

November 9, 2001

MEMORANDUM TO: Eugene V. Imbro, Chief  
Mechanical and Civil Engineering Branch  
Office of Nuclear Reactor Regulation

FROM: Daniel H. Dorman, Chief  
Engineering Research Applications Branch  
Division of Engineering Technology  
Office of Nuclear Regulatory Research

SUBJECT: MOV IN SITU TEST ASSESSMENT (MISTA) SOFTWARE VERSION  
2.10 - USER'S MANUEL AND SOFTWARE

The subject user's manual , "MOV In Situ Test Assessment (MISTA) Software Version 2.10 User's Manual," INEEL/EXT-99-01316, October 2001 and the MISTA software, Version 2.10, are being submitted for your use. The MISTA software, Version 2.10 update to the existing MISTA software was requested by NRR to incorporate the results of earlier NRC sponsored research at Idaho National Engineering and Environmental Laboratory (INEEL) on dc-powered actuators for motor operated valves (MOVs).

The utilities generally use one of several commercially available diagnostic test systems to conduct in situ diagnostic testing of their MOVs. The MISTA software was developed for NRC to provide a capability for independently evaluating licensee's MOV adequacy using actual recorded digital test data obtained through the use of this diagnostic equipment. Many of the calculations necessary to evaluate the response of a MOV are not performed by the various diagnostic test systems. The in situ test data are difficult, if not impossible, to use outside the diagnostic test system environment because of the proprietary data formats. Converting test data to design basis performance estimates requires processing large volumes of information with many calculations which rely on assessment methodologies that are difficult to implement. The MISTA software package achieves the needed test assessment capability by cross-linking proprietary diagnostic testing software with a commercial data analysis and display software. All of the necessary diagnostic test system vendors have now agreed to cooperate by providing the information to translate their proprietary data formats to a more universal format that can be recognized by the commercial data analysis and display software.

The MISTA computer program, Version 2.10 was modified and updated to incorporate the dc-powered motor-actuator research in a way that would allow evaluation of responses to the research findings. The modified software incorporated the knowledge derived from the dc motor-actuator test program and included the heat-up methodology developed by INEEL. The dc motor and actuator models were peer reviewed by industry. Following this peer review, the software was verified and validated to be compatible with Windows NT and the Windows 95/98 operating systems and the latest diagnostic test data import capabilities.

If you have any questions on the user's manual and software, please contact Jerry Jackson (415-6656) of my staff.

cc: D. Terao  
T. Scarbrough

C:\Program Files\Adobe\Acrobat 4.0\PDF Output\MISTA software.wpd

Distribution:

ERAB R/F

OAR in ADAMS? (Y or N) Y\_\_\_

ADAMS ACCESSION NO.: \_\_\_\_\_

TEMPLATE NO. RES- 006 \_\_\_\_\_

Publicly Available (Y or N) Y\_\_\_

DATE OF RELEASE TO PUBLIC Normal Release

SENSITIVE? N \_\_\_\_\_

OFFICE	ERAB/DET/RES	BC/ERAB/DET		
NAME	J Jackson / <i>RA</i> /	D Dorman/ <i>RA</i> /		
DATE	11/8/2001	11/8/2001	/ /2001	/ /2001

**OFFICIAL RECORD COPY**