QUALITY MANAGEMENT IN ENVIRONMENTAL PROGRAMS:
LOS ALAMOS NATIONAL LABORATORY'S APPROACH

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SUMMARY

Since its inception in 1943, Los Alamos National Laboratory’s (LANL) primary mission has been nuclear weapons research and development, which involved the use of hazardous and radioactive materials, some of which were disposed of onsite. LANL has established an extensive Environmental Restoration Project (Project) to investigate and remediate those hazardous and radioactive waste disposal sites.

This paper describes LANL’s identification and resolution of critical issues associated with the integration and management of quality in the Project.

KEY WORDS/PHRASES: audits, corrective measures, hazardous waste, radioactive waste, quality integration, remediate

RESOURCE REQUIREMENTS

Critical Issue: How do we effectively staff a complex initiative such as the environmental restoration of a national laboratory and implement an adequate quality program for that initiative in an era of shrinking resources?

Los Alamos’ Environmental Restoration Project is a very complex initiative that requires a diverse staff to implement dozens of separate, unique tasks. Laboratory management knew that in order to accomplish its environmental restoration mission effectively and efficiently, a highly skilled, productive staff (each member having a unique position description and skill set necessary for completing assigned tasks) must be selectively chosen. In addition, quality must be instituted from the outset and woven into the fabric of the Project activities throughout its life span. Our commitment is to achieve superior results that are well documented (i.e., the documentation is accurate, legible, and traceable to the work performed) and that the documentation is easily retrieved. In addition, our results must be defensible in a court of law. A “lean and mean, do the right thing right the first time” philosophy was established by Dr. Julie Canepa (Project Manager) at the very beginning of her tenure.

Dr. Canepa is assigned the difficult task of overall management of the Project. In order to manage the Project effectively and efficiently, she has established a Project Management Plan. This plan describes her management system and assigns a planning and scheduling
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staff to establish and maintain a management control system that prioritizes work activities and tracks schedules and costs.

Dr. Canepa has also established various technical task management positions and assigned to them scientists, engineers, and other technical and support staff who are responsible for the overall technical objectives of the Project. These objectives include the effective formulation, evaluation, implementation, and management of characterization and remediation, in a manner that fully complies with applicable environmental regulations and protects human health and the environment.

The Quality Program Project Leader, Larry Maassen, and three Quality Assurance Liaisons help in accomplishing the Project's quality management and integration goals. These goals are to provide products and services that meet or exceed customer and regulatory quality requirements, to work within the Project's cost and schedule guidelines, and to provide a complete and accurate set of documents that clearly reflect the work accomplished (LANL ER QMP 1997). The quality staff serves as team members and helpmates to the other Project staff instead of in traditional "policing" roles. Their main purpose is to facilitate the integration of quality management methodologies into the Project's daily business operations. Other LANL and regulatory organizations conduct independent quality assurance audits of Project activities.

The Project must perform its work in a manner that protects the health and safety of LANL workers and the public through compliance with all applicable federal, state, and local laws and regulations. The Health and Safety Officer assists with the implementation of the Project's Health and Safety Plan to accomplish this goal.

Other important quality-related staff positions include a Training Coordinator, Document Control Coordinator, Records Coordinator, Data Administrator, and Public Involvement Coordinator.

TRAINING NEEDS

Critical Issue: How do we determine training needs for our staff while ensuring that they receive only the training necessary for performance proficiency without causing unnecessary work delays?

The key in this process was to hire a highly qualified staff member in the position of Training Coordinator. This individual implements a training system that focuses on individual training needs, uses electronic applications for scheduling and conducting training (e.g., databases, computer-based training, and electronic records), and interacts with Project planning and scheduling personnel to schedule training in order to avoid work delays.

INTERACTIONS WITH SPECIAL INTEREST GROUPS

Critical Issue: How do we establish a collaborative relationship with our stakeholders?
Key DOE and Executive Orders have made public involvement a cornerstone for our environmental restoration activities. The goal of public involvement is to foster lasting relationships between the Laboratory and its neighbors based on trust and mutual respect and to foster public understanding of the Laboratory and its national security and science mission.

The Laboratory implements these public involvement initiatives through a formal, documented Public Involvement Plan, a Community Involvement and Outreach Office, a Citizen’s Advisory Board, public information repositories, periodic mailings to disseminate information, community meetings, tours of environmental restoration sites, and public education programs (LANL IWP 1993).

REGULATORY CONSTRAINTS

Critical Issue: How do we comply with the myriad of federal, state, and local regulatory requirements and still maintain an efficient, cost-effective Project?

One key to our success in these areas lies in a very basic principal – “cooperative interactions.” The DOE and LANL interact as equal partners with the New Mexico Environmental Department in defining strategies and to achieve mutually acceptable quality objectives.

Another key to our success is that we view Project regulatory requirements as sound management guidance and integrate them effectively into our management plans and procedures.

CONCLUSION

The principals for successfully managing a national laboratory’s environmental restoration project are the same as for any complex business entity – quality management and integration must begin on the front end. The organizational structure must be defined, job tasks must be well understood, staff must be chosen based on a skills-to-tasks matching. Other important functions such as schedules, costs, training, process improvements, and records management must be planned very early in a project’s life. Methodical planning, if done early, means “doing the right thing right the first time,” and will save scarce time and money throughout the life of a project.

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