

## ***Technical Description***

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

### ***MOV Frequency Domain Analysis Training Course***

<b>Standard Class Size:</b>	6 Students per Instructor
<b>Maximum Class Size:</b>	6 Students
<b>Course Duration:</b>	3 days
<b>Prerequisite:</b>	UDS Data Acquisition Training Course or the stand alone MC <sup>2</sup> System Data Acquisition and Analysis Training Course, and a working knowledge of Limatorque actuators
<b>Supplied Materials:</b>	Training manual for each student
<b>Suggested Training Aides:</b>	Three (3) laptops equipped with Crane Nuclear signature software

#### **Course Description**

The MOV Frequency Domain Analysis Training Course was designed to instruct students who have previously been trained in MC<sup>2</sup> System Data Acquisition and Analysis. This course shall instruct students in Actuator Frequency Identification, Frequency Domain Characteristics, FFT Tracking and Trending, and Repeatability of Acquisition/Analysis Techniques.

#### **Course Terminal Objectives:**

Upon successful completion of the course, the student will be able to perform the following:

- Select the proper data range and perform FFT analysis of MOV motor current data.
- Calculate/predict fundamental frequencies present in MOV frequency spectrum.
- Evaluate changes in MOV frequency domain data by using the various analysis tools provided and understand the methods necessary to track and trend frequency domain data over time.

**Enabling Objectives:**

- Upon successful completion of the course, the student will have an understanding of the history behind Fast Fourier Transform Analysis and be able to relate the application to MOVs.
- The student will be able to find and recognize changes in frequency domain data that reveal concerns, which may affect MOV operability.
- The student will understand and practice the importance of repeatability of acquisition and analysis techniques as they apply to tracking and trending frequency domain data over time.

**Course Benefits:**

- Increase the plant's self-sufficiency in MOV MC<sup>2</sup> testing.
- Reduce the plant's cost of MOV diagnostic testing.
- Reduce the impact of MOV testing on the outage schedule.