



DOD  
QUALIFICATION  
WORKING  
GROUP

STATUS OF ISSUES AND  
RECOMMENDATIONS

# **Status of Issues and Recommendations**

as of December , 2000

## **Issue 1: Inadequate Resources.**

The group agreed that the single most pressing issue facing the qualification community was the lack of sufficient resources to adequately staff the program and maintain the lists. In the face of constantly shrinking resources maintenance tasks are delayed and lists become outdated. Several potential solutions were discussed. The first and most obvious solution was to increase resources to support the qualification requirements. While resource increases would be very difficult in the current tight budget environment, additional resources are essential.

**Recommendation:** DSPO explore the possibilities of additional resources supported by specific justifications prepared by the Services and Agencies. DSPO and Air Force ensure that the implementation phase of the Standardization Strategic Plan addresses resources for qualification. The Services and Agencies determine and quantify the costs of qualification activities and assess how tasks might be done for less cost.

*STATUS: Each Service and Agency are aggressively trying to increase their management's awareness of the shortfall of resources necessary to perform the required mission. The Air Force is going to address this issue as part of their Defense Standardization Program Strategic Plan Implementation; area V. Infrastructure. Objective V.A.: Funding and staffing requirements are defined, justified, prioritized, and filled. DSPO is currently funding a research study on the cost-benefits of standardization documents.*

## **Issue 2: Improved Guidance for Qualification Decision-Makers.**

Short of additional resources, the team considered other strategies to make more efficient and effective use of existing resources. As skilled and knowledgeable qualification practitioners leave the discipline they are often not replaced or they are replaced with less experienced people. Members agreed that better guidance was needed to set up qualification programs. One strategy the team considered at length was to further codify and standardize the qualification process to enable less experienced people to perform qualification work using "cookbook" guidance. This approach would seek to document the qualification practitioner's "thought" processes. Such guidance could be of considerable value for training and to support qualification-related decision-making by engineers.

The group explored various approaches to further codify and standardize the use of qualification. A criteria matrix was prepared to structure qualification across the broad spectrum of possible applications. However, after considerable effort the team concluded

that the matrix-based “cookbook” approach to qualification was too prescriptive and inflexible. Qualification is very complex covering a wide range of items and situations. Flexibility is essential for future qualification applications.

**Recommendation:** DSPO develop a qualification guidance document (SD-XX) by end CY2000, based on the matrix approach to assist users without being prescriptive. The document must clearly define the process for approval of qualification. The following format for the new SD-XX was proposed and accepted. DSPO will use this format as the starting point for the new document.

- a. **Introduction** - Provide general information regarding qualification.
- b. **Scope and Purpose.**
- c. **Qualification vs. Quality Assurance.** Show the difference between traditional QA monitoring programs, first article testing, and qualification. Illustrate how qualification is different from other quality provisions.
- d. **Process** – Provide a clear process for selecting various ways of documenting specific qualification programs criteria for selection. Provide the pros and cons of each alternative. Provide examples that support the rationale and the discriminators.
- e. **Examples** – Provide clear examples from the various programs. (For example, TACOM’s QSL Program and Army-AR’s MIL-STD-100 Drawing Qualification Program; NAVSEA’s QPL Program, NAVAIR’s Critical Parts Program and NAVAIR’s QML-28870 Program; Wright-Patterson’s NGS with qualification program and AF QPL Program; DSCP’s QSL Program, DSCC’s QML and QPL Program.)
- f. **Rationale** – Document the reasons for choosing the specific type of qualification program (as illustrated in the examples above); provide the characteristics of the actions necessary to implement the program; show how it must be monitored, and discuss the pros and cons.
- g. **Decision Matrix** – Provide a matrix that contains salient characteristics and actions to be considered in developing a specific qualification program (such as QPL, Army and DLA QSL, MIL-STD-100 Drawings, NAVAIR Critical Item Program).

*STATUS: DSPO is currently in the process of developing this SD-XX.*

### **Issue 3: Inadequate Maintenance of Qualification Lists.**

The group found that qualification lists are not adequately maintained or updated. This shortfall is primarily a result insufficient resources, but improvement is essential. Inadequate maintenance increases the risk of buying non-conforming material and erodes the credibility of the qualification program. Better enforcement of maintenance requirements could improve the situation. However, greater enforcement might exacerbate the resources problem for some organizations.

**Recommendation:** DSPO redesign the qualification lists and related databases to include required recertification dates for all individual listees. Implement this change over a thirty month transition period. Require the elimination of all expired entries from the lists (with proper notification to all parties.) Automate this process to the degree possible. Require the qualifying activity to certify that the requirements are met for each update of the list.

*STATUS: DSPO is currently assessing this recommendation as how to best implement it.*

### **Issue 4: Inadequate Management of Qualification on Some Non-Government Standards (NGS).**

Some Mil-Specifications with qualification were converted to NGS. In some instances the NGS item markings remained the same as the markings used for earlier military qualified items. Some QWG members are concerned that some NGS managed qualification programs lack the rigor and discipline to assure that the NGS items meet government requirements. The use of identical markings is a significant problem because there is no way to determine which products meet government qualification requirements and which do not.

**Recommendation:** DSPO work with NGS bodies and industry to seek an acceptable solution. This may include the use of a separate trademark for military items only. DSPO draft a policy statement that it is DoD policy not to accept items under qualification unless conforming parts are clearly identified.

*STATUS: The one NGS that was of concern to the QWG is in the process of developing their own unique marking. DSPO will monitor the progress and will take action if appropriate. If other NGS bodies are performing qualific on covert government specifications, they should develop a marking that is distinct.*

### **Issue 5: Automating the Qualification Process.**

Qualification is a labor intensive manual process. Significant improvements in efficiency and effectiveness are possible through increased automation. The QWG identified several areas where automation could improve processes and use resources more effectively.

**Recommendation:** DSPO and the DepSO's work together to enhance the existing automated systems such as ASSIST and to add new automated capabilities that will simplify and streamline the qualification system.

*STATUS: DSPO is in the process of performing a study of the ASSIST Qualification Process Management – System Design Task.*

### **Issue 6: Expanding the Criteria for Qualification.**

The criteria for establishing a qualification requirement are tightly restricted to items that met the following criteria.

- ◆ long test times
- ◆ complex test equipment
- ◆ repetitive testing
- ◆ expensive testing
- ◆ impossible to test
- ◆ classified as safety critical
- ◆ classified as survival, emergency/or life support equipment
- ◆ critical such that failure of the item could potentially threaten human life
- ◆ classified as flight, nuclear, biological, or chemical safety or Sub-Safe item.

These defined criteria cannot anticipate all justifiable reasons for qualification that could benefit the government or be in the government's best interest. The working group recognized that important opportunities are lost where items do not meet the defined criteria. Greater flexibility should be available coupled with tight controls. Expanded qualification criteria to improve quality, improve acquisition, or save money should be available. Properly designed these could better serve the governments evolving needs while maintaining adequate controls over the qualification program. A process is needed to enable such compelling reasons to receive a fair, impartial review. Performance, quality and reliability improvements can have major economic consequences for the DoD and a method is needed to enable the DoD to realize these savings through qualification.

**Recommendations:** DSPO expand the criteria for establishing qualification to include items where "performance, quality and reliability of the item is critical and the consequence of a failure may be catastrophic to mission, equipment safety and/or life." In

order to establish a qualification both “critical” and “catastrophic” must be met. The key is risk reduction. The consequence of the failure is what is most important.

Also, DSPO expand the criteria to include instances where there is a clear and compelling reason for qualification other than the specifically defined criteria. These compelling reasons could include business, product improvement, cost, or other reasons. An example might be a qualification requirement resulting in substantial economic benefit to the government.” In cases where none of the defined criteria apply, but a compelling reason for qualification exists, the reasons must be clearly described and fully justified before being approved by the controlling authority.

Finally, DSPO document the rationale for justification to ensure that practitioners clearly understand how and where qualification may be applied without adverse impact on competition.

*STATUS: DSPO is in the process of expanding the criteria, and developing the necessary language in the new SD-XX.. DSPO is also developing a detailed rationale and evaluation criteria.*

#### **Issue 7: Treatment of Qualification that is Not Independent of Procurement.**

During the course of deliberations the team considered several qualification-type activities that were not independent of procurement. That is, these activities were directed at assuring or improving the quality of items that were already under contract and/or part of a weapon system program. While these activities may involve testing and evaluation activities similar to qualification they are better characterized as quality assurance rather than qualification (see discussion in Section III).

**Recommendation:** DSPO maintain a clear line of separation between qualification and quality assurance activities. Qualification must be independent of procurement. Activities that are not independent of procurement must remain outside the qualification program. DSPO provide examples in the proposed SD-XX guide that will clearly define the differences between qualification and quality assurance activities for practitioners and decision-makers.

*STATUS: DSPO will include examples in the proposed SD-XX*

## **Issue 8: Status of Drawing-based Qualification**

The working group considered qualification-type activities that were based on drawings or similar documents for items. These activities were directed and assuring or improving the quality of items that were described by documents other than specifications. Some testing and evaluation activities for these products are independent of procurement and similar to qualification. The question was whether these activities should be part of and governed by the qualification program. The QWG decided that qualification is based on specifications and standards and that item described by documents other than specifications and standards, even when they involve quality management activities similar to qualification, must remain outside the qualification program. An exception to this is the Standard Microcircuit Drawing (SMD) program. SMDs are a means to describe and subsequently procure microcircuits to MIL-PRF-38535 and MIL-PRF-38534 for military systems using a standardized drawing instead of a slash sheet.

**Recommendation:** DSPO maintain a clear line of separation between qualification, which is specification-based, and quality management activities for items that are not described by specifications. DSPO provide examples in the proposed SD-XX guide that will clearly define the differences between specification-qualification and drawing-based quality management activities.

*STATUS: DSPO will include examples in the proposed SD-XX*

## **Issue 9: Definition of Qualification-related Terms.**

During the course of team deliberations some effort was expended to reach consensus on the definition or meaning of various qualification-related terms. The discussions demonstrated that differences exist throughout the qualification community regarding fundamental terms. The QWG agreed that a glossary of terms was needed to assure complete understanding of guidance and to preclude miscommunication.

**Recommendation:** DSPO include a glossary of qualification-related terms in the proposed new SD-XX guidance document.

*STATUS: DSPO will include a glossary of qualification-related terms in the proposed new SD-XX guidance document.*

## **Issue10: Recognition and Registration of Third Party (Commercial) Qualification Activities.**

Increasingly third party organizations are involved in quality-related accreditation, certification and qualification type activities. While some third party accrediting organizations have existed for many years, many new organizations are being created to address new aspects of quality management. The evolving acquisition environment combined with increasingly tight budgets raises the questions of if and when government use of third party certifying bodies to perform qualification activities might be in the best interest of the government.

**Recommendation:** DSPO undertake a long term effort to define how third party or commercial qualifying activities could be recognized and registered for government use. DSPO determine policy issues, requirements, and language needed to address DoD acceptance of third party organization for all tiers of qualification (registration, certification, accreditation). Also, DSPO define criteria for how and when third party organizations might be appropriately used to meet government needs for qualification. Finally, DSPO work with NIST and ANSI to consider possible future directions, including the essential elements of a potential memorandum of understanding (MOU). Services and Agencies assist and work with DSPO in developing policies and approaches.

*STATUS: DSPO is currently starting to work these above efforts. This is a long laborious process and will extend over many years to achieve final acceptable results.*

## **Issue 11: Streamlining the Process of Becoming Qualified.**

Existing policy governing qualification lacks flexibility for using existing data to satisfy qualification requirements. In the evolving acquisition environment more and more relevant data, such as ISO-9000 data, is readily available. The QWG addressed how and when such data could be used when data is available and directly related to the qualification process. Not using such data increases qualification time and costs for both suppliers and government. However, using such data might put small business at a disadvantage.

DSPO provided, and the QWG approved, the following language to revise DoD 4120.24-M, APPENDIX 2, paragraph AP2.5.6.3 to allow use of existing data.

***“Qualification test data (excluding first article data) generated by the perspective QPL/QML manufacturer for internal product or process qualifications or for commercial or industrial products or process qualifications may be use by the qualifying activity (QA) as a basis for qualification approval when the QA determines that satisfactory objective data exists which clearly shows the QA that the products will***

***meet all aspects of qualification as determined in the applicable military specification requirements. The QA shall review all data to assure the data meets or exceeds all qualification requirements and that all specified performance, quality, reliability and testing requirements will be met or exceeded.”***

The SD-6, Chapter 4, Test Policy paragraph will also be changed to reflect this wording. No change is required in statute/FAR/DFARs since these documents do not address the use of existing data.

The following legal reasons were cited for excluding “first article” data in the proposed language. In the past DoD had used the first article test data to support qualification. Small business complained to Congress that the Department was specifying qualification in specifications but was not enforcing the requirement. As a result a waiver requirement was established to be invoked whenever first article data is used for qualification. “As stated in the public law and in the DFARs, qualification can only be waived when the preparing activity determines that the instant procurement situation is an emergency. Procedures in DoD 4120.24-M must be followed in requesting the waiver. If qualification is waived in other than an emergency situation, qualification shall be deleted immediately from the specification until such time as it is submitted and approved. Thus, the only time first article test data can be used as a basis for qualification is when the preparing activity has approved a waiver based on an emergency situation. Otherwise, qualification has been voided.”

**Recommendation:** DSPO streamline qualification policy to allow use of existing data whenever available and appropriate. DSPO determine policy issues, requirements, and language needed to address the use of existing data. Also, DSPO define criteria for how and when the use of available data might be appropriate to meet government needs for qualification.

*STATUS: This action will be completed in the near future.*