



ANSI / API RP-754

Process Safety Performance Indicators for the Refining & Petrochemical Industries

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Vice-Chair API RP-754 Drafting Committee

U.S. Chemical Safety and Hazard Investigation Board
Houston, TX July 23, 2012
Public Hearing on Process Safety Performance Indicators



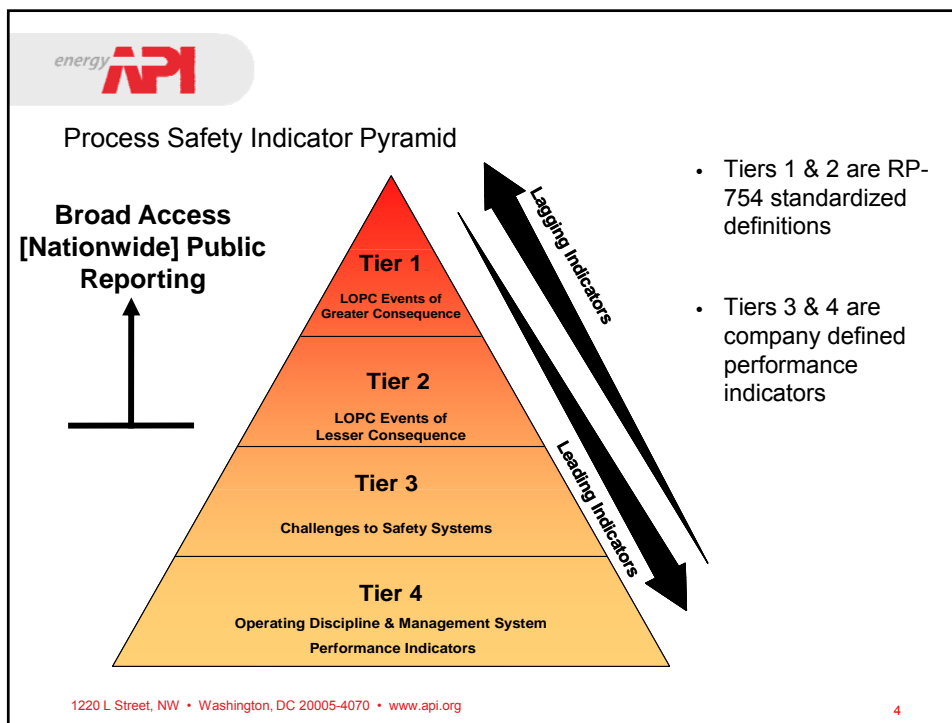
CSB Recommendation to API & USW

“Work together to develop two new consensus American National Standards Institute (ANSI) standards. In the first standard, create performance indicators for process safety in the refinery and petrochemical industries. Ensure that the standard identifies **leading and lagging indicators for nationwide public reporting** as well as **indicators for use at individual facilities**. Include methods for the development and use of the performance indicators.”

RP 754 – Drafting Committee

- Academia (1)
 - MKO Process Safety Center
- Associations (5)
 - ACC
 - CCPS
 - NPRA
 - UKPIA
 - ORC
- Engineering & Construction (1)
 - UOP
- Government (1)
 - CSB
- Labor (3) (Withdrawn 04-Aug-09)
 - USW
 - ICWUC
 - Teamsters
- Owner/Operators – Refiners (11)
 - BP
 - Chevron
 - CHS Inc.
 - Chevron Phillips
 - Koch Ind.
 - Pasadena Ref
 - ExxonMobil
 - ConocoPhillips
 - Shell
 - Marathon
 - Valero
- Owner/Operator – Chemicals (2)
 - DuPont
 - Dow
 - Air Products
- Observer

3



Tier 1 & 2 -- Process Safety Event

- An unplanned or uncontrolled release of any material, including non-toxic and non-flammable materials from a process that results in one or more of the consequences listed below:
 - Harm to people; or
 - Impact upon the community; or
 - Damage to equipment; or
 - A release of a threshold quantity
 - ❖ Based upon UN GHS Hazard classifications representing potential to cause harm
- PSE Rate = $[\text{Total PSE Count} \times 200,000] / \text{Total Workforce Hours}$

Tier 3 – Challenge to Safety Systems

- Purpose
 - Typically represent challenges to the barrier system that progressed along the path to harm, but were stopped short of a Tier 1 or Tier 2 PSE consequence
- Examples
 - Safe Operating Limit Excursions
 - Demands on Safety Systems
 - Primary containment inspection or testing results outside acceptable limits
 - Other LOPC Events Less Than Tier 2

Tier 4 – Operating Discipline & Management System Performance

- Purpose
 - Typically represent the performance of individual components of process safety management systems
 - Indicative of process safety system weaknesses that may contribute to future Tier 1 or 2 PSEs
- Examples
 - Process Safety Action Item Closure
 - Training Completed on Schedule
 - Safety Critical Equipment Inspection
 - Completion of Emergency Response Drills

RP-754 Availability

- ANSI Board of Standards Review approved RP-754 on April 13, 2010
- API issued RP-754 on April 22, 2010
- An electronic version of RP-754 is available for free viewing at <http://www.api.org/standards/psstandards>
- An API RP 754 implementation task force was formed to
 - Develop and present Webinars to introduce the standard
 - Provide a means for companies seeking interpretation of the standard
 - Hold ongoing Webinars to assist others with interpretation of the standard
 - Present the standard at industry association conferences and symposia on Process Safety

RP-754 Adoption Statistics

- API, AFPM (Formerly NPRA), OGP, and CONCAWE have committed to data collection since 2010
 - 92 % of US Refining Capacity (32 companies, 105 sites) reported 2011 data to AFPM
 - 25 companies representing 98 petrochemical sites reported to AFPM
 - 91% of US Refining Capacity (21 companies, 82 sites) reported 2011 data to API
 - 22 Companies reported 2011 data to OGP
- ACC conducted a pilot to allow reporting Responsible Care information using RP-754 in 2011
- IPIECA endorsed RP-754 for corporate sustainability reporting
- UK HSE provided positive comments during the ballot period

RP-754 Use:

Webinars

- Quarterly beginning in 3Q11 through 2Q12 with attendance averaging 50+

Presentations and Workshops at Process Safety Conferences

- (2) October 2011 International Symposium: Mary Kay O'Connor Process Safety Center
- (1) November 2011 API-AFPM Operating Practices Symposium
- (1) May 2012 AFPM National Occupational & Process Safety Conference and Exhibition
- (6) May 2012 ACC Responsible Care Conference
- (5) July 2012, 4th CCPS Latin American Conference on Process Safety

(Not a complete listing.)

Transparency

Broad Access [Nationwide] Public Reporting

Annually, each Company publicly reports Tier 1 and Tier 2 PSE information.

Treatment of the data from each year is expected as follows:

- 2010 – Implementation
- 2011 – Data validation
- 2012 – Industry aggregated result
- 2013 – Industry and Company blinded results
- 2014 – Industry and Company transparent results
- Tier 2 reporting may lag Tier 1 by one year

Transparency

Local [Site] Public Reporting

- Each site determines the appropriate methods to communicate PSE information
- Annual report of site-specific Tier 1, 2, 3 and 4 PSE information to employees and employee representatives
- Annually, each Company makes available a summary of site-specific Tier 1 and 2 PSE information and may report site-specific Tier 3 and 4 PSE information to the local community and emergency management officials

Coming in 2013

After two complete years of industry data collection using RP-754

- The standard will be opened for revision as recorded in the first edition
- Increased diversity of stakeholders is sought, including more international representation

Thank You