



About The MTS™ TETRA Technologies Project

Description of the Project

In 2009, TETRA Technologies constructed a new calcium chloride plant in El Dorado, Arkansas. The production manager was previously part of a successful MTS led training project and contacted MTS to design and implement an operations and maintenance training system for the new plant.

Design Phase: MTS analyzed the processes of the facility and determined the need to:

- Write 26 site-specific operations training manuals
- Incorporate 18 off-the-shelf operations training manuals and 20 maintenance training manuals into the training system

Documentation Phase: MTS engineers wrote the 26 manuals based on process descriptions, interviews with design engineers and P&IDs.

Transfer Phase: TETRA operations and maintenance personnel were trained using the site-specific manuals and the off-the-shelf manuals in time for commissioning and startup of the plant.

Apply and Measure: A comprehensive process was used to certify each operator and maintenance person:

- Self-assessment of **knowledge & skills** as indicated on the *MTS Qualification Checklist* using the *MTS Competency Maps*
- Discussion with area supervisor to identify additional training needs
- Completion of any additional training
- Successful demonstration of **knowledge** on the written test
- Field validation of **skills** by the lead operator consisting of the field items from the *MTS Qualification Checklist*
- Final certification by the area supervisor using spot checks of the **knowledge** and **skills** using the *MTS Qualification Checklist* and signing the certification

Principal Results

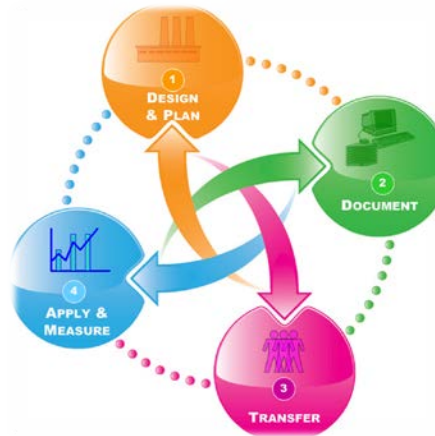
- Plant operations were documented in 26 manuals
- 45 operators & maintenance personnel were trained
- Start-up of the new plant occurred on time
- The project was completed on schedule and on budget

Follow Up – 2012

In 2012, Tetra awarded MTS World a follow-up project which included:

- Updating 6 process manuals from the original project based on plant modifications
- Process operations and equipment operations training for new operators

The MTS System as a whole is represented as follows.



1. The Design Phase includes:

- Analysis of Technology-Organization-People
- Process Maps
- Competency Maps
- Program Design
- Implementation Plan Development

2. The Documentation Phase includes:

- Developing process and equipment manuals
- Training Writers (Write-To-Learn™ strategy)
- Electronic conversion of documents
- Modules from the MTS Library

3. The Transfer Phase includes:

- Learning-How-To-Learn™
- Training Facilitators
- Gap Assessment
- Training Vs. Gap

4. The Apply & Measure Phase includes:

- Training Measurement
- Business Impact Measurement
- Audits
- Certification
- Integration of Initiatives
- Sustainment and Optimization

"When faced with the task of staffing and training personnel for a brand new chemical manufacturing plant and having experienced the quality and effectiveness of the MTS system on a previous, large retrofit project, I knew where to turn. MTS delivered once again. I will not hesitate to use them on future projects."

- Operations Manager, TETRA Technologies, El Dorado, AR