

Aerial Delivery Systems for Wildland Firefighting

USDA Forest Service, San Dimas Technology and Development Center

Aerial Delivery, Revised May 2013

Policy

USDA Forest Service Exclusive Use Fixed-Wing Airtanker Service contracts require Interagency Airtanker Board (IAB) approved and qualified airtankers (Exclusive Use Fixed-Wing Service contract Sections C-2 E, F, and G; C-14 A; J-M 1, 2, and 3).

The IAB is the approving authority for all airtankers meeting the IAB criteria. The IAB reports to the National Interagency Committee (NIAC) under the National Wildfire Coordinating Group's Equipment and Technology Committee. The IAB administers an evaluation process to determine acceptable aircraft, tank, and gate system performance. The IAB relies on the San Dimas Technology and Development Center (SDTDC) Aerial Delivery test team to conduct static and drop test evaluations.

Freedom of Information Act (FOIA)

Information provided to the Forest Service as part of the product evaluation is subject to the Freedom of Information Act (FOIA), 5 U.S.C., Section 552. Confidential and trade secret information will not be disclosed; however, the results of the testing performed by the Forest Service may be disclosed after independent review of the request.

Confidentiality

All drawings, pictures and descriptions identified as proprietary and confidential by proponents will be handled as such. On occasion, the IAB or Aerial Delivery test team finds information identified as proprietary and confidential to be important for informing Agency managers and field users of a system's operating characteristics. In these cases, the IAB or test team will work with the proponent to develop a nonsensitive version of the information for public distribution. Drop test and static test results produced during IAB qualification testing are the property of the Forest Service.

Definition

An airtanker is defined as an aerial delivery system configured for the purpose of dispensing of wildland fire chemicals from a fixed tank that controls the rate of delivery. The aerial delivery system includes the tank system and the aircraft. The IAB criteria apply to aircraft intended for interagency use in the service of the cooperating State and Federal fire suppression agencies. This includes multi-engine airtankers, single-engine airtankers,

helicopters with fixed tanks, multi-engine amphibious or water-scooping fixed-wing aircraft, and multi-engine very large airtankers (VLATs). The criteria explicitly apply to aircraft with payloads greater than 800 gallons, but are also used to evaluate systems with lower payloads when evaluation is requested.

Fixed-wing airtankers are further divided into types for operational identification (see the Interagency Aerial Supervision Guide, available at <http://www.nwcg.gov/pms/pms.htm>). Deliverable payload is the primary identifying factor of airtanker type. The current types are:

- Very Large Airtanker (VLAT): 8000 gallons or more
- Type 1: 3000-7999 gallons
- Type 2: 1800-2999 gallons
- Type 3: 800-1799 gallons
- Type 4: Less than 800 gallons

Deliverable payload is determined during static and drop testing, and is a measure of the amount of payload that an aerial delivery system can apply at any required coverage level in the operational environment.

Deliverable payload may be less than the available payload if testing shows that retardant line production is compromised for a portion of the payload.

Evaluation Requirements

Prior to being awarded an Exclusive Use contract all airtankers must be evaluated against the current IAB criteria.

The criteria are reviewed and updated periodically. Updates are designated by change to the date of the criteria. The currently approved revision, as well as any proposed changes, are available at <http://www.fs.fed.us/fire/contracting/airtankers/iab.htm>. The IAB criteria revision in effect on the date of submission for evaluation will be followed. To ensure that the proponent has the most recent revision of the IAB criteria, contact the Program Leader or Project Leader at the addresses shown below.

Communication directly with the Program Leader or Project Leader at SDTDC is strongly encouraged prior to beginning the evaluation process.

The proponent should be sufficiently familiar with the IAB criteria to be comfortable that the system can meet those requirements. Preliminary testing by the proponent is strongly encouraged; however, the only test results that will be considered by the Forest Service to determine that a system meets its requirements are those performed with the Aerial Delivery test team.

Communication

Communication regarding the airtanker evaluation process and any required information is normally done by conference calls and email. The proponent is welcome to call directly or arrange for personal visits.

Request for Evaluation

Submissions for evaluation should be made in a letter to the Chairman of the IAB. The letter should include information about the system and other specifics that may be of interest.

Copies of the letter should be sent to the Program Leader, Aerial Delivery.

Collection Agreement

Upon receipt of the request for evaluation, a Collection Agreement between the SDTDC Aerial Delivery team and the proponent will be prepared. This document describes the roles and responsibilities of the Forest Service, SDTDC personnel, and the proponent.

Follow-up discussions may be required to assure that the Forest Service has all of the necessary information to complete the agreement. Specific information in the agreement includes a list of authorized contacts for the Forest Service and for the submitter as well as an estimate of the cost and time required for the evaluation.

The agreement will be sent to the submitter. A cover letter containing instructions will accompany the agreement. Once the submitter completes and returns the signed agreement, a special financial account is created to administer funding of the agreed-to work. Creation of this financial account currently takes an average of several months. The agreement is structured to permit subsequent modifications, which expedite the process of redefining the program of work and adjusting costs.

Test Fees

The cost of the evaluation is the responsibility of the submitter and will require a deposit of funds to cover the estimated costs. Costs vary based on the specifics of required testing. At a minimum, labor costs for test personnel to coordinate, collect and analyze data, and to prepare reports are the responsibility of the vendor. Travel is usually required to document the state of the system and perform testing, and drop testing (described in <http://www.fs.fed.us/rm/fire/pubs/htmlpubs/htm04572813/index.htm>) may also be required. Testing and collection of test fees are both performed in phases.

Following receipt of the signed collection agreement, the Forest Service will issue a Bill for Collection to the submitter. This bill will be for the amount determined during discussions between SDTDC and the submitter and shown in the agreement. A cover letter of instructions will be included with the bill and will provide the mailing address for the deposit of funds.

A copy of the Bill for Collection should be returned with a check for the specific amount shown in the collection agreement, and marked with the number shown on the bill for collection. Credit to the special financial account for testing typically takes three to four weeks from check issuance, and Federal law prohibits performance of any work until the account contains the necessary funds.

The collection agreement will be closed upon completion of all work and any unused funds will be refunded.

Evaluation Documents

Once the deposit of funds has been made, the Aerial Delivery Systems Program Leader will contact the submitter directly to begin scheduling the required testing. An explanation of testing can be found on the web at:

Static Testing: <http://www.fs.fed.us/rm/fire/pubs/htmlpubs/htm05572812/index.htm>

Grid Testing: <http://www.fs.fed.us/rm/fire/pubs/htmlpubs/htm04572813/index.htm>

They may be requested directly from the Aerial Delivery Systems Program Leader.

Copies of blueprints and drawings should also be e-mailed to the Aerial Delivery Systems Program Leader.

Evaluation

The evaluation will not begin until the deposit of funds has been made.

The ground test evaluation will normally take 10 to 15 working days to complete, 5 of which will be on site with the aircraft.

The drop test evaluation will normally take 10 to 15 working days of flying, plus two to four weeks of analysis and report preparation to complete.

Final Report

When all of the required testing is completed, the Aerial Delivery Systems test team will prepare a draft report summarizing the results of all the tests performed. The draft report will be sent to the proponent and the IAB for review and comment. Discussions are welcome at this time. A final report will then be completed and sent to the IAB. Recommendations will be made to the IAB regarding the status of the system's performance against the requirements.

Ownership of Evaluation Results

The proponent submitting the airtanker for evaluation and paying the costs of the evaluation is the not the only entity that benefits from the results of the evaluation.

Information developed during the course of the evaluation will be transferred to other parties who have a need to understand how the system operates. Such parties include Aerial Supervision, Contracting Officers and their representatives, members of the IAB, Airtanker Base Managers and field-test evaluators. Testing of each airtanker will proceed independently of airtankers proposed by any other company.

Acceptance and Notification

The IAB will notify the proponent with the status of the approval.

System Change

The Forest Service IAB Chairman or Aerial Delivery personnel must be notified of changes made to the tank and gating system. Any change to the tank and gating system, including but not limited to changes in the software; hardware; electrical, pneumatic, or hydraulic systems; or manufacturer of the entire system or major components is considered a change. Qualification testing may be required to verify that changes do not negatively affect performance.

Procurement

Airtankers are contracted through national contracts. Information on these contracts is available through the contracting office at the National Interagency Fire Center in Boise, Idaho. The phone number is (208) 387-5835.

Contacts

The IAB Chair is a rotating position currently held by Scott Fisher, Large Airtanker Program Manager for the Forest Service. Mr. Fisher can be reached at (208) 387-5968 or sfisher01@fs.fed.us. Additional contact information is available through the National Interagency Fire Center at (208) 387-5512.

The Aerial Delivery test team is currently led by Ryan Becker, Mechanical Engineer. Mr. Becker can be reached at (909) 599-1267 ext. 260 or ryanbecker@fs.fed.us. Additional contact information is available through SDTDC at (909) 599-1267 ext. 0.