


Airport Certification Manual

Minneapolis-St. Paul International Airport (MSP)

DocuSigned by:

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Roy Fuhrmann
Chief Operating Officer



Metropolitan Airports Commission

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List of Exhibits

Exhibit 101-1 – Reference List

Exhibit 101-2 – Area Chart

Exhibit 303-1 – Organization Chart

Exhibit 305-1 – MSP Movement Area

Exhibit 305-2 – Paved Areas Not Available to Air Carrier Operations

Exhibit 309-1 – Engineered Materials Arresting Systems (EMAS) Maintenance Program

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Exhibit 311-2 – Preventive Maintenance Inspection Procedures for PAPIs and Generators

Exhibit 311-3 – Vehicle Service Road Sign Plan

Exhibit 313-1 – Snow and Ice Control Plan

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Exhibit 331-1 – Obstruction Maps

Exhibit 337-1 – Wildlife Hazard Management Plan

Exhibit 339-1 – NOTAM Information

Exhibit 400-1 – Maintenance Corrective Action Form

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Exhibit 500-1 – LOA, Airport Emergency Services at Minneapolis-St. Paul International Airport (MSP)

Exhibit 500-2 – LOA, Land and Hold Short Operations (LAHSO) Procedures

Exhibit 500-3 – LOA, Movement/Non-movement Areas

Exhibit 500-4 – LOA, Runway Lighting for CAT II and III Approaches

Exhibit 500-5 – LOA, Surface Movement Guidance Control System Procedures

Exhibit 500-6 – LOA, Minneapolis Airport Traffic Control Tower Contingency Plan - Temporary Tower

Exhibit 500-7 – LOA, Notification Process by the Metropolitan Airports Commission for Surface Area Notices to Airmen

Exhibit 500-8 – LOA, Reporting Airport Movement Area Conditions and Notification

Exhibit 500-9 – LOA, Notice to Airmen (NOTAM) Notification Responsibility

Exhibit 500-10 – LOA, Runway Safety Areas

Exhibit 500-11 – LOA, Minneapolis Airport Traffic Control Tower Contingency Plan - Temporary Tower - Orange Ramp

Exhibit 500-12 – SMS Implementation Plan Approval Letter

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Revision Number	Revision Date	Revision Contents and/or Remarks
001	07/01/07	Pages iv - vi, Revision Control Sheet, Distribution List
001	07/01/07	Page 11-2, Declared Distances & Displaced Thresholds
001	07/01/07	Page 11-3, safety areas for Taxiways K & L
001	07/01/07	Page 12-3, 12-4, 12-5, Taxiway reflectors
001	07/01/07	Page 15-1, & 15-2, paragraph a, vehicles 16 & 17
001	07/01/07	Page 16-1, items c & e
001	07/01/07	Page 21-1, 21-2, 21-3, 21-4, 21-5, Pedestrian and Ground Vehicles
001	07/01/07	Page 24-1, item 3.a
001	07/01/07	Exhibit 1, Operations Organization Chart
001	08/15/06	Exhibit 7, Sign Plan
001	07/01/07	Exhibit 9, Snow Plan
001	07/01/07	Exhibit 13, Letters of Agreement
002	01/22/09	Exhibit 7, Updated Sign Plan
003	03/31/09	Exhibit 9, Snow Plan: Added information related to continuous monitoring and crew resource management.
004	10/31/10	Complete update of the entire document.
005	01/01/12	Page 21-1, 21-2, 21-3, 21-4, 21-5, 21-6, Pedestrian and Ground Vehicles
006	03/18/13	Pages i, iv, Table of Contents and Revision Control Sheet. Pages v-vi, Elimination of Document Control Sheet (page renumbering). Page 4-1, Falsification, reproduction, or alteration of applications, certificates, reports, or records. Page 8-1, 8-2 (format), CEO, Personnel. Page 21-2, 21-4, Pedestrians and Ground Vehicles.
007	09/15/13	00 -Table of Contents; Sections 9, 11, 12, 15, 16, 20, 24, 26, 27; Exhibits 1, 2, 4, 5-2, 6, 7, 9-1, 9-2, 10, 11, 13-1, 13-2, 14, 16, 17.
008	07/31/14	00 - Table of Contents, Section 21
009	08/01/14	Table of Contents, Section 13, Exhibit 9
010	03/24/2016	Updates to 00 - Table of Contents and Sections 12, 15, 16, 17, 20, and 26 as well as Exhibits 1, 4, 7, 10, 12, 14, and 15. Addition of Exhibit 18.

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Revision Number	Revision Date	Revision Contents and/or Remarks
011	09/01/2016	Changes to Sections 13, 20, 26 and Exhibit 9 to incorporate Runway Condition Codes (RCCs) and other changes to Airport Condition Reporting methods.
012	02/11/2018	Updates to 00 - Table of Contents, Sections 9 and 12 and Revised Movement/Non-Movement Area Letter of Agreement in Exhibit 13.
013	05/11/2018	Updates to 00 - Table of Contents, Distribution List, Section 21, Exhibit 1, Exhibit 5, and Exhibit 9
014	08/31/2018	Updates to Table of Contents, Section 11-Safety Areas, Section 12-Marking, Signs and Lighting, Section 15-ARFF Equipment and Agents, Section 17-Handling and Storing of Hazardous Substances and Materials, Exhibit 10-ARFF Equipment/Personnel, Exhibit 16-Preventive Maintenance Procedures for PAPIs and Generators, Exhibit 17-Engineered Materials Arresting System (EMAS) Maintenance Program, Exhibit 18-Fuel System Inspection Reports and Exhibit 19 - Corrective Action Form
015	11/09/2018	Updates to Section 19- Airport Emergency Plan and Exhibit 11- Airport Emergency Plan
016	06/01/2019	Entire document reformatting, and reorganization. Updates to Section 317- ARFF: Equipment and Agents, Section 321 -Handling and Storing of Hazardous Substances and Materials, Exhibit 303-1-Organization Chart, Exhibit 313-1-Snow Plan, Exhibit 317-1-ARFF Equipment/Personnel, Exhibit 327-1-Daily Self-Inspection Forms, Exhibit 339-1-NOTAM Information
017	09/27/2019	Updates to Distribution List, Section 323-Air Traffic and Wind Direction Indicators, Exhibit 311-2-Preventive Maintenance Inspection Procedures for PAPIs and Generators, Exhibit 313-1-1-Snow Plan, 321-1-Fuel System Inspection Reports, Exhibit 327-1-Self-Inspection Forms
018	10/01/20	Updates to Distribution List, Section C of Section 321 and replacement of pages 4 and 5 of Exhibit 321-1 with new training form.
019	11/20/20	Updates to Distribution List, Section 309, Section 311, Section 321, Section 323, Exhibit 305-2, Exhibit 311-2, and Exhibit 500-1
020	12/23/20	Updates to the Table of Contents and the Sign Plan in Exhibit 311-1.

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Revision Number	Revision Date	Revision Contents and/or Remarks
020A	06/16/2021	Updates to the Table of Contents, Distribution List, and the Sign Plan in Exhibit 311-1.
021	6/21/2021	Updated Wildlife Hazard Management Plan in Exhibit 337-1.
022	3/25/2022	Updated Table of Contents-Distribution List, Section 303, Section 327, Exhibit 309-1, Exhibit 311-2, and Exhibit 327-1.
023	04/22/2022	Updated Section 311, Section 325, Section 339, Exhibit 325-1 and Exhibit 339-1
024	08/26/2022	Updated Table of Contents, Section 305, Section 311, Exhibit 313-1, Exhibit 321-1, Exhibit 500-1
025	11/18/2022	Updated Table of Contents, Section 301, Section 317, Section 335, Exhibit 101-2, and Exhibit 500-10
026	07/14/2023	Updated Table of Contents, Section 201, Section 311, Section 327, Section 329, and Exhibit 327-1
027	10/06/2023	Updated Table of Contents Distribution List, Section 313 and Exhibit 313-1.
028	10/12/2023	Updated Exhibit 325-1, Airport Emergency Plan - Revision 06
029	12/29/2023	Updated Section 309, Section 317, Section 319, and Exhibit 317-1
030	01/26/2024	Update to the Sign Plan, Exhibit 311-1
031	01/31/2024	Updated Exhibit 325-1, Airport Emergency Plan - Revision 07
032	04/12/2024	Updated Section 337 and Exhibit 337-1, Wildlife Hazard Management Plan
033	05/30/2024	Updated Table of Contents Distribution List, Exhibit 500-6, and added new Exhibit 500-11.
034	07/10/2024	Updated Section 317, Exhibit 317-1, and Exhibit 500-6.
035	09/09/2024	Updated Exhibit 313-1, Snow and Ice Control Plan
036	09/18/2024	Updated Exhibit 325-1, Airport Emergency Plan
037	09/19/2024	Added Sections 401, 403, and Exhibit 500-12
038	11/01/2024	Updated Table of Contents Updated Exhibit 313-1, Snow and Ice Control Plan section 5.7 and Appendices 4, 5, 6, 7, 8, 9, 10, 11 Updated Section 309 page 3 and Exhibit 327-1 page 4
039	11/25/2024	Updated Table of Contents Updated Section 311 Added Exhibit 311-3
040	01/15/2025	Updated Section 317 page 2 and Exhibit 317-1

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Distribution List

1. Original ACM
 2. FAA Airport Certification Inspector
 3. MAC Executive Director/CEO
 4. MAC Executive Vice President/COO
 5. MAC Vice President Management and Operations
 6. MAC Director of Integrated Operations
 7. MAC Director of Airport Maintenance and Asset Management
 8. MAC Director of Terminal and Landside Operations
 9. MAC Assistant Director of Field Maintenance
 10. MAC Director of Real Estate and Airline Affairs
 11. MAC Emergency Manager
 12. MAC Airport Police Department
 13. MAC Airport Fire Department
 14. MAC SMS Manager
 15. MAC Trades Department
 16. MAC Field Maintenance Department
 17. MAC Electrical Department
 18. MAC Paint Department
 19. MAC Airport Development Department
 20. MAC Airside Operations Department
 21. MAC Emergency Communications Department
 22. Air Traffic Manager, FAA Air Traffic Control Tower
 23. Manager, FAA Airways Facilities
 24. Minnesota State Department of Transportation
 25. General Manager, Signature Flight Support
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Distribution List

26. Station Manager, Air Canada
27. Station Manager, WestJet Airlines
28. Station Manager, American Airlines
29. Station Manager, Southwest Airlines
30. Station Manager, Delta Air Lines
31. Station Manager, FedEx
32. Station Manager, Frontier Airlines
33. Station Manager, Icelandair
34. Station Manager, UNIFI
35. Station Manager, Spirit Airlines
36. Station Manager, Skywest Airlines
37. Station Manager, Endeavor Airlines
38. Station Manager, United Airlines
39. Station Manager, Sun Country Airlines
40. Station Manager, Alaska Airlines
41. Station Manager, DHL
42. Station Manager United Parcel Service
43. 934th Air Force Reserve
44. 133rd Air National Guard
45. Swissport
46. Station Manager, Denver Air Connection
47. Station Manager, Air France/KLM
48. Station Manager, Atlas Air
49. Station Manager, Allegiant Airlines
50. Station Manager, Amazon Air

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51. Station Manager, Condor Airlines
52. Station Manager, Aer Lingus
53. Station Manager, Lufthansa

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Section 317 - ARFF: Equipment and Agents

- A. ARFF equipment required by the airport index determination is housed between two stations. Station # 1 is located just north of Terminal 2 and Station # 2 is located near the base of the ATC Tower. Both stations provide direct access to taxiways, runways, and ramp areas. The stations and required equipment are staffed 24 hours a day, 7 days a week.
- B. ARFF equipment consists of the following vehicles.

Crash 14: 2021 Oshkosh Global Striker 3000 w/HRET

- 3000 gallons water, 420 gallons AFFF
- 460 lbs. Halotron I, 500 lbs. Purple K Dry Chemical
- HRET roof turret capable of flowing 500 gpm low rate / 1000 gpm high rate of water or 3% foam mixture and piercing nozzle capable of flowing 250 gpm water or 3% foam mixture.
- Hydro-Chem Bumper Turret capable of flowing 625 gpm low rate/ 1250 gpm high rate of water or 3% foam mixture and approximately 17 lbs. per second of dry chemical.
- Hydro-chem hand line capable of flowing at approximately 60 gpm of water or 3% foam mixture and approximately 7 lbs. per second of dry chemical. Halotron I hand line capable of flowing at approximately 7 lbs. per second.
- Portable extinguishers: One 2.5 gallon water fire extinguisher, one 20 lb. Purple K fire extinguisher, and one 13.25 lb Clean Agent fire extinguisher.

Crash 15 : 2014 Oshkosh Global Striker 3000

- 3000 gallons water, 420 gallons AFFF
- 460 lbs. Halotron I, 500 lbs. Purple K Dry Chemical
- Roof turret capable of flowing 625 gpm low rate / 1250 gpm high rate of water or 3% foam mixture
- Hydro-Chem Bumper Turret capable of flowing 625 gpm low rate / 1250 gpm high rate of water or 3% foam mixture and approximately 17 lbs. per second of Dry Chemical
- Hydro-chem hand line capable of flowing at approximately 60 gpm of water or 3% foam mixture and approximately 7 lbs. per second of dry chemical. Halotron I hand line capable of flowing at approximately 7 lbs. per second.
- Portable extinguishers: One 2.5 gallon water fire extinguisher, one 20 lb. Purple K fire extinguisher, and one 13.25 lb Clean Agent fire extinguisher

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Crash 12: 2005 Oshkosh Striker 3000

- 3000 gallons water, 420 gallons AFFF
- 450 lbs. Purple K Dry Chemical
- Roof turret capable of flowing 625 gpm low rate / 1250 gpm high rate of water or 3% foam mixture
- Hydro-Chem Bumper Turret capable of flowing 625 gpm low rate / 1250 gpm high rate of water or 3% foam mixture and approximately 17 lbs. per second of Dry Chemical
- Hydro-chem hand line capable of flowing approximately 60 gpm of water or 3% foam mixture and approximately 7 lbs per second of dry chemical.
- Portable extinguishers: One 2.5 gallon water fire extinguisher, one 20 lb. Purple K fire extinguisher, and one 13.25 lb Clean Agent fire extinguisher.

Crash 19: 2014 Oshkosh Global Striker 3000 w/HRET

- 3000 gallons water, 420 gallons AFFF
- 460 lbs. Halotron I, 500 lbs. Purple K Dry Chemical
- HRET roof turret capable of flowing 500 gpm low rate / 1000 gpm high rate of water or 3% foam mixture and piercing nozzle capable of flowing 250 gpm water or 3% foam mixture.
- Hydro-Chem Bumper Turret capable of flowing 625 gpm low rate/ 1250 gpm high rate of water or 3% foam mixture and approximately 17 lbs. per second of dry chemical.
- Hydro-chem hand line capable of flowing at approximately 60 gpm of water or 3% foam mixture and approximately 7 lbs. per second of dry chemical. Halotron I hand line capable of flowing at approximately 7 lbs. per second.
- Portable extinguishers: One 2.5 gallon water fire extinguisher, one 20 lb. Purple K fire extinguisher, and one 13.25 lb Clean Agent fire extinguisher.

Crash 18: 2009 Oshkosh Striker 3000

- 3000 gallons water, 420 gallons AFFF
- 460 lbs Halotron I, 450 lbs. Purple K Dry Chemical
- Roof turret capable of flowing 625 gpm low rate / 1250 gpm high rate of water or 3% foam mixture
- Hydro-Chem Bumper Turret capable of flowing 625 gpm low rate / 1250 gpm high rate of water or 3% foam mixture and approximately 17 lbs. per second of dry chemical
- Hydro-chem hand line capable of flowing at approximately 60 gpm of water or 3% foam mixture and approximately 7 lbs. per second of dry chemical. Halotron I hand line capable of flowing at approximately 7 lbs. per second.
- Portable extinguishers: One 2.5 gallon water fire extinguisher, one 20 lb. Purple K fire extinguisher, and one 13.25 lb Clean Agent fire extinguisher.

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Crash 16: 2022 Oshkosh Global Striker 3000 w/HRET

- 3000 gallons water, 420 gallons F3.
- 460 lbs. Halotron I, 500 lbs. Purple K Dry Chemical
- HRET roof turret capable of flowing 500 gpm low rate / 1000 gpm high rate of water or 3% foam mixture and piercing nozzle capable of flowing 250 gpm water or 3% foam mixture.
- Hydro-Chem Bumper Turret capable of flowing 625 gpm low rate/ 1250 gpm high rate of water or 3% foam mixture and approximately 17 lbs. per second of dry chemical.
- Hydro-chem hand line capable of flowing at approximately 60 gpm of water or 3% foam mixture and approximately 7 lbs. per second of dry chemical. Halotron I hand line capable of flowing at approximately 7 lbs. per second.
- Portable extinguishers: One 2.5 gallon water fire extinguisher, one 20 lb. Purple K fire extinguisher, and one 13.25 lb Clean Agent fire extinguisher.

C. Vehicle capacity and discharge rates are depicted in a table in Exhibit 317-1.

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Exhibit 317-1 - ARFF Equipment/Personnel

Vehicle Call Sign	Crash 14	Crash 15	Crash 12	Crash 19	Crash 16	Crash 18	Engine 31	Engine 32	Engine 34	Captain 5	Foam 43
Year	2021	2014	2005	2014	2022	2009	2017	2018	2006	2019	2014
Manufacturer	Oshkosh	Oshkosh	Oshkosh	Oshkosh	Oshkosh	Oshkosh	Pierce	Pierce	Custom/ Spartan	Chevrolet	KME/Ford
Model	Global Striker	Global Striker	Striker	Global Striker	Global Striker	Striker	Dash	Dash	Gladiator	Tahoe	F-550
Condition of Vehicle	Excellent	Excellent	Good	Excellent	Excellent	Good	Excellent	Excellent	Good	Excellent	Excellent
Number of Personnel Assigned to Vehicle	2*	2*		2*	2*	2*	3	3*		1	1*
Water capacity (gallons)	3000	3000	3000	3000	3000	3000	500	500	500		
Main Turret Discharge rate (gall/min)	1250	1250	1250	1250	1250	1250					
AFFF capacity (gallons)	420	420	420	420		420	40	40	40		1000
F3 capacity (gallons)					420						
Halotron capacity (pounds)	460	460		460	460	460					
Dry Chemical capacity (pounds)	500	500	450	500	500	450					
Water Fire Extinguisher	1 - 2.5 gal	1 - 2.5 gal	1 - 2.5 gal	1 - 2.5 gal	1 - 2.5 gal	1 - 2.5 gal	1 - 2.5 gal	1 - 2.5 gal	1 - 2.5 gal		
Purple K Fire Extinguisher	1 - 20 lb	1 - 20 lb	1 - 20 lb	1 - 20 lb	1 - 20 lb	1 - 20 lb	1 - 20 lb	1 - 20 lb	1 - 20 lb		
Dry Chem Fire Extinguisher							1 - 20 lb	1 - 20 lb	1 - 20 lb	1 - 10 lb	1 - 10 lb
Clean Agent Fire Extinguisher	1 - 13.25 lb	1 - 13.25 lb	1 - 13.25 lb	1 - 13.25 lb	1 - 13.25 lb	1 - 13.25 lb					
Additional Info	w/HRET (Snozle)		Reserve Status	w/HRET (Snozle)	w/HRET (Snozle)				Reserve Status	Shift Commander	Foam Tender
* Denotes cross-staffed vehicles; minimum on-duty staff is 13 persons											

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