
ENVIRONMENTAL PROTECTION

ENVIRONMENTAL REGULATION

Toxic Catastrophe Prevention Act Program

Inherently Safer Technology Review

Proposed Amendments: **N.J.A.C. 7:31-1.5, 3.3, 3.4, 4.2, 4.9, 4.11, and 11.4**

Proposed New Rules: **N.J.A.C. 7:31-3.6 and 4.12**

Authorized by: Lisa P. Jackson, Commissioner,
Department of Environmental Protection

Authority: N.J.S.A. 13:1B-1 et seq., 13:1D-1 et seq.; 13:1K-19 et seq.; 13:1D-125 et seq.; 26:2C-1 et seq.

Calendar Reference: See Summary below for explanation of exception to calendar requirement.

DEP Docket No:

Proposal Number:

A public hearing concerning this proposal will be held on:

Date: Monday, May 14, 2007

Time: 9:00 A.M. to noon or close of comments, whichever occurs first

Location: New Jersey Department of Environmental Protection
401 E. State Street, First Floor Public Hearing Room
Trenton, New Jersey 08625

Submit written comments by (60 days after date of publication) to:

Leslie W. Ledogar, Esquire
Attention: DEP Docket Number _____
Office of Legal Affairs

New Jersey Department of Environmental Protection

P.O. Box 402

Trenton, New Jersey 08625-0402

The Department of Environmental Protection (Department) requests that commenters submit comments on disk or CD as well as on paper. Submittal of a disk or CD is not a requirement. The Department prefers Microsoft Word 6.0 or above. Macintosh™ formats should not be used. Each comment should be identified by the applicable N.J.A.C. citation with the commenter's name and affiliation following the comment.

This rule proposal document can be viewed or downloaded from the Department's web page at www.state.nj.us/dep.

The agency proposal follows:

Summary

As the Department has provided a 60-day comment period on this notice of proposal, this notice is exempt from the rulemaking calendar requirement pursuant to N.J.A.C. 1:30-3.3(a)5.

The Department is proposing to amend the Toxic Catastrophe Prevention Act Program Rules, N.J.A.C. 7:31 (the TCPA rules), to expand the requirements relating to inherently safer technologies (ISTs) to apply to both Program 2 and Program 3 covered processes (discussed

below) and to make these requirements applicable to both existing and new processes, rather than to just newly designed and constructed Program 3 covered processes. These amendments will enhance the TCPA program by requiring regulated facilities to perform an IST review to identify alternatives to eliminate or reduce the risk of an extraordinarily hazardous substance (EHS) release. Implementation of these alternatives will serve to reduce the potential consequences or likelihood of a release to the facility's surrounding community

The Toxic Catastrophe Prevention Act Rules

The Department has regulated the handling of extraordinarily hazardous substances (EHSs) since 1988 pursuant to the Toxic Catastrophe Prevention Act (TCPA), N.J.S.A. 13:1K-19 through 31. The goal of the TCPA is to protect the public from catastrophic releases of EHSs into the environment. The TCPA requires owners or operators of facilities having EHSs at certain threshold quantities to anticipate the circumstances that could result in EHS releases and to take precautionary or preemptive actions to prevent such releases.

The TCPA rules incorporate by reference with some changes the provisions of the Federal Chemical Accident Prevention (CAP) regulations at 40 CFR 68. Adopting the Federal regulations enabled the Department to seek and obtain Federal authorization to implement the TCPA program in lieu of the Federal CAP program.

The CAP regulations, mandated by Section 112(r) of the Federal Clean Air Act Amendments of 1990, apply to owners or operators of facilities with processes that contain more than the specified threshold quantity of a listed regulated substance. Owners or operators must analyze the off-site consequences of a worst-case release (a hazard assessment), develop a five year release history, establish an emergency response program, and prepare a written risk management plan. The CAP regulations created three programs with which sources must comply, depending on the severity of the risk to the public and the environment posed by a release from that facility. Programs 2 and 3, the most stringent, require a more detailed hazard assessment and implementation of a release prevention program.

Subchapter 3 of the TCPA rules incorporates by reference Subpart C (Program 2 Prevention Program) of 40 CFR 68, which contains the risk management program elements required for owners and operators of Program 2 covered processes. Included are all the Federal requirements of a Program 2 risk management program, as well as several State-only requirements. For purposes of this chapter, a "process" is any activity at a facility involving a regulated substance, including any use, storage, manufacturing, handling, or on-site movement of such substances, or combination of these activities. See N.J.A.C. 7:31-1.1(c)2ii. A "covered process" is a process that has an EHS inventory that meets or exceeds the threshold quantity as determined elsewhere in the TCPA rules.

A covered process is subject to Program 2 if the process is not subject to Program 3, discussed below. See N.J.A.C. 7:31-1.1(c)3iv, which incorporates 40 CFR 68.10, Applicability, by reference with amendments, and see 40 CFR 68.10. Subchapter 3 of the TCPA rules does not require owners or operators of Program 2 covered processes to conduct IST reviews.

Subchapter 4 of the TCPA rules incorporates by reference Subpart D (Program 3 Prevention Program) of 40 CFR 68, which contains the risk management program elements required for owners and operators of Program 3 covered processes. As with the Program 2 rules discussed above, included are all the Federal requirements of a Program 3 risk management program, as well as several State-only requirements. A covered process is subject to Program 3 if the process is in NAICS code 32211 (pulp mills), 32411 (petroleum refineries), 32511 (petrochemical manufacturing), 325181 (alkalies and chlorine manufacturing), 325188 (all other basic inorganic chemical manufacturing), 325192 (cyclic crude and intermediate manufacturing), 325199 (all other basic organic chemical manufacturing), 325211 (plastics material and resin manufacturing), 325311 (nitrogenous fertilizer manufacturing), or 32532 (pesticide and other agricultural chemical manufacturing), or if the process is subject to the OSHA process safety management standard, 29 CFR 1910.119. See N.J.A.C. 7:31-1.1(c)3v, which incorporates 40 CFR 68.10, Applicability, by reference with amendments, and see 40 CFR 68.10.

N.J.A.C. 7:31-4.2(g) requires owners or operators of Program 3 processes to evaluate IST for newly designed and constructed covered processes in addition to performing the state-of-the-art evaluation for scenarios that meet the consequence and likelihood criteria pursuant to N.J.A.C. 7:31-4.2(c)1, 2i and ii. Also, owners or operators are required to document recommendations from the IST evaluation in accordance with N.J.A.C. 7:31-4.2(c), (d) and (e). N.J.A.C. 7:31-1.5 defines IST as the principles or techniques incorporated in a newly designed and constructed covered process to minimize or eliminate the potential for an EHS accident that include, but are not limited to, the following: 1) reducing the amount of EHS material that potentially may be released; 2) substituting less hazardous materials; 3) using EHSs in the least hazardous process conditions or form; and 4) designing equipment and processes to minimize the potential for equipment failure and human error.

Inherently Safer Technologies

Inherent safety technology evaluation is a well-established concept that was introduced by process safety experts approximately thirty years ago. For more detailed information on the concepts of IST and how to perform an IST review, see Inherently Safer Chemical Processes - A Life Cycle Approach, 1996, published by the Center for Chemical Process Safety (CCPS) of the American Institute of Chemical Engineers.

According to the CCPS in Inherently Safer Chemical Processes - A Life Cycle Approach, in the strictest sense, the definition of inherently safer applies only to elimination or reduction of the hazard, which are the first and second items in the TCPA rules' definition of IST. However, after the inherent hazards are reduced, layers of protection are frequently added to protect the receptors from the hazard. Layers of protection can be classified into three categories, listed in decreasing order of reliability: passive, active, and procedural. Passive protection means minimizing the hazard by process and equipment design features that reduce the frequency or consequence of the hazard without the active functioning of any device. Active protection means using engineering controls such as instrument controls, safety interlocks, and emergency shutdown systems to detect and correct process deviations. Procedural protection means using administrative controls such as operating procedures, administrative checks, emergency response, and other management approaches to prevent incidents or to minimize the effects of an incident. To enhance an overall risk management program, the general strategy for reducing risk by reducing the frequency or consequences of potential accidents can be classified into four categories, in decreasing order of reliability: inherently safer protection, passive protection, active protection, and procedural protection.

Implementing IST may displace risk rather than reduce it. Thus, any change made to a chemical process must be evaluated carefully to ensure that a new, unintended, or unforeseen risk is not being introduced. However, facilities should perform IST evaluations to search for

feasible alternatives that will reduce the risk of a release to the surrounding community.

Performing an IST review is probably most cost effective when designing new processes. However, as stated by the CCPS in Inherently Safer Chemical Processes - A Life Cycle Approach at page 16, "It is never too late to consider inherently safer alternatives. Major enhancements to the inherent safety of plants which have been operating for many years have been reported (CCPS, 1993a; Wade, 1987; Carrithers et al., 1996)." Also, continuing to perform IST evaluations in the later stages of a facility's life cycle is valuable because new technologies may be available that were not available when the facility initially was designed and constructed.

Performing an IST review could provide an opportunity for facilities to have a more stable business plan as a result of using inherently safer technologies. First, the reduction in risk of a release lowers the facility's potential liabilities. This has the secondary benefit of increasing the surrounding community's perception, confidence, and acceptance of the facility. Third, many IST alternatives, which have an initial capital cost, have lower operating costs in areas such as maintenance, operations, and emergency response requirements. Finally, reducing or eliminating the risk of a release could avoid business losses from a production shutdown following an incident. All of these benefits may serve to provide the facility a more stable business plan.

A description of the specific proposed amendments and new rules follows.

N.J.A.C. 7:31-1.5 State definitions

The Department is proposing to add the phrase "that can be," delete the phrase "newly designed and constructed" and delete enumerated elements 1 through 4 from the definition of "inherently safer technology" to correlate the definition with those amendments and modifications of the TCPA program that require that the review of IST applies to all covered processes, both existing and new, and that specify the components of that review.

N.J.A.C. 7:31-3.3 Triennial reports

Subchapter 3 of the TCPA rules contains the minimum requirements for a Program 2 TCPA risk management program. N.J.A.C. 7:31-3.3 sets forth the triennial reporting requirements for Program 2 covered processes. The Department proposes to add a new requirement at N.J.A.C. 7:31-3.3(b)6 that would require an owner or operator to include in the triennial report each IST review report completed pursuant to proposed new N.J.A.C. 7:31-3.6(b) and (f) during the previous three years. Under this proposed requirement, owners or operators will be required to submit the reports for updated IST reviews in subsequent years following the completion and submittal of the initial IST review report.

N.J.A.C. 7:31-3.4 New covered processes – construction and new EHS service

The Department proposes to add a new subsection (e) to the requirements for new Program 2 covered processes at N.J.A.C. 7:31-3.4 that would require the owner or operator of each new covered process to conduct an IST review of that process pursuant to proposed new N.J.A.C. 7:31-3.6(c) through (f). The resulting IST review report for these new processes is to accompany the other applicable submittals required for new processes as set forth in the preceding subsections. This requirement will afford the Department the opportunity to verify that IST has been addressed at the design phase of a new covered process, when it is most cost effective to do so.

N.J.A.C. 7:31-3.6 Inherently safer technology review

The Department is proposing a new section that sets forth the IST review requirements for owners or operators of Program 2 covered processes.

Proposed new N.J.A.C. 7:31-3.6(a) requires the owner or operator to complete an initial IST review and submit to the Department an IST review report for each covered process at the stationary source within 120 days from the effective date of the rule. In order to avoid

duplication of effort, the Department is proposing that an IST review report completed pursuant to the Domestic Security Task Force Best Practices Standards at TCPA/DPCC Chemical Sector Facilities, November 21, 2005, http://www.nj.gov/dep/rpp/download/ChemSectBPStand.pdf ("Best Practices Standards") prior to the effective date of this rule may be submitted to comply with this requirement.

The Domestic Security Task Force adopted the Best Practices Standards under the authority of the Domestic Security Preparedness Act, N.J.S.A. A:9-64 *et seq*. The Best Practices Standards define Chemical Sector Facilities as all facilities that are subject to the TCPA or the Discharge Prevention, Containment and Countermeasure (DPCC) programs and that are identified by any of the following Standard Industrial Classification (SIC) major groups: 28 (chemical and allied products), 30 (rubber and miscellaneous plastic products), 5169 (chemicals and allied products, not elsewhere classified), or the corresponding North American Industry Classification System (NAICS) codes (325, 326, and 424690). See Best Practices Standards, ¶ 1.

The Best Practices Standards require Chemical Sector Facilities to conduct a review of the practicability and the potential for adopting IST. See Best Practices Standards ¶ 5. The Best Practices Standards define IST in much the same way as it is defined in the TCPA rules at N.J.A.C. 7:31-1.5. Acceptance of prior IST reviews previously conducted under the Best

Practices Standards will avoid unnecessary duplication of effort on the part of owners and operators and Departmental personnel.

Proposed new N.J.A.C. 7:31-3.6(b) requires the owner or operator to update the IST review on the same schedule with the hazard review updates pursuant to 40 CFR 68.50(d) (incorporated at N.J.A.C. 7:31-3.1(a)) for each covered process at the stationary source, including each new covered process brought on line since the date of the previous IST review. Additionally, the owner or operator is required to address the ISTs that have been developed since the last IST review. Unless an update for a major change is required pursuant to 40 CFR 68.50(d) (incorporated at N.J.A.C. 7:31-3.1(a)), the first IST review update is not required until two years after the date of the initial review. This is proposed because hazard reviews are required on a five year cycle. If the next hazard review update is due in only a short time in the future, it would not be productive to update the IST review at that time. For example, if an owner or operator completed the last hazard review in July 2002 and is due to update it in July 2007 to comply with the five year update requirement, and the owner or operator completed an IST review report in March 2006 pursuant to the Best Practices Standards, the owner or operator would not be required to complete another IST review in July 2007 in conjunction with the hazard review update. Rather, the next IST review would be due on the due date of the next hazard review, namely, July 2012.

Proposed new N.J.A.C. 7:31-3.6(c) requires the owner or operator to conduct each IST review using a qualified team whose members have expertise in environmental health and safety, chemistry, design and engineering, process controls and instrumentation, maintenance, production and operations, and chemical process safety. The Department believes that assembling a team that has expertise in areas in addition to chemical process safety would help ensure that personnel with appropriate experience and qualifications complete the IST review.

Proposed new N.J.A.C. 7:31-3.6(d) sets forth the requirements for each IST review. The owner or operator is required to identify available IST alternatives or combinations of alternatives that minimize or eliminate the potential for an EHS release. The owner or operator is allowed to use any available IST analysis method. Note that this method must be described in the report that is prepared pursuant to proposed new N.J.A.C. 7:31-3.6(f). See proposed new N.J.A.C. 7:31-3.6(f)1. The review must include an analysis of the following four principles and techniques: (1) reducing the amount of EHS material that potentially may be released; (2) substituting less hazardous materials; (3) using EHSs in the least hazardous process conditions or form; and (4) designing equipment and processes to minimize the potential for equipment failure and human error.

Proposed new N.J.A.C. 7:31-3.6(e) requires the owner or operator to determine whether the IST alternatives are feasible, which means capable of being accomplished in a successful

manner, taking into account environmental, public health and safety, legal, technological, and economic factors.

Proposed new N.J.A.C. 7:31-3.6(f)1 through 7 sets forth the specific components of an IST report.

Proposed new N.J.A.C. 7:31-3.6(g) provides that an owner or operator subject to this section may submit a confidentiality claim pursuant to N.J.A.C. 7:31-10 to withhold from public disclosure confidential information included in any IST review report.

7:31-4.2 Process hazard analysis with risk assessment for specific pieces of EHS equipment or operating alternatives

Subchapter 4 sets forth the minimum requirements for a Program 3 TCPA risk management program. The Department proposes to delete the requirement at N.J.A.C. 7:31-4.2(g) that owners or operators evaluate IST and document recommendations for newly designed and constructed covered processes in favor of the more detailed requirements at proposed new N.J.A.C. 7:31-4.12, Inherently safer technology review.

N.J.A.C. 7:31-4.9 Annual reports

The Department is proposing to add a new requirement at N.J.A.C. 7:31-4.9(b)6 that would require the owner or operator to include in the annual report each IST review report completed pursuant to proposed new N.J.A.C. 7:31-4.12(b) and (f) during the previous year. Under this proposed requirement, owners or operators will be required to submit the reports for updated IST reviews in subsequent years following the completion and submittal of the initial IST review report.

N.J.A.C. 7:31-4.11 New covered processes – construction and new EHS service

The Department proposes to add a new subsection (e) to the requirements for new Program 3 covered processes at N.J.A.C. 7:31-4.11 that would require the owner or operator of each new covered process to conduct an IST review of that process pursuant to proposed new N.J.A.C. 7:31-4.12(c) through (f). The resulting IST review report for these new processes is to accompany the other applicable submittals required for new processes as set forth in the preceding subsections. This requirement will afford the Department the opportunity to verify that IST has been addressed at the design phase of a new covered process, when it is most cost effective to do so.

N.J.A.C. 7:31-4.12 Inherently safer technology review

The Department is proposing a new section that sets forth the IST review requirements for owners or operators of Program 3 covered processes.

Proposed new N.J.A.C. 7:31-4.12(a) requires the owner or operator to complete an initial IST review and submit to the Department an IST review report for each covered process at the stationary source by the date that is 120 days from the effective date of the rule. As for IST reports prepared for Program 2 processes (see proposed new N.J.A.C. 7:31-3.6(a)), the Department is proposing that an IST review report completed pursuant to the Best Practices Standards prior to the effective date of this rule may be submitted to comply with this requirement. Acceptance of the previously conducted IST reviews will avoid unnecessary duplication of effort on the part of owners and operators and Departmental personnel.

Proposed new N.J.A.C. 7:31-4.12(b) requires the owner or operator to update the IST review on the same schedule with the process hazard analysis revalidations and updates pursuant to 40 CFR 68.67(f) incorporated with changes at N.J.A.C. 7:31-3.1(c)7 and N.J.A.C. 7:31-4.6(c) for each covered process at the stationary source, including each new covered process brought on line since the date of the previous IST review. Additionally, the owner or operator is required to address the ISTs that have been developed since the last IST review. Unless an updated process hazard analysis with risk assessment is required pursuant to N.J.A.C. 7:31-4.6(c), the first IST review update is not required until two years after the date of the initial review. This is

proposed because process hazard analysis revalidations are required on a five year cycle. If the next process hazard analysis revalidation is due in only a short time in the future, it would not be productive to update the IST review at that time. For example, if an owner or operator completed the last process hazard analysis in July 2002 and is due to update it in July 2007 to comply with the five year revalidation requirement, and the owner or operator completed an IST review report in March 2006 pursuant to the Best Practices Standards, the owner or operator would not be required to complete another IST review in July 2007 in conjunction with the process hazard analysis revalidation. Rather, the next IST review would be due on the due date of the next hazard review, namely, July 2012.

Proposed new N.J.A.C. 7:31-4.12(c) requires the owner or operator to conduct each IST review using a qualified team whose members have expertise in environmental safety and health, chemistry, design and engineering, process controls and instrumentation, maintenance, production and operations, and chemical process safety. The Department believes that assembling a team that has expertise in areas in addition to chemical process safety would help ensure that personnel with appropriate experience and qualifications complete the IST review.

Proposed new N.J.A.C. 7:31-4.12(d) sets forth the requirements for each IST review. The owner or operator is required to identify and available IST alternatives or combinations of alternatives that minimize or eliminate the potential for an EHS release. The owner or operator

is allowed to use any available IST analysis method. Note that this method must be described in the report that is prepared pursuant to proposed new N.J.A.C. 7:31-4.12(f). See proposed new N.J.A.C. 7:31-4.12(f)1. The review must include an analysis of the following four principles and techniques: (1) reducing the amount of EHS material that potentially may be released; (2) substituting less hazardous materials; (3) using EHSs in the least hazardous process conditions or form; and (4) designing equipment and processes to minimize the potential for equipment failure and human error.

Proposed new N.J.A.C. 7:31-4.12(e) requires the owner or operator to determine whether the IST alternatives are feasible, which means capable of being accomplished in a successful manner, taking into account environmental, public health and safety, legal, technological, and economic factors.

Proposed new N.J.A.C. 7:31-4.12(f)1 through 7 contain the specific components of an IST report.

Proposed new N.J.A.C. 7:31-4.12(g) provides that an owner or operator subject to this section may submit a confidentiality claim pursuant to N.J.A.C. 7:31-10 to withhold from public disclosure confidential information included in any IST review report.

N.J.A.C. 7:31-11.4 Civil Administrative Penalties

The Department proposes to amend N.J.A.C. 7:31-11.4, Civil administrative penalty determination, Table III, to incorporate penalties for the violations of the proposed new rules. The proposed new penalties appear in this table in rule citation order, as items 172, 182, 193 through 208, 414, and 431 through 447. Violation 259 is proposed to be deleted because it corresponds to the rule requirement at N.J.A.C. 7:31-4.2(g) that, as explained previously, is proposed for deletion.

In April 2006, the Department published amendments to N.J.A.C. 7:31-11.4, Civil administrative penalty determination, to reflect the requirements of the Grace Period Law, N.J.S.A. 13:1D-125 et seq. (See 37 N.J.R. 1595(a), 38 N.J.R 1678(a).) The adopted rules established the framework for the implementation of the Grace Period Law for purposes of imposing penalties for violations of the TCPA rules. Based upon the same standards, the Department is proposing to amend the penalty provisions to designate violations of the proposed new rules as minor or non-minor and establish compliance grace periods for those violations identified as minor. In applying the statutory criteria to the proposed violations, the Department determined that violations that are purely administrative, such as submittal of the annual or triennial report, are minor. Violations that may result in a potential for a catastrophic release, such as failure to perform maintenance on equipment or failure to train operators, are non-minor

because they pose more than a minimal risk to the public health, safety and natural resources and they materially and substantially undermine or impair the goals of the regulatory program. Designating these violations as non-minor is also consistent with the rules as currently codified. For example, a failure to comply with the IST evaluation pursuant to existing N.J.A.C. 7:31-4.2(g) is a non-minor violation because potential risk reduction measures would not be identified. A grace period is not appropriate for any violation that is non-minor.

The Department is proposing that the new violations 172 and 414 for failure to include each IST review update report in the triennial report (N.J.A.C. 7:31-3.4(b)6) or annual report (N.J.A.C. 7:31-4.9(b)6), respectively, be designated as minor violations with a 30-day grace period. This corresponds to the minor designation for the violation of other triennial and annual report requirements.

All other violations of the proposed IST review requirements are proposed as non-minor. Similar hazard review requirements pursuant to 40 CFR 68.50 and N.J.A.C. 7:31-3.5 and process hazard analysis with risk assessment requirements pursuant to 40 CFR 68.67 and N.J.A.C. 7:41-4.2 are designated as non-minor.

Failure to comply with the IST evaluation pursuant to N.J.A.C. 7:31-4.2(g), which is proposed to be deleted, has a penalty amount of $2,000.00 for a first occurrence. This same

penalty amount is proposed for analogous violations of these proposed rules, N.J.A.C. 7:31-3.6(a) and 4.12(a). The penalty amount for failure to conduct the IST review with a qualified team is proposed as $1,000.00 for a first occurrence, which is the same as the penalty for the analogous violation of failure to conduct a process hazard analysis with a team with the required expertise pursuant to 40 CFR 68.67(d) incorporated at N.J.A.C. 7:31-4.1(a). The penalties for failure to include an analysis of one of the four IST principles and techniques, failure to determine feasibility, and failure to prepare the report are proposed as $1,000.00 for a first occurrence, scaled down from $2,000.00 for failure to complete the IST review in total. The penalty for failure to complete a specific portion of the IST report is proposed as $500.00 for a first occurrence, scaled down from $1,000.00 to complete the IST review report in total.

Social Impact

The proposed amendments and new rules will provide a positive social impact by requiring owners and operators of facilities that use EHSs to analyze whether IST can be utilized at their facilities so that EHSs can be handled in a manner that protects health, safety and the environment. The effectiveness of the TCPA program is reflected by the fact that, since its inception in 1988, no reported offsite fatalities have occurred as a result of an EHS release from a facility regulated under the TCPA program. The proposed amendments and new rules will enhance the TCPA program by requiring regulated facilities to perform an IST review to identify

alternatives to eliminate or reduce the risk of an EHS release. Implementation of these alternatives will serve to reduce the potential consequences or likelihood of a release to the facility's surrounding community.

The proposed penalty provisions will have a positive social impact by encouraging compliance with the TCPA rules. Listing each possible violation of the proposed amendments and new rules and assigning penalties for each occurrence of non-compliance will enable the regulated community to better understand the consequences of non-compliance. Removing the threat of penalties for certain types of violations where compliance is achieved within the time specified encourages the regulated community to take positive action toward achieving compliance.

Economic Impact

Forty-two current TCPA registrants previously completed an IST review pursuant to the Best Practices Standards, and an additional three registrants currently are performing an IST review. Pursuant to N.J.A.C. 7:31-3.6(a) and 4.12(a), these IST reviews may be submitted to the Department in lieu of the initial IST review report required pursuant to the proposed rules. The remaining 49 TCPA registrants will be required to perform an IST review pursuant to this proposed rule. These registrants are those with facilities that do not report Standard Industrial

Classification (SIC) or North American Industry Classification System (NAICS) codes listed in the Task Force Standards. This includes facilities such as petroleum refineries, refrigeration systems, water and wastewater treatment plants, power generation plants, and chemical distributors.

Cost Estimate to Perform the IST Review

Case 1 – Petroleum Refinery

Per refinery unit:

Time: 4 engineers, 3 days, 8 hours/day = 96 engineers hours (Estimate includes review work sessions, report write-up, etc.)

Hourly Cost : $39/hour (median hourly wage estimate for petroleum engineer in New Jersey from the May 2005 State Occupational Employment and Wage Estimates, U.S. Department of Labor, Bureau of Labor Statistics)

Cost per refinery unit = $3,744 per refinery unit

Assume 15 petroleum refinery units for a medium sized refinery in the TCPA program.

Therefore, total cost to complete the IST review = $56,160

Case 2 – Non-refinery, non-chemical reaction process

One process.

Time: 2 engineers, 2 days, 8 hours/day = 32 engineers hours (Estimate includes review work sessions, report write-up, etc.)

Hourly Cost : $37/hour (median hourly wage estimate for mechanical engineer in New Jersey from the May 2005 State Occupational Employment and Wage Estimates, U.S. Department of Labor, Bureau of Labor Statistics)

Therefore, total cost to complete the IST review = $1,184.

Case 3 – Chemical Reaction Process

(Note: Most chemical processes have already completed the IST review under the Best Practices Standards. This applies to future IST review updates.)

Per process:

Time: 4 engineers, 2 days, 8 hours/day = 96 engineers hours (Estimate includes review work sessions, report write-up, etc.)

Hourly Cost : $37/hour (median hourly wage estimate for petroleum engineer in New Jersey from the May 2005 State Occupational Employment and Wage Estimates, U.S. Department of Labor, Bureau of Labor Statistics)

Cost per process = $2,368 per process

The number of registered processes at current TCPA stationary sources ranges from one to 13.

Therefore, total cost to complete the IST review ranges from $2,368 to $30,784.

In the three cases described above, the costs were estimated assuming that the review is completed by in-house personnel. Some small facilities may need to employ consulting engineers to conduct or prepare the report for the IST review. The consulting fee for an average facility with one process is estimated to be $5,000 to $10,000 from information provided by facilities that have used consultants to conduct IST reviews. Accordingly, the economic impact on facilities is not considered overly burdensome.

Environmental Impact

The proposed amendments and new rules will provide a positive environmental impact by requiring owners or operators subject to the TCPA rule to evaluate IST alternatives for their covered processes. Identification and implementation of IST alternatives at the covered processes will serve to reduce the risk of a catastrophic release of an EHS.

Federal Standards Statement

N.J.S.A. 52:14B-1 et seq. (P.L. 1995, c. 65) and Executive Order No. 27 (1994) require State agencies that adopt, readopt, or amend any rule or regulation that exceeds any Federal standards or requirements to include in the rulemaking document a Federal Standards Analysis. The current TCPA rules include the requirements of the Federal Chemical Accident Prevention

(CAP) program at 40 CFR 68, which initially were incorporated by reference into the TCPA rules in 1998 and again in 2003. Based on its past experience in implementing a release prevention program since 1988 and the mandates of the TCPA, the Department has supplemented the Federal rules with additional requirements. The current TCPA rule contains requirements that are more stringent and/or broader in scope than the Federal rules at 40 CFR 68. Many of these requirements are statutory mandates from the TCPA that predate Section 112(r) of the Federal Clean Air Act Amendments of 1990 that established the Federal CAP program.

New Jersey is more highly industrialized than other states and the most densely populated state in the country. Many chemical, petroleum and other industrial plants are clustered around heavily traveled transportation routes in the New York and Philadelphia metropolitan regions. New Jersey is home to Newark Liberty International Airport, one of the busiest airports in the country, serving more than 30 million passengers annually. The concentration of regulated facilities with potential offsite consequences and population density necessitate exceeding the Federal CAP rule to provide additional protection against the risk of a catastrophic release.

The Federal CAP rule and current TCPA rule include the requirement to perform process hazard analyses. The process hazard analysis (PHA) is a type of study in which various methodologies such as “what if” checklist and hazard and operability study are employed to

identify potential release scenarios, their causes, existing safeguards, and recommendations to reduce the risk of the release. The IST review is more extensive than the Federal PHA requirements in that the purpose of the IST review is to attempt to identify ways to reduce or eliminate the inherent hazards that are characteristic with the process substances and chemistry and the process equipment, variables, and operating conditions. Identifying and implementing IST alternatives will provide additional risk reduction for covered processes. As discussed in the Economic Impact Analysis, it is not expected that performing the IST review will be financially burdensome to owners or operators, and the potential to identify additional risk reduction measures to protect the citizens of the state and the environment is justified.

Jobs Impact

The proposed amendments and new rule are anticipated to have a minor positive impact on jobs within the State. The cost of compliance with these rules will vary depending on the type, number and size of the processes or petroleum refinery units at the stationary source. However, it is not expected that completion of the IST review will require staff resources to be shifted permanently from other jobs in the company or the hiring of new staff positions. Facilities will have to assign personnel temporarily to complete the IST review. However, some facilities may have to hire consultants to assist in the completion of the review, and this may result in the generation of additional jobs.

For IST alternatives selected to be implemented, it is expected that additional project work will be generated at facilities. This work will consist of the design and engineering of the IST project, development or modification of procedures such as for operations, maintenance, and emergency response, and training of personnel. If the project is of larger scope, the facility may need to hire consulting engineers. For smaller scope IST projects, which would be similar to risk reduction measures resulting from a process hazard analysis/risk assessment or other modification changes made at the facility, it is expected that the work would be completed in-house as it has been done for the ongoing risk management program activity.

Agriculture Industry Impact

In accordance with N.J.S.A. 4:1C-10.3, the Right to Farm Act, the Department has reviewed this proposal and has determined that the proposed amendments and new rules are expected to have no detrimental impact on the State's agriculture industry. Rather, these amendments will have a positive impact. As discussed in the Environmental Impact statement above, one of the primary environmental benefits expected to result from the proposed amendments and rules will be a reduction or elimination of the risk of a catastrophic release, which would benefit agricultural properties located near subject facilities.

Regulatory Flexibility Analysis

In accordance with the New Jersey Regulatory Flexibility Act, N.J.S.A. 52:14B-16 et seq., small businesses are defined as those that are independently owned and operated, not dominant in their field and which employ fewer than 100 full-time employees. Currently, 53 TCPA registered companies have fewer than 100 full-time employees, and it is estimated that 17 of these meet the small business definition. Of these, six will be allowed to submit the IST review previously performed under the Best Practices Standards to the Department in lieu of the initial IST review report required pursuant to the proposed rule, and the remaining 11 will be required to complete the initial IST review pursuant to the proposed amendments.

It is expected that these small businesses consist of smaller, one-process facilities that would incur costs described for Case 2 in the Economic Impact Statement above. Since the TCPA program applies to owners or operators of stationary sources handling, using, manufacturing, storing, or generating extraordinarily hazardous substances (EHS) at or above threshold quantities, the potential exists for catastrophic accidental EHS releases, regardless of the size of the business. Further reducing the IST review requirements for small businesses would negate the opportunity to identify additional risk reduction for public health and safety and the environment.

The CCPS in its Inherently Safer Chemical Processes, a Life Cycle Approach, provides guidance on how to conduct and document an IST review. The CCPS describes that the IST review should be done systematically and can be incorporated into a process hazard analysis using a methodology such as the hazard and operability study, or a checklist technique can be utilized. CCPS provides a sample review checklist, which provides a detailed list of questions related to inherent safety addressing the four IST strategies. The Department has found that a very large majority of the owners or operators who have completed IST reviews used this checklist or similar variations of it to conduct their IST review. It is anticipated that small businesses will be able to utilize the guidance provided by CCPS to comply with the IST review requirements of the proposed amendments.

Smart Growth Impact

Executive Order No. 4 (2002) requires State agencies that adopt, amend or repeal any rule adopted pursuant to the Administrative Procedure Act to describe the impact of the proposed rule on the achievement of smart growth and implementation of the New Jersey State Development and Redevelopment Plan (State Plan). The Department has evaluated this rulemaking and has determined that the nature and extent of the proposed amendments and rules will have no impact on smart growth and the implementation of the State Plan. Since the proposed amendments and new rule will encourage protection of the environment, the

amendments and the rule support the conservation and environmental protection goals and policies underlying the State Plan.

Full text of the proposal follows (additions indicated in boldface **thus**; deletions indicated in brackets [thus]):

7:31-1.5 State definitions

The following words and terms, when used in this chapter, shall have the following meanings, unless the context clearly indicates otherwise:

…

"Inherently safer technology" means the principles or techniques **that can be** incorporated in a [newly designed and constructed] covered process to minimize or eliminate the potential for an EHS [accident] **release** [that include, but are not limited to, the following:

1) reducing the amount of EHS material that potentially may be released;

2) substituting less hazardous materials;

3) using EHSs in the least hazardous process conditions or form; and

4) designing equipment and processes to minimize the potential for equipment failure and human error.]

…

7:31-3.3 Triennial Reports

(a) (No change.)

(b) The triennial report shall contain:

1. – 3. (No change.)

4. A summary of EHS accidents that occurred during the previous three years. If no EHS accidents occurred since the last triennial report, the owner or operator shall state this in the annual report. The summary of EHS accidents shall include:

i. – ii. (No change.)

iii. The basic and contributory causes; [and]

5. The compliance audit report and documentation for the previous three years ending on the anniversary date prepared pursuant to 40 CFR 68.58(c) and (d) incorporated with changes at N.J.A.C. 7:31-3.1(c)6 and 10[.]**; and**

6. Each inherently safer technology review report completed pursuant to N.J.A.C. 7:31-3.6(b) and (f) during the previous three years.

7:31-3.4. New covered processes – construction and new EHS service

(a) – (d) (No change.)

(e) The owner or operator shall complete an inherently safer technology review and report pursuant to N.J.A.C. 7:31-3.6(c) through (f) for each new covered process. The owner or operator shall submit the inherently safer technology review report with the

submittal required at (a)1, (b)1, or (c)1 above, as applicable.

7:31-3.6 Inherently safer technology review

(a) By (120 days from the effective date of this rule), for each covered process at the stationary source, the owner or operator shall complete an initial inherently safer technology review pursuant to (c) through (e), below and shall prepare and submit to the Department an inherently safer technology review report pursuant to (f) below. An inherently safer technology review report completed pursuant to the Best Practices Standards at TCPA/DPCC Chemical Sector Facilities, November 21, 2005 (http://www.nj.gov/dep/rpp/download/ChemSectBPStand.pdf), prior to the effective date of this rule may be submitted to comply with this requirement.

(b) The owner or operator shall update the inherently safer technology review submitted pursuant to (a) above on the same schedule as the hazard review updates required by 40 CFR 68.50(d) incorporated at N.J.A.C. 7:31-3.1(a) are updated for each covered process at the stationary source, including each new covered process brought on line since the date of the previous inherently safer technology review. The owner or operator shall address the inherently safer technologies that have been developed since the last inherently safer technology review. Unless an update for a major change is required

pursuant to 40 CFR 68.50(d), incorporated at N.J.A.C. 7:31-3.1(a), the first inherently safer technology review update shall not be required until two years after the date of the initial inherently safer technology review.

(c) Each inherently safer technology review required by this section shall be conducted by 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.

(d) Each inherently safer technology review required by this section shall identify available inherently safer technology alternatives or combinations of alternatives that minimize or eliminate the potential for an EHS release. Using any available inherently safer technology analysis method, this review shall include, at a minimum, an analysis of the following principles and techniques:

1. Reducing the amount of EHS material that potentially may be released;

2. Substituting less hazardous materials;

3. Using EHSs in the least hazardous process conditions or form; and

4. Designing equipment and processes to minimize the potential for equipment

failure and human error.

(e) Each inherently safer technology review required by this section shall include a determination of whether each of the inherently safer technologies identified pursuant to (d) above is feasible. For purposes of this determination, feasible means capable of being accomplished in a successful manner, taking into account environmental, public health and safety, legal, technological, and economic factors.

(f) The owner or operator shall prepare and submit to the Department a report that documents each inherently safer technology review required by this section. The report shall include:

1. An identification of the covered process that is the subject of the review; a list of the review team members with name, position, affiliation, responsibilities, qualifications and experience for each; the date of report completion; and the inherently safer technology analysis method used to complete the review;

2. The questions asked and answered to address the inherently safer technology principles and techniques pursuant to (d) above;

3. A list of inherently safer technologies determined to be already present in the covered process;

4. A list of additional inherently safer technologies identified;

5. A list of the additional inherently safer technologies selected to be implemented and a schedule for their implementation;

6. A list of the inherently safer technologies determined to be infeasible; and

7. A written explanation justifying the infeasibility determination for each inherently safer technology determined to be infeasible. The owner or operator shall substantiate the infeasibility determination using a qualitative and quantitative evaluation of environmental, public health and safety, legal, technological, and economic factors.

(g) An owner or operator may file a claim with the Department pursuant to N.J.A.C. 7:31-10 to withhold from public disclosure confidential information included in an inherently safer technology review report required to be submitted to the Department pursuant to this section.

7:31-4.2 Process hazard analysis with risk assessment for specific pieces of EHS equipment or operating alternatives

(a) – (f) (No change.)

[(g) The owner or operator shall evaluate inherently safer technology for newly designed and constructed covered processes in addition to performing the state-of-the-art evaluation pursuant to

(c)1, 2i and ii above. The owner or operator shall document recommendations from the inherently safer technology evaluation in accordance with (c), (d) and (e) above.]

7:31-4.9 Annual reports

(a) (No change.)

(b) The annual report shall contain:

1. – 3. (No change.)

4. A summary of EHS accidents that occurred during the previous years. If no EHS accidents occurred since the last annual report, the owner or operator shall state this in the annual report. The summary of EHS accidents shall include:

i. – ii. (No change.)

iii. The basic and contributory causes; [and]

5. The compliance audit report and documentation for the year ending on the anniversary date prepared pursuant to 40 CFR 68.79(c) and (d) incorporated with changes specified at N.J.A.C. 7:31-4.1(c)14 and 23[.]**; and**

6. Each inherently safer technology review report completed pursuant to N.J.A.C. 7:31-4.12(b) and (f) during the previous year.

7:31-4.11 New covered processes – construction and new EHS service

(b) – (d) (No change.)

(e) The owner or operator shall complete an inherently safer technology review and report pursuant to N.J.A.C. 7:31-4.12(c) through (f) for each new covered process. The owner or operator shall submit the inherently safer technology review report with the submittal required at (a)1, (b)1, or (c)1 above, as applicable.

7:31-4.12 Inherently safer technology review

(a) By (120 days from the effective date of this rule), for each covered process at the stationary source, the owner or operator shall complete an initial inherently safer technology review pursuant to (c) through (e), below and shall prepare and submit to the Department an inherently safer technology review report pursuant to (f) below. An inherently safer technology review report completed pursuant to the Best Practices Standards at TCPA/DPCC Chemical Sector Facilities, November 21, 2005 (http://www.nj.gov/dep/rpp/download/ChemSectBPStand.pdf), prior to the effective date of this rule may be submitted to comply with this requirement.

(b) The owner or operator shall update the inherently safer technology review submitted pursuant to (a) above on the same schedule as the process hazard analysis with risk assessment revalidations and updates pursuant to 40 CFR 68.67(f) incorporated with

changes at N.J.A.C. 7:31-4.1(c)7 and N.J.A.C. 7:31-4.6(c) are updated for each covered process at the stationary source, including each new covered process brought on line since the date of the previous inherently safer technology review. The owner or operator shall address the inherently safer technologies that have been developed since the last inherently safer technology review. Unless an update is required pursuant to N.J.A.C. 7:31-4.6(c), the first inherently safer technology review update shall not be required until two years after the date of the initial inherently safer technology review.

(c) Each inherently safer technology review required by this section shall be conducted by 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.

(d) Each inherently safer technology review required by this section shall identify available inherently safer technology alternatives or combinations of alternatives that minimize or eliminate the potential for an EHS release. Using any available inherently safer technology analysis method, this review shall include, at a minimum, an analysis of the following principles and techniques:

1. Reducing the amount of EHS material that potentially may be released;

2. Substituting less hazardous materials;

3. Using EHSs in the least hazardous process conditions or form; and

4. Designing equipment and processes to minimize the potential for equipment failure and human error.

(e) Each inherently safer technology review required by this section shall include a determination of whether each of the inherently safer technologies identified pursuant to (d) above is feasible. For purposes of this determination, feasible means capable of being accomplished in a successful manner, taking into account environmental, public health and safety, legal, technological, and economic factors.

(f) The owner or operator shall prepare and submit to the Department a report that documents each inherently safer technology review required by this section. The report shall include:

1. An identification of the covered process that is the subject of the review; a list of the review team members with name, position, affiliation, responsibilities, qualifications and experience for each; the date of report completion; and the inherently safer technology analysis method used to complete the review;

2. The questions asked and answered to address the inherently safer technology principles and techniques pursuant to (d) above;

3. A list of inherently safer technologies determined to be already present in the covered process;

4. A list of additional inherently safer technologies identified;

5. A list of the additional inherently safer technologies selected to be implemented and a schedule for their implementation; and

6. A list of the inherently safer technologies determined to be infeasible; and

7. A written explanation justifying the infeasibility determination for each inherently safer technology determined to be infeasible. The owner or operator shall substantiate the infeasibility determination using a qualitative and quantitative evaluation of environmental, public health and safety, legal, technological, and economic factors.

(g) An owner or operator may file a claim with the Department pursuant to N.J.A.C. 7:31-10 to withhold from public disclosure confidential information included in an inherently safer technology review report required to be submitted to the Department pursuant to this section.

7:31-11.4 Civil administrative penalty determination

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(a)-(b) (No change)

(c) The Department shall determine the amount of the civil administrative penalty for the offenses described in Table III below on the basis of the category of offense, [and] the frequency of the violation, the type of violation as minor (M) or non-minor (NM), and the applicable grace period if the violation is minor, as follows:

TABLE III

Penalty in U.S. Dollars
By Offense Category

	Categories of Offense	Cite	First Offense	Second Offense	Subsequent Offenses	Type of Violation	Grace Period (days)
1.-171.		(No change in text.)					
172.	**Failure to include in the triennial report each inherently safer technology review update report completed pursuant to N.J.A.C. 7:31-3.6(b) and (f) during the previous three years.**	**N.J.A.C. 7:31-3.3(b)6**	**500**	**1,000**	**2,500**	**M**	**30**
172. through 180., renumber as 173. through 181.		(No change in text.)					
182.	**Failure to complete an inherently safer technology review and report pursuant to N.J.A.C. 7:31-3.6(c) through (f) for each new covered process; And/or Failure to submit the inherently safer technology review report with the submittal required at N.J.A.C. 7:31-3.4(a)1, (b)1, or (c)1, as applicable.**	**N.J.A.C. 7:31-3.4(e)**	**2,000**	**4,000**	**10,000**	**NM**	
181. through 190., renumber as 183. through 192.		(No change in text.)					

	Categories of Offense	Cite	First Offense	Second Offense	Subsequent Offenses	Type of Violation	Grace Period (days)
193.	**Failure to complete an initial inherently safer technology review and submit to the Department an inherently safer technology review report for each covered process at the stationary source by 120 days from the effective date of this rule.**	**N.J.A.C. 7:31-3.6(a)**	**2,000**	**4,000**	**10,000**	**NM**	
194.	**Failure to update the inherently safer technology review on the same schedule as the hazard review updates for each covered process at the stationary source, including each new covered process brought on line since the date of the previous inherently safer technology review. and/or Failure to address the inherently safer technologies that have been developed since the last inherently safer technology review.**	**N.J.A.C. 7:31-3.6(b)**	**2,000**	**4,000**	**10,000**	**NM**	
195.	**Failure to conduct each inherently safer technology review with a team of qualified of qualified experts whose members have expertise in environmental requirements, chemistry, design and engineering, process controls and instrumentation, maintenance, production and operations, and chemical process safety.**	**N.J.A.C. 7:31-3.6(c)**	**1,000**	**2,000**	**5,000**	**NM**	
196.	**Failure to include an analysis of the following principle and technique in each inherently safer technology review to identify available inherently safer technology alternatives, or combinations of alternatives, that minimize or eliminate the potential for an EHS release: reducing the amount of EHS material that potentially may be released.**	**N.J.A.C. 7:31-3.6(d)1**	**1,000**	**2,000**	**5,000**	**NM**	

	Categories of Offense	Cite	First Offense	Second Offense	Subsequent Offenses	Type of Violation	Grace Period (days)
197.	**Failure to include an analysis of the following principle and technique in each inherently safer technology review to identify available inherently safer technology alternatives, or combinations of alternatives, that minimize or eliminate the potential for an EHS release: substituting less hazardous materials.**	**N.J.A.C. 7:31-3.6(d)2**	**1,000**	**2,000**	**5,000**	**NM**	
198.	**Failure to include an analysis of the following principle and technique in each inherently safer technology review to identify available inherently safer technology alternatives, or combinations of alternatives, that minimize or eliminate the potential for an EHS release: using EHSs in the least hazardous process conditions or form.**	**N.J.A.C. 7:31-3.6(d)3**	**1,000**	**2,000**	**5,000**	**NM**	
199.	**Failure to include an analysis of the following principle and technique in each inherently safer technology review to identify available inherently safer technology alternatives, or combinations of alternatives, that minimize or eliminate the potential for an EHS release: designing equipment and processes to minimize the potential for equipment failure and human error.**	**N.J.A.C. 7:31-3.6(d)4**	**1,000**	**2,000**	**5,000**	**NM**	
200.	**Failure to determine whether the inherently safer technologies are feasible, which means capable of being accomplished in a successful manner, taking into account environmental, public health and safety, legal, technological, and economic factors.**	**N.J.A.C. 7:31-3.6(e)**	**1,000**	**2,000**	**5,000**	**NM**	
201.	**Failure to prepare and submit to the Department a report to document each inherently safer technology review.**	**N.J.A.C. 7:31-3.6(f)**	**1,000**	**2,000**	**5,000**	**NM**	

	Categories of Offense	Cite	First Offense	Second Offense	Subsequent Offenses	Type of Violation	Grace Period (days)
202.	**Failure to include in an inherently safer technology review report an identification of the covered process that is the subject of the review; a list of the review team members with name, position, affiliation, responsibilities, qualifications and experience for each; the date of report completion; and the inherently safer technology analysis method used to complete the review.**	**N.J.A.C. 7:31-3.6(f)1**	**500**	**1,000**	**2,500**	**NM**	
203.	**Failure to include in an inherently safer technology review report the questions asked and answered to address the inherently safer technology principles and techniques pursuant to N.J.A.C. 7:31-3.6(d).**	**N.J.A.C. 7:31-3.6(f)2**	**500**	**1,000**	**2,500**	**NM**	
204.	**Failure to include in an inherently safer technology review report a list of inherently safer technologies determined to be already present in the covered process.**	**N.J.A.C. 7:31-3.6(f)3**	**500**	**1,000**	**2,500**	**NM**	
205.	**Failure to include in an inherently safer technology review report a list of additional inherently safer technologies identified.**	**N.J.A.C. 7:31-3.6(f)4**	**500**	**1,000**	**2,500**	**NM**	
206.	**Failure to include in an inherently safer technology review report a list of the additional inherently safer technologies selected to be implemented with a schedule for their completion.**	**N.J.A.C. 7:31-3.6(f)5**	**500**	**1,000**	**2,500**	**NM**	
207.	**Failure to include in an inherently safer technology review report a list of the inherently safer technologies determined to be infeasible.**	**N.J.A.C. 7:31-3.6(f)6**	**500**	**1,000**	**2,500**	**NM**	

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	Categories of Offense	Cite	First Offense	Second Offense	Subsequent Offenses	Type of Violation	Grace Period (days)
208.	**Failure to include a written explanation justifying the infeasibility determination for each inherently safer technology determined to be infeasible; and/or Failure to substantiate the infeasibility determination using a qualitative and quantitative evaluation of environmental, public health and safety, legal, technological, and economic factors.**	**N.J.A.C. 7:31-3.6(f)7**	**500**	**1,000**	**2,500**	**NM**	
191. through 258. Renumber as 209. through 276.		(No change in text.)					
[259.]	[Failure to evaluate inherently safer technology for newly designed and constructed covered processes in addition to performing the state-of-the-art evaluation pursuant to N.J.A.C. 7:31-4.2(c)1, 2i, and 2ii. or Failure to document recommendations from the inherently safer technology evaluation in accordance with N.J.A.C. 7:31-4.2(c), (d), and (e) for a new covered process.]	[N.J.A.C. 7:31-4.2(g)]	[2,000]	[4,000]	[10,000]	[NM]	
260. through 396. Renumber as 277. through 413.		(No change in text.)					
414.	**Failure to include in the annual report each inherently safer technology review update report completed pursuant to N.J.A.C. 7:31-4.12(b) and (f).**	**N.J.A.C. 7:31-4.9(b)6**	**500**	**1,000**	**2,500**	**M**	**30**
397. through 412. Renumber as 415. through 430.		(No change in text.)					

	Categories of Offense	Cite	First Offense	Second Offense	Subsequent Offenses	Type of Violation	Grace Period (days)
431.	**Failure to complete an inherently safer technology review and report pursuant to N.J.A.C. 7:31-4.12(c) through (f) for each new covered process; and/or Failure to submit the inherently safer technology review report with the submittal required at N.J.A.C. 7:31-4.11(a)1, (b)1, or (c)1, as applicable.**	**N.J.A.C. 7:31-4.11(e)**	**2,000**	**4,000**	**10,000**	**NM**	
432.	**Failure to complete an initial inherently safer technology review and submit to the Department an inherently safer technology review report for each covered process at the stationary source by 120 days from the effective date of this rule.**	**N.J.A.C. 7:31-4.12(a)**	**2,000**	**4,000**	**10,000**	**NM**	
433.	**Failure to update the inherently safer technology review on the same schedule as the process hazard analysis with risk assessment revalidations and updates for each covered process at the stationary source, including each new covered process brought on line since the date of the previous inherently safer technology review. and/or Failure to address the inherently safer technologies that have been developed since the last inherently safer technology review.**	**N.J.A.C. 7:31-4.12(b)**	**2,000**	**4,000**	**10,000**	**NM**	
434	**Failure to conduct each inherently safer technology review with a team of qualified experts whose members have expertise in environmental requirements, chemistry, design and engineering, process controls and instrumentation, maintenance, production and operations, and chemical process safety.**	**N.J.A.C. 7:31-4.12(c)**	**1,000**	**2,000**	**5,000**	**NM**	

	Categories of Offense	Cite	First Offense	Second Offense	Subsequent Offenses	Type of Violation	Grace Period (days)
435.	**Failure to include an analysis of the following principle and technique in each inherently safer technology review to identify available inherently safer technology alternatives, or combinations of alternatives, that minimize or eliminate the potential for an EHS release: reducing the amount of EHS material that potentially may be released.**	**N.J.A.C. 7:31-4.12(d)1**	**1,000**	**2,000**	**5,000**	**NM**	
436.	**Failure to include an analysis of the following principle and technique in each inherently safer technology review to identify available inherently safer technology alternatives, or combinations of alternatives, that minimize or eliminate the potential for an EHS release: substituting less hazardous materials.**	**N.J.A.C. 7:31-4.12(d)2**	**1,000**	**2,000**	**5,000**	**NM**	
437.	**Failure to include an analysis of the following principle and technique in each inherently safer technology review to identify available inherently safer technology alternatives, or combinations of alternatives, that minimize or eliminate the potential for an EHS release: using EHSs in the least hazardous process conditions or form.**	**N.J.A.C. 7:31-4.12(d)3**	**1,000**	**2,000**	**5,000**	**NM**	
438.	**Failure to include an analysis of the following principle and technique in each inherently safer technology review to identify available inherently safer technology alternatives, or combinations of alternatives, that minimize or eliminate the potential for an EHS release: designing equipment and processes to minimize the potential for equipment failure and human error.**	**N.J.A.C. 7:31-4.12(d)4**	**1,000**	**2,000**	**5,000**	**NM**	

	Categories of Offense	Cite	First Offense	Second Offense	Subsequent Offenses	Type of Violation	Grace Period (days)
439.	**Failure to determine whether the inherently safer technologies are feasible, which means capable of being accomplished in a successful manner, taking into account environmental, public health and safety, legal, technological, and economic factors.**	**N.J.A.C. 7:31-4.12(e)**	**1,000**	**2,000**	**5,000**	**NM**	
440.	**Failure to prepare and submit to the Department a report to document each inherently safer technology review.**	**N.J.A.C. 7:31-4.12(f)**	**1,000**	**2,000**	**5,000**	**NM**	
441.	**Failure to include in an inherently safer technology review report an identification of the covered process that is the subject of the review; a list of the review team members with name, position, affiliation, responsibilities, qualifications and experience for each; the date of report completion; and the inherently safer technology analysis method used to complete the review.**	**N.J.A.C. 7:31-4.12(f)1**	**500**	**1,000**	**2,500**	**NM**	
442.	**Failure to include in an inherently safer technology review report the questions asked and answered to address the inherently safer technology principles and techniques pursuant to N.J.A.C. 7:31-4.12(d).**	**N.J.A.C. 7:31-4.12(f)2**	**500**	**1,000**	**2,500**	**NM**	
443.	**Failure to include in an inherently safer technology review report a list of inherently safer technologies determined to be already present in the covered process.**	**N.J.A.C. 7:31-4.12(f)3**	**500**	**1,000**	**2,500**	**NM**	
444.	**Failure to include in an inherently safer technology review report a list of additional inherently safer technologies identified.**	**N.J.A.C. 7:31-4.12(f)4**	**500**	**1,000**	**2,500**	**NM**	

THIS IS A COURTESY COPY OF THIS RULE PROPOSAL. THE OFFICIAL VERSION WILL BE PUBLISHED IN THE APRIL 16, 2007, NEW JERSEY REGISTER. SHOULD THERE BE ANY DISCREPANCIES BETWEEN THIS TEXT AND THE OFFICIAL VERSION OF THE PROPOSAL, THE OFFICIAL VERSION WILL GOVERN.

	Categories of Offense	Cite	First Offense	Second Offense	Subsequent Offenses	Type of Violation	Grace Period (days)
445.	**Failure to include in an inherently safer technology review report a list of the additional inherently safer technologies selected to be implemented with a schedule for their completion.**	**N.J.A.C. 7:31-4.12(f)5**	**500**	**1,000**	**2,500**	**NM**	
446.	**Failure to include in an inherently safer technology review report a list of the inherently safer technologies determined to be infeasible.** **Failure to include a written explanation to justify the infeasibility determination for each inherently safer technology determined to be not feasible;** **and/or** **Failure to substantiate the infeasibility determination using a qualitative and quantitative evaluation of environmental, public health and safety, legal, technological, and economic factors.**	**N.J.A.C. 7:31-4.12(f)6**	**500**	**1,000**	**2,500**	**NM**	
447.	**Failure to include a written explanation justifying the infeasibility determination for each inherently safer technology determined to be infeasible;** **and/or** **Failure to substantiate the infeasibility determination using a qualitative and quantitative evaluation of economic, environmental, legal and technological factors.**	**N.J.A.C. 7:31-4.12(f)7**	**500**	**1,000**	**2,500**	**NM**	
413. through 596. Renumber as 448. through 631.		(No change in text.)					

Based on consultation with staff, I hereby certify that the above statements, including the Federal Standards Statement addressing the requirements of Executive Order No. 27 (1994) and

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the Administrative Procedure Act, N.J.S.A. 52:14B-1 et seq., permit the public to understand accurately and plainly the purposes and expected consequences of this proposal. I hereby authorize the proposal.

_____	_____
Date	Lisa P. Jackson, Commissioner Department of Environmental Protection