

## Refinery NEP First Year Inspection Results

Information obtained from inspections during the first year of OSHA's ongoing Petroleum Refinery Process Safety Management (PSM) National Emphasis Program (NEP), combined with the history of serious accidents in the refining sector, underscores the need for petroleum refineries to ensure that their PSM programs are fully compliant with the requirements of §1910.119.

In the last fifteen years, the petroleum refining industry (Standard Industrial Code (SIC) 2911, North American Industry Classification System (NAICS) 32411) has had more fatal or catastrophic incidents related to the release of highly hazardous chemicals (HHCs) than any other industry sector covered by the PSM standard. Because of this, in 2007 OSHA initiated its refinery NEP to greatly reduce or eliminate the workplace hazards associated with the catastrophic release of HHCs at petroleum refineries.

In the first year of the NEP, OSHA inspection teams completed inspections and issued citations at 14 refineries in 6 of OSHA's 10 regions. A total of 348 PSM citations, with corresponding proposed penalties, have been issued. These citations and penalties reflect the serious PSM compliance issues we have found at many refineries. OSHA is particularly concerned that inspection teams are seeing many of the same problems repeatedly, and that these include violations of provisions such as 1910.119(e)(5), (j)(2), and (j)(5), which are designed to ensure that hazardous deficiencies in critical process equipment are identified and corrected promptly.

These types of problems have led to fatality / catastrophe incidents involving HHCs in refineries. Recent incidents include a massive explosion and fire in Texas City, TX on March 23, 2005, that killed 15 employees and injured 170, as well as a large LPG release and subsequent explosion and fire in Big Spring, TX, on February 18, 2008, and a release and fire near Dumas, TX, on February 16, 2007. In addition, a January 19, 2005, refinery incident killed one employee and injured others in Bakersfield, CA, when a pump ruptured, causing a serious fire. Another incident at a refinery near Gallup, NM, on April 8, 2004, injured six employees when a release occurred during pump maintenance in the refinery's HF Alkylation unit.

These serious incidents reinforce the need for vigilant compliance with OSHA standards, particularly the PSM standard, which requires employers to develop comprehensive, site-specific, integrated safety management systems to reduce the risks of incidents involving HHCs. Paragraphs (c) through (p) of the PSM standard describe the required elements of those systems. The table below lists these elements by their paragraph designations in the standard (excluding paragraphs (a), Application, and (b), Definitions).

Paragraph	PSM Program Element	Paragraph	PSM Program Element
c	Employee Participation	j	Mechanical Integrity
d	Process Safety Information	k	Hot Work Permit
e	Process Hazard Analysis	l	Management of Change
f	Operating Procedures	m	Incident Investigation
g	Training	n	Emergency Planning & Response
h	Contractors	o	Compliance Audits
i	Pre-startup Review	p	Trade Secrets

Conscientious compliance with the PSM standard will reduce the risk of an incident involving HHCs. OSHA suggests that refiners review the refinery NEP, which is posted at:

[http://www.osha.gov/pls/oshaweb/owadisp.show\\_document?p\\_table=DIRECTIVES&p\\_id=3589](http://www.osha.gov/pls/oshaweb/owadisp.show_document?p_table=DIRECTIVES&p_id=3589)

Attachment A summarizes the results of the 14 NEP inspections completed in the NEP's first year. Significantly, as shown in Figure 1, nearly 80% of the violations found related to paragraphs (f) Operating Procedures, (j) Mechanical Integrity, (e) Process Hazard Analysis, (d) Process Safety Information, and (l) Management of Change, of the standard. And, as shown in Figure 2, more than 50% of all violations were of just 18 specific requirements, which are listed under that figure.

In addition, attachment B contains abstracts of a representative sample of the citations proposed in the 14 inspections. Refinery operators may wish to reference both attachments when reviewing the current status of the process safety management program at their facilities.

OSHA has strongly encouraged State Plan states with refineries to adopt this NEP, and the vast majority have done so. Together with Federal OSHA Refinery NEP inspections this ensures that nearly all eligible refineries nationwide have already been inspected, are currently undergoing inspection, or can anticipate being inspected in the near future under this NEP. (Refineries in the VPP program are not subject to inspection under this NEP, although they must comply with VPP process safety requirements in addition to the requirements of the PSM standard.)

Questions concerning the Refinery NEP should be addressed to OSHA's Office of General Industry Enforcement at 202-693-1850, or to the relevant State Plan or state consultation program. Information on both is available at [www.osha.gov](http://www.osha.gov).