



The essential tool for every storage professional

Phil Myers, of PEMY Consulting, explains why the API standard 2610 is a must read for every owner, operator, engineer, contractor, inspector and supervisor in the tank storage industry



THE HISTORY BEHIND API 2610

Here's a pop quiz; what is the American Petroleum Institute (API) standard 2610 all about? Probably few know the answer to this question or why API 2610 is a critical document for those in the oil storage industry.

So why is this important now? One answer is that the 3rd edition of API 2610 was recently published. The weighty title *'Design, Construction, Operation, Maintenance, and Inspection of Terminal and Tank Facilities'* leaves no tank stone unturned.

Although the forward to the standard promotes API 2610's *raison d'être* as environmental health and safety responsibilities cast upon the shoulders of terminal facility owners and operators, the real reason this document was created is not explicitly mentioned within the standard. To get back to the question of why API 2610 is important, we must consider the origins which trace back to the ominous US Senate Bill S.1761 of the 102nd Congress (1991-1992) promoted by Senator Daschle and a few others.

INDUSTRIES RESPONSE

The senate bill did not succeed in becoming law but it was aimed to amend the Solid Waste Disposal Act to regulate aboveground storage tanks used to store regulated substances. The amendment would have required the typical regulatory burden of financial responsibility, documentation of tank specific data, release detection, corrective actions, reporting, closure, upgrades, enforcement, etc. Of course, the industry was largely disagreeable to this bill and in response, API and the industry discussed what could be done to head off such universal regulations and requirements.

At that time there were several pivotal incidents that were in the public's recent memory:

1. The Ashland Oil Spill (Florence, Pennsylvania) occurred on January 2 1988, spilling one million gallons of diesel oil into the Monongahela River in Pennsylvania, contaminating the potable water supplies of over a million people throughout Ohio, West Virginia and Pennsylvania. Senators Arlen Specter and John Heinz, both Republicans of Pennsylvania, and Senator Thomas A. Daschle, Democrat of South Dakota, also proposed new legislation to deal with oil storage tanks.
2. Shell Oil Martinez Refinery released 400,000 gallons of crude oil from

a 12.5-million-gallon storage tank. The oil flowed into the Carquinez Strait which connects San Pablo and Suisun Bays of the San Francisco Bay and Sacramento Delta. Large areas of wetlands were destroyed and the largest fines ever (up to this time) were levied.

These two incidents were specially related to petroleum storage tanks and probably had more to do with the development of the SPCC regulations than anything else. But there were other related events on the minds of industry and regulators such as the 11 million gallon Exxon Valdez oil tanker spill of March 23, 1989, the 1990 Mega Borg spilling 5.1 million gallons of oil in the Gulf of Mexico, 57 miles south-southeast of Galveston, Texas, following a pump-room explosion and fire and the 1993 Bouchard B155, Balsa 37, and Ocean 255 colliding in Tampa Bay, causing the Bouchard to spill 336,000 gallons of No. 6 fuel oil.

THE OUTCOME

In attempting to counter the potential onslaught of sweeping new regulations the industry realised there was a huge gap in the tank publications and standards arena. There was no single, comprehensive up-to-date checklist of standards, publications, best practices and guidelines for the management of the design, construction, maintenance, inspection or integrity of these facilities. API had nothing to showcase before regulators clearly stating a unified and comprehensive code of practice or set of best practices aimed to reduce tank incidents. Further, many of the then-current standards were outdated or obsolete as a result of increased industry experience and knowledge or regulatory changes. Moreover, there were several technical areas that had inadequate standards or coverage dealing with items such as dikes for tanks, piping and product transfer systems and loading operations, security, when to use floating roofs and so on.

API set about to create API 2610 by conducting a review of approximately 60 standards, identifying at least 18 needing revision and development of several new standards.

It was beyond the capability of most terminal owners/operators to collect, assess, and apply the hundreds of recommended practices, specifications, publications, and procedures into a single, comprehensive management guide to ensure safe, reliable and cost-effective measures to avert potential tank incidents and accidents. But API Standard 2610 did this through an enormous, focused effort which truly represents the accumulated knowledge of the related segments of industry and everything that is known about accepted best practices for storage tank facilities. This makes API 2610 a valuable component to the available API tank and facility standards.



THE DETAIL

The API 2610 Standard is a comprehensive and useful document for anyone working in the midstream sector.

The standard specifically applies to:

- Marketing terminals
- Pipeline tankage facilities
- Refinery tankage
- Bulk plants
- Lube blending and packaging facilities
- Asphalt plants
- Aviation service facilities

It does not apply to:

- Refinery tankage within process units
- Production, offshore and natural gas facilities
- Tanks with capacities less than 1100 gallons
- Retail facilities

The following key topics are included in the standard:

- Site selection
- Pollution prevention and waste management
- Safe operations of terminals and tanks
- Fire protection
- Tanks
- Dikes and berms
- Pipe, valves, pumps and piping systems
- Loading, unloading and product transfer facilities
- Corrosion control
- Structures, utilities and yard
- Removals and decommissioning of facility

Although the document is a pointer document to other industrial standards it is very readable and easy to follow. Because of the amount of material covered, a necessarily brief and comprehensive summary

of the issues related to that section is provided. Although a reference list of the publications is provided at the beginning of the document, specific mention of these standards is made in appropriate places indicating the use of these standards in the proper context.

Although, API 2610 aggregates the combined industry knowledge about tank and terminal facilities into a single overview document it contains little which is actually new. Rather, it serves as a reference and pointer to other resource documents giving the relevant references. It is intended to ensure worker and public safety and protection of the environment by serving as a resource document to those involved in these facilities.

THE IMPORTANCE

The first edition assembled the best and brightest to knock out this massive task in short order in preparation for battle with the regulators. Because standard API practice is to revise, reaffirm or remove standards at periodic intervals, the standard needed to be revised to a second edition, which was published in 2005.

When I chaired the API taskgroup on the second edition, much of the heavy lifting had already been done. We were able to inject some good and improved practices into the standard relating to tank overflow protection, the design and best practices for use of floating roofs, how to handle pumps inside secondary containment from a fire protection perspective, and many other technical details.

The most recently published 3rd edition was primarily an updating and modernisation effort. This tank facility 'bible' should be on the shelf of every good tank facility, owner, operator, engineer, contractor, inspector and supervisor. It is essential reading for anyone newly in the business.

FOR MORE INFORMATION

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