

3-303.4 Technical evaluation phase (steps 22-37).

(a) *Introduction.*

(1) The purposes of technical evaluation are to determine the development status, design stability, high performance, and/or critical characteristics such as safety of personnel and equipment; the reliability and effective operation of the system and equipment in which the parts are to be used; and to exercise technical judgment as to the feasibility of breaking out the parts. No simple and universal rules apply to each determination. The application of experience and responsible judgment is required. Technical considerations arise in several elements of the decision process, e.g., in determining adequacy of the data package (steps 6-14).

(2) Certain manufacturing conditions may reduce the field of potential sources. However, these conditions do not justify the restriction of competition by the assignment of restrictive AMCs for the following reasons:

(i) Parts produced from class 1 castings and similar type forgings. The process of developing and providing the acceptability of high-integrity castings and forgings requires repetitive performance by a controlled source for each casting or forging along identical lines to those which result in initial acceptability of the item. The particular manufacturer's process becomes the controlling factor with regard to the acceptability of any such item. However, other firms can produce class 1 castings and similar type forgings and provide the necessary inspection, or the part may be acquired from other sources that use castings or forgings from approved (controlled) source(s).

(ii) Parts produced from master or coordinated tooling, e.g., numerically controlled tapes. Such parts have features (contoured surfaces, hole locations, etc.) delineated according to unique master tooling or tapes and are manufactured to minimum/maximum limits and must be replaceable without additional tailoring or fitting. These parts cannot be manufactured or configured by a secondary pattern or jigs independent of the master tooling and cannot be manufactured to requisite tolerances of fit by use of commercial precision machinery. In this context, jigs and fixtures used only for ease of production are not considered master tooling. However, master tooling may be reproduced.

(iii) Parts requiring special test and/or inspection facilities to determine and maintain ultra-precision quality for the function or system integrity. Substantiation and inspection of the precision or quality cannot be accomplished without specialized test or inspection facilities. Testing is often done by the actual manufacturer under actual operating use. However, such special test inspection facilities may be available at other firms.

(b) *Design procedures (steps 22-31).*

(1) *Step 22.* Will a design change occur during anticipated lead time? If affirmative, proceed to step 23; if negative, proceed to step 24.

(2) *Step 23.* Specify the design change and assign an appropriate code.

(3) *Step 24.* Is a satisfactory part now being produced? Concurrently with the research and completion of data, a technical determination is required as to the developmental status of the part. With the frequent telescoping of the development/production cycle as well as constant product improvement throughout the active life of equipment, parts are frequently subject to design changes. The present source, if a prime contractor, is usually committed to incorporate the latest changes in any deliveries under a production order. In considering the part for breakout, an assessment must be made of the

stability of design, so that in buying from a new source the Government will not be purchasing an obsolete or incompatible part. The question of obsolescence or noncompatibility is to some extent under Government control. Screening for breakout on parts that are anticipated to undergo design change should be deferred until design stability is attained.

(4) *Step 25.* Can a satisfactory part be produced by a new source? Determine whether technical reasons prohibit seeking a new source. The fact that the present source has not yet been able to produce a satisfactory part (step 24) does not preclude another source from being successful. If the answer to steps 24 or 25 is affirmative, proceed simultaneously to steps 27 and 38. If the answer to step 25 is negative, proceed to step 26.

(5) *Step 26.* If the present source is producing an unsatisfactory part, but technical reasons prohibit seeking a new source, specify the reasons.

(6) *Step 27.* Does the part require prior qualification or other approval testing? If the answer is positive, proceed to step 28; if negative, proceed to step 32.

(8) *Step 28.* Specify the requirement.

(9) *Step 29.* Estimate the time required to qualify a new source.

(10) *Step 30.* Is there currently a qualified source?

(11) *Step 31.* Who is responsible for qualifications of the subcontractor, present prime contractor, the Government, or an independent testing agency?

(i) If a qualified source is currently in existence, the review should consider who will be responsible for qualification in the event of competitive acquisition. If qualification testing is such that it can be performed by the selected source under a preproduction or first article clause in the contract, the costs of initial approval should be reflected in the offers received. If the part requires initial qualification tests by some other agency such as the present prime contractor, the Government, an independent testing agent outside the Government, or by technical facilities within the departments, out-of-pocket costs may be incurred if the part is competed. An estimate of qualification costs should then be made and recorded in such cases.

(ii) Where facilities within the Government are not adequate for testing or qualification, or outside agencies such as the equipment contractor cannot or will not do the job, the economics of qualification may be unreasonable, and a narrative statement of these facts should replace the cost estimate. Whenever possible, such as in the case of engine qualification tests, economy of combined qualification tests should be considered.

(c) *Quality assurance procedures (steps 32-33).* Quality control and inspection is a primary consideration when making a decision to breakout. Where the prime contractor performs quality assurance functions beyond those of the part manufacturer or other sources, the Government may—

(1) Develop the same quality control and inspection capability in the manufacturer's plant;

(2) Assume the responsibility for quality; or

(3) Undertake to obtain the quality assurance services from another source, possibly the prime contractor.

(4) *Step 32.* Who is now responsible for quality control and inspection of the part?

(5) *Step 33.* Can a new source be assigned responsibility for quality control? Is the level of the quality assurance requirements specified in the system contract necessary for the screened part? The minimum

quality assurance procedures for each part shall be confirmed.

(i) A new source shall be considered if—

(A) Any essential responsibility (e.g., burn-in, reliability, maintainability) retained by the prime contractor for the part and its relationship to the end item can be eliminated, shifted to the new source, or assumed by the Government;

(B) The prime contractor will provide the needed quality assurance services;

(C) The Government can obtain competent, impartial services to perform quality assurance responsibility; or

(D) The new source can maintain an adequate quality assurance program, inspection system, or inspection appropriate for the part.

(ii) If the prime contractor has responsibility for quality that a new source cannot assume or obtain, or that the Government cannot undertake or eliminate, consideration of the new source is precluded.

(d) *Tooling procedures (steps 34-37).*

(1) *Step 34.* Is tooling or other special equipment required?

(2) *Step 35.* Specify the type of tooling.

(3) *Step 36.* Estimate additional acquisition leadtime for setup and for tooling.

(4) *Step 37.* Does the Government possess this tooling? If tooling or special equipment is required for production of the part, the types and quantities should be specified. Investigation can then be made as to whether the Government possesses such tooling and can make it available to a new source. A requirement for special tooling is not necessarily a deterrent to competitive solicitation for parts. The Government may find it desirable to purchase the needed tooling and furnish it to the new source. In this case, the costs can be determined with reasonable accuracy. However, if new sources can provide the tooling or special equipment, this will be reflected in competitive prices and should not normally require further analysis.

Parent topic: [3-303 Full screening procedures.](#)