

MARACOR Update

Issue No. 19

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Seismic/Flooding Issues

Welcome to the latest issue of Maracor Update. Post-Fukushima flooding and seismic walkdowns are well underway. Walkdown results may indicate that plant changes are needed. Risk-informed solutions may help to achieve needed protection in a more cost-effective manner. Maracor staff can assist in developing least-cost solutions.

MARACOR Technical Services, Inc. provides analytical consulting services and technical software development, primarily for the electric utility industry. For nearly ten years, we have provided high-quality products and services to over one-half of the nuclear power stations in the US, as well as various foreign companies.

Our experienced staff has a proven track record of technical capability, customer service, and on-time product delivery. We provide Probabilistic Safety Assessment (PSA), Configuration Risk Management (CRM), PSA applications, reliability analysis, maintenance optimization, software applications, and cost-benefit analysis services.

Recent Activities

For more information about any of these projects, please see the contact information provided at the end of this newsletter

PSA Enhancement and Applications

Maracor continues to work with Southern Nuclear Operating Company (SNC) to develop a comprehensive seismic PSA model utilizing FRANX and the FRANX Hazard and Fragility Editor for the Vogtle sites. This is one of the first uses of the FRANX tools for seismic PSAs in the US. Maracor and SNC are also providing input/feedback to EPRI regarding the development of the upcoming version of FRANX.

Maracor also assisted SNC in the completion of the License Amendment Request (LAR) to implement Risk-Informed Tech

Spec Initiative 4B for Vogtle 1 & 2. Maracor also supported development of implementing procedures and various supporting calculations for the LAR.

Maracor also developed a data analysis guideline for SNC and provided training in its use.

Maracor is assisting Progress Energy (now part of Duke Energy) in the development of the NFPA-805 LAR for Brunswick, following the completion of the fire PSA.

For Xcel Energy, Maracor is providing continuing support for completion of the Monticello internal events PSA (including internal flooding). For Prairie Island, the internal

flooding PSA, which underwent a highly-successful, focused-scope peer review, was completed to support its NFPA-805 submittal.

Maracor staff is also providing support to Energy Northwest in the evaluation of Multiple Spurious Operation impacts at Columbia Generating Station.

New Plant PSA

Internal events PSA models have been developed for the B&W *mPower*[™] small modular reactor and the APR-1400 reactor being developed by KEPCO Engineering & Construction Company in Korea. Work is now underway on flooding, fire and low power/shutdown PSA models.

Other Projects

For the EPRI Configuration Risk Management Forum, Maracor is currently performing an investigation into the variability of CRM risk thresholds at US plants.

Over the past six months, two additional sets of technical exchange visits were made by Japanese utility staff to US plants to discuss post-Fukushima enhancements and safety culture issues for US & Japanese plants.

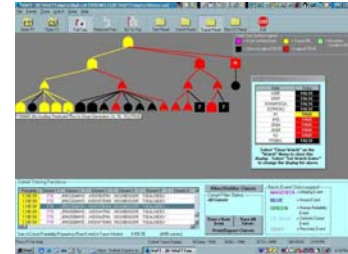
Software Tools

Maracor develops and enhances software tools for PC Windows® desktop & Web-enabled uses. We can also develop custom tools to meet specific needs.

As part of a continuing project with SCE's power delivery group, software is being upgraded to allow analysts to more easily perform detailed reliability projections for the distribution network for up to 20 years into the future. The software works with the industry-standard CYMDIST distribution system analysis software to develop reliability projections, considering aging and proactive replacement of equipment over time.

Other Maracor-developed software tools include our

VisFT™ fault tree diagnostic and **SM-UNCERT™** Uncertainty Analysis programs.



VisFT™ Fault Tree Diagnostics

Please contact us for more information about any of these products, or any plant-specific software development needs you may have.

Please visit our Web Site, www.maracor.com, to obtain additional information about our products and services. On our Web Site, you can also review our most recent news releases and product announcements. Additional copies of **MARACOR Update** (including previous issues) are also available there for downloading.

A New Addition to Our Staff...

We are pleased to announce that Dr. Ross Anderson will be joining our staff in October. Ross retired from Dominion's PSA staff in 2010, and recently was an associate professor of nuclear engineering at Virginia Commonwealth University, teaching PSA, reactor safety and power plant design. Ross also previously served as a Shift Technical Advisor at the North Anna station. Ross brings significant experience in PSA applications and modeling, including MSPI, Maintenance Rule (a)(4) and (a)(1), and low power/shutdown risk evaluations, which will be of benefit to current and future projects.

How to Contact Us

MARACOR operates from three primary office locations, with additional personnel located in Delaware, Michigan, Pennsylvania, Tennessee, Virginia, Washington, and Wisconsin. Please contact the office nearest to you for information about our capabilities and services:

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