

# Accident Management Procedure Maintenance

It has been 41 years since the TMI-2 accident changed the way nuclear power plants maintain accident management procedures. The engineers at Volian Enterprises have been there since day one helping the industry write and maintain EOPs, SAMGs, FSGs, and ARG-based AOPs. With O&M budgets trimmed in response to lower retail energy costs and the call to Deliver the Nuclear Promise (DNP), it is more important than ever that innovative, cost-effective methods are used to maintain the accident management procedures while providing the highest quality procedures for the operator to train and to use in case of an emergency.

Volian would like to be part of the solution for your plant. Our procedure maintenance system, PROMS, was originally developed in 1986 to help the nuclear industry implement two-column EOPs for the first time. Since then, many improvements have been made to PROMS so that all types procedures (both single-column and two-column) can be maintained.

However, Volian is much more than just a software company. Volian's Engineering (Operations Support) department has helped many utilities world-wide implement and maintain all types of accident management procedures. We have helped PWRs in the Ukraine develop EOPs. We helped a Chernobyl-style RBMK nuclear plant in Lithuania develop SAMGs. We even helped a Japanese company develop generic EOPs for their advance reactor design. In the U.S., we have been assisting our clients on all aspects of accident management procedure development and maintenance. In fact, we have worked on EOP-related efforts at over 75% of the domestic Westinghouse designed nuclear sites. We were the lead consultants on the initial development of dual-column, dual-level EOPs at many of these sites. We were also the lead consultants on recent SAMGs upgrades at 9 sites. The Volian team also includes personnel with many years of plant operation experience at Westinghouse designed plants. We closely follow the activities of industry groups, such as the PWROG, to ensure that we keep up to date with industry initiatives.

Volian would like to assist you in the maintenance of your accident management procedures. The exact scope of work can be agreed upon prior to the time the contract is signed. Some of the tasks that Volian could perform include:

- Review operator/training feedback on EOPs and propose a resolution. If the resolution involves a procedure change, Volian could make the draft change to the procedure and, if desired, route the change to the appropriate personnel for their review and approval.
- Review all plant modifications to determine if there is an impact on the EOPs. If there is, then Volian could make the appropriate procedure changes. This could include the impact of plant mods on EOP setpoint calculations.
- Review all of the ERG Rev. 3+ changes made to address PWROG generic Direct Work requests (DWs) to determine the applicability to your plant. Volian has recently completed a similar effort for a Westinghouse-designed, two-loop PWR. For DW items that are applicable to your plant, Volian will propose a draft change to the procedure and, if desired, route the change to the appropriate personnel for their review and approval. Doing this effort prior to the issuance of the next ERG revision allows the plant more time to become fully in compliance with the updated ERG revision.

- In December 2018, the PWROG issued new Abnormal Response Guidelines (ARGs) as part of Rev. 3+. The industry standard is that a plant should incorporate PWROG procedure material within 3 years after issuance. However, due to the method that these new guidelines were issued, the implementation clock will not begin until the PWROG issues Rev. 4. Again, by addressing these issues now, will lessen the impact of the new ERG revision when it is issued.

The above approach could lead to Volian maintaining the EOPs and other Accident Management Procedures (like SAMG, FSGs, etc.) remotely from the Volian office. This has a large cost benefit to the utility as you only pay for the time spent on the EOPs. For example, if a contractor is hired to work on-site, that person invariably ends up working on other non-EOP issues and charges for at least 8 hours per day plus per diem whether or not there is sufficient EOP work for that amount of time. Volian personnel are recognized experts in the accident management procedure area and are a cut-above the typical procedure writer contractor.

Although the majority of the work could be completed off-site, Volian personnel could be on-site for meetings, as needed, to discuss proposed EOP changes with plant personnel.

We believe that this innovative approach to EOP maintenance will provide high quality support at a significant cost savings to the utility as a long term continuous solution to the modern day manpower problem at your plant(s). This approach is admittedly new but we are offering it as opposed to either to hiring a procedure writer contractor who would be full-time at the site or using a highly-trained employee who is usually in high demand and needed on other projects.

If you are interested in having Volian assist on any accident management procedure related efforts, please contact Paul Linn at 724-335-3744 or [PLinn@Volian.com](mailto:PLinn@Volian.com) for more information.