COURSE DESCRIPTION

Crane Nuclear offers to provide the services as described in this Technical Description subject to the pricing, terms and conditions delineated in the Commercial Description.

VOTES® Infinity Motor-Operated Valve Advanced Signature Analysis

Standard Class Size:	8 Students per Instructor
Course Duration:	4 days
Prerequisite:	Crane Nuclear MOV Data Acquisition and Basic Analysis training course
Supplied Materials:	A training manual for each student
Suggested Training Aides:	Three computers with Crane Nuclear Signature Software installed
Suggested Attendees:	Personnel responsible for evaluating test data and verifying the MOV is operating within the established acceptance criteria.
Course Description:	This course will provide students with instruction in the signature analysis of the Crane Nuclear VOTES Infinity System data. The signature analysis techniques will include: review of basic analysis, advanced analysis tools and techniques, critical MOV parameters, actuator/valve degradations, and identifying the components of differential pressure tests. The students will also be led through report generating for MOVs and instructed in industry standard sizing equations

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Course Terminal Objectives:

Each student will be required to pass a written test with a minimum score of 80% in order to successfully complete this course. Upon successful completion of this training course, the student will:

- Demonstrate manual analysis and VOTES Infinity Auto Marking capability.
- Demonstrate a working knowledge of all of the special analysis tools available in VOTES Infinity.
- Understand the traces that are automatically calculated by the software and the methods used in their calculation.
- Perform analysis of differential pressure traces.
- Identify various degradations in MOV traces and corresponding actions to correct.

Course Enabling Objectives:

After completing this course, the student will:

- Perform a basic signature analysis and automatic trace marking on a set of MOV data traces.
- Identify and understand the following special tools: measurement types, stem materials, actuator manufactures and models, editing and creating reports, math items, criteria, test descriptions, user settings, baseline and trending.
- Identify the special characteristics of traces acquired under differential pressure conditions.
- Identify various degradations that may be seen on data traces and means of correcting the problem.

Course Benefits:

- Increase the plant's self-sufficiency in MOV diagnostic testing.
- Increase the reliability of the plant's MOVs.
- Reduce the plant's cost of MOV diagnostic testing.