

WHAT IS THE ROLE OF A PROJECT OR PROGRAM MANAGER IN IMPLEMENTING AND MAINTAINING A QUALITY ASSURANCE PROGRAM?

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ABSTRACT

The task of managing a government-funded program has changed significantly from the days when a program manager managed the funds and depended on reports from a contractor to measure the program's progress. Today's manager of a waste management program must be personally involved in every aspect of the program. The successful manager of a waste management program will lead the development of management controls to ensure successful accomplishment of project objectives. This paper describes the responsibilities of the project manager, the quality assurance staff and how they interface to develop and implement a quality assurance program for a waste management program.

INTRODUCTION

The manager of a waste management project today must be technically competent and must fully comprehend the laws and regulations which govern the handling, transportation and disposal of waste. Given this technical and regulatory knowledge, the project manager is challenged with the task of planning and directing a project that will not only protect the health and safety of workers and the public but will provide tangible evidence that worker and public safety was, is and will be protected. Sometimes, the evidence will not be reviewed by concerned parties for months or years after its generation. One can also expect that those working on a waste management project, including the project manager, will not be on the project from start to finish. This emphasizes the need for a carefully planned and executed project that is focused on the objectives the project must accomplish, only one of which is to provide tangible evidence that the safety and health of the public is protected. It is paramount that the manager of a waste management project lead the development and implementation of disciplined and integrated management controls, be an active participant in measuring the effectiveness of those controls, and direct immediate changes where detected anomalies dictate the need for change. It is those well planned, integrated management controls with disciplined implementation that we call the quality assurance program.

TERMS DEFINED

I intend to discuss the roles of the Project Manager and the Quality Assurance Manager and their interfaces during the development and implementation of a quality assurance program. Experience has taught me that I must spend the time to define what I mean by quality assurance and quality assurance program so that the reader can understand my perceptions and my logic as I describe the roles and responsibilities.

I am firm believer that we could all benefit if we changed the title of Quality Assurance Manager to something like "Manager of Management Policies, Systems and Procedures" and changed the term "Quality Assurance Program Plan" (for a low-level facility) to "Organizational Structure and Responsibility Assignments to Construct and

Operate a Low-Level Waste Facility to Meet 10 CFR 61 Requirements (or DOE Order 5820.2A for DOE Projects).

The term "quality" is not easily defined, and consequently, we have an inherent potential of misunderstanding in our communications when we use terms such as:

- quality assurance program
- high quality
- quality assurance activities
- quality-affecting activities
- quality-related activities
- levels of quality
- quality assurance records
- quality assurance audits
- conditions adverse to quality
- quality assuring
- quality achieving
- quality standards

The documents we all use to obtain quality assurance requirements, NQA-1,(1) Appendix B of 10 CFR 50(2), DOE Order 5700.6B(3), 10 CFR 60(4), 10 CFR 61(5), 10 CFR 71(6), and 10 CFR 72(7) do not define quality, but they use most of the phrases listed above.

David Garvin, in his book entitled "Managing Quality,"(8) devoted three chapters to the varying concepts and definitions of the term "quality." He concluded that quality can be characterized in at least eight dimensions or categories. They are:

- Service ability Features
- Performance Conformance
- Reliability Aesthetics
- Durability Perceived quality

It is highly probable that when a project manager and quality assurance manager are using terms such as "levels of quality" and "quality-related activities" in a discussion, they are not thinking of the same dimension of quality, and consequently, they are not communicating effectively.

For a definition of quality assurance, I use the definition that appears in Appendix B of 10 CFR 50. It also appears in DOE Order 5700.6B, 10 CFR 60 and 10 CFR 71 but not in 10 CFR 61 or 10 CFR 72. "Quality Assurance comprises

all those planned and systematic activities necessary to provide adequate confidence that a structure, system or component will perform satisfactorily in service. Quality Assurance includes quality control." Experience has also taught me that some quality assurance professionals interpret this definition to mean the planned and systematic activities of only those working in the quality assurance organization. When I use the term "all those planned and systematic activities....," I include all parts of the project organization having responsibilities to meet project objectives.

In a paper presented at the DOE Model Conference in Oak Ridge last year entitled "Developing and Implementing the Right Quality Assurance Program for Waste Management Projects," (9) I described in detail a management control system to define what I mean by quality assurance program. I'll summarize that system for my definition of a quality assurance program for a waste management project. A quality assurance program consists of the following:

- Written technical and administrative objectives of the project which are uniformly understood and can be articulated by each member of the project management team.
- An organizational arrangement that is established to accomplish the stated project objectives.
- Written descriptions of the assignment of responsibilities to the organizational entities to accomplish stated project objectives.
- A qualified staff selected and trained to accomplish the project objectives.
- Written policies and procedures specific to the project objectives.
- A disciplined system for planning and implementing work assignments to meet project objectives.
- Independent measurements of the effectiveness of planning, policies, procedures, methods, tooling and training as they relate to meeting project objectives.
- Daily involvement of the management staff in the accomplishment of project objectives, the determination of corrective measures where anomalies are detected and the implementation of improvements to ensure attainment of project objectives.

You will observe that the quality assurance program described is constantly focused on the project's end product and not on implementing a DOE Order or NRC QA requirement. If the focus is on meeting project objectives, a by-product will be meeting DOE, EPA or NRC quality assurance requirements.

The Project Manager is the Real QA Manager

The program or project manager is the single most important person in the determination of whether a program or project will successfully meet established requirements/objectives. If the project manager understands and articulates the project's objectives to project staff and other participants, the first and most important step toward a

successful project has been taken. Conversely, if the project manager does not take steps to establish understanding of the project's objectives and a disciplined approach to planning and work accomplishment, the signal received by the staff and other participants is to complete the tasks however they wish. The quality assurance staff, in its audits and surveillances, can detect the lack of uniform understanding of project objectives, but only the project manager can cause the project staff and participants to implement a planned, disciplined approach to accomplishing project objectives.

The project manager is responsible for the quality of the project's end product. It makes no difference whether the project manager directly controls all the staff to perform the work or whether he or she delegates or contracts the work to others; he or she is still responsible and accountable for the quality of work performed. It is important that the project manager actively participate in the development of the quality assurance program planning and involve all members of his or her management staff. In the event the project manager delegates or contracts work to others, he or she must ensure that the project objectives for which they are responsible are clearly understood by the respective organizations and translated into plans, policies, procedures and work assignments. The project manager may use any or all of his or her staff to measure the effectiveness of project participants' progress towards meeting project objectives. Well planned and independent audits and surveillances of participants' plans, completed work and work in progress can provide "real-time" measures and identify any needed changes to ensure the project's end product quality will be as planned.

The Project Manager's Use of NQA-1 and Other QA Requirements Documents

The project manager should recognize that NQA-1 is a quality assurance requirements document that has been developed by DOE, the nuclear industry and NRC by careful study of lessons learned from experience on nuclear power plants. It will be necessary for the waste management project manager to understand the intent of the eighteen criteria listed in NQA-1, as the wording in some cases is not directed at waste management. The successful waste management project manager will establish the management controls needed to accomplish the project's objectives using NQA-1 criteria as guidance to ensure experience of the past has been considered.

The Project Manager's Use of the Quality Assurance Staff

The project manager is responsible for achieving and assuring quality on his or her waste management project. He or she may assign functions to be performed by the staff and by project participants, but the *ultimate responsibility* for the quality of work rests with the project manager. The quality assurance staff should serve as a resource to the project manager to develop the management control system; coordinate the control system development and implementation with other staff members; measure the effectiveness of the implemented controls; and recommend

changes to correct management system problems and ensure project objectives are accomplished.

The quality assurance staff is free of cost and schedule concerns in the sense that they are not responsible for directing the work such as taking and analyzing samples or emplacing waste in a canister. Their concentration is continually focused on the project objectives and whether the management controls, as designed and implemented, are producing the predetermined results. They are the eyes and ears of the project manager to detect the potential of any problem that could prevent project objectives from being met. It is for that reason that it is best to organize the project with the quality assurance staff reporting directly to the project manager. Placing the resource lower in the organization impedes the communication that is necessary between the quality assurance staff and the project manager. A project manager who understands and accepts responsibility for quality and the assurance of quality will readily see the need for having ready access to the quality assurance staff to assist in designing and implementing the quality assurance program, assist in measuring the effectiveness of the quality assurance program and assist in continuous adjustments to ensure that project objectives are met.

CONCLUSION

The responsibility for achieving and assuring quality on a waste management project rests with the project manager.

The successful manager of a waste management project will ensure that his or her staff, as well as all project participants, fully understand the objectives of the project. The project manager will establish the formal management controls necessary to ensure that work planned to meet project objectives is performed consistent with approved plans, policies and procedures. Plans and procedures will provide for collecting records necessary to provide evidence that project objectives are met.

The project manager is the key person in the organization who influences the success or failure of the project's quality assurance program. The quality assurance staff ser-

ves as the project manager's resource to assist in planning, implementing and maintaining a quality assurance program as a tool to ensure that project objectives are met.

REFERENCES

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