



AF-DM-9700-001

Lifecycle Assessment and Environmental Evidence Manual

Space / Aviation / Defense

FIRST EDITION

AF 9700 SUPPORTING DOCUMENT

Document identity and use

FIRST EDITION MANUSCRIPT - Prepared for Aerospace Federation review

Field	Controlled identity
Document	AF-DM-9700-001 - Lifecycle Assessment and Environmental Evidence Manual
Parent standard	AF 9700 - Sustainable Aerospace & Lifecycle Management
Edition / language	FIRST EDITION / English master text
Family	Manuals
Primary source anchors	4-14, 19-20, 33; Annexes C-E, G, L
Suggested local owner	Lifecycle study owner
Authority	Publisher approval and effective date are not assigned. Local use requires authorized adoption and completed parameters.

Use with the main standard

This document implements the identified AF 9700 clauses and annexes. Read the complete applicable requirements in the main standard. The source anchors are navigation references; a template does not replace technical judgement, evidence, permission or eligible approval.

AF-ML-9700-001 lists the complete supporting set. AF-CM-9700-001 maps the main clauses and annexes to working documents. AF-TP-9700-001 establishes the common local parameter baseline; add the relevant discipline profiles.

Record control

Identify the object, configuration, record owner and dates. Reference attachments by stable identifier and version. Keep superseded evidence and decisions traceable. Use the approved local retention, access and authentication arrangements. No technical limit, numerical limit, interval or acceptance value is assigned by a blank template.

Implementation model: Translate the stated responsibilities and controls into the actual organization. Informative examples remain explanatory; use approved programme-specific values for operational decisions.

1 Establish the study before calculating

1.1 Intake and decision question

The study owner begins with AF-PR-9700-003 and records the decision, audience and intended communication in AF-FR-9700-003. Define whether the work estimates an existing lifecycle, compares options or explores a counterfactual. A supplier dataset may serve one stage; it does not define the full decision boundary by itself.

1.2 Service and scope workshop

The systems owner and environmental analyst agree the functional unit, performance, duration, load and conditions. Build a process map covering development, infrastructure, manufacture, delivery, use, maintenance and treatment. Screen capital equipment and support activities. Record cut-offs individually, including estimated significance and uncertainty. Resolve incompatible functions before ranking options.

2 Assemble a traceable inventory

2.1 Source and measurement plan

Use AF-PR-9700-004, AF-RG-9700-003 and AF-WI-9700-001. Assign an owner to each influential flow. Specify units, source period, geography, technology and collection method. Check meters, sampling, calibration and conversion bases. Record estimated data as estimated and prioritize gaps that can change the decision.

2.2 Supplier and shared data

Request the actual boundary, allocation, factor versions and permitted use of supplier results. Check whether transport, electricity or treatment is already embedded before adding separate processes. Reconcile site totals and shared utilities with modelled quantities. Preserve confidential data through eligible access arrangements while retaining enough information for review.

3 Build and challenge the model

3.1 Calculation control

Apply AF-PR-9700-005 and retain the model in AF-RG-9700-004. Preserve formulas, factor versions, reference flows and balancing checks. Separate shared processes where feasible; otherwise justify allocation and test alternatives. Define which lifecycle carries recycling burdens and benefits. Do not give both parties the entire same benefit.

3.2 Scenarios and uncertainty

State service life, degradation, replacement, grid, utilization and end-of-life scenarios. Distinguish expected, adverse and favourable cases with evidence for their plausibility. Use AF-PR-9700-006 to assess data, model and scenario uncertainty, including correlation. A large number of simulated draws cannot repair an unjustified distribution or missing lifecycle stage.

4 Interpret and release the result

4.1 Review and decision

Compare category-specific results with the original question and non-negotiable constraints. Identify hotspots, excluded effects and ranking reversals. A small difference within material uncertainty shall not be promoted as certain superiority. An eligible independent reviewer examines consequential external comparisons and records finding resolution in AF-FR-9700-006.

4.2 Handover and update

Release a bounded result with object, functional unit, boundary, period, methods, quantities and limitations. Link any public wording to AF-FR-9700-029. Define update triggers for design, supplier, factor and use changes. Preserve the source model so the result can be reproduced and corrected without losing its history.

Required evidence: Approved study plan; complete data catalogue; reproducible model; sensitivity and interpretation; review and controlled communication.

Decision control: A footprint number without its function, boundary and method is not a complete decision record.