

# **NJ Work Environment Council Fact Sheet**

## **New Rule for *Inherently Safer Technology Review* by the New Jersey Department of Environmental Protection**

Effective date: May 5, 2008

New Jersey is the only state in the nation with Inherently Safer Technology (IST) requirements. Federal Department of Homeland Security chemical security rules do not require IST.<sup>1</sup> Nor do EPA rules for prevention of accidental releases or OSHA's standard on *Process Safety Management*. **This rule can help protect the health and safety of workers and communities by encouraging the reduction of hazardous chemicals at facilities.**

### **What does *Inherently Safer Technology* (IST) mean in the rule?**

IST means the principles or techniques that can be incorporated in a covered process regulated by the *Toxic Catastrophe Prevention Act (TCPA)* to minimize or eliminate potential for a release of an extraordinarily hazardous substance (EHS). This includes:

- Reducing the amount of EHS material that may be released.
- Substituting less hazardous materials.
- Using EHSs in the least hazardous process conditions or form; and
- Designing equipment and processes to minimize potential for equipment failure and human error.

### **What facilities are covered by the rule?**

Approximately 90 New Jersey facilities regulated by TCPA. These include chemical, plastic, and pesticide manufacturing plants, oil refineries, major food processors, water and wastewater treatment, and liquefied petroleum gas facilities. See a list of TCPA facilities at the end of this fact sheet.

### **What does an owner or operator have to do to comply with the rule?**

They must complete an IST review report and must submit it to DEP. The report shall identify available IST alternatives or combinations of alternatives that minimize or eliminate the potential for an EHS release.

### **What is a “covered process”?**

A covered process is any activity involving use, storage, manufacturing, handling, or on site movement of an EHS material that meets or exceeds the threshold quantity.<sup>2</sup>

### **Who conducts the IST review?**

The rule says a team of qualified experts, convened by the owner or operator, whose members shall have expertise in environmental health and safety, chemistry, design and engineering, process controls and instrumentation, maintenance, production and operations, and chemical process safety. The names, qualifications, and experience of team members must be in the report.

### **Can workers and their union participate in the IST review?**

DEP says that the review must include front line workers and their representatives. (Source: DEP PowerPoint Presentation, June 17, 2008).

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<sup>1</sup> Contra Costa County, California has a limited regulation for IST.

<sup>2</sup> As of March 2009, threshold quantities are detailed in TCPA rules.

While there is no specific language about this in the DEP IST rule, Section 68.83 of the federal EPA rules for accidental release prevention requires consultation with employees and their representatives and ensures union access to information. These EPA rules are also enforced by DEP.

#### **Who selects the employees that participate in the IST review team?**

The employees that participate to the PHA and IST team must have the specific knowledge and experience stated in the team requirements. The responsibility to comply with the TCPA and the methods chosen to achieve such is that of the owner or operator of the facility.<sup>3</sup>

#### **Must the owner or operator implement the IST alternatives identified?**

No. They must determine whether the IST alternative is feasible. According to the rule, feasible means capable of being accomplished in a successful manner, taking into account environmental, public health and safety, legal, technological, and economic factors.

If they decide not to implement the IST, they must provide a written justification using a qualitative and quantitative evaluation of environmental, public health and safety, legal, technological, and economic factors.

If they decide to implement the IST, they must provide a schedule of when they will do it.

#### **How often do they have to conduct an IST review?**

The owner or operator must complete and submit to DEP an initial review report within 120 days from the rule's effective date. Chemical plants that already completed IST reports under the state's *Best Practices Standards* can submit this existing report to comply with the rule.

An update is required every five years for all covered processes and at the same time as the updates of applicable hazard reviews or process hazard analysis. An update of the IST review is also required when there is a major change.

If the five-year update of the applicable hazard review or process hazard analysis is due within two years of the initial IST review, then the IST review does not need to be updated at that time.

#### **Is this information subject to public disclosure?**

An owner or operator may file a claim with DEP to withhold from public disclosure confidential information included in an IST review report.

#### **How will this rule be enforced?**

DEP will review IST reports, inspect facilities and can apply financial penalties for violations.<sup>4</sup>

#### **How does this rule improve upon current requirements?**

TCPA, enacted in 1986 after the disaster in Bhopal, India, authorized DEP to require IST reviews. In 2003, DEP issued such rules but they only applied to the few *newly designed and constructed processes*. In 2005, after WEC and our allies defeated a DEP deal which would have let the chemical industry regulate itself, NJ issued mandatory *Best Practices Standards (BPS)* for chemical plants. These required 43 TCPA facilities to conduct one-time IST reviews.

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<sup>3</sup> Source: NJ DEP website: Inherently Safer Technology, Frequently Asked Questions.

<sup>4</sup> Penalty amounts are on pages 178, 180-184, 217, 220-223 of the TCPA Consolidated Rule Document available at [www.nj.gov/dep/rpp/brp/tcpa/tcpadown.htm](http://www.nj.gov/dep/rpp/brp/tcpa/tcpadown.htm).

**Four significant improvements of the IST rule over BPS are:**

- 1) BPS only covered chemical plants. The IST rule also covers other types of facilities.
- 2) BPS required only a one-time review of IST. The IST rule requires periodic reviews.
- 3) BPS required the IST review to be conducted by a %qualified expert in chemical process safety+. The rule would require a %team of qualified experts+to conduct the review. Moreover, management must consult with workers and their unions.
- 4) BPS did not have a specific mechanism for enforcement. The IST rule includes financial penalties for noncompliance.

**Some New Jersey IST Success Stories**

Source: DEP, January 15, 2010

Since the implementation of New Jersey's IST Review rule, 41 of the 85 facilities that have conducted reviews have implemented or planned to implement IST measures. *WEC does not believe that all IST measures identified by facilities should be accepted IST measures (ie – labeling of pipes and other equipment).*

**Substitution of a less hazardous substance**

- Wastewater treatment facilities have switched from using chlorine to sodium hypochlorite for disinfection of their treated wastewater.
- Electric generation and cogeneration plants substituted anhydrous ammonia with aqueous ammonia for use in their air pollution control systems.

**Reduction in the amount of a hazardous substance stored on-site**

- A facility replaced bulk storage of acetylene with onsite generation for direct consumption into the process.
- A facility switched from bulk storage of chlorine to on-site generation of ozone for disinfection of potable water.

**Where can I get more detailed information?**

Go to the DEP website TCPA page at: <http://www.nj.gov/dep/rpp/brp/tcpa/tcpanews.htm>

There are additional links here to key documents, such as the TCPA law, the IST rule, *Frequently Asked Questions*, etc.

**Whom can I contact for further technical questions about the rule?**

Iclal Atay or Paul Komosinsky

Bureau of Release Prevention

New Jersey Department of Environmental Protection

(609) 633-0610

Email: [iclal.atay@dep.state.nj.us](mailto:iclal.atay@dep.state.nj.us) or [paul.komosinsky@dep.state.nj.us](mailto:paul.komosinsky@dep.state.nj.us)

This fact sheet is issued by the New Jersey Work Environment Council, 142 West State Street, Third Floor, Trenton, NJ 08608. Telephone (609) 695-7100. More information is also available on WEC's web site at [www.njwec.org](http://www.njwec.org).

<b>Legal Name</b>	<b>Facility City</b>	<b>Legal Name</b>	<b>Facility City</b>
AEROPRES CORPORATION	Hillsborough	KUEHNE CHEMICAL CO INC	South Kearny
AIR LIQUIDE AMERICA	South Plainfield	LABREA BAKERY	Swedesboro
AL & JOHN GLEN ROCK HAMS	West Caldwell	LINDE GAS NORTH AMERICA LLC	Alpha
AMERICAN SPRAYTECH LLC	North Branch	LOGAN GENERATING CO LP	Swedesboro
AVANTOR PERF.MATERIALS	Phillipsburg	LUBRIZOL ADVANCED MATS.	Pedricktown
BASF CORPORATION	Washington	MCLANE COMPANY INC	Carneys Point
BAYONNE PLANT HOLDING	Bayonne	MURALO COMPANY, INC.	Bayonne
BENJAMIN MOORE & CO.	Newark	NESTLE USA - BEVERAGE	Freehold
BRICK TOWNSHIP MUA	Brick	NEW JERSEY AMERICAN WATER	Short Hills
BRIDOR USA INC	Vineland	NEW JERSEY AMERICAN WATER	Somerset
CAPE MAY COUNTY MUA	Rio Grande	NEW JERSEY AMERICAN WATER	Neptune
CARDOLITE CORP	Newark	NEW JERSEY AMERICAN WATER	Colts Neck
CASA DI BERTACCHI CORP	Vineland	NEW JERSEY AMERICAN WATER	Delran
CHAMBERS COGENERATION	Carneys Point	NEWARK CITY OF NWDC	West Milford
CHURCH & DWIGHT CO INC	Lakewood	OCEAN SPRAY CRANBERRIES	Bordentown
COGEN TECH. LINDEN	Linden	OXY VINYLs LP	Pedricktown
COIM USA INC	Paulsboro	PASSAIC VALLEY WATER COMM.	Totowa
COIM USA INC	West Deptford	PAULSBORO REFINING CO.	Paulsboro
CREST FOAM INDUSTRIES	Moonachie	PHILLIPS 66 COMPANY	Linden
CVC SPECIALTY CHEMICALS	Maple Shade	POLYONE CORPORATION	Pedricktown
DEAN EAST - GARELICK	Florence	PSEG FOSSIL LLC	Jersey City
DELTECH RESIN COMPANY	Newark	PSEG FOSSIL LLC	Hamilton
DIVERSIFIED CPC INTL INC	Sparta	PSEG	Linden
DOW CHEMICAL COMPANY	Pennsauken	READINGTON FARMS INC	Whitehouse
DUPONT	Linden	RECKITT BENCKISER INC	Belle Mead
DUPONT	Parlin	RINCHEM COMPANY INC	Raritan Twp
DUPONT	Deepwater	RUST-OLEUM CORPORATION	Somerset
ELAN INCORPORATED	Newark	SEABROOK BROTHERS & SONS	Seabrook
EQUISTAR CHEMICALS LP	Edison	SIEGFRIED (USA) INC	Pennsville
EXXONMOBIL EDISON	Edison	SOLVAY SOLEXIS INC	West Deptford
FALCON SAFETY PRODUCTS	Branchburg	SOUTH JERSEY TERMINAL LLC	Bridgeton
FARMLAND DAIRIES LLC	Wallington	STATE METAL INDUSTRIES INC	Camden
FERRO CORPORATION	Bridgeport	STEPAN CO	Fieldsboro
FISHER SCIENTIFIC CO LLC	Bridgewater	SUNOCO	Westville
FXI FOAMEX INNOVATIONS	East Rutherford	SUNOCO	Newark
GRASSO FOODS INC.	Woolwich Twp	TEKNI-PLEX INC	Branchburg
HERCULES INC	Parlin	TRENTON CITY OF	Trenton
HESS CORPORATION	Port Reading	TROPICANA PRODUCTS INC	Jersey City
IMTT BAYONNE	Bayonne	UNITED WATER NEW JERSEY	Haworth
INFINEUM USA LP	Linden	VEECO INSTRUMENTS INC	Somerset
IQE RF LLC	Somerset	VOLTAIX LLC	North Branch
JOHANNA FOODS INC	Flemington	VWR INTERNATIONAL LLC	Bridgeport
JOHNSON MATTHEY INC	West Deptford	W R GRACE & CO - CONN	Edison
JOINT BASE MCGUIRE DIX	McGuire AFB	WELCO ACETYLENE CORP	Newark
KINDER MORGAN	Carteret	WEST-WARD PHARMACEUTICALS	Eatontown

Source: NJDEP, July 2012.