
Wake Turbulence Training Aid Guidelines and Issues

4-C

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Summary of Wake Turbulence Training Aid Guidelines

Administrative:

1. The Wake Turbulence Training Aid will be a consensus of the Industry Team and receive FAA endorsement.
2. It was agreed to track issues that lack agreement or remain unresolved by the Industry Team.
3. The FAA will develop distribution lists and be responsible for distributing the training aid.

Training Aid:

1. The name of the training aid will be Wake Turbulence. This is a broader term than wake vortex and deals with the effect of the vortex.
2. The Wake Turbulence Training Aid should be generally similar to the Windshear and Take-off Training aids. The FAA will develop a computer base instruction program. Simulator training is impracticable for inclusion into the training aid. FAA/ATC will determine if simulator training is applicable for the academy tower operator training.
3. The Wake Turbulence Training Aid should be targeted equally toward air traffic controllers, FAR Part 91, 121 and 135 operators. Emphasis should be placed on controller and pilot situational awareness.
4. The Wake Turbulence Training Aid should be primarily developed around existing data and capability. It is recognized that there are still unanswered questions concerning wake turbulence and that research of the phenomenon is continuing. It was felt that pilots and air traffic controllers should have some awareness of this, therefore the training aid should also include information on what is still unknown or what is being developed if it is necessary to satisfy an objective. Examples are aircraft flightpaths and control, and wake-turbulence detection and avoidance systems.
5. It was acknowledged that the target audience would be larger than that of previous aids and that the aid should be developed taking this increased distribution into consideration. The Aid should also be structured to be easily reproducible in anticipation of "secondary" distribution by those on the initial distribution of the aid.
6. The wake-turbulence video should be a stand-alone module and show dynamics that can not be easily described or portrayed in the document. Key inputs will be identified during the training aid development for inclusion into the video. The video should use a variety of aircraft types and scenarios and cover aircraft arrival and departure phases of flight. It should be approximately 20 minutes in duration and equally target both air traffic controllers and pilots. It is acknowledged that there are synergistic benefits of having only one video, but during development a determination will be made on whether there are overriding reasons for two separate videos.

7. It is desirable that the structure of the training aid easily accommodate updates, changes and the inclusion of new materials.
8. The goals of the aid should align with the FAA Integrated Wake Vortex Program Plan.
9. The NTSB will author section two, “A review of typical accidents and incidents.”
10. FAA/ATC will be responsible for authoring section two, “Air traffic control responsibilities for maintaining airplane separation” and “Air traffic control considerations associated with applying separation criteria.”

Wake Turbulence Training Aid Issues

1. Determine if a single training aid can accommodate Parts 91, 121, 135 pilots as well as air traffic controllers.

Conclusion: A single training aid can accommodate all pilots and air traffic controllers.

Closed 6/21/94.

2. Determine if the Wake Turbulence Training Aid should be mandatory or optional for air traffic controllers.

Conclusion: This is the responsibility of the FAA/ATC.

Closed 6/21/94

3. Determine if air traffic controllers should have wake-turbulence avoidance responsibility expanded beyond current requirements.

Conclusion: This is the responsibility of the FAA/ATC and outside the scope of the training aid working group.

Closed 6/21/94.

4. Should the scope of the training aid be expanded to include CAA/other separation criteria?

Conclusion: The training aid will be written and formatted for international use with consideration for mitigating updates and changes.

Closed 6/21/94.

5. What recommendation should the training aid include for wake-turbulence separation in VMC for both controlled and visual operations?

Conclusion: No recommendation should be made.

Closed 6/21/94.

6. Determine how to best portray information in the video so as to mirror air traffic controllers' mental process for controlling traffic.

Conclusion: The video scenario includes wake-turbulence situations that air traffic controllers confront on a routine basis. It also includes an air traffic controller who discusses wake-turbulence considerations for controllers. The wake-turbulence industry and government working group is satisfied that this issue is accommodated.

Closed 11/10/94.

7. To what extent should procedures be developed and included in the training aid for pilots to use if wake turbulence is encountered?

Conclusion: The training aid emphasizes wake-turbulence avoidance. Procedures for encounters should not be included.

Closed 11/10/94.

8. Can the training aid state that flightpath control is the solution for wake-turbulence avoidance while acknowledging the difficulty in determining the flightpath location or should it recommend glideslope control or both?

Conclusion: Both.

Closed 6/21/94.

9. Should surface winds of 12 knots or greater be the point where wake-turbulence avoidance separation criteria do not have to be applied?

Conclusion: The resolution of this is the responsibility of the FAA and the Integrated Wake Vortex Program Plan.

Closed 11/10/94.

10. Should pilots be required to notify air traffic control when a higher than normal flightpath approach is being flown?

Conclusion: Pilots should not be required to notify air traffic control when a higher than normal flightpath approach is being flown. The training aid includes the potential wake turbulence hazards associated with flying steep descents and warns pilots and air traffic controllers of the ramifications. It also encourages coordination and a disciplined flow of information between pilots and air traffic.

Closed 11/10/94.

11. Should IFR controlled minimum separation distances be included in the training aid? If they are included, how and where should they be incorporated? Refer to number 4.

Conclusion: Wake turbulence take-off weight categories and IFR separation distances for the FAA, United Kingdom and ICAO are provided in Appendix 4-F.

Closed 11/10/94.

12. Information on the use of Traffic Alert and Collision Avoidance System (TCAS) as a visual technique for wake-turbulence avoidance was initially included in the training aid. A consensus could not be attained within the working group for including it. A decision was made to withdraw the information and retain this issue in an open status.

Status: Open.