

AVOPSIM MANUAL

ARFF and Rescue

4 articles · Complete website edition

Includes all article text, tables and available illustrations. Videos and interactive resources are linked. Printed page numbers restart with each article. Use the clickable contents or PDF bookmarks to navigate.

Contents

- 01. ARFF and Rescue
- 02. Training exercises
- 03. Running a mission
- 04. Features and benefits

ARFF and Rescue

ARFF and Rescue

ARFF response driving and positioning. Rapid deployment, route selection and vehicle positioning for aircraft rescue and firefighting crews.



Program overview

ARFF crews get few chances to drive a full response to an aircraft on the airfield. AVOPSIM lets them run it as often as needed: from the bay doors, along the fastest route, to a correct position at the aircraft, in daylight, at night and in low visibility, on a 1:1 model of their own airport. Vehicle handling reflects a heavy 6×6 ARFF unit with modeled cabin, instrumentation and turret controls.

Program at a glance

Status	Subscription program, on top of the AVOPSIM integration
Vehicles	Your ARFF units, modeled in your livery
Environment	Your airfield, fire station and terminal area
Stations	Driving station or full cab with turret joysticks
Missions	Incident scenarios authored in the Mission Editor
Also useful for	Airport emergency exercises and new-hire orientation

In this manual

- **Training exercises:** the mission types instructors can assign, repeat and score.
- **Running a mission:** how a mission is set up, driven and scored.
- **Features and benefits:** what the program adds to your training.

Every program runs on the same **digital twin**, **stations** and **instructor tools**.

ARFF and Rescue

Training exercises

Each item is a mission type your instructors can assign, repeat and score. All of them run on your own airfield, and all of them can be built or adapted in the [Mission Editor](#).



ARFF vehicle leaving the Edmonton fire station

Mission types

Rapid deployment

From the fire station to the incident against a response-time target.

Route selection

Fastest safe route with active runways, traffic and closures.

Positioning at the aircraft

Approach angle, standoff distance and wind.

Turret and boom

Deployment and aiming from the cab.

Multi-vehicle response

Coordinated positioning with other units.

Night and weather

Fog, snow and wet surfaces on the response route.

Vehicle handling

Acceleration, braking and cornering of a heavy 6×6.

Exercises

Full airport emergency exercises without closing the airfield.

Summary

Exercise	What is practiced
Rapid deployment	From the fire station to the incident against a response-time target.
Route selection	Fastest safe route with active runways, traffic and closures.
Positioning at the aircraft	Approach angle, standoff distance and wind.
Turret and boom	Deployment and aiming from the cab.
Multi-vehicle response	Coordinated positioning with other units.
Night and weather	Fog, snow and wet surfaces on the response route.
Vehicle handling	Acceleration, braking and cornering of a heavy 6×6.
Exercises	Full airport emergency exercises without closing the airfield.

Running a mission

An ARFF and rescue mission follows the standard AVOPSIM flow: assign, drive, track, score. See [Running a training session](#) for the general session checklist.

1. The instructor places the incident aircraft, sets time, weather and traffic, and assigns the mission from the Examiner Console.
2. Crews respond from the modeled fire station. Bay doors, routes and hold points are those of your airport.
3. Vehicle handling reflects a heavy 6×6 ARFF unit with modeled cabin, instrumentation and turret controls.
4. The mission scores response time, route compliance, final position and any conflicts with aircraft or vehicles.

After the mission

Results are recorded in the [Examiner Console](#). Review the violation log with the trainee and use [scenario replay](#) to repeat any situation that went wrong.

ARFF and Rescue

Features and benefits

Feature	Benefit
Repeatable incidents	Run the same scenario until every crew member positions correctly.
Zero consequence	Mistakes with aircraft, vehicles and terrain are logged, not paid for.
Any conditions	Train the winter night response in the middle of summer.
Your station, your routes	Bay doors, access roads and response routes from your own airfield.
Full cab option	Tier 3 stations fit a cab mock-up with the real controls.
Radio ready	Add the AI radio communication program for emergency phraseology.

From the digital twin



ARFF vehicle leaving the Edmonton fire station



Modeled ARFF cabin with joysticks and displays



Night response from the station

What comes with every program

- **1:1 digital twin.** Your airfield, signage, lighting and buildings, reproduced from real-world data.
- **Microsoft Flight Simulator 2024 engine.** World, weather and physics maintained by Microsoft and Asobo.

- **Modular and scalable.** Add programs, vehicles and stations as you go, from desk station to full cabin.
- **Turn-key delivery.** Hardware, software, installation, instructor training and one year of support.