Plant Support Engineering

Program Overview

Program Description
The Plant Support Engineering Program performs research to support the long-term, cost-effective operation of the current nuclear fleet, addressing key equipment issues and enhancing the effectiveness of plant engineering programs. Issues addressed include product and vendor quality, cable aging, workforce and skill development, and obsolescence. The program also supports technology transfer through technical assistance programs, training, and workshops.

Industry Needs and Issues Addressed
- Training and workforce skills assessment to safely and reliably operate nuclear power plants
- Management and mitigation options to address cable aging, coating aging, service water system degradation, and other life-limiting issues
- Procurement and product quality standards to maintain high equipment reliability
- Long-term planning tools to guide life-cycle decisions for key components
- Engineering process improvements to more effectively inform and respond to plant, system, and component issues
- Plant thermal performance improvements
- Equipment qualification support
- Aging and obsolescence management

Impact
Reduced costs and increased equipment reliability through the following:
- Enhanced workforce skills
- Definitive cable condition assessment methods
- Enhanced validation of product quality
- Improved long-term planning on key components
- Improved procurement specifications
- Enhanced plant and system performance
- More efficient plant engineering processes

Key Accomplishments
- Long-term planning and replacement guidance for key components
- Workforce skills development and enhancement
- Supplemental workforce skills validation
- Commercial-grade dedication process definition
- Cable aging management guidance and training
- *Thermal Performance Engineer's Handbook*
- Service water guidance and assistance
- *Aging Assessment Field Guide and Training*
- License renewal commitments (industry status, gaps, and guidance)
- Coatings aging management

Current Year Objectives

- *Low-Voltage Cable Aging Management Guide*
- Updated guidance and experience for medium-voltage cable assessment
- Templates and guidance to enhance product quality
- Engineering fundamentals training content
- Long-term planning guidance for specific components
- Concrete aging and assessment update

Industry Involvement

- Estimated 2009 funding: $5.5

Program Technical Lead

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Summary of Projects

Project Number	Project Title	Value
	PSE Equipment Performance, Monitoring and Degradation (Base)	This project supports equipment monitoring and degradation efforts. Efforts included are coatings performance research, cable aging assessments and guidance, and development of tools for plant engineers in monitoring system health.
	PSE Equipment Performance, Monitoring and Degradation (Supplemental)	
	PSE Technical Assistance and Support (Base)	This project supports technology transfer that impacts utility engineering programs. Efforts include the Plant Performance Enhancement Program, Service Water Assistance Program, Nuclear Coatings Council, and support for the Equipment Reliability Working Group/Forum.
	PSE Technical Training and Proficiency (Base)	Provides development of training and proficiency evaluation content. Used for both engineering development and supplemental workforce skill assessment. Configuring both areas for delivery over the Institute of Nuclear Power Operations' (INPO's) NANTeL (National Academy for Nuclear Training E-learning).
	PSE Technical Training and Proficiency (Supplemental)	This project includes the Task Proficiency Evaluation program and specific training classes delivered either on a site-specific basis or as a continuing education class in Charlotte.
	PSE Technical Assistance and Support (Supplemental)	
	PSE Long Term Planning (Base)	This project develops component or system specific guidance to aid in addressing aging and replacement of key components such as transformers, switch gear, feedwater heaters, and other heat exchangers.
	PSE Long Term Planning (Supplemental)	

Project Number	Project Title	Value
	PSE Procurement And Quality Issues (Base)	Provides research and guidance in product quality concerns, quality standards, commercial-grade dedication, equivalency, and coordinated industry efforts such as the Nuclear Energy Institute (NEI) New Plant Quality Assurance (QA) Task force and the Nuclear Procurement Issues Committee. This project also supports operation of the Procurement Technical Assistance Program and the Joint Utility Task Group (JUTG) procurement and quality efforts.
	PSE Strategic Development and Tech Transfer (Base)	Supports overall Plant Support Engineering (PSE) collaborative efforts, communication, and technology transfer. Efforts associated with preparing and executing the advisory meetings, "PSE Newsletter," strategic issue response plan, and technology transfer through member-requested support are included in this project.
	PSE Strategic Development and Tech Transfer (Supplemental)	
	PSE Procurement and Quality Issues (Supplemental)	This project focuses on development of templates, tools, and standards to enhance product procurement. Specific tasks are identified and proposed for this area based upon input from the base portion of the program. The Seismic Qualification Reporting and Testing Standardization Program also resides in this area.
	PSE Engineering Processes (Base)	Provides guidance, standards, and best practice information on key engineering processes, such as design change process, equivalency process, and margin management practices.

Project Descriptions

PSE Equipment Performance, Monitoring and Degradation (Base) (065799)

Issue

Material degradation reduces the inherent design margins in plant equipment. Unanticipated or unaccounted for degradation has led to equipment failures, affecting critical plant functions and representing a major threat to achieving equipment reliability goals. In many cases, aging models and condition monitoring techniques do not exist. When they exist, readily understandable acceptance criteria may not exist. When replacements are necessary, superior materials or components may not have been identified or recognized as acceptable for nuclear service.

Description

This project develops guidance on resolution of generic and specific aging issues, including identification, evaluation, and resolution of equipment and system aging issues. Both theoretical and practical guidance is developed including aging models, data, and acceptance criteria for components and cables; field guides for walkdowns and inspections; and development of condition monitoring techniques. New materials such as plastic piping are evaluated for use in nuclear applications. Information is disseminated through industry meetings such as the Equipment Reliability Forum.

Value

- Avoid in-service failures and potential plant outages through improved detection of component degradation
- Predict remaining life and evaluate the seriousness of equipment degradation through access to aging data, interpretation of that data, and acceptance criteria
- Enhance ability to identify, assess, and manage aging through field guides and aging management guidance
- Assure broad distribution degradation research results and information through meetings such as the Equipment Reliability Forum
- Improve assessment techniques to identify components and materials prone to early aging

How to Apply Results

Because multiple tasks are performed under this project, member applications vary. Field guides and aging management guides are applied directly. In other cases, information is provided in the Equipment Reliability Forum to promote understanding and availability of research results, or incorporated into training courses.

2009 Products

Product Title & Description	Planned Completion Date	Product Type
Concrete Aging Assessment: Update report on concrete aging, focused on better quantification of two key aging inputs (temperature and radiation exposure) and practices employed by other industries in condition monitoring. Additionally, emergent condition monitoring technologies and strategies will be identified.	11/30/2009	Technical Report
EQ Reference Manual Update: Update to original *Equipment Quality (EQ) Reference Manual*, published in the 1990s. Updated version will include new information and equipment insights.	12/31/2009	Technical Report
Medium Voltage Cable Aging Management Guide- Update: This report will provide guidance on evaluating the aging of medium voltage cable, the ability of test methods to identify damage, the ability to predict remaining life, and available replacement types and installation issues.	12/24/2009	Technical Report

PSE Equipment Performance, Monitoring and Degradation (Supplemental) (065795)

Issue

Application experience is often needed to refine guidance provided in basic research projects. Pilot or demonstration projects enable the guidance contained in the basic research to be tested, validated, and refined.

Description

This project supports pilot application of developed guidance or guidelines. Pilot offerings vary in scope, size, duration, and importance. Potential pilot applications could include the following:

- Medium voltage cable program development
- Low voltage cable program development
- Concrete condition monitoring
- Application of plastic pipe in key systems

Value
- Validate technical approach with industry peers and experts
- Support regulatory commitments often associated with license renewal
- Improve understanding of conditions and aging in key plant systems
- Provide technical leadership development in a specific application area

How to Apply Results
Application of results is highly dependent upon the project area and needs. Most of the application effort will consist of developing a plant-specific aging management or condition assessment program in a specific area, such as condition assessment, extent of condition determination, mitigating strategies, and repair/replacement strategies.

PSE Technical Assistance and Support (Base) (065797)

Issue
Specific technical issues that have emerged in the nuclear industry warrant broader examination to share operating experience, lessons learned, and to provide venues for technology transfer. Also, for certain issues, further research needs to be identified and conducted.

Description
PSE operates several technical assistance programs to support transfer of research results, address member questions, and provide inputs for additional research in these areas. These specific assistance programs include the following:

- Service Water Assistance Program (provides support on service water issues)
- Equipment Qualification Assistance Program (addresses EQ related questions)
- Plant Performance Enhancement Program (shares insights to improve plant output)
- Nuclear Coatings Council (supports guidance and ongoing issues with nuclear coatings)
- Equipment Reliability Forum (provides insight on industry equipment reliability issues)

Several supplemental funded activities provide additional coverage of highly focused issues, including the Cable User Group, Heat Exchanger User Group, and Equipment Qualification Management System User Group.

Value
- Reduce operations and maintenance costs by optimizing programs associated with mitigating corrosion and fouling in service water systems
- Reduce operations and maintenance costs by streamlining equipment qualification record keeping and collaborative sharing of equipment qualification records
- Increase plant output by providing tools and insights into MWe losses
- Reduce operations and maintenance costs and increase safety by understanding critical attributes of coatings failures
- Reduce operations and maintenance costs through proper application of cable condition assessment methods

How to Apply Results
Members factor lessons learned and technology transfer into plant operational guidance and procedures. Members also evaluate and revise inspection and assessment practices based on project activities.

2009 Products

Product Title & Description	Planned Completion Date	Product Type
Service Water Assistance Program: Continued operation of the service water assistance program to enhance workforce skills and knowledge and aid in technology transfer	12/31/2009	Technical Resource
Equipment Qualification Assistance Program: Continued operation of the equipment qualification assistance program to enhance workforce skills and knowledge and aid in technology transfer	12/31/2009	Technical Resource
Plant Performance Enhancement Program: Continued operation of the plant performance enhancement program to enhance workforce skills and knowledge and aid in technology transfer	12/31/2009	Technical Resource
Nuclear Coatings Council: Continued operation of the equipment qualification assistance program to enhance workforce skills and knowledge and aid in technology transfer	12/31/2009	Technical Resource
Equipment Reliability Forum: The Equipment Reliability Forum enables members to share insights, technology, lessons learned, and experiences in managing equipment reliability. The forum addresses both component- and process-focused technology and experience. Additionally, the last day of the conference is devoted to supporting the ER Working Group, which is jointly sponsored by the Electric Power Research Institute (EPRI) and the Institute of Nuclear Power Operations.	12/31/2009	Technical Resource

Future Year Products

Product Title & Description	Planned Completion Date	Product Type
Service Water Assistance Program	2010	Technical Resource
Equipment Qualification Assistance Program	2010	Technical Resource
Plant Performance Enhancement Program	2010	Technical Resource
Nuclear Coatings Council	2010	Technical Resource
Cable Users Group	2010	Technical Resource
Heat Exchanger Users Group	2010	Technical Resource
Equipment Qualification Management System Users Group	2010	Technical Resource

PSE Technical Training and Proficiency (Base) (059574)

Issue

Turnover of nuclear plant technical staff will be significant in the next five to ten years. During the same time frame, nuclear utilities will be training personnel to support construction and operation of new nuclear plants. Pressures to reduce operations and maintenance costs often result in reductions in training budgets. In this environment, nuclear plants need cost-effective ways to develop and deliver high-quality, effective training.

Description

Computer-based training methods are attractive to younger staff entering the workforce. This project develops content to orient new engineering workers to the issues specific to the nuclear plant environment.

- Web-based modules are being developed for engineering fundamentals orientation training to address nine technical topics. Although 2009 represents the last year of this effort, discussions have begun regarding additional content.
- The engineering fundamentals orientation modules also are being delivered over the Institute of Nuclear Power Operations' National Academy for Nuclear Training e-Learning (NANTeL). An earlier module is being revised for delivery through NANTeL.
- This project area also contributes to the development of Task Proficiency Evaluation (TPE) tests to assess worker skills and qualifications for performing specific tasks. Development, adjustment, and formatting are required to transfer this activity from the supplemental efforts in TPE to the base funded, NANTeL delivery.

Value

- Enable individual training without the logistical and resource concerns associated with classroom training
- Address training needs associated with new nuclear plants as well as those at existing nuclear power plants
- Through the Task Proficiency Evaluation Program, makes it easier to share industry workers among participating sites and validate worker skills prior to plant use

How to Apply Results

Results from this project can be applied in company- or plant-specific training and evaluation programs. Additionally, EPRI has collaborated with the Institute of Nuclear Power Operations to make the Fundamentals Training and selected Task Proficiency Evaluations available through INPO's National Academy for Nuclear Training e-Learning (NANTeL) project.

2009 Products

Product Title & Description	Planned Completion Date	Product Type
Engineering Fundamentals Orientation Training Modules: Continued development of Fundamentals/Orientation Training content for new power plant engineers. These training modules are used primarily to orient newly recruited engineers to the engineering and interface issues in nuclear plant environments.	12/18/2009	Software
Task Proficiency Evaluation s: Selected Task Proficiency Evaluations (TPEs) from the supplemental Task Proficiency Evaluation Program are available to EPRI members through INPO's NANTeL project.	12/18/2009	Technical Resource

Future Year Products

Product Title & Description	Planned Completion Date	Product Type
Engineering Technical Training Modules (ETTMs)	2010	Technical Resource
Training Courses	2010	Technical Resource

PSE Technical Training and Proficiency (Supplemental) (059074)

Issue

Turnover of nuclear plant technical staff will be significant in the next five to ten years. During the same time frame, nuclear utilities will be training personnel to support construction and operation of new nuclear plants. Pressures to reduce operations and maintenance costs often result in reductions in training budgets. In this environment, nuclear plants need cost-effective ways to develop and deliver high-quality, effective training.

Sharing maintenance and technical workers between nuclear sites has become much more common. A process for assessing, registering, and tracking worker competency is needed to support this trend.

Description

Two specific supplemental projects are available in this area: individual training course offerings and the Task Proficiency Evaluation Project. Individual training offerings focus on specific technical areas, ranging from procurement, to equipment qualification, to heat exchanger testing and performance. The Task Proficiency Evaluation Program consists of task specific tests, both written and performance, that can be given to workers to assess their readiness and skills to perform specific work in the plant, such as lifting and rigging, valve maintenance, and scaffolding erection.

Value

- Enhance discipline-specific engineering skills
- Supplement plant training with focused discipline-/issue-specific training
- Permit sharing of workers, particularly supplemental workers, in task-specific areas
- Aid in determining actual training requirements for supplemental workers

How to Apply Results

Members can access training modules for staff refresher training or orientation of new engineers. The Task Proficiency Evaluations are obtained directly from EPRI and integrated into plant training and qualification programs. Some member effort is required to evaluate the TPEs and align with actual utility tasks.

2009 Products

Product Title & Description	Planned Completion Date	Product Type
Conversion of 3-4 ETTMs to Web based format: Conversion of 3-4 Engineering Technical Training Modules to web-based format.	12/31/2009	Software

Product Title & Description	Planned Completion Date	Product Type
Task Proficiency Evaluation Project: The TPE Project creates tests for specific craft tasks to evaluate skills and training requirements for craft or supplemental workers. Tests consist of both knowledge (written) and skills (performance demonstration) tests. This project develops task-specific analysis and objectives followed by test development. A working group approach is used to develop the plan.	12/31/2009	Technical Resource
Training Course: Provides specific technical training classes either for multiple companies (by offering classes in Charlotte) or client-specific offerings (offered at member sites). Topics include equipment qualification training, cable aging, heat exchanger testing, nuclear coatings, service water system performance, and procurement.	12/31/2009	Technical Resource

PSE Technical Assistance and Support (Supplemental) (065797)

Issue
Specific technical issues that have emerged in the nuclear industry warrant broader examination to share operating experience, lessons learned, and to provide venues for technology transfer. Also, for certain issues, further research needs to be identified and conducted.

Description
PSE operates several technical assistance programs to support transfer of research results, address member questions, and provide inputs for additional research in these areas. These specific assistance programs include the following:

- Heat Exchanger Performance User Group (HxPUG)
- Equipment Qualification Management Software User Group
- Cable User Group

Value
- Develop methods and test protocols and processes for validating heat exchanger performance. More accurate testing provides key insights on system performance and margins.
- Reduce operations and maintenance costs by streamlining equipment qualification record keeping and collaborative sharing of equipment qualification records.
- Reduce operations and maintenance costs through proper application of cable condition assessment methods.
- Provide a forum for sharing field experience.

How to Apply Results
Members apply the results from this project through insights gained from attending user group meetings; installing and applying relevant software (Equipment Qualification Management Software, EQMS); or applying deliverable information to testing procedure and protocols.

2009 Products

Product Title & Description	Planned Completion Date	Product Type
Operation of EQMS Users Group: Project provides support for the EQMS User Group, including sharing of utility experience, handling of emergent equipment quality issues, and maintaining/updating the EQMS software.	12/31/2009	Software
Cable Users Group: Provides forum for discussion of both medium voltage and low voltage cable assessment and aging issues. The program also supports limited regulatory issue resolution and data analysis, such as with the Generic Letter 2007-01.	12/31/2009	Technical Resource
Heat Exchanger Performance Users Group: The Heat Exchanger Performance User Group provides the latest insight and methods to ascertain heat exchanger performance. The user group assesses alternate test methods and technologies and develops additional guidance where necessary.	12/31/2009	Technical Resource

PSE Long Term Planning (Base) (052462)

Issue
Nuclear plants contain many large, expensive, long-lived components that may or may not provide satisfactory service through the end of the plant's operating life. The ability to determine if and when these components need refurbishment or replacement is critical to long-term operation. Methods are needed for identifying end-of-life conditions and selecting the best alternative with regard to continued use, refurbishment, or replacement. Information is needed on end-of-life failure mechanisms, applicable monitoring information, industry failure experience, and logistics of refurbishment and replacement are needed.

Description
This project develops tools and information to support long-term and contingency planning related to long-lived system and component end-of-life, and to eliminate or mitigate the effects of failure. Products include long-term plans (sourcebooks) for key components and reports identifying end of expected life, related monitoring, and logistics issues (end-of-expected-life reports).

Value
- Methodology for developing long-term plans and choosing alternatives
- Information needed to develop long-term plans for critical components
- End-of-expected-life estimates, monitoring information, and logistics

How to Apply Results
Members will use the reports to determine when long-term planning should be started; to obtain industry operating experience on state-of-the-art maintenance and condition monitoring approaches; and to determine how to select the best life-cycle management plan.

2009 Products

Product Title & Description	Planned Completion Date	Product Type
2 Additional End of Life Guides or Sourcebooks: Reports will be generated for two components in 2009, identifying end-of-life failure mechanisms, the point at which end of life is expected to occur, applicable condition monitoring techniques, and considerations related to replacement and refurbishment.	12/23/2009	Technical Report

Future Year Products

Product Title & Description	Planned Completion Date	Product Type
2 Additional End of Life Guides or Sourcebooks: Reports will be generated for two components in 2010, identifying end-of-life failure mechanisms, the point at which end of life is expected to occur, applicable condition monitoring techniques, and considerations related to replacement and refurbishment.	2010	Technical Report

PSE Procurement And Quality Issues (Base) (065801)

Issue

Product quality issues have negatively impacted plant reliability and costs for replacement items. Causes of poor product quality include loss of vendor expertise, lack of vendor understanding, and poor specification development. Additional focus and guidance are needed to better understand the root causes of poor product quality and needed actions to improve quality, particularly for hardware and hardware refurbishments. Guidance and sharing of experiences also is needed to more effectively use the supply chain and procurement engineering functions at nuclear power plants. Finally, as plants age, additional emphasis is needed on developing collaborative solutions to obsolescence.

Description

This project consists of three principle elements: 1) continuing support of utility forums for sharing procurement-related concerns and experience through the Joint Utility Task Group (JUTG) and the Nuclear Supply Chain Strategic Leadership Council (NSCSL); 2) research on the root cause and corrective actions to enhance vendor quality, with possible spin-off projects addressing common procurement specifications, source surveillance templates, and guidance on detecting fraudulent and counterfeit items; and 3) support of an industrywide approach to prioritization and management of obsolete items, including a pilot project to demonstrate methods being developed.

Value

- Reduce procurement-related costs for components
- Improve equipment reliability and performance through better understanding and improvement of product quality
- Reduce procurement costs through application of commercial-grade dedication processes
- Access to cost-effective, collaborative solutions to parts obsolescence

How to Apply Results

Members use project information to enhance procurement programs, develop improved supplier partnerships, improve specification development, and solve obsolescence issues. Members also gain insights into needed engineering process changes (such as equivalency versus design change).

2009 Products

Product Title & Description	Planned Completion Date	Product Type
Operation of Procurement Technical Assistance Program: Continued operation of the Procurement Assistance programs to provide support for resolving emergent quality issues.	12/31/2009	Technical Resource
Product Quality Related Deliverable: Continuing efforts in the product quality arena will result in a report or methods to improve member or vendor actions and specifications for commonly procured items.	12/31/2009	Technical Report
Obsolescence Related Deliverable: Collaborative demonstration or additional obsolescence guidance to aid in prioritization. [Scope of product still being finalized.]	12/31/2009	

Future Year Products

Product Title & Description	Planned Completion Date	Product Type
Operation of Procurement Technical Assistance Program	2010	Technical Resource
Operation of the SQURTS Program	2010	Technical Resource
Product Quality or Obsolescence Related Report	2010	Technical Report

PSE Strategic Development and Tech Transfer (Base) (065803)

Issue

Coordination, collaboration, and integration of numerous activities are required to ensure the overall Plant Support Engineering Program is addressing priority issues impacting near-term and longer-term plant reliability. Through strategic input and sharing of industry experience, members advise EPRI on targeting research toward the most important plant or fleet needs.

Description

PSE hosts two advisory meetings each year to solicit input and direction from its advisors on key research topics and issues. A number of multiyear technical initiatives are developed, refined, and presented to advisors, along with a planned scope of work.

Value

- Facilitate strategic development of program research around key industry issues such as inaccessible cable aging management, long-term planning for key components, product quality, and workforce skill development and training
- Drive improvement in plant reliability as plants and the supporting workforce ages
- Shape execution of needed research

How to Apply Results
Members apply results from this project through active engagement with the Plant Support Engineering Program. Input and advice result in better alignment of research activities with nuclear plant needs, in formats that can be readily incorporated into long-term planning activities.

2009 Products

Product Title & Description	Planned Completion Date	Product Type
PSE Subcommittee Meeting and Program Planning: Continued integration and management of the PSE program to ensure key engineering issues are addressed. Efforts will include continued support on key industry issues, management and coordination of engineering resources, and execution of advisory meetings and target technology transfer for domestic and international members.	12/31/2009	Technical Resource

Future Year Products

Product Title & Description	Planned Completion Date	Product Type
PSE Subcommittee Meeting and Program Planning: Similar in scope and scale to 2009 products	2010	Technical Resource

PSE Strategic Development and Tech Transfer (Supplemental) (065796)

Issue
Nuclear plants often need application guidance or technical support for newly developed products and emergent issues. PSE provides field support to assist members in addressing such issues. This support also provides substantive feedback into the research and development program, informing ongoing work and in initiating new projects.

Description
Two support options are available. Member-requested support is provided in one-week increments, and is typically associated with an emergent issue requiring rapid assessment of a field condition and review against ongoing research. Cable aging assessment support, for example, has been provided on this basis.

Equipment reliability implementation support normally requires longer periods of time (three or more weeks) to assess existing processes in light of industry trends and guidance or to provide independent input on equipment reliability process changes in development.

Value
- Provide focused research result application at a member site to enhance equipment reliability, troubleshoot existing issues, or enhance workforce skills
- Provide direct review and assessment of member equipment reliability efforts, integrating information contained in numerous EPRI guidance documents with experience in assisting other member implementation efforts

How to Apply Results

For member-requested support, members target specific EPRI results and skill sets to a particular issue, such as training that supports workforce skill enhancement. For ER implementation support, members typically incorporate site-specific application guidance into ER processes.

2009 Products

Product Title & Description	Planned Completion Date	Product Type
Member Requested Support: Support provided to members on a key technical issue, typically on-site at member facility	12/31/2009	Technical Resource
Equipment Reliability Implementation Support: Support in the application of EPRI results or assessment of member processes and procedures	12/31/2009	Technical Resource

PSE Procurement and Quality Issues (Supplemental) (065798)

Issue

Product quality, obsolescence, and commercial-grade dedication management represent ongoing plant issues. In some cases, collaborative projects provide the most cost-effective solution to addressing the issue or supporting component-specific evaluation.

Description

PSE offers two supplemental activities to address procurement and quality issues. The first involves the Seismic Qualification Reporting and Testing Standardization project (SQURTS). SQURTS provides access to a shake table to test components for nuclear application using a bounding seismic spectra that encompasses all plants. The project shares results with all members and provides access to a library of about 2000 items.

The second activity supports collaborative solutions to obsolescence issues. A pilot project is envisioned for 2009; the scope of work is being developed.

Value

- Provide significant leverage to evaluate specific quality and obsolescence issues
- Reduce component qualification expenses through collaborative testing and reporting
- Enhance insight into the application of a specific product by sharing experience and results

How to Apply Results

Results from these collaborative activities can be shared among members. Specific results can then be used to determine the acceptability of a component or obsolescence solution in an individual plant. Additionally, the test results can be used to support equivalency or similarity evaluations in the plant when components need to be changed out.

2009 Products

Product Title & Description	Planned Completion Date	Product Type
Operation of the SQURTS Program: Supports testing and sharing of test results from seismic tests. Normally, eight test sessions are scheduled each year, with test data from more than 100 items shared among members and added to the testing library.	12/31/2009	Technical Resource
Collaborative Obsolescence Pilot: A project to demonstrate industry prioritization and collaboration around an obsolescence issue is being developed as part of 2008 base funding. The supplemental portion will identify existing or emergent obsolescence issues and collaborate to determine a solution or range of solutions.	12/31/2009	Technical Resource

PSE Engineering Processes (Base) (052471)

Issue
Improved engineering processes are needed at nuclear power plants to ensure efforts are commensurate with and properly focused on plant needs. Developing guidance, benchmarking, and good practice recommendations is important in refining these processes and helping plants improve performance.

Description
This project supports EPRI benchmarking to evaluate targeted processes at selected plants and identify best practices, lessons learned, and the need for additional industry guidance. Recent examples where EPRI has or is providing guidance include optimization of the engineering change process and equivalency versus design change guidance.

Value
- Optimize engineering costs by identification and dissemination of best process
- Reduce costs through appropriate use and application of limited engineering resources
- Improve effectiveness and standardization in use of engineering resources

How to Apply Results
Members will evaluate best practices and lessons learned to determine how to incorporate this information into their programs to improve effectiveness and performance. If additional guidance is issued, members will need to incorporate enhancements into their programs as appropriate.

2009 Products

Product Title & Description	Planned Completion Date	Product Type
Process Guideline Yet to Be Determined: No specific process guideline deliverable for 2009 has been identified. Possible guidelines include updated guidance on system monitoring and managing mitigating system performance indicators.	12/31/2009	Technical Report