

# **EOP SETPOINT UPGRADE PROJECT**

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# EOP Setpoints Are An Important Component of Your EOP Program

- Setpoints are used in the EOPs as entry, exit, and decision criteria. A sound technical basis for every setpoint value used in the EOPs is a critical step in demonstrating that you have the highest quality procedures.

# Possible Reasons For Needing An EOP Setpoint Upgrade

- Compliance with PGP commitments to “maintain EOPs” can not be demonstrated.
- Setpoint basis not consistent with ERG Rev. 2 Footnote Basis document.
- Setpoint are not fully documented.
- “Stale” references. References may not be available to the plant or the current references are out-of-date.
- Industry instrumentation issues, such as IR effects, and methodology are not addressed.
- Plant specific issues such as plant uprating or other plant mods need to be addressed.
- Internal or external audit findings.
- EOP upgrade project requires additional setpoints.

# How to Determine Scope of Setpoint Effort For EOP Upgrade

- Determine if setpoint document is up-to-date (Engineering support is necessary)
  - Setpoint basis adequately justified and consistent with ERG Rev. 2 Footnote Basis document.
  - References used to determine values fully documented and are valid.
  - Instrument uncertainties calculations consider all uncertainty components related to post-trip and accident conditions.
- Review current EOPs to ensure that all setpoints are documented and justified.

# Scope of EOP Setpoint Projects

## Either:

- Complete EOP Setpoint Project
  - Perform all instrument uncertainty calculations needed for EOP setpoints
  - Calculate all setpoints used in the EOPs
    - WOG Based Setpoints
    - ERG “generic” values
    - Plant Specific Setpoints
    - WOG Based ARG Setpoint Calculations (optional)
- OR -
- EOP Setpoints Only
  - Use instrument uncertainty calculations provided by the plant.
  - Calculate all setpoints used in the EOPs as in Option 1.

# Why Have Volian Enterprises Do Your Setpoint Calculations?

- Experience
  - Volian personnel each have over 20 years experience on setpoints.
  - Largest supplier of ERG-based EOP setpoint support.
- Expertise
  - Volian engineers were integral in the initial development of the WOG symptom-based EOPs.
  - Volian helped write the original version of ISA 56.04 used to develop instrument uncertainties. Our methodology is consistent with the latest version of ISA 56.04.
- Value
  - 3 to 10 times less expensive than NSSS vendor.

# RECENT ERG REV. 2 ACTIVITIES

- Completed the first ERG Rev. 2 setpoint upgrade (including instrument uncertainty calculations) for Callaway NPP. (2004-2005)
- Performed an ERG Rev. 2 setpoint upgrade for Kewaunee. (2005-2006)
- Complete EOP Setpoint Upgrade (including instrument uncertainty calculations) for Vogtle NPP. (2007)
- Review of South Texas EOP Setpoints for consistency with ERG Rev. 2 methodology. (2008)
- EOP Setpoint Upgrade for Prairie Island. (2008)
- Maintenance of R.E. Ginna EOP Setpoints. (On-going)
- Complete EOP Setpoint Upgrade (including instrument uncertainty calculations to support Turkey Point EOP upgrade project (On-going)

## List Of Some Of The Plants Where Volian Supported the Calculation Of EOP Setpoints

Vogle	Prairie Island
Callaway	South Texas
Wolf Creek	Zion
Indian Point 2 and 3	DC Cook
H.B. Robinson	Point Beach
RE Ginna	Kewaunee
North Anna	VC Summer (AOPs)
Surry	



# Project Requirements

- Defined QA requirements (Volian or Plant's QA plan)
- An engineering contact is required.
- Remote access to plant and Utility network for Volian to collect electronic reference material.
- Access to lead EOP writer.

# Project Deliverables

- EOP Setpoint Basis Document
  - Volume 1: Instrument Uncertainties (Approximately 400 pages)
  - Volume 2: EOP Setpoint Basis (Approximately 600 pages)
- All Volian calculation notes (and supporting EXCEL spreadsheets)
- All setpoint information loaded into VE-PROMS for EOP writer's use and to link to procedure text.

## For More Information:

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