

## Underground Gas Storage – Personnel Training, Education & Experience Programs

Operators should verify that personnel performing work on underground gas storage facilities, including operator’s employees and contractor personnel, have the knowledge, skills and ability necessary to perform their duties competently and with a high regard for safety. This objective can be accomplished with a combination of specific training, education and/or experience.

The importance of personnel training is highlighted in API Recommended Practices 1170 (section 9.7.5.1) and 1171 (section 11.12).<sup>1</sup> These documents state that training programs should cover routine (normal) operations and also address possible abnormal operations and emergency conditions. Training programs can take the form of manuals, classroom, on-the-job, and/or computer-based training.

The following are some examples intended to demonstrate how training, education and experience programs can be implemented and documented. The proceeding examples do not reflect all methods for implementing and documenting such programs, and do not modify the API Recommended Practices 1170 & 1171. Operators should determine the applicability of training, education and experience programs to specific work activities.

**Training:** Training programs are valuable tools in the ongoing development of personnel performing operations, maintenance, and monitoring of storage facilities and will transfer to employees the knowledge and skills necessary to perform their duties safely.

Examples of records expected to demonstrate conformance with these training provisions include, but are not limited to:

- Training records indicating satisfactory completion for any method of training. For example:
  - Classroom training rosters or records. These should include name, date, course title, and a description/synopsis of content;
  - On-the-job training completion records. These should include name of trainer and trainee, completion date, and a description/synopsis of content and review methods;
- “Covered Task”-type documentation, along with criteria; or
- Resumes may be acceptable, initially.

**Education/Experience:** Personnel performing work that requires advanced technical expertise should possess a technical degree and/or practical experience commensurate with the requirements of the work. A review of education and experience for operator and contractor personnel should occur through the hiring or contract bid process. New hires with education but no practical experience should be supervised as they gain sufficient experience to work independently.

Examples of records expected to demonstrate education and/or experience for work requiring advanced technical expertise include, but are not limited to:

---

<sup>1</sup> API Recommended Practice 1170, Design and Operation of Solution-mined Salt Caverns Used for Natural Gas Storage, 1<sup>st</sup> Edition, July 2015; API Recommended Practice 1171 - Functional Integrity of Natural Gas Storage in Depleted Hydrocarbon Reservoirs and Aquifer Reservoirs, 1<sup>st</sup> Edition, September 2015.

- Resumes, which should describe education and experience commensurate with the requirements of the work; or
- Training records indicating satisfactory completion for any method of training. These should include name, date, course title, and a description/synopsis of content.

### **Review of Training Practices:**

It is important that training practices be reviewed periodically to determine their effectiveness. Below are some examples of how and when to conduct reviews:

#### **Operator Training Practices**

- Training materials should be updated as circumstances warrant;
- Personnel should be notified when changes are made to procedures, and retrained as appropriate; and
- Practices should be reviewed at least every 3 – 4 years.

#### **Contractor Training Practices**

- The operator should review with the contractor the operator’s applicable procedures and recordkeeping requirements, site-specific safety procedures, rules pertaining to the facility, reporting requirements, and applicable provisions of emergency action plans.
- The operator should develop a method to verify contractor training, which may include a **review of the contractor’s safety training programs, worksite checks of individual contractor employee training, or operator observation of contractor work performance.**
- For Contract Companies that will be used on an ongoing basis:
  - An initial verification of the Contractor’s training practices should be performed and documented within approximately one year of being contracted to perform work. Follow-up reviews should be performed at least every 3 – 4 years.
  - Additional reviews may be needed when the operator has a significant change to operations which requires a different set of knowledge or skills.
- For Contract Companies that will be used infrequently or for a one-time project:
  - Resumes or training records may be acceptable, as long as they describe how normal and abnormal operations and emergency conditions have been covered.

**Maintaining Records:** It is recommended that a copy of training records be maintained for five years.

Notice: This publication provides general guidelines to assist operators with personnel training, education & experience Programs and does not constitute a supplement, addendum, or an addition to API Recommended Practices 1170 & 1171. The use of this document is purely voluntary. An operator should consult its own legal counsel and technical staff to form safety, record retention and regulatory determinations that are appropriate for the operator, based on the operating characteristics of its underground storage system and applicable federal and state regulations. Information on the topics covered by this publication may be available from other sources, which the user may wish to consult for additional views or information not covered by this publication.