

# **API Report to CA PR 1410 Working Group #6**

*API RP 751 – Safe Operation of  
Hydrofluoric Acid Alkylation Units*

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API

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- One of API's foundational programs
  - First API standard published in 1924, now ~700 standards covering all industry segments
- Accredited and transparent process
  - API is accredited by ANSI and follows its criteria for openness, balance, consensus and due process
- Core of Institute's Technical Authority
  - API standards are heavily referenced by both Federal and State regulators
- Basis for worldwide operations
  - API standards are the most widely cited by international regulators for oil and natural gas industry
- API Standards/RPs are voluntary; performance-based
  - Represent industry's accepted engineering practices and are used in worldwide operations

## Summary of terms used in API Standards:

- a) shall—is used to indicate that a provision is mandatory – minimum requirement to conform to standard;
- b) should—is used to indicate that a provision is recommended or advised but is not mandatory, to conform to the standard
- c) may—is used to indicate that a provision is optional;
- d) can—is used for statements of possibility or capability.

- Note: In some cases, third parties or authorities having jurisdiction may choose to incorporate API standards by reference and may mandate compliance with all requirements and recommendations.
- All uses of the words “should and “shall”, therefore, must be based on sufficient information of the standard’s current and potential future use.

- Guidance document that communicates proven industry practices for safe operation of HF alkylation units
  
- Widely Reviewed and Balloted  Consensus
  
- RP 751 considered RAGAGEP by regulators (e.g., OSHA)
  - RP 751 – 3<sup>rd</sup> Edition: “Should” - 587 instances & “Shall” - 12 instances
  - RP 751 – 4<sup>th</sup> Edition: “Should” - 632 instances & “Shall” - 167 instances
  
- Sections
  - Hazards Management
  - Operating Procedures and Worker Protection
  - Materials, New Construction, Inspection and Maintenance
  - Transportation and Inventory Control
  - Relief and Utility Systems
  - Risk Mitigation – Options and Techniques

- Provides options that sites can use to safely manage their risk
- Not a “one size fits all” approach – use the “tools” based on design & site specific considerations (i.e., performance-based approach)
  - Overly prescriptive requirements lead to inefficient use of risk management resources possibly leading to less safe conditions
- HF detection systems provide timely information of leak
  - Informs decision-making regarding activation of mitigation systems and enactment of emergency procedures
- Mitigation Systems
  - Active: water, rapid acid transfer, remotely-operated block valves
  - Passive: barriers, settler compartments, minimize HF inventory, dual seal or seal-less pumps, vapor suppression additives
  - Sites use combination of active & passive mitigation systems

- New requirements that a mitigation system have these capabilities:
  - continuous HF release detection;
  - remotely-activated and remotely-controlled water mitigation;
  - event duration management (15 minute action)
  
- Quantitative assessment shall be performed
  - Consequence-based: based on MCE for main acid handling equipment
  - Risk-based: numerical values for consequences & frequencies of range of potential HF releases
  
- Details of detection systems, water mitigation and rapid acid transfer in Annex H of RP 751