

Introduction to Quality Assurance?

Why Do Quality Assurance

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EM *Environmental Management*

safety ❖ performance ❖ cleanup ❖ closure

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Learning Objectives

Upon completion of this module, the student will be able to:

- Understand the kinds of risk faced by the Department of Energy (DOE)
- Understand the relationship of risk to Quality Assurance (QA) program rigor
- Understand how QA reduces risk
- Understand how QA pays off



DOE Risks

- DOE must balance different types of risks in their work.
 - Risk to Workers in executing the work
 - Risk to the Public from facility lifecycle
 - Regulatory risk
 - Financial risk of work stoppages/rework
 - Overall credibility risk in DOE operations



Risk and QA Program Rigor

- QA Programs can have varying degrees of rigor applied to different situations based on the risk profile represented (graded approach)
- The minimum application of a QA program would perform basic functions.
- The maximum application of a QA program would include multiple checks and documentation
- The greater the risk profile, the more rigorous the QA requirements (i.e.; the more assurance that work is performed correctly)



How QA Reduces Risk

- Risk reduction is achieved by a process of verifying some or all aspects of a task
 - Plan or design
 - Materials used
 - Attention to detail during construction
 - Thoroughness of testing
 - Conduct of maintenance and operations
 - Control of spare parts



How QA Reduces Risk continued

- Each check performed along the way increases the confidence that the final product will meet performance expectations when required
- Maintaining the equipment increases confidence that the performance capability is preserved over the life of the operation



QA Pays Off

- Facility designs are well controlled, verified, and documented
- Construction is performed in a controlled manner with components of the proper quality by qualified personnel
- The facility configuration is well defined and available to support operation and maintenance

