on their individual hard drives. These data are generally deleted from the hard drives after 15 calendar days or 45 calendar days. The Manager or designee is responsible for advising (Technical Operations) the System Operations Center (SOC), or Operational Control Center (OCC), as appropriate, in a timely manner so that they can extract these data onto a storable/retainable electronic medium.

NOTE-
1. *For Controller-Pilot Data Link Communications (CPDLC) systems, data reduction and analysis tool printouts will indicate a chronological sequence of textual CPDLC transactions. Individual CPDLC messages are stored in the Data Link Applications Processor temporary file as a binary encoded message and can be printed out in a text format for review.*

2. *Requests for User Request Evaluation Tool (URET) and Display System Replacement (DSR) data should be made through the DSR/URET Helpdesk at 800-377-0308.*

e. Review voice recordings as soon as feasible.

(1) Two certified re-recordings, one marked “Original” and the other marked “Copy,” must be made from the original voice recording and must include the audible time channel. Facilities must retain both recordings in the OE/PE/OD file. These recordings must be certified and labeled in accordance with FAA Order 8020.16. Cassette tapes, digital file (e.g. WAV), and computer diskette are suitable media. Include all communications for a period of five minutes before initial contact to five minutes after the last contact with each position involved in the OE.

(2) If the above period exceeds 30 minutes, the Director of Operations at the Service Area may approve, with Safety Services Investigations & Evaluations concurrence, limiting the recording to that period pertinent to the specific OE/PE/OD incident.

f. Conduct an interview with the employee(s) to obtain insight they may have into the incident for all severity category A, B, or C OEs. Employee interviews following a Proximity Event are at the discretion of facility management, unless the Proximity Event is a significant event. To provide the most complete report, complete interviews prior to Safety Services Investigations & Evaluations notification, if possible.

g. When the preliminary investigation indicates that another facility is involved in the occurrence, confer with the other Manager(s) as soon as feasible to determine the scope of the other facility's investigative effort and how long it will take.

h. The Manager of any other involved facility must provide the reporting facility with information and assistance as required. This may require an investigation on the same scale as that performed by the reporting facility, in which case the Manager must have the same responsibilities, as defined in 5-1-3, Initial Investigations. The Manager of any other involved facility must also retain all pertinent original data.

i. Notify the Air Traffic Manager of the OE/PE/OD.

j. If the incident involves multiple facilities and they cannot agree on which facility has the primary responsibility, all involved facilities must complete FAA Form 7210-2 within the required notification period, and request relief from an official above them in the organization (e.g. hub, Service Area, Service Unit, and/or Safety Services).

k. Ensure that FAA Form 7210-2, Preliminary Operational Error/Deviation Investigation, is completed for OEs and ODs; ensure that FAA Form 7210-6, Proximity Event Report, is completed for PE's.

NOTE-
Appendix 2 of Order 7210.56C contains instructions for completing FAA Form 7210-2. FAA Form 7210-2 must include pertinent actions of the pilot(s) and air traffic services leading up to the event and any subsequent action. When writing the summary, be as clear and concise as possible using who, what, when, where, *and* how *to describe the entire incident.*

l. Notify Safety Services Investigations & Evaluations and the Service Area through the ROC/WOC within four hours of the time the OE/OD occurrence is first reported or suspected. The management official or CIC must notify the ROC via telephone for Category A, B, and C OEs and ODs. Fax the following information and data to the ROC for transmittal to Safety Services Investigations & Evaluations for all OE/PE/ODs:

(1) A completed FAA Form 7210-2 or 7210-6

(2) (En Route only) A reduced copy of the ESAT data, NTAP plot, and LST 5 text data; (ESAT and LST 5 text data not required for ODs)

(3) (Terminal only) A copy of the CDR plot with the associated separation data

Facilities must use the best available information when preparing FAA Form 7210-2 or 7210-6. Lack of surveillance/voice data should not result in delay of the Preliminary OE/OD report or the Proximity Event report.

NOTE-
1. *Verification that the fax transmission has been received by the ROC constitutes the required notification for Proximity Events. A call-in may be required for Proximity Events where the separation loss constitutes a significant event, or is requested by Safety Services Investigations & Evaluations.*

2. *The time limit should not prevent the preliminary investigation from continuing. Instead, it ensures that Safety Services Investigations & Evaluations are aware of reported or suspected events within a reasonable time. If unable to meet the four-hour requirement, the management official or CIC must request an extension from Safety Services Investigations & Evaluations prior to the requested reporting time-limit.*

m. Suspected equipment or automation anomalies that may be causal or contributory must be immediately reported to (Technical Operations) the System Operations Center (SOC), or Operational Control Center (OCC), as appropriate, and investigated thoroughly. If an equipment or automation anomaly from another facility is suspected, advise a management official at the other facility immediately. Document the notification on FAA Form 7230-4.

n. If the preliminary investigation reveals that certain employees first believed to be involved in the OE/OD were not involved, no further action is required. If these employees have knowledge of the incidents, obtain their views and recommendations.

NOTE-
Performance areas requiring improvement or performance deficiencies must be addressed regardless of the type of error/deviation.

o. Continuous Data Recording (CDR) and National Track Analysis Program (NTAP) are the most common event records used to determine proximity. Safety Services expects CDR or NTAP records as soon as feasible after every OE and Proximity Event. In addition, En Route facilities will prepare a SATORI, with voice, and capable Terminal facilities will prepare a movie file (containing RAPTOR video of radar and digital recording of voice communications), as soon as feasible after every OE. Terminal facilities not capable of producing a movie file shall provide CDR data and a cassette tape (digital WAV file is acceptable) re-recording of voice communications with the time channel, as soon as feasible after every OE/PE/OD.

p. When the initial investigation results in a determination of a non-occurrence, retain all data used in the investigation process (e.g., pilot/specialist statements, records of conversations, ESAT, and CDR/NTAP data in an approved electronic format), as well as any other pertinent data not otherwise required to be retained, for 45 calendar days after the date of the determination. Facilities that determine the event was a non-occurrence based on a printed ESAT, CDR/NTAP data and plots must retain both the original paper printout and an electronic copy.

q. Electronic files may be made available to Safety Services using the file transfer protocol (FTP://172.22.8.31) secured intranet site.

f. Amend Paragraph 5-1-7, Reclassification, replacing all existing text with the following:

5-1-7. RECLASSIFICATION

a. After preliminary notification procedures are completed, a review of the data may indicate a reclassification of the incident to one of the following:

(1) A pilot deviation.

(2) Military facility deviation.

(3) An OD (from an OE or PE).

(4) An OE (from an OD or PE).

(5) A PE (from an OD or OE).

(6) A non-occurrence.

b. If a reclassification is determined to be appropriate, the Manager must:

(1) Complete FAA Form 7210-5, Operational Error/Deviation Reclassification Report.

NOTE-
If an incident is reclassified from an OE to an OD or PE, an OD to an OE or PE, or from a PE to an OE or OD, reclassify the original incident to a "Non-occurrence," and indicate the new report number in the supporting documentation.

(2) Forward FAA Form 7210-5, along with the rationale and all necessary supporting documentation, including voice tapes and radar data, to the Service Area for review no later than 45 calendar days from the date of the initial report.

c. The Service Area must thoroughly review all requests for reclassification for completeness of data and validity. They must forward the requests they believe have merit to the Service Unit no later than 60 calendar days from the date of the initial report.

d. The Service Unit must thoroughly review all forwarded requests for reclassification. They must forward the requests they believe have merit to Safety Services Investigations & Evaluations no later than 75 calendar days from the date of the initial report.

e. Safety Services Investigations & Evaluations must review the forwarded requests for reclassification and determine whether the requests should be granted. Safety Services Investigations & Evaluations must advise the Service Unit via memorandum of the disposition of the FAA Form 7210-5 no later than 90 calendar days from the date of the initial report.

NOTE-
Facilities are responsible for completing/changing the appropriate forms <u>after</u> reclassification approval is received.

f. All original forms and supporting investigative data must retained in the facility for 2 ½ years.

g. Amend Paragraph 5-1-8, Performance Based Actions, to delete subparagraphs b, c, and d.

h. Amend Paragraph 5-1-13, Final Reports, deleting subparagraphs d, f, and g, and adding the following subparagraphs:

5-1-13. FINAL REPORTS

a. Investigations conducted by Safety Services under 5-1-17, ATO Safety Services Investigations, of this Notice do not relieve facility management of the requirement to complete the Final Operational Error/Deviation Report (FAA Form 7210-3).

b. For Proximity Events, the information contained on FAA Form 7210-6 constitutes the final report. If the investigation has revealed information that differs from that which was initially reported, an amended FAA Form 7210-6 must be prepared.

c. When an employee of another facility is involved in an OE, ensure that the employee's front line manager, is given sufficient documentation to determine the appropriate corrective action.

d. Retain the original report in the facility files.

e. Establish a follow-up method to evaluate the effectiveness of the local recommendations and actions that result from the investigation.

f. Send copies of the completed FAA Form 7210-2 or 7210-6 to (Technical Operations) the System Operations Center (SOC), or Operational Control Center (OCC), for any operational error (OE) or Proximity Event (PE) where equipment or automation is found to be contributory.

g. Service Areas must work closely with other Service Areas when an OE involves facilities in different Service Areas and the respective Managers cannot concur in any phase of their investigations. If 5 business days have passed since the incident and a decision cannot be reached with the other Service Areas, forward all investigative data to the Service Unit for review and resolution. If 5 business days have passed since the incident was elevated and the Service Units can not reach a decision forward all data to Safety Services for resolution. Retain all recordings, data, and documentation pertaining to the incident until Safety Services reaches a decision.

i. Amend Paragraph 5-1-14, Entries in Training and Proficiency Record (FAA Form 3120-1), replacing all existing text with the following:

5-1-14. ENTRIES IN TRAINING & PROFICIENCY RECORD (FAA Form 3120-1)

a. Proximity Events (PE) are separation losses of 10 percent or less, are not considered operational errors, and no reference to a PE will be entered into the FAA Form 3120-1.

b. When an employee's performance has been determined to contribute to an OE/OD, the following must be entered into the employees' FAA Form 3120-1:

(1) The causal factors as determined by the ATM must be fully transcribed and endorsed by the employees' front line manager on a separate page in Section VI. This page must be used for

any further reference to the OE/OD and must indicate the facility's name, the OE/OD report number, and the removal date for the page.

(2) Any associated training, remedial and/or skill enhancement must be logged, in accordance with FAA Order 3120.4, without reference to the OE/OD.

(3) Any associated position performance skill checks, including all follow-up performance skill checks (e.g., 30-day) must be logged in accordance with FAA Order 3120.4, without reference to the OE.

(4) Any associated recertification must be logged, in accordance with FAA Order 3120.4, without reference to the OE.

c. When an employee's performance has been determined to be primary or contributory to a Proximity Event, a separate Page VI will not be included for any Proximity Event, and the following must be entered into the employee's FAA Form 3120-1:

(1) Any associated remedial and/or skill enhancement training, in accordance with FAA Order 3120.4, without reference to the Proximity Event.

(2) Any associated position recertification, in accordance with FAA Order 3120.4, without reference to the Proximity Event.

j. Amend Paragraph 5-1-15, Documentation Retention, replacing all existing text with the following:

5-1-15. DOCUMENTATION RETENTION

The reporting facility must:

a. Retain the OE/PE/OD investigation file for 2 ½ years from the date of the occurrence.

b. Ensure that the OE investigation file (for A, B, and C categories) is identified by a label (maximum size three × five inches) clearly marked with "OPERATIONAL ERROR," the report number, the incident local date and time, and the local date to be destroyed.

c. Ensure that the Proximity Event investigation file is identified by a label (maximum size three × five inches) clearly marked with "PROXIMITY EVENT," the report number, the incident local date and time, and the local date to be destroyed.

d. Ensure that the OD investigation file is identified by a label (maximum size three × five inches) clearly marked with "OPERATIONAL DEVIATION," the report number, the incident local date and time, and the local date to be destroyed.

e. Ensure that the OE/OD investigation file contains, at a minimum, the original FAA Forms 7210-2; the original FAA Form 7210-3 (if appropriate); signed employee personnel statements and/or any similar supporting documents; ATO Safety Services preliminary/final

investigative reports (when ATO Safety Services designates an investigative team), the two certified re-recordings marked “Original” and “Copy” in accordance with 5-1-5, Investigative Process, for audio; and all supporting documentation such as the original ESAT, NTAP, Data Analysis and Reduction Tool (DART), or CDR plot (in both printed format and an approved electronic medium).

NOTE-
A facility may elect to store the supporting data on a computer disk or other portable electronic medium.

k. Amend Paragraph 5-1-16, changing the title to Facility, Headquarters and Service Unit Responsibilities, replacing all existing text with the following:

5-1-16. FACILITY, HEADQUARTERS, & SERVICE UNIT RESPONSIBILITIES

a. Facility. The following activities are the prime responsibility of the facility reporting the OE/OD/PE. Facilities may receive support from their Service Area and/or Service Unit offices.

(1) If the incident involves multiple facilities and the reporting Manager and the other Manager(s) cannot concur in any phase of their respective investigations, the Managers must report their differences to the Service Area for a resolution within 5 business days. If 5 business days have passed since the issue was elevated to the Service Area(s) and a decision cannot be reached with the other Service Area(s), forward all investigative data to the Service Unit(s) for review and resolution. If 5 business days have passed since the incident was elevated to the Service Unit(s) and the Service Unit(s) can not reach a decision forward all data to Safety Services for resolution.

(2) Equipment or automation anomalies that are listed as contributory require Technical Operations analysis. For each such anomaly, they must provide a description of the normal functionality and a description of the degraded condition/state associated with the anomaly.

(3) Based on the information gathered during the investigation and overall performance, the following actions may be taken in response to any OE/OD:

(a) If technical performance areas requiring enhancement are identified, develop and implement a skill enhancement training plan in accordance with FAA Order 3120.4, and include appropriate performance information in the Technical Training Discussion (TTD).

(b) If technical performance areas indicate deficiencies, develop and implement a remedial training plan in accordance with FAA Order 3120.4, and include appropriate performance information in the Technical Training Discussion (TTD).

(4) Retain a copy of the preliminary investigative report prepared in the facility OE/PE/OD file.

(5) Attach a copy of the final investigative report to the Final Operational Error/Deviation Report.

(6) Once approved by the Service Unit, facilities will enter identified risks, casual factors and corrective action plans into FSAS.

b. Service Areas and Service Centers. Service Areas and Service Centers must provide support to each Service Unit. Additional roles and responsibilities are to be determined.

c. Service Units. The following activities are the prime responsibility of the Service Unit whose facility reports any OE/OD/PE. Service Units may receive support from any Service Center and/or other Service Unit offices.

(1) Service Units will report to Safety Services appropriate management actions taken to reduce the probability of serious air traffic incident reoccurrence. The Service Unit will provide documentation of management action(s), contributing factors, and root causes of any serious air traffic incident within 72 hours (or third business day) following any category "A" OE, and within ten calendar days following any category "B" OE.

(2) Service Units will provide an analysis to Safety Services of the preliminary incident findings and recommendations received from any ATO investigative team within 10 calendar days.

(3) Service Units will analyze all losses of separation minima for causal and coincident factors. Analysis may relate each incident to past incidents at that facility/Service Area/Service Unit, (if applicable), and develop recommendations, including target completion dates, to mitigate the reoccurrence of future incidents. Service Units will report to Safety Services management actions taken, identify primary and contributing factors, and develop corrective action plans for each "A" and "B" OE to reduce the probability of reoccurrence. Service Units will report to Safety Services management actions taken, identify primary and contributing factors, and develop corrective action plans for "C" OEs and "Proximity Events" (PE) groupings to reduce the probability of reoccurrence. Service Unit reports on individual "A" and "B" OEs are reported separately, "C" OE groupings are reported monthly, and PE groupings are reported quarterly.

(4) Service Units will establish follow-up mechanisms to determine if corrective actions contained in FAA Forms 7210-3 are effective and are accomplished in a timely manner. All corrective actions must specify a completion deadline.

(5) Approve mitigation strategies identified for category "A" operational errors.

(6) Service Units will ensure their facilities have access to current technology used for automated alerts and the evaluation of operational error classifications, and that such automated tools are kept fully functional.

(7) Service Units will to the extent possible provide access to OE/PE/OD records for all facilities, Service Units, and other field offices to permit tracking of findings, mitigations, status, and analysis.

(8) Service Units will monitor identified risks, casual factors and mitigation action plans by the responsible facilities.

l. Add new Paragraph 5-1-17, ATO Safety Services Investigations, and the following subparagraphs:

5-1-17. ATO SAFETY SERVICES INVESTIGATIONS

At the discretion of the Vice President of Safety Services, any air traffic event may be investigated. The following activities are the prime responsibility of Safety Services following any reported OE/PE/OD. Safety Services may receive support from any Service Area and/or Service Unit offices. Safety Services will promptly decide if the ATO is forming an investigative team following any air traffic incident. Safety Services will communicate their decision regarding an investigative team to the Service Unit and AOV within 24 hours (or next business day) following any category "A" OE, and within 48 hours (or second business day) following any category "B" OE. The following actions are expected when investigations are sponsored by Safety Services, regardless of the permanent affiliation of the individual(s) participating:

a. Identify any safety hazards at the affected facility immediately following commencement of the investigation. The investigator, or team, will recommend mitigations to address these hazards within 12 hours of arriving at the facility reporting the incident, following any category "A" OE, and within 24 hours following any category "B" OE.

b. Submit their initial assessment of contributing factors to Safety Services within 36 hours (or second business day) following any category "A" OE, and within 72 hours (or third business day) following any category "B" OE.

c. Submit their preliminary investigative report to ATO Safety Services and responsible Service Unit within seven calendar days following any category "A" OE, and within ten calendar days following any category "B" OE.

d. Submit their final investigative report to ATO Safety Services and responsible Service Unit within 30 calendar days following any category "A" or "B" OE. Safety Services must provide the final investigative report to the Service Unit.

e. Safety Services will brief AOV on the initial assessment received from any investigator, or investigative team as soon as practical following receipt of the assessment, but no later 48 hours (or second business day) following any category "A" OE, and 96 hours (or fourth business day) following any category "B" OE. Primary focus of this briefing is to outline actions the ATO is taking to prevent the reoccurrence of similar incidents and to address any remaining hazards.

f. The Vice President of Safety Services may issue a memorandum of non-compliance whenever a serious and persistent safety risk remains following an investigation, analysis, and/or report.

m. Add new Paragraph 5-1-18, Analysis & Follow-up Actions, and the following subparagraphs:

5-1-18. ANALYSIS & FOLLOW-UP ACTIONS

a. Safety Services will compare the revised FY07 severity classification records for operational errors to the former severity classification records (prior to FY07) for operational errors on a monthly basis for the first twelve months following implementation of this revised policy. The

comparison reports will be distributed to the operating Service Units and AOV. The baseline safety performance to be used and the method to measure the ATO's annual safety improvement will be three years (FY04-FY06) of OE data. The baseline safety performance data will be analyzed using the proposed four severity categories based on the separation conformance.

b. Safety Services will publish a new separation conformance index designed to assess the overall conformance to standards when multiple errors are aggregated for comparison. This new separation conformance index will be used to measure improvements in the mean-separation of all "A" and "B" errors.

c. Safety Services will provide monthly briefings to AOV following implementation of this policy change to include actual improvements and make adjustments to the policy as necessary.

d. Safety Services will track, monitor and follow-up on all findings, recommendations, and mitigations related to operational errors (OE), Proximity Events (PE) and the subsequent investigations and analysis. Safety Services will audit facility records, Safety Assurance records at the Service Centers, and Service Unit records at Headquarters to ensure that controller performance continues to be evaluated and analyzed at regular intervals (no less than quarterly). Safety Services will ensure that mitigation actions are being reviewed for effectiveness after implementation of separation conformance.

n. Amend Paragraph 6-1-1, Definitions, replacing all subparagraphs with the following:

6-1-1. DEFINITIONS

a. Category A OE. A loss of airborne separation where the separation conformance number is less than 34.

b. Category B OE. A loss of airborne separation where the separation conformance number is 34 or more, but less than 75.

c. Category C OE. A loss of airborne separation where the separation conformance number is 75 or more, but the horizontal and vertical separation retained is less than 90 percent of the required separation.

d. Wake Event. An OE where the prescribed wake turbulence separation minima is violated. Wake incidents are categorized for severity as follows:

(1) **Category A Wake Event** - a loss of airborne separation where the lateral separation retained is less than 70 percent.

(2) **Category B Wake Event** - a loss of airborne separation where the lateral separation retained is equal to or greater than 70 or more percent, but not including 85 percent.

(3) **Category C Wake Event** - a loss of airborne separation where the lateral separation retained is equal to or greater than 85 percent, but less than 100 percent.

NOTE-
There is no PE category for wake incidents. An electronic calculator is available (see Appendix B to this Notice) to calculate the OE severity category. If unable to access the calculator, tables are available (see Appendix page C-5 to this Notice) to determine the OE severity category.

o. Delete Paragraphs 6-1-2 through 6-1-5.

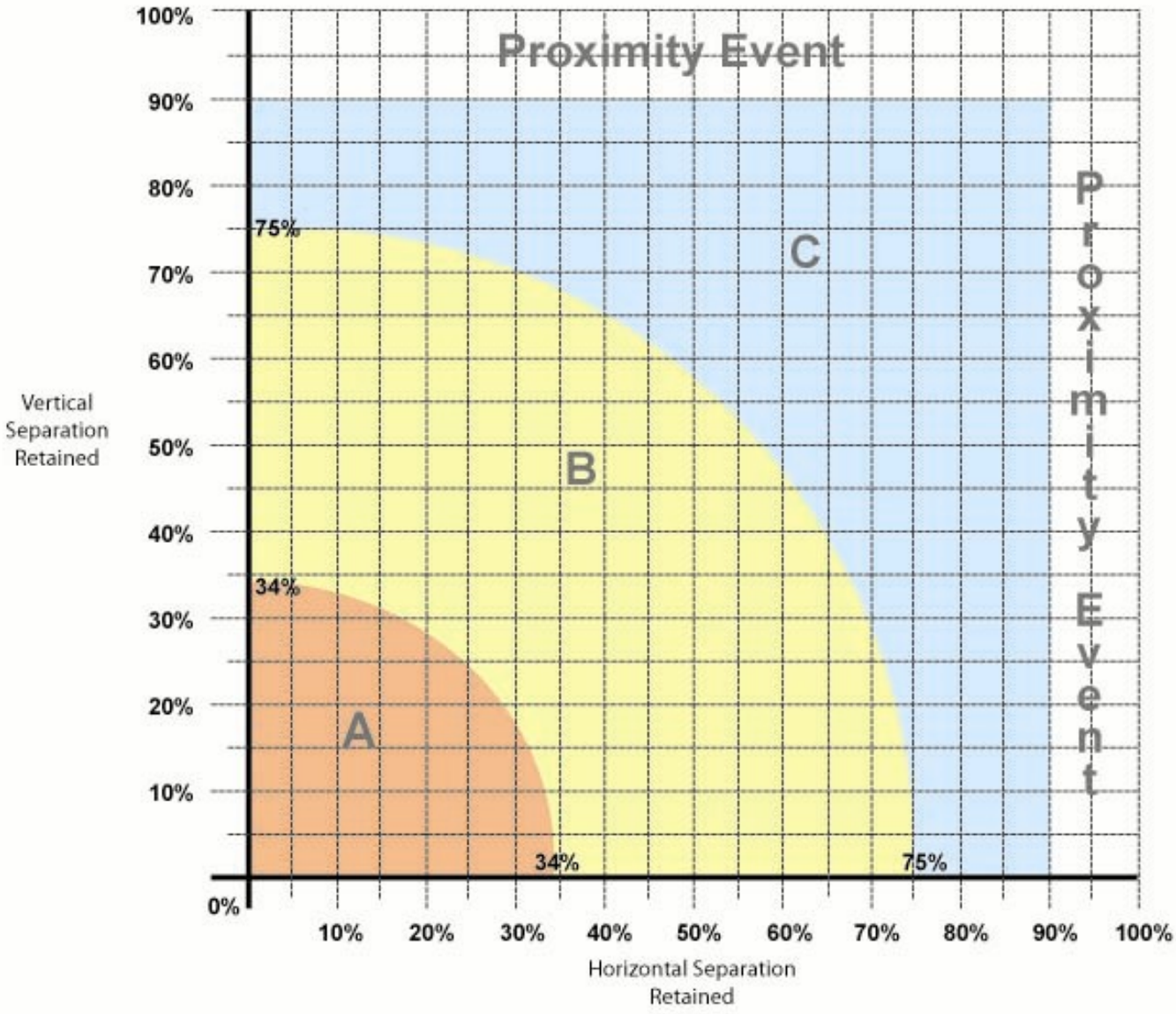
6. Distribution. This notice is distributed to the following Air Traffic Organization service units: En Route & Oceanic, Terminal, Safety, and System Operations Services; service center offices; Air Traffic Safety Oversight Service; the William J. Hughes Technical Center; the Mike Monroney Aeronautical Center; and all air traffic control field facilities.

7. Background: An analysis of historical OE data indicates that the relationship between minor separation losses and controller performance was not always clear, indicative of the causes that lead to the error, or of the need to address improvements and/or performance management. This Notice implements a new policy and provides the tools to isolate the conformance with required separation standards from contributing causes to the separation losses, including controller performance. Additionally, as the ATO accelerates the implementation of a SMS, it needs to focus resources on the basis of risk. This Notice provides a mechanism for dealing with the potential risk associated with the severity of separation losses, and a more robust separation conformance calculator was created to support the analysis of losses of separation. Losses of separation resulting in severity category A or B operational errors must be thoroughly investigated and analyzed. Losses of separation categorized as a C operational error shall be analyzed to a lesser extent than A and B errors and shall be reviewed as a group and corrective action plans developed to reduce their occurrence. Proximity Events (PE) are separation losses of 10 percent or less, are not considered errors, and are reported on a new form (Appendix D). These losses are also expected to be reviewed as a group, but without the urgency associated with OEs. Corrective action plans are developed to reduce their occurrence thus focusing our resources on the basis of measured risk. Based on what we learn from this new policy, additional studies of airborne separation will be undertaken to determine whether separation minima may be reduced under certain conditions. The changes described in this Notice are effective and will be incorporated in the next revision of FAA Order 7210.56.

8. Implementation. This notice shall be implemented on the effective date. This Notice cancels N JO 7210.650, Operational Error Reporting, Investigation, and Severity Policies, effective April 30, 2007.

Lyle A. Mello
Acting Vice President, Safety Services
Air Traffic Organization

Figure 1: Non-Wake Separation Conformance Categorization



Calculating Closest Proximity & Separation Conformance

The proper steps to calculating the Separation Conformance to use in every OE/PE calculation are:

a) select the radar points indicating a loss of separation leading up to what appears to be the point of closest proximity, and leading away from what appears to be the point of closest proximity; see step (c) below if more than eight points need to be analyzed

b) once you have loaded the Separation Conformance Calculator with the appropriate number of target hit points (no more than eight), select "Calculate" on the separation conformance calculator and read the rating (category) and combined percentage from calculator – save these two results for future use

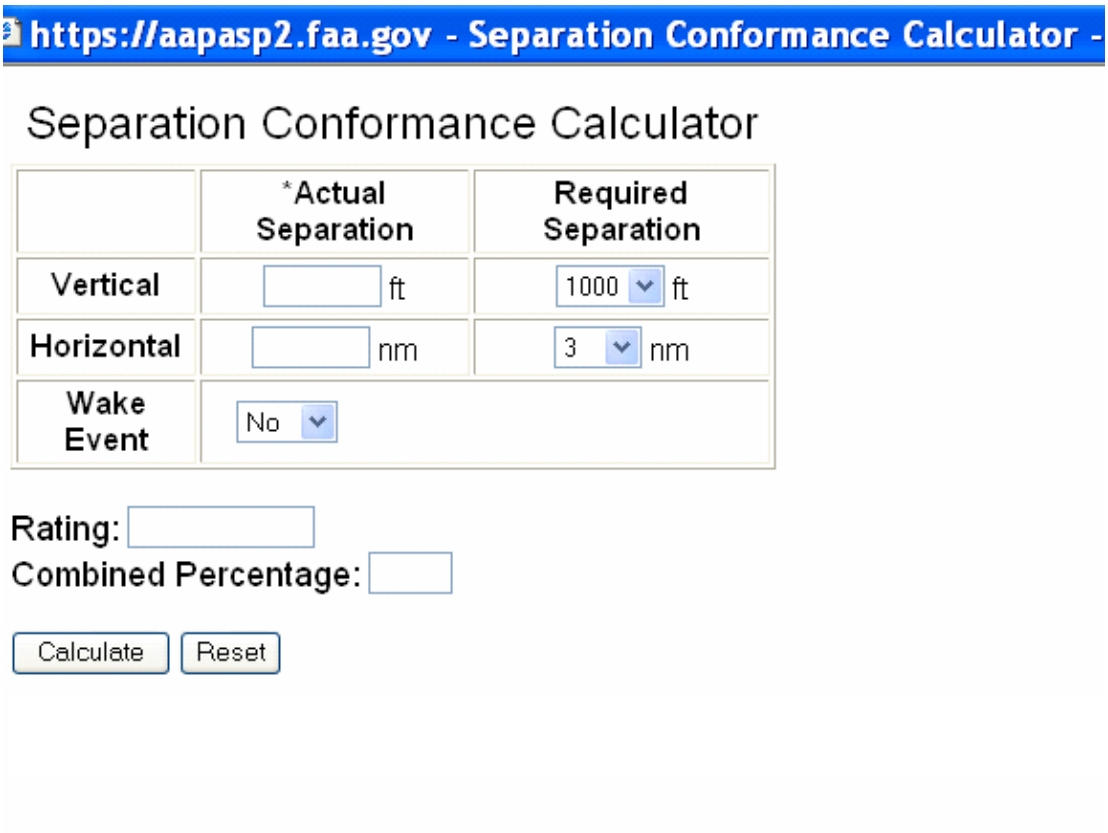
c) if more than eight target hits are required to fully analyze the separation loss, repeat steps (a) and (b) above; copy and save the rating (category) and combined percentage from calculator – these two results are necessary for the next step; if no additional target hits require analysis, move to the next step

d) compare the combined percentage from first calculation process (step b) and the second calculation process (step c) you selected:

1) if the second calculation resulted in a smaller combined percentage, you need to use the second analysis (highlighted target criteria) to file the OE/PE report
2) if the second calculation resulted in a larger combined percentage, use the first analysis (highlighted target criteria) to file the OE/PE report, and you are finished with the closest proximity analysis

e) the analysis resulting in the smallest combined percentage indicates you have successfully found the Closest Proximity

Figure 2: Separation Conformance Classification Tool



This tool is available at the following FAA intranet site:

https://aap.faa.gov/

Figure 3: Multiple Return Separation Conformance Tool

Separation Conformance Calculator		
Wake Event	No	
	Vertical	Horizontal
Required Separation	1000 ft	3 nm
Actual Separation		
1	ft	nm
2	ft	nm
3	ft	nm
4	ft	nm
5	ft	nm
6	ft	nm
7	ft	nm
8	ft	nm
Rating:		
	Calculate Reset	

This tool will be available at the following FAA intranet site once approved:

https://aap.faa.gov/

Severity Categorization Tables

The Severity Category for non-wake incidents may be determined by reference to the measured remaining vertical and horizontal separation. The following tables provide the Severity Categories based on remaining separation for the 2.5 NM/1000 feet, 3 NM/1000 feet, 5 NM/1000 feet, and 5 NM/2000 feet (RVSM) separation requirements, respectively:

a. 2.5 NM separation, 1000 foot minima, non-wake:

	Vertical									
Lateral	**0 feet**	**100 ft**	**200 ft**	**300 ft**	**400 ft**	**500 ft**	**600 ft**	**700 ft**	**800 ft**	**900 ft**
2.49-2.25 NM	**PE**	**PE**	**PE**	**PE**	**PE**	**PE**	**PE**	**PE**	**PE**	**PE**
2.24-1.88 NM	**C**	**C**	**C**	**C**	**C**	**C**	**C**	**C**	**C**	**PE**
1.87-1.86 NM	**B**	**C**	**C**	**C**	**C**	**C**	**C**	**C**	**C**	**PE**
1.85-1.81 NM	**B**	**B**	**C**	**C**	**C**	**C**	**C**	**C**	**C**	**PE**
1.80-1.72 NM	**B**	**B**	**B**	**C**	**C**	**C**	**C**	**C**	**C**	**PE**
1.71-1.59 NM	**B**	**B**	**B**	**B**	**C**	**C**	**C**	**C**	**C**	**PE**
1.58-1.40 NM	**B**	**B**	**B**	**B**	**B**	**C**	**C**	**C**	**C**	**PE**
1.39-1.13 NM	**B**	**B**	**B**	**B**	**B**	**B**	**C**	**C**	**C**	**PE**
1.12-0.85 NM	**B**	**B**	**B**	**B**	**B**	**B**	**B**	**C**	**C**	**PE**
0.84-0.82 NM	**A**	**B**	**B**	**B**	**B**	**B**	**B**	**C**	**C**	**PE**
0.81-0.69 NM	**A**	**A**	**B**	**B**	**B**	**B**	**B**	**C**	**C**	**PE**
0.68 NM	**A**	**A**	**A**	**B**	**B**	**B**	**B**	**C**	**C**	**PE**
0.67-0.40 NM	**A**	**A**	**A**	**B**	**B**	**B**	**B**	**B**	**C**	**PE**
0.39-0.00 NM	**A**	**A**	**A**	**A**	**B**	**B**	**B**	**B**	**C**	**PE**

b. 3 NM separation, 1000 foot minima, non-wake:

	Vertical									
Lateral	**0 feet**	**100 ft**	**200 ft**	**300 ft**	**400 ft**	**500 ft**	**600 ft**	**700 ft**	**800 ft**	**900 ft**
2.99-2.70 NM	**PE**	**PE**	**PE**	**PE**	**PE**	**PE**	**PE**	**PE**	**PE**	**PE**
2.69-2.25 NM	**C**	**C**	**C**	**C**	**C**	**C**	**C**	**C**	**C**	**PE**
2.24-2.23 NM	**B**	**C**	**C**	**C**	**C**	**C**	**C**	**C**	**C**	**PE**
2.22-2.17 NM	**B**	**B**	**C**	**C**	**C**	**C**	**C**	**C**	**C**	**PE**
2.16-2.07 NM	**B**	**B**	**B**	**C**	**C**	**C**	**C**	**C**	**C**	**PE**
2.06-1.91 NM	**B**	**B**	**B**	**B**	**C**	**C**	**C**	**C**	**C**	**PE**
1.90-1.68 NM	**B**	**B**	**B**	**B**	**B**	**C**	**C**	**C**	**C**	**PE**
1.67-1.35 NM	**B**	**B**	**B**	**B**	**B**	**B**	**C**	**C**	**C**	**PE**
1.34-1.02 NM	**B**	**B**	**B**	**B**	**B**	**B**	**B**	**C**	**C**	**PE**
1.01-0.98 NM	**A**	**B**	**B**	**B**	**B**	**B**	**B**	**C**	**C**	**PE**
0.97-0.83 NM	**A**	**A**	**B**	**B**	**B**	**B**	**B**	**C**	**C**	**PE**
0.82-0.81 NM	**A**	**A**	**A**	**B**	**B**	**B**	**B**	**C**	**C**	**PE**
0.80-0.48 NM	**A**	**A**	**A**	**B**	**B**	**B**	**B**	**B**	**C**	**PE**
0.47-0.00 NM	**A**	**A**	**A**	**A**	**B**	**B**	**B**	**B**	**C**	**PE**

c. 5 NM separation, 1000 foot minima, non-wake:

	Vertical									
Lateral	**0 feet**	**100 ft**	**200 ft**	**300 ft**	**400 ft**	**500 ft**	**600 ft**	**700 ft**	**800 ft**	**900 ft**
4.99-4.50 NM	**PE**	**PE**	**PE**	**PE**	**PE**	**PE**	**PE**	**PE**	**PE**	**PE**
4.49-3.75 NM	**C**	**C**	**C**	**C**	**C**	**C**	**C**	**C**	**C**	**PE**
3.74-3.72 NM	**B**	**C**	**C**	**C**	**C**	**C**	**C**	**C**	**C**	**PE**
3.71-3.62 NM	**B**	**B**	**C**	**C**	**C**	**C**	**C**	**C**	**C**	**PE**
3.61-3.44 NM	**B**	**B**	**B**	**C**	**C**	**C**	**C**	**C**	**C**	**PE**
3.43-3.18 NM	**B**	**B**	**B**	**B**	**C**	**C**	**C**	**C**	**C**	**PE**
3.17-2.80 NM	**B**	**B**	**B**	**B**	**B**	**C**	**C**	**C**	**C**	**PE**
2.79-2.25 NM	**B**	**B**	**B**	**B**	**B**	**B**	**C**	**C**	**C**	**PE**
2.24-1.70 NM	**B**	**B**	**B**	**B**	**B**	**B**	**B**	**C**	**C**	**PE**
1.69-1.63 NM	**A**	**B**	**B**	**B**	**B**	**B**	**B**	**C**	**C**	**PE**
1.62-1.38 NM	**A**	**A**	**B**	**B**	**B**	**B**	**B**	**C**	**C**	**PE**
1.37-1.35 NM	**A**	**A**	**A**	**B**	**B**	**B**	**B**	**C**	**C**	**PE**
1.34-0.80 NM	**A**	**A**	**A**	**B**	**B**	**B**	**B**	**B**	**C**	**PE**
0.79-0.00 NM	**A**	**A**	**A**	**A**	**B**	**B**	**B**	**B**	**C**	**PE**

d. 5 NM separation, 2000 foot minima, non-wake:

	Vertical									
Lateral	**0 feet**	**100 ft**	**200 ft**	**300 ft**	**400 ft**	**500 ft**	**600 ft**	**700 ft**	**800 ft**	**900 ft**
4.99-4.50 NM	PE	PE	PE	PE	PE	PE	PE	PE	PE	PE
4.49-3.75 NM	C	C	C	C	C	C	C	C	C	C
3.74-3.72 NM	B	B	C	C	C	C	C	C	C	C
3.71-3.68 NM	B	B	B	C	C	C	C	C	C	C
3.67-3.62 NM	B	B	B	B	C	C	C	C	C	C
3.61-3.54 NM	B	B	B	B	B	C	C	C	C	C
3.53-3.44 NM	B	B	B	B	B	B	C	C	C	C
3.43-3.32 NM	B	B	B	B	B	B	B	C	C	C
3.31-3.18 NM	B	B	B	B	B	B	B	B	C	C
3.17-3.00 NM	B	B	B	B	B	B	B	B	B	C
2.99-1.70 NM	B	B	B	B	B	B	B	B	B	B
1.69 NM	A	B	B	B	B	B	B	B	B	B
1.68-1.63 NM	A	A	B	B	B	B	B	B	B	B
1.62-1.53 NM	A	A	A	B	B	B	B	B	B	B
1.52-1.38 NM	A	A	A	A	B	B	B	B	B	B
1.37-1.16 NM	A	A	A	A	A	B	B	B	B	B
1.15-0.80 NM	A	A	A	A	A	A	B	B	B	B
0.79-0.00 NM	A	A	A	A	A	A	A	B	B	B

	Vertical									
Lateral	**1000 feet**	**1100 Feet**	**1200 feet**	**1300 feet**	**1400 feet**	**1500 feet**	**1600 feet**	**1700 feet**	**1800 feet**	**1900 feet**
4.99-4.50 NM	PE	PE	PE	PE	PE	PE	PE	PE	PE	PE
4.49-2.80 NM	C	C	C	C	C	C	C	C	PE	PE
2.79-2.55 NM	B	C	C	C	C	C	C	C	PE	PE
2.54-2.25 NM	B	B	C	C	C	C	C	C	PE	PE
2.24-1.88 NM	B	B	B	C	C	C	C	C	PE	PE
1.87-1.35 NM	B	B	B	B	C	C	C	C	PE	PE
1.34-0.00 NM	B	B	B	B	B	C	C	C	PE	PE

The Severity Category for wake turbulence incidents may be determined by reference to the measured lateral separation only:

4 NM Horizontal

C equals	**3.99 - 3.40 NM**
B equals	**3.39 - 2.80 NM**
A equals	**≤ 2.79 NM**

5 NM Horizontal

C equals	**4.99 - 4.25 NM**
B equals	**4.24 - 3.50 NM**
A equals	**≤ 3.49 NM**

6 NM Horizontal

C equals	**5.99 - 5.10 NM**
B equals	**5.09 – 4.20 NM**
A equals	**≤ 4.19 NM**

Proximity Event Form

Proximity Events (PE) records will include the following items:

a. Date and Time of PE
b. PE Location (geographic & assigned work location)
c. PE proximity
d. Required Separation at time of PE
e. PE reported by (facility)
f. PE was detected by…..
g. Traffic Volume at time of PE
h. Traffic Complexity at time of PE
i. Contributory Factors to PE
j. Type of Control at time of PE
k. Aircraft identifications, types, routes, TCAS RA (Yes, No)
l. Name of submitter, & date/time of PE report

Once the Proximity Event form is available, it will be available on the website listed below, and distributed via e-mail:

https://aap.faa.gov/

This form will be numbered in-sequence with the other forms (7210-6 is anticipated) associated with Air Traffic Quality Assurance once it is approved.