Volume 15, Issue 1

April 2000

Update...

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Special points of interest:

- *URA stays focused on today's industry needs.*
- *Senior level associates help meet resource demands.*
- *Full spectrum of engineering services offered to clients.*
- *We're flexible in a changing business environment.*

Inside this issue:

New Horizons ... *a view from the president's desk*

As electric utilities continue their transition to a competitive arena, a steady flow of mergers, acquisitions, partnering arrangements and changing business focuses is taking place. This has created a challenging environment for both the utility companies themselves as well as their consultants. In response, URA is continuously examining its role during this period to remain competitive, continue to offer quality services and adapt to the changing market place.

One recent innovation has been to supplement our full time staff with senior level associates who have extensive experience and who work on an as needed basis. This has been particularly effective in satisfying the industry's increased demand for "big picture" management consulting and high-level technical assessments. Similarly, we are helping fuel management and nuclear analysis organizations with extensive in-house capabilities find partnering arrangements that make sense in today's climate as they attempt to sell their services to others.

Our services cover the full spectrum of utility activities from scoping evaluations to reload design and safety evaluations. Traditionally, we have helped licensees develop and perform their own independent in-house capabilities in fuel procurement, reload design and operations support. However, with uncertainty looming on the horizon during this era of utility consolidation, we will remain flexible and respond as quickly as possible to our client's changing needs.

A new landscape for electric ulilities

Rodney L. Grow, President

Iberdrola's GIRALDA Methodology ... *some very interesting differences*

Many interesting aspects to in-house reload design, licensing and on-line monitoring have been encountered in the course of performing our current assignment for Iberdrola (a Spanish utility headquartered in Madrid). We are providing consulting services in their effort to obtain generic regulatory approval for their GIRALDA methodology.

There are nine operating reactors in Spain which are owned by four different groups of utility companies. Iberdrola owns Cofrentes (1015 MWe BWR) and has part ownership in others including half ownership of Almaraz 1 and 2 (950 Mwe PWRs). Iberdrola's methodology, GIRALDA, means independent reload management by analysis and licensing of advanced designs. Iberdrola has previously obtained approval from

Iberdrola's GIRALDA Methodology ... *continued from page 1*

GIRALDA, a new way of looking at things.

the CSN (licensing authority) for the application of the GIRALDA methodology to reload 11 of Cofrentes. Cofrentes is currently operating in cycle 12 (reload 11). Iberdrola is currently performing the reload 12 design and licensing analysis.

Iberdrola is seeking generic approval from the CSN for application of the GIRALDA methodology to Cofrentes future reloads. As with several large US licensees, Iberdrola's longer range plans may include a similar effort for their shared PWRs.

What's so interesting about Iberdrola? Iberdrola has performed the in-house steady state, transient and LOCA analysis and SLMCPR determination for reload 11. Iberdrola's fuel management strategy for Cofrentes includes mixed vendor fresh feed fuel (GE12/SVEA96). Iberdrola also has an independent on-line monitoring system (CAPRICORE) which is running in an evaluation mode in parallel with their 3D-MONICORE system. CAPRICORE is also running in a similar mode at the Almaraz PWRs.

Through a series of tasks, URA is providing support to Iberdrola as they proceed to achieve increased capabilities. The URA team, consisting of Rod Grow, Don Lampe and Larry Phillips, through effort in Madrid and at Cofrentes is providing support in key licensing issues, the application of uncertainties, and on-line monitoring. For further information on this project, please contact Rod Grow at 301-294-0866 or rlgrow@urac.com.

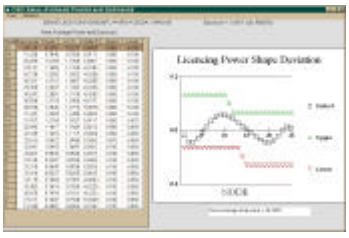
CORETRAN-01 Benchmark experience ... *twelve cycles of good results*

"These benchmark results agreed well with both current analysis methods and plant measurements ..."

EPRI CORETRAN-01 has been benchmarked against NSP's Prairie Island (PI) and Monticello (MN) reactors through twelve cycles of operation. The two PI reactors are Westinghouse two loop units with an asymmetric 14x14 lattice design utilizing up to 8 w/o Gd while MN is a GE 484 bundle BWR. Cross section sets used were generated by EPRI CPM-3, Studsvik CASMO-3 and CASMO-4 to allow for separation of the lattice calculation effect from the nodal simulation method. Cases exercised the depletion – shuffle – depletion sequence through four cycles per unit. Flux map predictions were compared to measurements. Startup physics testing cases were used to predict cycle physics parameters for comparison to existing plant methods and measurements.

These benchmark results agreed well with both current analysis methods and plant measurements indicating that CORETRAN-01 may be appropriate for steady-state physics calculations of both the PI and MN reactors. Additional plant specific validation work will need to be conducted in order to fully assess the adequacy of CORETRAN-01 for use in reload safety evaluations.

What a GUI Mess ... *PG&E takes delivery of CPW version 3.0*



Sample screen from the BWR CPW.

In March, URA delivered version 3.0 of the Core Physics Workstation (CPW) to Pacific Gas & Electric Company. CPW, a Windows95/98/NT graphical user interface, is used to develop alternative loading patterns and to help reactor engineers provide operations support.

Our PWR version performs 3D full core and quarter core simulations using EPRI NODE-P2 while the BWR version performs 3D quarter core calculations with EPRI SIMULATE-E. These analysis codes may be resident on the host Pentium PC, on a UNIX workstation or on a network of PCs and UNIX workstations.

URA will demonstrate CPW during the ANS Physor 2000 meeting in May where the users can run either PWR or BWR samples representing different interfaces to analysis codes such as SIMULATE-3 or CORETRAN-01. For more information about the CPW, contact Kevin O'Sullivan at 301-294-8019 or ko'sullivan@urac.com

Commercial Grade Dedication … *a new approach to software QA*

10 CFR 21 permits dedication for safety use of reactor components not developed under 10 CFR Appendix B. This "back fitting" process per 10 CFR 21 has historically been applied to hardware components, but the process may also apply to computer codes.

Selected quotes from 10 CFR 21.3 follow to provide elements of the dedication process.

21.3 Definitions: (ii) "Basic components are items designed and manufactured under a quality assurance program complying with 10 CFR Part 50, Appendix B, or commercial grade items which have successfully completed the dedication process."

Commercial grade item. (1) When applied to nuclear power plants licensed pursuant to 10 CFR Part 50, commercial grade item means a structure, system, or component, or part thereof that affects its safety function, that was not designed and manufactured as a basic component. Commercial grade items do not include items where the design and manufacturing process require in-process inspections and verifications to ensure that defects or failures to comply are identified and corrected (i.e., one or more critical characteristics of the item cannot be verified).

Critical characteristics. When applied to nuclear power plants licensed pursuant to 10 CFR Part 50, critical characteristics are those important design, material, and performance characteristics of a commercial grade item that, once verified, will provide reasonable assurance that the item will perform its intended safety function.

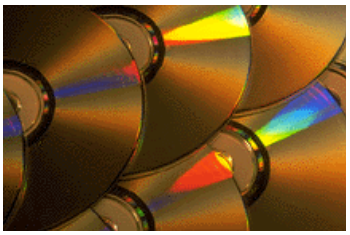
Dedicating entity. When applied to nuclear power plants licensed pursuant to 10 CFR Part 50, dedicating entity means the organization that performs the dedication process. Dedication may be performed by the manufacturer of the item, a third-party dedicating entity, or the licensee itself. The dedicating entity, pursuant to S21.21(c) of this part, is responsible for identifying and evaluating deviations, reporting defects and failures to comply for the dedicated item, and maintaining auditable records of the dedication process.

URA is directly involved in the EPRI formed Design Review and Dedication team to perform a commercial grade dedication per 10 CFR 21.3 for the CORETRAN three-dimensional neutron kinetics and thermal-htdraulics code.

The Design Review and Dedication team will perform its work under an established QA program which meets 10 CFR Appendix B requirements. The team has established critical characteristics, performed a detailed verification of code theory, plans to verify code programming, and will perform a detailed technical review of code validation scope and results.

The experience gained to understand Commercial Grade Dedication requirements and to execute the dedication process for a computer code combined with URA's Quality plan and programs makes URA a unique resource in this approach to back fitting software to safety applications.

For more information, contact Pat Lacy at 301-294-1941 or pslacy@urac.com.



Commercial grade dedication of software.

"Dedication may be performed by the manufacturer of the item, a third-party dedicating entity, or the licensee itself."

Doctor, Doctor Give Me The News … *Dr. Antonio F. Dias joins URA in 1999*

Dr. Antonio F. Dias joined URA in July 1999 following 11 years with S. Levy Incorporated (SLI) of Campbell, California where he worked with the development, testing and use of three-dimensional core simulation tools. Some of these applications involved Reactivity Insertion Accidents (both PWR REA's and BWR CRDA's), Steam Line Break analyses, Boron Dilution events, BWR Instability conditions, and Axial Offset Anomaly studies. During his last five years at SLI he was the project manager for EPRI related projects involved with the use and development of the computer code CORETRAN-01. Other areas of interest are modal analyses for predicting BWR oscillations and fuel behavior during both burn and transient conditions. Prior to his move to California, Antonio spent one year at PSE&G helping with their study of one-dimensional collapsing methodologies used for core simulation tools. Dr. Dias is a 1987 PhD. graduate from MIT where he had Professor Allan Henry as an advisor. He can be reached at 301-294-7816 or afdias@urac.com

New surrounding for Dr. Antonio F. Dias.

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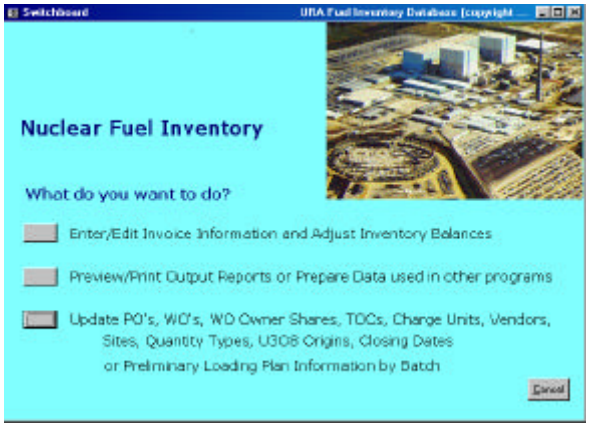
Access For Success … *productivity tools for the real world*

URA has developed three Microsoft Access databases for core management engineers and procurement specialists as well as one for plant personnel who report quarterly performance data to the NRC. Easy to customize, use and maintain, these databases are the solution for any organization that is consolidating data from several diverse sources. In fact, URA will import all of your historical data currently maintained in a spreadsheet or other database format into our product to get you started. Furthermore, because of the familiar Microsoft interface, software training is straight-forward allowing personnel to be assigned as "backups" in these important functions.

One database is for invoice and inventory management, a second is used for preparation of fuel expense forecasts using the summary file created by a 3-D simulator code and the third is used to maintain a history of technical parameters in reload design. A fourth database is used to track Plant Performance Indicators reported quarterly to the NRC. In addition to embedded text and graphical reporting capabilities, there are also click-on links to Excel and Word for additional report preparation and analysis.

These Access databases can be installed as either network or intranet applications and can be converted to SQL 7.0 depending on your needs. Want to try one on for size? URA will send any of these databases to qualified clients for a 90-day trial demonstration. For more information, contact Kevin O'Sullivan at 301-294-8019 or ko'sullivan@urac.com.



Screen shot from Fuel Inventory Database.