DEPSECDEF AUTHORIZES USING INTERNATIONAL QUALITY STANDARDS

ISO 9000 Adopted for New Programs Contracts

John P. McGovern

Deputy Secretary of Defense (DEPSECDEF) John M.Deutch, in his letter of February 14, 1994, on "Use of Commercial Quality System Standards in the Department of Defense (DoD)," established the use of the ISO 9000 international quality standards. "Program offices are authorized to use ANSI/ASQC Q90 and the ISO 9000 series standards in contracts for new programs." [ISO is not an acronym; the Greek prefix *iso* means equal or identical.]

Deutch continued: "They may also allow these standards for follow-on efforts for existing programs instead of MIL-Q-9858A, Quality Program Requirements and MIL-I-45208A, Inspection System Requirements. Application of ISO 9000, ANSI/ASQC Q90 series standards on current contracts may be considered on a case-by-case basis." He further stated, " Third party certification or registration of a supplier's quality program shall not be required nor is it a substitute for Government quality surveillance, at the present time."

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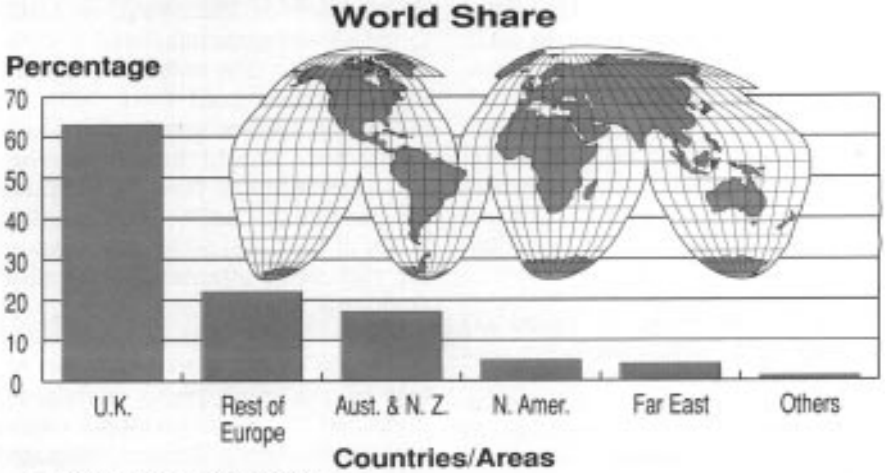
The ISO 9000 is being recognized globally at a time when the world is attuned to the competitive value of product quality and services.

Joining the DEPSECDEF in advocating use of ISO 9000 for DoD acquisition are Lt Gen James A. Fain, Jr., USAF, Commander, Aeronautical Systems Center, and VADM W.C. Bowes, USN, Commander, Naval Air Systems Command. The National Aeronautical and Space Administration (NASA) also has stated they plan to adopt the international quality standards.

The Foundation

Three and a half years ago, I attended the European Organization for Quality (EOQ) 36th Annual Con-

FIGURE 1. ISO 9000 CERTIFICATION



Taken from the February 1994 ISO 9000 news

ference in Dublin, Ireland. The major theme was training and certification of quality engineers, quality auditors and quality lead-auditors. It was this group of specialists who were to prepare Europe for 1992 and the European Community (EC). The EOQ priorities were as follows:

— Harmonizing the 19 different quality standards of the EC countries into the single ISO 9000 series of quality standards.

— Educating and training quality specialists (quality engineers and auditors were first priority).

— Certifying* industry and business quality systems to ISO 9000.

Moving quickly since the EOQ Conference, more than 55 countries have adopted the international quality standards and more than 45,000 certificates of registration have been issued to companies throughout the world. Figure 1 illustrates the global distribution of registrations.

The ISO 9000 series of standards are designed to be contractual obligations between customers and suppliers. The suppliers are obligated to conduct internal or first-party audits. Second-party audits are conducted by customers, or their representatives, with the supplier. The third-party audit is one conducted by an organization that has been accredited by a worldwide recognized body to audit for compliance to ISO 9000 international quality standards. If the supplier complies, with or without additional corrective actions, registration is granted. In this country, the American Society for Quality Control (ASQC) is the Registration Accreditation Board (RAB) that grants accreditation to conduct third-party certifications. The United States has approximately 27 accredited bodies.

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The International Standards were published in 1987 and the U.S. version, which is technically equivalent, is ANSI/ASQC Q90. The standards development is interesting, as MIL-Q-9858A was quite influential in their development. This military specification has been used since 1959 to define the quality system that DoD contractors should formulate. The MIL-Q-9858A was used as a model for the British Quality Standard BSI 5750; in turn, BSI 5750 was a guide for ISO 9000 international quality standards.

The ISO 9000 refers to a series of five international quality standards published by the International Organization for Standardization. Although ISO 9000-1 and 9004 offer guidance, 9001, 9002 and 9003 are quality system models. The series are:

1. ISO 9000-1. Quality management and quality-assurance standard — guidelines for selection and use.

2. ISO 9001. Model for quality assurance in design, development, production, installation and servicing.

3. ISO 9002. Model for quality assurance in production, installation and servicing.

4. ISO 9003. Model for quality assurance in final inspection and test.

5. ISO 9004-1. Quality management and quality system-elements guidelines.

As can be seen by the title, ISO 9001 has the broadest coverage of the five standards. It addresses management responsibility regarding quality policy, assignment of management and authority, and resources for quality. It also mandates a quality system that comprises quality policy, quality manual and procedures. The ISO 9001 calls for contract review, design review, documentation and control, subcontractor evaluation, inspection and test, calibration and internal audits. Along with some elements not mentioned here, this document establishes the necessary activities and the interactions for an acceptable quality assurance organization.

What's Ahead?

Although the prime contractual vehicle DoD has used for more than 35 years, MIL-Q-9858A has many of the elements of the ISO 9000 International Quality Standards — specifically, ISO 9001 — it has not been used effectively. Most often, it is interpreted as a military specification that requires contractor and government inspections and periodic scrap and rework reports, and not a document that requires a contractor to implement an effective, quality-assurance system.

* More appropriately, this should say "Registering." When either term is used it should be prefaced by "Quality System." For compliance with ISO 9000, this process involves periodic audits of a supplier's quality system by a third party — a registrar.

The ISO 9000 is being recognized globally at a time when the world is attuned to the competitive value of product quality and services. This fact, along with the TQM focus by DoD for the last five years, will result in a truer, more complete interpretation of the ISO Quality Standards. This interpretation, therefore, will foster contractor implementation of all elements of a quality system with mandated internal audits and second-party audit by the customer (the government).

The DoD now has an opportunity to streamline further the quality-assurance activities with their contractors. With Defense Contracting Management Command's (DCMC's) emphasis on cooperation, process management, and utilization of contractor quality data, ISO 9000 will be a powerful tool for furtherance of these concepts. If DCMC continues to transition to this mode, the following actions must be taken at all levels:

— Training on ISO International Quality Standards and associated documents

— Training in conducting quality assurance (QA) system audits

— Recognizing that a contractor with a compliant ISO Quality System goes a long way toward ensuring product quality and service

— Future recognition of a supplier's third-party registration, if conducted by an accredited body.

This is not to say that a compliant quality systems guarantees a good product, only that this is a minimum requirement for ensuring product quality. We know the other elements of quality in design and manufacturing must be practiced to achieve world-class quality.

If the steps above are implemented, DCMC will become primarily a QA system assessment agency not an inspection agency.

Using commercial and international standards and specifications to procure some elements of our weapon systems is the direction of the future.

In January 1994, a set of guidelines for implementing ISO 9000, "Guidance on the Application of ISO9000/ASQC Q90 Series Quality Systems Standards." was published in MIL-HDBK-9000, NASA-HDBK-9000. Without proper education and training on the concepts and philosophies of the elements and responsibilities indicated in ISO 9000 quality system, it is possible that many program managers and contract administrators will utilize all the supplements afforded in this guidance document and we will revert to "the government must inspect" mentality practiced with MIL-Q-9858A.

Certainly, some products and programs may require military specification supplements; but, there are many more programs where a compliant QA system will ensure product quality.

The real challenge is to distinguish between programs that can be managed by assessment of the ISO 9000 quality system and those that require additional military specifications and oversight. The Dod must be able to know the difference.

DoD Goes Commercial and International

The other DoD challenge is the major thrust to use Non-Developmental Items (NDIs) for our weapon systems. In his remarks to the National Contract Management Association, November 18, 1993, Dr. William J. Perry, now Secretary of Defense, mentioned the United States cannot afford two industrial bases — one for defense and the other for commercial. He also pointed out that advances in technology and productivity in the past 20 years in the commercial sector are too important to ignore.

Dr. Perry has been "beating the drum" for months, recommending DoD use of commercial specifications wherever possible. The ISO 9000 international quality standard used for DoD acquisition is a major step in this direction.

Recently, I have seen three RFPs for electronic equipment where military standards and specifications were listed along with a statement allowing for the use of commercial off-the-shelf components, as long as performance requirements are met. The electronics industry is one where commercial technology and reliability are conducive for many military applications. Some commercial plastic encapsulated circuits exhibit reliability measures equal to some military hermetically-sealed circuits.

Using commercial and international standards and specifications to procure some elements of our weapon systems is the direction of the future. Again, this must be done with knowledge and with the user in mind. Doing away with the 16-page specification for a ballpoint pen is long overdue. But, let us not move so quickly that we eliminate some military specifications and standards that have become industry standards. Let us continue to deal more with quality systems and cost-effective commercial products whenever performance and reliability is not compromised.