Training Office Personnel

Perry Dee Hummel

Targa Pipeline

110 West 7th

Tulsa, Oklahoma 74119

Introduction

Training office personnel offers many new challenges for the back office measurement supervisor. As the industry changes, the office supervisor is tasked with the responsibility of training office personnel on many aspects of the industry. New methods of measurement, along with advances in communication and business practices need to be included in training office personnel.

General Considerations

When the office measurement supervisor defines the training program, they need to define the workflow from the field to all of the downstream users.

Considerations should include:

- Size and type of field system (Production/Midstream/Transmission)
- Types of measurement devices (orifice, displacement, or ultrasonic)
- Gas quality
- Communication infrastructure systems
- Corporate measurement system
- IT-technical support
- Skill sets of potential candidates
- Educational background of candidates

While these may only a few considerations, it is important to review the needs of both the upstream and downstream needs of the business unit. The success or failure of a training program depends on how well the business requirements are identified and met.

Defining the Business Needs

It is vitally important to identify the needs of the business units in order to design a training program to meet the downstream business requirements. Each business unit may operate under a different business model. For instance, midstream operations are considerably different than a transmission operation. While the transmission system may be monitored in “real time”, a midstream operation may only be monitored at selected points in the system over a twenty four hour period. This is important to help define the training requirements for the measurement analyst. A sketch of the business model can be an important tool, to add in training the analyst for a specific business model.

Identifying Personnel skills

Whether the analyst is going to working in a midstream or transmission environment, some basic skills are required to work within both business models. Those skills include:

- Problem solving ability
- Problem recognition
- Good verbal and written skills
- Good math skills
- Good work ethic
- Good analytical skills
- Service oriented
- "People" person
- Quick learner
- Able to work under pressure

In today's environment, all measurement data is handled through some type of a computer based measurement system, or through a specialized "in house" measurement system. It is important to identify and recognize the analyst's basic computer skills required to process the measurement data. It is important that the candidate has the basic skills needed for an "entry" level position, along with the potential to learn and expand their fundamental skills.

Trainer's requirements

A trainer or manager must have a broad knowledge of both field operations and direct experience with the measurement system. As a trainer it is important to document the workflow through the system. A work flow diagram is beneficial for the trainee to provide a "roadmap" of the business process.

Trainer Requirements

As a trainer, is important to understand your own skills and abilities. General measurement knowledge and experience will enhance the training environment. Other skills include:

- Ability to relate ideas and concepts to the trainee.
- Flexibility; ability to change in a training situation.
- Define attainable goals
- Utilize visual examples
- Provide positive feedback
- Lead by example; take an organized and logical approach to the training requirements.

The first step in training office personnel is to recognize the specific job requirements, and define the individual steps for each task. Start with the basics; do not be afraid to explain drilling and production practices. Trainees, who have never been exposed to the natural gas industry, may not have any idea how gas is produced. Arrange for an on-site visit to a measurement installation. Let the trainee visit with field personnel, and ask questions; having the trainee visit with a measurement technician is helpful to understand the field perspective.

Always try to present new material from a defined outline. By using a written outline, the trainer can have an organized approach defining the specific job requirements. A written outline states the individual skill requirements, and allows the trainee time to question any specific items.

Suggestion for a General Outline

- Production techniques-define the various methods used to produce natural gas.
- Discuss the various methods for measuring gas; explain commonly used equipment in the industry.
- Customize the training for the specific job requirement. Utilize computer based training (CBT) if available.
- Discuss measurement terms and definitions.
- Common terminology
- Review contract terms and obligations
- Review "chart " methodology
- Identify EFM process flow; identify specific data flow for volume and gas quality information
- Explain system balance methodology
- Review relative AGA guidelines
- Prepare a procedures and process flow manual
- Discuss prior period adjustments, and review company guidelines for measurement adjustments.
- Emphasize the importance of accurate, consistent data flow.

The Basics

In any business model, training is always more effective if visual aids are utilized. Pictures of field equipment, EFM problems, and data patterns are a big help in training new personnel. Always think "fundamentals"; without a thorough knowledge of the fundamentals, the complex issues become that much harder to support and explain.

For example, a field meter test report is helpful to explain the meter events in a typical EFM report. Additionally, the meter test information can be used to highlight the audit trail within the EFM device. This helps to emphasize and tie AGA guidelines into the training.

If a field visit cannot be arranged, pictures of field production equipment can be used to highlight potentials problems found in data editing. These pictures, plus actual EFM data patterns can help the trainee begin to understand the importance of pattern recognition.

Utilize pictures or screen shots of actual EFM measurement data, to emphasize a particular measurement pattern. Try to emphasize the "pattern" that key to a particular error or condition in the field. For example, an orifice meter in freezing conditions may maximize the differential pressure, while the flowing temperature may indicate below freezing.

Know your downstream users; understand their needs, time limitations, and requirements. Provide a background of each unit's responsibilities and provide examples of business requirements. For instance, the scheduling group may require specialized reports for daily and monthly use. Commercial groups may require monthly volumetric history to evaluate system performance.

Handouts-Computer programs

A big help for training is a physical or "digital" handout. A manual with examples of "common" edits is important, but, sometimes it is important to provide written instructions or examples. A simple one page worksheet can aid in correcting for volume or energy conversions. An excel worksheet can be effective for repetitive conversions. Custom programs can be developed to assist the trainee in producing accurate results.

Commercial measurement programs are readily available via the internet. Besides, the obvious security considerations always check to see if

the vendor has a “trail period” for the software. A software trail is important to ensure that program fulfills the training or operational requirements.

Measurement Group Responsibilities

An important start to training is providing the person with an overview of the measurement department, and the individual positions within the department. A general explanation of each position and a brief explanation of responsibilities will help the trainee understand the purpose of each position.

The trainer may want to explain each position, and emphasize the job requirements and skills required to hold that position. It is also helpful to explain progression from an analyst trainee, to team leader, or manager. This also provides motivation for the trainee to strive for additional responsibility.

Summary

Training is a challenging opportunity. Technology and skill levels have changed over the past few years. As the technology evolves, the training methods must become more complex and efficient. A well planned training program will provide many benefits for measurement trainee.

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