



3300 Airport Rd., Escanaba, MI 49829 [REDACTED]

Delta County Airport Curriculum

Local Part 139.319 Aircraft Rescue and Firefighting Personnel Training

[REDACTED] **Delta County Airport Manager**

Date Created: 1/8/2024

Revision Date: N/A

Overview: This curriculum is intended to supplement, but not replace, Part 139.319 recurrent training that local Aircraft Rescue and Firefighting (ARFF) personnel typically receive from regional or online providers over the course of a calendar year. It is designed to provide local ARFF personnel with *airport-specific* training requisite to performing their duties at Delta County Airport (International Air Transport Association code: ESC).

Objective: This curriculum provides airport-specific training for ARFF personnel in accordance with (IAW) Federal Aviation Regulation (FAR) 139.319 and Federal Aviation Administration (FAA) AC (Advisory Circular) 150/5210-17C. Airport specific subject area lessons in this curriculum include:

- 139.319(i)(2)(i) Airport familiarization, including airport signs, marking, and lighting;
- 139.319(i)(2)(ii) Aircraft familiarization;
- 139.319(i)(2)(iv) Emergency communications systems on the airport, including fire alarms; and
- 139.319(i)(2)(xi) Familiarization with firefighters' duties under the AEP (Airport Emergency Plan)

Prerequisites: Before firefighters assume any ARFF duties, they must complete their initial ARFF training. Initial training must include current instruction in at least the areas listed in FAR 139.319 and AC 150/5210-17C. ARFF personnel must additionally complete general recurrent and live-fire drill training prior to receiving this training. Following these guidelines will promote a comprehensive, continuous, ongoing, and robust ARFF training program.

References: All four following lessons contained herein utilize a variety of resources and references. This curriculum, however, is principally guided by three references:

- FAR 139.319 Aircraft Rescue and Firefighting: Operational Requirements
- AC 150/5210-17C Programs for Training of Aircraft Rescue and Firefighting Personnel
- Delta County Airport Certification Manual (ACM or ESC ACM)

Materials: Materials required to deliver this curriculum are identified at the beginning of each lesson contained herein. At a minimum, however, student attendance and participation must be documented using Exhibits 12 and 13 of the ESC ACM (ARFF personnel training records). The use of separate sign-in sheets is discouraged as this practice often results in redundant or incomplete training documentation as well as inconsistencies in training.

Procedures: Activities and procedures will vary on a lesson-per-lesson basis. Generally, every lesson is intended to be delivered in a group setting that will include lectures, guided discussions, the review of applicable materials, and/or a local assessment. If provided, learners must score a minimum of 70% on their assessments to pass each lesson.

Time: The total time required to complete the training outlined in this curriculum shall not exceed four (4) hours.

Revisions: This curriculum shall be updated at a minimum annually. Revision date shall be noted in the space provided at the top of this document. All revisions must be approved by the Airport Manager and ARFF Chief prior to training.

[Redacted Signature]

Airport Manager (Print Name)

[Redacted Signature]

Airport Manager (Sign/Date)

[Redacted Signature]

ARFF Chief (Print Name)

[Redacted Signature]

ARFF Chief (Sign/Date)

Revisions and Updates

Date	Revision/Change	Airport Manager (Print & Sign)	ARFF Chief (Print & Sign)

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Delta County Airport
Local Part 139.319 Aircraft Rescue and Firefighting Personnel Training
Lesson One

Subject: Airport Familiarization, Including Airport Signs, Marking, and Lighting

Time Estimate: No more than one (1) hour

Topics:

1. Describe the runway (RWY 10/28; RWY 01/19) and taxiway (TWY A, B & C) identification system at ESC;
2. Describe ESC airfield lighting system (i.e., edge lighting, threshold lighting, etc.);
3. Describe ESC airfield pavement marking and signing systems, including standard colors used in markings and signs;
4. Identify the limits of ESC runway safety areas;
5. Identify and locate the various aircraft navigation aids located on ESC and identify critical areas associated with navigation systems (ILS, AWOS, VOR, PAPI, REIL, MALSR, etc.);
6. Cite ESC rules and regulations on vehicle movement and access on the airport movement and non-movement areas and on communicating with Universal Communications (UNICOM) for everything entering and exiting the movement area;
7. Cite procedures for communicating with the UNICOM Common Traffic Advisory Frequency (CTAF);
8. Cite general rules and regulations governing ESC airport security;
9. Given a grid map (Airport Layout Plan) or other standard map of ESC, identify key terrain features, installations, and potential hazards in both movement and non-movement areas;
10. Identify the probable direction of travel of fuel during a leak in ESC fuel distribution systems;
11. Explain the operation of the emergency fuel shutoff to the ESC fuel system and pumps to stop the flow of fuel within the system; and
12. Identify hazardous materials (and their locations) that are frequently stored or used on ESC property.

Goal(s): All learners will demonstrate proficiency in the above topic areas by a method selected and documented through the use of summative assessment or evaluation (see below).

Objective(s): This lesson trains ARFF personnel to perform duties outlined in the above topic areas relative to this Airport (ESC). It provides *airport-specific* training designed to supplement general recurrent training completed over the past 12 CCM.

References and Resources:

- FAR 139.319
- AC 150/5210-17C
- ESC ACM

Materials/Resources/Technology Needed: Many variables will affect the materials, resources, and technology used to deliver each lesson (i.e., funding, work schedules, venues, etc.). At a minimum, however, it is incumbent upon the instructor to verify, prior to giving each lesson, that the information taught is gathered from only credible and current resources. Moreover, the instructor shall ensure that the lesson is accessible to all students, regardless of individual learning challenges.

Instructional Procedures

Focusing Event: Be prepared to begin your lesson by asking students one or more questions that they can respond to orally or in writing.

Instructor Input/ Learning Procedure: This is where the instructor presents core information for the lesson.

Formative Check/Guided Practice: This is where the instructor asks learners to use the information presented. The instructor provides formative feedback by allowing learners to work together and/or circulate among the class as they practice. This may be ongoing or specific.

Closure: Here's where the instructor concludes the lesson by having learners do some type of summary activity. The instructor could ask a few questions, have learners address a problem, or simply ask what was learned today.

Assessment/Summative Evaluation: This is the final test, quiz, or practical examination given to learners to determine if they have mastered the material. Its format and delivery will vary from lesson to lesson, but the minimum passing score for written assessments will always be 70%.

Lesson Plan:

Airport Familiarization, Including Airport Signs, Marking, and Lighting

I. Focusing Event

Ask learners to discuss and guide them in answering the following questions:

- What is the purpose of this training?
- Why is it required?
- How does this training differ from similar 139.303 (Operations) training?
- How does airport-specific training differ from other ARFF training?
- How often must ARFF personnel complete this recurrent training?

II. Instructor Input/Learning Procedure

Instructor input and learning procedures will vary from lesson to lesson and occasion to occasion. At a minimum, however, the method used to deliver instruction (i.e., computer-based, instructor-led, personnel meeting, etc.) must be listed on the applicable training exhibit (see ESC ACM). The instructor must enter a clear and detailed description of training, which adequately mirrors the above learning topics, into the appropriate field of each training exhibit. Finally, the learning procedure must achieve the learning objectives and goals of each lesson, as they relate to the individual topic areas (see above).

III. Formative Check/Guided Practice

Formative (learning) checks are simple activities that verify student learning. They can be either formal (written) or informal (spot check, verbal response, discussion, etc.). Some examples of formative checks and guided practice include clarifying learning goals and objectives; eliciting evidence of learning (asking questions); and peer feedback (classroom discussions). Regardless of the technique used, the formative check must be suitable for the learners and setting.

IV. Closure

Conclude the lesson by revisiting and summarizing each of the above learning objectives. Initiate a guided discussion about the accuracy of content and solicit feedback from learners. Record feedback for revision that will be used during subsequent training.

V. Assessment/Summative Evaluation

The specific method used to assess learning shall be at the discretion of the instructor (i.e., written quiz, practical exam, guided discussion, etc.). If the instructor wishes to use a written assessment, such as an electronic or paper quiz, the minimum passing score shall be 70%. Regardless of the selected method, the assessment must correlate to the learning objectives of each lesson and be documented in such a way that external entities, such as the Administrator, can gain a clear picture of what was learned. Remedial training and reassessment procedures shall be left up to the discretion of the Training Officer and/or Airport Manager.

Delta County Airport
Local Part 139.319 Aircraft Rescue and Firefighting Personnel Training
Lesson Two

Subject: Aircraft Familiarization & Aircraft Cargo Hazards

Time Estimate: No more than one (1) hour

Topics:

1. Identify all types of passenger and cargo aircraft operating at the ESC (Bombardier CRJ Series; Beechcraft Models 99 & 1900; and Cessna 208);
2. Identify the different types of aircraft propulsion systems for applicable aircraft;
3. Locate normal entry doors, emergency exit openings, and evacuation slides for applicable aircraft;
4. Explain the opening of all doors and compartments for applicable passenger or cargo aircraft;
5. Identify approximate aircrew and passenger capacities for applicable aircraft;
6. Indicate the type of fuel used, location of fuel tanks, and capacity of fuel tanks for applicable aircraft;
7. Identify and locate components of the fuel, oxygen, hydraulic, electrical, fire protection, anti-icing, auxiliary power unit (APU), brake, wheel, and egress systems for applicable aircraft;
8. Identify and locate the flight data recorder and cockpit voice recorder, in the event of an aircraft mishap, for applicable aircraft;
9. Identify and locate the opening and operation of doors, compartments, and hatches for applicable cargo aircraft;
10. Identify normal and emergency shutdown procedures for applicable aircraft engines and auxiliary power units; and
11. Identify the general hazards associated with military aircraft, such as ejection seats, armament, and specialized fuels.

Goal(s): All learners will demonstrate proficiency in the above topic areas by a method selected and documented through the use of summative assessment or evaluation (see below).

Objective(s): This lesson trains ARFF personnel to perform duties outlined in the above topic areas relative to this Airport (ESC). It provides *airport-specific* training designed to supplement general recurrent training completed over the past 12 CCM.

References and Resources:

- FAR 139.319
- AC 150/5210-17C
- ESC ACM

Materials/Resources/Technology Needed: Many variables will affect the materials, resources, and technology used to deliver each lesson (i.e., funding, work schedules, venues, etc.). At a

minimum, however, it is incumbent upon the instructor to verify, prior to giving each lesson, that the information taught is gathered from only credible and current resources. Moreover, the instructor shall ensure that the lesson is accessible to all students, regardless of individual learning challenges.

Instructional Procedures

Focusing Event: Be prepared to begin your lesson by asking students one or more questions that they can respond to orally or in writing.

Instructor Input/ Learning Procedure: This is where the instructor presents core information for the lesson.

Formative Check/Guided Practice: This is where the instructor asks learners to use the information presented. The instructor provides formative feedback by allowing learners to work together and/or circulate among the class as they practice. This may be ongoing or specific.

Closure: Here's where the instructor concludes the lesson by having learners do some type of summary activity. The instructor could ask a few questions, have learners address a problem, or simply ask what was learned today.

Assessment/Summative Evaluation: This is the final test, quiz, or practical examination given to learners to determine if they have mastered the material. Its format and delivery will vary from lesson to lesson, but the minimum passing score for written assessments will always be 70%.

Lesson Plan: Aircraft Familiarization

I. Focusing Event

Ask learners to discuss and guide them in answering the following questions:

- What is the purpose of this training?
- Why is it required?
- How does this training differ from similar 139.303 (Operations) training?
- How does airport-specific training differ from other ARFF training?
- How often must ARFF personnel complete this recurrent training?

II. Instructor Input/Learning Procedure

Instructor input and learning procedures will vary from lesson to lesson and occasion to occasion. At a minimum, however, the method used to deliver instruction (i.e., computer-based, instructor-led, personnel meeting, etc.) must be listed on the applicable training exhibit (see ESC ACM). The instructor must enter a clear and detailed description of training, which adequately

mirrors the above learning topics, into the appropriate field of each training exhibit. Finally, the learning procedure must achieve the learning objectives and goals of each lesson, as they relate to the individual topic areas (see above).

III. Formative Check/Guided Practice

Formative (learning) checks are simple activities that verify student learning. They can be either formal (written) or informal (spot check, verbal response, discussion, etc.). Some examples of formative checks and guided practice include clarifying learning goals and objectives; eliciting evidence of learning (asking questions); and peer feedback (classroom discussions). Regardless of the technique used, the formative check must be suitable for the learners and setting.

IV. Closure

Conclude the lesson by revisiting and summarizing each of the above learning objectives. Initiate a guided discussion about the accuracy of content and solicit feedback from learners. Record feedback for revision that will be used during subsequent training.

V. Assessment/Summative Evaluation

The specific method used to assess learning shall be at the discretion of the instructor (i.e., written quiz, practical exam, guided discussion, etc.). If the instructor wishes to use a written assessment, such as an electronic or paper quiz, the minimum passing score shall be 70%. Regardless of the selected method, the assessment must correlate to the learning objectives of each lesson and be documented in such a way that external entities, such as the Administrator, can gain a clear picture of what was learned. Remedial training and reassessment procedures shall be left up to the discretion of the Training Officer and/or Airport Manager.

Delta County Airport
Local Part 139.319 Aircraft Rescue and Firefighting Personnel Training
Lesson Three

Subject: Emergency Communication Systems on the Airport, Including Fire Alarms

Time Estimate: No more than one (1) hour

Topics:

1. Explain the use of communication equipment used by local emergency services and ESC (phone service, computer-based messaging system, and handheld radios);
2. Describe the phonetic alphabet and its use during emergency communications;
3. Identify local radio frequencies and channels used by ESC and mutual aid organizations (800 MHz handheld radios used by Delta County Department of Public Safety);
4. Identify the procedures for receiving an emergency alarm at ESC;
5. Identify the procedures for multiple alarms and mutual aid at ESC;
6. Explain the proper procedure for obtaining clearance from authority responsible for apparatus movement on ESC;
7. Explain the use of standard hand signals used to communicate with aircrew personnel at ESC;
8. Describe how to provide an initial status report for an aircraft accident at ESC; and
9. Identify the local method used to communicate with aircrew personnel; and
10. Identify the locations of all fire alarms at ESC.

Goal(s): All learners will demonstrate proficiency in the above topic areas by a method selected and documented through the use of summative assessment or evaluation (see below).

Objective(s): This lesson trains ARFF personnel to perform duties outlined in the above topic areas relative to this Airport (ESC). It provides *airport-specific* training designed to supplement general recurrent training completed over the past 12 CCM.

References and Resources:

- FAR 139.319
- AC 150/5210-17C
- ESC ACM

Materials/Resources/Technology Needed: Many variables will affect the materials, resources, and technology used to deliver each lesson (i.e., funding, work schedules, venues, etc.). At a minimum, however, it is incumbent upon the instructor to verify, prior to giving each lesson, that the information taught is gathered from only credible and current resources. Moreover, the instructor shall ensure that the lesson is accessible to all students, regardless of individual learning challenges.

Instructional Procedures

Focusing Event: Be prepared to begin your lesson by asking students one or more questions that they can respond to orally or in writing.

Instructor Input/ Learning Procedure: This is where the instructor presents core information for the lesson.

Formative Check/Guided Practice: This is where the instructor asks learners to use the information presented. The instructor provides formative feedback by allowing learners to work together and/or circulate among the class as they practice. This may be ongoing or specific.

Closure: Here's where the instructor concludes the lesson by having learners do some type of summary activity. The instructor could ask a few questions, have learners address a problem, or simply ask what was learned today.

Assessment/Summative Evaluation: This is the final test, quiz, or practical examination given to learners to determine if they have mastered the material. Its format and delivery will vary from lesson to lesson, but the minimum passing score for written assessments will always be 70%.

Lesson Plan:

Emergency Communication Systems on the Airport, Including Fire Alarms

I. Focusing Event

Ask learners to discuss and guide them in answering the following questions:

- What is the purpose of this training?
- Why is it required?
- How does this training differ from similar 139.303 (Operations) training?
- How does airport-specific training differ from other ARFF training?
- How often must ARFF personnel complete this recurrent training?

II. Instructor Input/Learning Procedure

Instructor input and learning procedures will vary from lesson to lesson and occasion to occasion. At a minimum, however, the method used to deliver instruction (i.e., computer-based, instructor-led, personnel meeting, etc.) must be listed on the applicable training exhibit (see ESC ACM). The instructor must enter a clear and detailed description of training, which adequately mirrors the above learning topics, into the appropriate field of each training exhibit. Finally, the learning procedure must achieve the learning objectives and goals of each lesson, as they relate to the individual topic areas (see above).

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IV. Closure

Conclude the lesson by revisiting and summarizing each of the above learning objectives. Initiate a guided discussion about the accuracy of content and solicit feedback from learners. Record feedback for revision that will be used during subsequent training.

V. Assessment/Summative Evaluation

The specific method used to assess learning shall be at the discretion of the instructor (i.e., written quiz, practical exam, guided discussion, etc.). If the instructor wishes to use a written assessment, such as an electronic or paper quiz, the minimum passing score shall be 70%. Regardless of the selected method, the assessment must correlate to the learning objectives of each lesson and be documented in such a way that external entities, such as the Administrator, can gain a clear picture of what was learned. Remedial training and reassessment procedures shall be left up to the discretion of the Training Officer and/or Airport Manager.

Delta County Airport
Local Part 139.319 Aircraft Rescue and Firefighting Personnel Training
Lesson Four

Subject: Familiarization with Firefighters' Duties Under the Airport Emergency Plan

Time Estimate: No more than one (1) hour

Topics:

1. Identify ESC pre-fire and emergency plans;
2. Identify various types of aircraft-related emergencies possible of emerging at ESC;
3. Identify and understand the incident command system (ICS) to be utilized in an emergency at ESC, according to the National Incident Management System (NIMS) and/or the AEP;
4. Identify the procedures to use to assess an aircraft accident/incident;
5. Identify and understand individual duties as described in the ESC AEP; and
6. Identify the other duties of ESC under the AEP.

Goal(s): All learners will demonstrate proficiency in the above topic areas by a method selected and documented through the use of summative assessment or evaluation (see below).

Objective(s): This lesson trains ARFF personnel to perform duties outlined in the above topic areas relative to this Airport (ESC). It provides *airport-specific* training designed to supplement general recurrent training completed over the past 12 CCM.

References and Resources:

- FAR 139.319
- AC 150/5210-17C
- ESC ACM (including ESC AEP)

Materials/Resources/Technology Needed: Many variables will affect the materials, resources, and technology used to deliver each lesson (i.e., funding, work schedules, venues, etc.). At a minimum, however, it is incumbent upon the instructor to verify, prior to giving each lesson, that the information taught is gathered from only credible and current resources. Moreover, the instructor shall ensure that the lesson is accessible to all students, regardless of individual learning challenges.

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Assessment/Summative Evaluation: This is the final test, quiz, or practical examination given to learners to determine if they have mastered the material. Its format and delivery will vary from lesson to lesson, but the minimum passing score for written assessments will always be 70%..

Lesson Plan:

Familiarization with Firefighters' Duties Under the Airport Emergency Plan

I. Focusing Event

Ask learners to discuss and guide them in answering the following questions:

- What is the purpose of this training?
- Why is it required?
- How does this training differ from similar 139.303 (Operations) training?
- How does airport-specific training differ from other ARFF training?
- How often must ARFF personnel complete this recurrent training?

II. Instructor Input/Learning Procedure

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