

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 IST requirements. Recent Department of Homeland Security chemical security rules do not require IST.¹

What does *Inherently Safer Technology (IST)* mean in the proposed 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 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.²

What facilities are covered by the rule proposal?

About 90 New Jersey facilities regulated by TCPA. These include chemical, plastic, and pesticide manufacturing plants, oil refineries, major food processors, and water and wastewater treatment facilities. See the list of current 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.”

Who conducts the IST review?

The proposal 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.

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

No. They must determine whether the IST alternative is feasible. According to the proposal, “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.

¹ Contra Costa County, California has a limited regulation for IST.

² Threshold quantities are detailed in TCPA rules.

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.³

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.

Three significant improvements of the rule over the Best Practice Standards are:

- 1) BPS required only a one time review of IST. The new rule would require periodic reviews;
- 2) BPS required the IST review to be conducted by a “qualified expert in chemical process safety.” The new rule would require a “team of qualified experts” to conduct the review; and
- 3) The BPS did not have a clear mechanism for enforcement. The new rule includes financial penalties.

Does WEC believe that the rule can be improved?

Yes! The rule proposal represents an important step forward. However, we believe there are still certain problems with it, including its provisions for confidentiality that discourage public accountability and inadequate worker/union participation.

³ Penalty amounts are on pages 42-50 of the proposed rule.

Some New Jersey IST Success Stories

Source: DEP, March 2007

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.
- A facility switched from chlorine to bromochlorohydrantoin for use as an algicide in treating cooling water.

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

- A facility switched from bulk storage of liquid sulfur trioxide to on-site generation of gaseous sulfur trioxide 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.
- A facility is proposing to switch from bulk storage of chlorine to on-site generation of chlorine dioxide for bleaching paper.

Where can I get more information?

- The final rule is on the DEP website at:
<http://www.nj.gov/dep/rules/proposals/20070416a.pdf>
- New Jersey's current Best Practice Standards for chemical facilities and DEP checklists for IST review are at:
<http://www.nj.gov/dep/rpp/brp/security/index.htm>

Who can I contact for technical questions about the rule?

Iclal Atay or Paul Komosinsky
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New Jersey Department of Environmental Protection
(609) 633-0610
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Who can I contact for general information about the final rule?

Denise Patel, Campaign Organizer
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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.

TCPA Registrants

4/16/08

Legal Name	Facility City
AEROPRES CORPORATION	Hillsborough
AIR LIQUIDE AMERICA	South Plainfield
AIR PRODUCTS AND CHEMICALS,	Paulsboro
ASHLAND, INC	Kearny
BASELL USA INC	Edison
BASF CORPORATION	Washington
BAYONNE PLANT HOLDING LLC	Bayonne
BENJAMIN MOORE & COMPANY	Newark
BRICK TOWNSHIP MUA	Brick
BRIDOR USA INC	Vineland
CAPE MAY COUNTY MUA	Rio Grande
CARDOLITE CORP	Newark
CARNEYS POINT GENERATING	Carneys Point
CASA DI BERTACCHI CORP	Vineland
CHURCH & DWIGHT CO INC	Lakewood
COGEN TECHNOLOGIES LINDEN	Linden
CONOCOPHILLIPS COMPANY	Linden
CREST FOAM INDUSTRIES INC	Moonachie
CVC SPECIALTY CHEMICALS INC	Maple Shade
DEAN NORTHEAST LLC -	Florence
DELTECH RESIN COMPANY	Newark
DIVERSIFIED CPC	Sparta
DOW CHEMICAL COMPANY, THE	Pennsauken
DUPONT DE NEMOURS E I &	Linden
DUPONT DE NEMOURS E I &	Deepwater
DUPONT DE NEMOURS E I &	Parlin
DUPONT PERFORMANCE	Deepwater
ELAN INCORPORATED	Newark
EMC PACKAGING INC	Lakewood
EXXONMOBIL EDISON	Edison
FALCON SAFETY PRODUCTS INC	Branchburg
FARMLAND DAIRIES LLC	Wallington
FERRO CORPORATION	Bridgeport
FERRO CORPORATION	South Plainfield
FISHER SCIENTIFIC CO LLC	Bridgewater
FOAMEX INTERNATIONAL	East Rutherford
GEO SPECIALTY CHEMICALS	Gibbstown
GRASSO FOODS INC.	Woolwich
HERCULES INC	Parlin
HESS CORPORATION	Port Reading
INFINEUM USA LP	Linden
IQE RF LLC	Somerset
JOHANNA FOODS INC	Flemington
JOHNSON MATTHEY INC	West Deptford
KINDER MORGAN LIQUIDS	Carteret

Legal Name	Facility City
KUEHNE CHEMICAL CO INC	South Kearny
LABREA BAKERY	Swedesboro
LOGAN GENERATING CO LP	Swedesboro
LUBRIZOL ADVANCED	Pedricktown
MALLINCKRODT BAKER INC	Phillipsburg
MCLANE COMPANY INC	Carneys Point
MIDDLESEX WATER COMPANY	Edison
MURALO COMPANY, INC.	Bayonne
NATIONAL CASEIN OF NEW	Riverton
NESTLE USA - BEVERAGE	Freehold
NEW JERSEY AMERICAN WATER	Somerset
NEW JERSEY-AMERICAN WATER	Colts Neck
NEW JERSEY-AMERICAN WATER	Neptune
NEW JERSEY-AMERICAN WATER	Short Hills
NEW JERSEY-AMERICAN WATER	Delran
NEW YORK TERMINALS, LLC	Elizabeth
NEWARK, CITY OF / NWCDC	West Milford
NORTH JERSEY DISTRICT	Wanaque
OCEAN SPRAY CRANBERRIES INC	Bordentown
OXY VINYLs, LP	Pedricktown
PASSAIC VALLEY WATER	Totowa
POLYONE CORPORATION	Pedricktown
PSEG FOSSIL LLC	Hamilton
READINGTON FARMS INC	Whitehouse
RECKITT BENCKISER INC	Belle Mead
SEABROOK BROTHERS & SONS	Seabrook
SIEGFRIED (USA), INC.	Pennsville
SOLVAY SOLEXIS, INC.	West Deptford
SPECTRA GASES INC	Alpha
SPECTRUM LABORATORY	New Brunswick
STATE METAL INDUSTRIES INC	Camden
STEPAN CO	Fieldsboro
SUNOCO INC.(R&M)	Westville
TEKNI-PLEX INC	Branchburg
TEKNI-PLEX INC.	Burlington
TRENTON, CITY OF	Trenton
TROPICANA PRODUCTS INC	Jersey City
UNITED WATER NEW JERSEY	Haworth
VALERO REFINING CO NJ	Paulsboro
VOLTAIX LLC	North Branch
VWR INTERNATIONAL INC	Bridgeport
W R GRACE & CO - CONN	Edison
WACKER POLYMERS, L.P.	Dayton
WELCO ACETYLENE CORP	Newark