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**ENVIRONMENTAL PROTECTION
ENVIRONMENTAL REGULATION
Toxic Catastrophe Prevention Act Program
Inherently Safer Technology Review**

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

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

Proposed: April 16, 2007 at 39 N.J.R. 1351

Adopted: March 25, 2008 by Lisa P. Jackson, Commissioner, Department of Environmental Protection.

Filed: April 11, 2008 as _____ NJR _____, **with substantive and technical changes** not requiring additional public notice and comment (see N.J.A.C. 1:30-6.3).

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.

DEP Docket Number: 08-07-03/646

Effective Date: May 5, 2008

Expiration Date: May 5, 2013

The Department of Environmental Protection (Department) hereby adopts amendments to the Toxic Catastrophe Prevention Act (TCPA) Program rules at N.J.A.C. 7:31-1.5, 3.3, 3.4, 4.2, 4.9, 4.11, and 11.4 and new rules at N.J.A.C. 7:31-3.6 and 4.12. The adopted amendments and new rules expand the requirements for the performance of inherently safer technology (IST) reviews and the submittal of IST review reports to the Department.

The Department published the proposed amendments and new rules in the New Jersey Register at 39 N.J.R. 1351 on April 16, 2007. The comment period for the proposal closed on June 15, 2007.

Summary of Hearing Officer's Recommendations and Agency Responses:

On May 14, 2007, the Department held a public hearing in the Public Hearing Room at 401 E. State St., in Trenton, New Jersey. Jill Lipoti, Ph.D., Director, Division of Environmental Safety and Health, served as the hearing officer. Thirteen persons presented oral comments at the public hearing; eight of these persons also submitted written comments to the Department. After reviewing the oral testimony received, the hearing officer recommended that the Department adopt the amendments and new rules as proposed with the changes described in the summary of public comments and agency responses, below. The Department has accepted the Hearing Officer's recommendations. A record of the public hearing is available for inspection in accordance with applicable law by contacting:

Department of Environmental Protection

Office of Legal Affairs

Attn: DEP Docket No. 08-07-03/646

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P.O. Box 402
Trenton, New Jersey 08625-0402.

Summary of Public Comments and Agency Responses:

The following persons or entities timely submitted written and/or oral comments:

1. Alexander, John, United Steelworkers International
2. Benton, James E., New Jersey Petroleum Council
3. Brogan, David H., New Jersey Business and Industry Association
4. Caffee, Valerie, Central Jersey Region of the New Jersey Environmental Justice Alliance
5. Doherty, Linda, New Jersey Food Council
6. Egenton, Michael, New Jersey State Chamber of Commerce
7. Engler, Rick, New Jersey Work Environment Council
8. Field, Abigail Caplovitz, NJPIRG
9. Hind, Rick, Greenpeace Toxics Campaign
10. Jones, Lendel G., New Jersey American Water
11. LeGrande, David, Communications Workers of America Department of Occupational Safety and Health
12. Matarazzo, Anthony, New Jersey American Water
13. McCullough, Ron, United Electrical Workers Local 155
14. Montague, Peter, Environmental Research Foundation
15. Morgan, Wayne, New Jersey American Water
16. Nogaki, Jane, Coalition Against Toxics
17. Pajak, John, New Jersey Work Environment Council
18. Pursell, Robert, Communications Workers of America District 1, AFL-CIO
19. Rampolla, Christine, NJ State AFL-CIO
20. Renner, Paul, United Steelworkers Local 4-149
21. Russo, Anthony, Chemistry Council of New Jersey
22. Stever, Ray, NJ State Industrial Union Council
23. Tittel, Jeff, New Jersey Chapter, Sierra Club
24. Wolfe, Bill, New Jersey Public Employees for Environmental Responsibility
25. The following 65 organizations, listed below, are signatories to the comments submitted by New Jersey Work Environment Council.
Baptista, Ana, Ironbound Community Corp.
Batty, Sandy, Association of New Jersey Environmental Commissions
Bernard, Richard, United Steelworkers Local 4-12238
Birkner, John, New Jersey Council of Utility Workers Local 534
Cairo, Allison, NJ Public Interest Research Group
Campos, Patricia, UNITE HERE, NJ State Council
Carlson-Heim, Paige, Housing and Community Development Network of New Jersey

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Carotenuto, L. Mark, International Chemical Workers Union Council Local 271
Carpenter, Brenda, American Federation of State, County, and Municipal Employees
Council 71
Cunningham, Rich, New Labor
Dinkelaker, Andrew, United Electrical Workers, Eastern Region
Doherty, Doc, International Brotherhood of Teamsters Local 877
Ferraino, Sam, Jr., United Food and Commercial Workers Union Local 1360
Francis, Colandus, Camden County Branch, NAACP
Galiano, Claire T., United Food and Commercial Workers Union Local 152
Gerrity, Chip, International Brotherhood of Electrical Workers Local 94, AFL-CIO
Gibson, Joe, United Steelworkers Local 4-417
Goldsmith, Amy, NJ Environmental Federation
Goley, Ken, United Steelworkers Local 4-149
Gordon, Sherryl, American Federation of State, County, and Municipal Employees
Council 1, AFL-CIO
Grant, Avery, Concerned Citizens of Long Branch
Guzzo, Peter, Consumers for Civil Justice
Harper, Fletcher, Reverend, Greenfaith
Hind, Rick, Greenpeace Toxics Campaign
Johnson, Martin, Isles, Inc.
Johnson, Reginald, Metuchen – Edison Area Branch, NAACP
Jones, Roy L., South Jersey Environmental Justice Alliance
Katz, Carla, Communications Workers of America Local 1034
Lang, Mae, Central/Northern NJ Coalition of Black Trade Unionists
Lavin, William, NJ Fireman's Mutual Benevolent Association
LeGrande, David, Communications Workers of America Department of Occupational
Safety and Health
Majeed, Mujahid, Community Action and Response Against Toxics, Coalition of Black
Trade Unionists
Marketti, Jim, Communications Workers of America Local 1032
Mason, Linda, American Federation of Government Employees, District 2, AFL-CIO
McCullough, Ron, United Electrical Workers Local 155
Montague, Peter, Environmental Research Foundation
Mottola Jaborska, Dena, Environment – New Jersey
Moulton, Sean, Federal Information Policy, OMB Watch
Neidhardt, Mike, United Steelworkers Local 4-397
Nogaki, Jane, Coalition Against Toxics
Pajak, John, New Jersey Work Environment Council
Philipson, William, New Jersey Council of Utility Workers, AFL-CIO
Pisauro, Michael L., Jr., New Jersey Environmental Lobby
Pursell, Robert, Communications Workers of America District 1, AFL-CIO
Rahke, Barbara, Philadelphia Area Project on Occupational Safety and Health
Rosado, Milton, United Auto Workers, Community Action Program – NJ, AFL-CIO

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Rose, John E., Communications Workers of America Local 1031
Rosenstein, Hetty, Communications Workers of America Local 1037
Rowe, Jim, United Steelworkers Local 4-943
Salowe-Kaye, NJ Citizen Action
Sheehan, Bill, Captain, Hackensack Riverkeeper
Shinn, John, Burlington County Central Labor Union, AFL-CIO
Shufro, Joel, New York Committee for Occupational Safety and Health
Smith, Kate, New Brunswick Education Association
Stever, Ray, NJ State Industrial Union Council
Stiles, Eric, New Jersey Audubon Society
Tittel, Jeff, New Jersey Chapter, Sierra Club
Tuff, Ronald, Reverend, Paterson Task Force for Community Action
Twomey, Ann, Health Professionals and Allied Employees Union, AFL, CIO
van Rossum, Maya, Delaware Riverkeeper Network
Weiner, Dave, Communications Workers of America Local 1081
Wheeler, David, Edison Wetlands Association
Willner, Andrew, NY/NJ Baykeeper
Womack, Frank L., American Federation of Government Employees Local 2041
Wright, Michael, United Steelworkers, Department of Health, Safety, and Environment
Zipf, Cynthia, Clean Ocean Action

The timely submitted comments and the agency's responses are summarized below. The number(s) in parentheses after each comment identifies the respective commenter(s) listed above.

General

1. COMMENT: Performing IST reviews is inherent to the nature of the chemical manufacturing business and is crucial to the chemical industry's sustainability and growth; therefore, the proposed expansion of requirements to perform inherently safer technology (IST) reviews is supported. (2, 3, 6, 21)
2. COMMENT: Identifying and implementing feasible alternatives will reduce the likelihood or consequences of an EHS release and will provide greater safety for workers, the community, infrastructure, and the environment. (4, 11, 16, 18, 19, 20, 23, 25)
3. COMMENT: Completing the IST analysis is low cost and subject facilities would experience added benefits of possible lower liabilities, reduced emergency response costs, and a more positive public perception of the facility. (19)
4. COMMENT: The following research report, supported by U.S. Environmental Protection Agency and published 15 years ago, supports the conduct of inherently safer technology studies: Nicholas A. Ashford, and others, *The Encouragement of Technological Change for Preventing Chemical Accidents: Moving Firms from Secondary Prevention and Mitigation to Primary Prevention* (Cambridge, Mass.: Massachusetts Institute of Technology, Center for Technology, Policy, and Industrial Development, July 1993). (14)

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5. COMMENT: Implementing inherently safer technology through substitution of hazardous chemicals is an opportunity to apply the principles of green chemistry. (20)
6. COMMENT: Other government agencies such as the Federal Aviation Administration have required safer design and safer technologies to be used in the private sector. (9, 20)

RESPONSE TO COMMENTS 1 THROUGH 6: The Department acknowledges the commenters' support and agrees that completing an IST review is an important planning tool.

7. COMMENT: Safer technologies are available and feasible for commonly used extraordinarily hazardous substances (EHSs) such as anhydrous ammonia, sulfur dioxide, hydrogen fluoride, and chlorine. Examples of conversions from the use of these chemicals include: water treatment facilities that converted to safer alternatives such as ultraviolet light and sodium hypochlorite, thereby eliminating the use of chlorine and sulfur dioxide gas; petroleum refineries that use safer alternatives to hydrogen fluoride (HF); and electric power plants that use safer alternatives to anhydrous ammonia gas such as dry urea and aqueous ammonia. (8, 9, 17)
8. COMMENT: A company that uses chlorine to manufacture sodium hypochlorite is a potential candidate for implementing IST by utilizing another available safer technology that produces high strength sodium hypochlorite in one continuous operation, thereby eliminating the need to ship or store chlorine on site. (9)
9. COMMENT: One facility switched from bulk storage of chlorine to onsite generation of chlorine dioxide for bleaching paper. (17)
10. COMMENT: One facility switched from bulk sulfur trioxide storage to onsite generation with an automatic emergency shutdown. This has prevented potential catastrophic releases in incidents. (13, 17)

RESPONSE TO COMMENTS 7 THROUGH 10: The Department acknowledges the examples of IST that have been implemented.

11. COMMENT: The Federal Department of Homeland Security rules issued on April 2, 2007 should be amended to include requirements for facilities handling hazardous materials to implement IST because that is the best way for a regulated facility to reduce the consequences of a terrorist attack is to implement IST. (9)

RESPONSE: The Department acknowledges the comment supporting the need for conducting IST reviews. However, the commenter might consider directing this comment to the Department of Homeland Security because that department, rather than the Department of Environmental Protection, issues the rules that the commenter mentions.

12. COMMENT: This proposed rule is not being considered through the proper channels of approval. Input from State homeland security officials and Federal agencies should be sought and risk reduction measures derived from security assessments should be initiated before another regulatory layer in the name of "security" is forced upon industry. (5)

RESPONSE: The results of a facility's implementation of IST could be a reduction in that facility's attractiveness as a terrorist target and a lowering of the risk of potential release from a process safety standpoint. Therefore, IST reviews required by these rules can be viewed as

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complementary to the efforts required by other Federal and State rules or programs concerning domestic security. However, the Department believes that additional risk reduction measures can be identified and implemented from the IST review that go beyond those derived from security assessments. The purpose of these IST rules is to require subject facilities to perform IST reviews to identify ways to reduce or eliminate the risk of a release and the potential consequences of harm to health and the environment, whereas the purpose of security assessments is to analyze ways to improve the security measures of the facility.

13. COMMENT: Contrary to the Department's assertions, IST does not involve the use of both active and passive protections. The Department should revise its January 12, 2006 IST review guidance document to remove examples that are active protections. (3, 6, 7, 21)

14. COMMENT: It is important to consider active protection, such as emergency shutoff valves, in the IST review. (1)

RESPONSE TO COMMENTS 13 AND 14: As indicated in the summary section of the rule proposal, the American Institute of Chemical Engineers' Center for Chemical Process Safety states, and these amendments to the TCPA rules provide, that the first step in implementing risk reduction measures is to eliminate or reduce the hazard by substituting or reducing the EHS, followed by adding layers of protection that include categories of passive, then active, and finally procedural risk reduction. If it is not feasible to reduce or eliminate the hazards by reducing or substituting the EHS, then passive, active, and procedural measures should be evaluated. Facilities that are subject to the TCPA program already have implemented many risk reduction measures such as alarms, interlocks, dikes, deluges, scrubbers and procedures to reduce the risk of releases at covered processes. There may be inherently safer alternatives beyond those layers of protection that may reduce risks that should be investigated and evaluated. Also, there may be alternative active and passive controls that are safer than ones currently in the process. The overall goal of the TCPA program is to reduce the risk of a catastrophic EHS release, which includes implementing an overall risk reduction program utilizing the four categories of risk reduction: reducing or eliminating the hazard, passive, active, and procedural.

Regarding the comment on the January 12, 2006, guidance on IST reviews, the Department prepared this guidance document to provide assistance in the completion of IST reviews under the Best Practices Standards at TCPA/DPCC Chemical Sector Facilities, ("Best Practices Standards" November 21, 2005. Since future IST reviews are required to be conducted pursuant to these rules, that guidance document is no longer applicable. However, the IST examples in Appendix 1 of the January 12, 2006 guidance are valid examples that are consistent with these new rules. Accordingly, the Department plans to continue to use the examples in Appendix 1 as an educational tool for the regulated community, and to update these examples as needed.

15. COMMENT: The Department should be commended for allowing the use of any available inherently safer technology review method and not restricting the reviews to select methods. (3, 6, 21)

16. COMMENT: Any IST review process should be mandatory. (24)

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RESPONSE TO COMMENTS 15 AND 16: Pursuant to N.J.A.C. 7:31-3.6(d) and 4.12(d), the IST review process is mandatory, and the owner or operator is required to conduct a review to try to identify available IST alternatives or combinations of alternatives that minimize or eliminate the potential for an EHS release. The Department acknowledges that it is not requiring the use of a specific IST review methodology. The IST analysis method and the findings of the IST review must be described in the report that is required to be prepared pursuant to N.J.A.C. 7:31-3.6(f) and 4.12(f). 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.

17. COMMENT: The proposed requirements would be duplicative for the food sector, which is already subject to Best Practices requirements. (5)

18. COMMENT: The proposed IST Review requirements are not being implemented by any other state (or federal) agency and the proposed requirements would apply only to a small number of food-related facilities that use large quantities of extraordinarily hazardous substances. Accordingly, no exemptions should be given to any particular industry facilities. (7)

RESPONSE TO COMMENTS 17 AND 18: The Department agrees that no other State or Federal rules or legislation require the food industry to conduct and document IST reviews. Accordingly, the IST rules will not be duplicative of other Best Management Practices. In the past, facilities in the food industry had been directed by the Domestic Security Preparedness Task Force to conduct security vulnerability assessments to consider both food contamination issues and EHS releases. Assessments of security related issues such as access to the facility involving food contamination were reviewed by the Department of Health and Senior Services, while those involving EHS releases were reviewed by the Department. However, these assessments concerned evaluating security measures at the facilities, not IST. Currently, eleven registered food industry facilities are subject to the TCPA program.

19. COMMENT: The Department should not duplicate aspects of existing Federal and State regulations, such as process hazard analysis (PHA), hazard review and other risk management program elements of the current TCPA rules, that are proven to be effective and where elements of an IST program are already in place. (2, 10, 12, 15)

20. COMMENT: PHA's, hazard reviews, and other risk management program elements are comparable requirements to an IST Review, which is not required in any other State or Federal law. (7)

RESPONSE TO COMMENTS 19 AND 20: The review required under the IST amendments and the reviews required under the rules concerning PHA, hazard review, or any other risk management program element are not redundant. The goal of a PHA and IST review is to identify risk reduction measures for a facility. However, the four principles and techniques that must be addressed in the IST review, namely reducing the amount of EHS material that potentially may be released, substituting less hazardous materials, using EHSs in the least

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hazardous process conditions or form, and designing equipment and processes to minimize the potential for equipment failure and human error, are not required to be addressed in the PHA or hazard review. Performing the IST review provides a means of “thinking outside the box,” beyond the traditional risk reduction measures.

That being said, it is conceivable that the four IST review principles and techniques can be addressed as part of PHA and that the IST review can be conducted using a PHA methodology, which is noted by the Center for Chemical Process Safety. That is why N.J.A.C. 7:31-3.6(b) and 4.12(b) provide that future updates of the IST review are to be completed on the same schedule as hazard review updates and PHA revalidations.

21. COMMENT: The proposed IST amendments should be reviewed by relevant State agencies, the Legislature, Federal law enforcement agencies, and State and local police. The proposed amendments are not consistent with the Toxic Catastrophe Prevention Act (TCPA). (2)
22. COMMENT: The Department has communicated with government agencies about the proposed rule and has maintained a transparent and open process to solicit public comment, and the proposed rule is entirely consistent with the TCPA statute. (7)

RESPONSE TO COMMENTS 21 AND 22: The Department is the State agency charged with the task of implementing the TCPA statute, including requiring the performance of IST reviews (see N.J.S.A. 13:1K-24); accordingly, these rules are consistent with the TCPA and with the Department’s mandate to implement that act. The Department regularly communicates with other relevant local, State and Federal agencies, and other stakeholder groups including industry, consultants, safety professionals, and environmental groups, concerning implementation of its rules, and the Department intends to continue this dialogue with regard to IST rule implementation.

23. COMMENT: There is no formal established definition of IST; accordingly, the rule should be clarified to provide that IST is not a solution for security risk reduction, that the methodology not be prescriptive, and that IST is one of the tools for reducing accidental risks. (2)
24. COMMENT: The term “inherently safer technology” at N.J.A.C. 7:31-1.5 should be changed to “inherently safer approaches,” because the word “technology” is too narrow and fails to reflect the fact that changes in facility design and operations can contribute to inherent safety. (7)

RESPONSE TO COMMENTS 23 AND 24: The adopted rule defines IST at N.J.A.C. 7:31-1.5 as, “the principles or techniques that can be incorporated in a covered process to minimize or eliminate the potential for an EHS release.” N.J.A.C. 7:31-3.6(d) and 4.12(d) require that each IST review identify available IST alternatives or combinations of alternatives that minimize or eliminate the potential for an EHS release. Using any available IST analysis method, the IST review must 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

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

The IST provisions are not adopted as a solution for security risk reduction. The Department recognizes that evaluating IST is one of the tools that are available to subject facilities to help them evaluate and reduce risk, and that this tool may be used in combination with other risk management strategies. In the adopted provisions, the IST methodology is not prescribed; rather, the methodology used must address the IST evaluation and report requirements. The Department intends the term “inherently safer technology” to be interpreted in a broad sense to incorporate not only technology and equipment but also facility design and operations.

25. COMMENT: The Department should have held workshops and information sessions in advance of this proposed rulemaking. (2)

RESPONSE: IST is a widely known concept that has been addressed by guidance from the Center for Chemical Process Safety. Also, several TCPA regulated facilities have already performed IST reviews pursuant to the Best Practices Standards. The proposal did not present technical issues that required stakeholder input to resolve. The proposed rules were published in the New Jersey Register and posted on the Department’s website, a public hearing was held, and a 60-day public comment period was provided.

26. COMMENT: Although ozone and ultraviolet light are effective disinfectants at water treatment plants, chlorine is still one of the most effective disinfectants and therefore, water treatment plants will continue to utilize it. Alternate disinfectants are not needed because compliance with the TCPA rules provides assurance that chlorine and ozone are handled with utmost care and in accordance with industry safety operating procedures. Accordingly, water treatment plants should not be required to substitute other disinfectants for chlorine, regardless of the results of the IST review. (9, 10, 11)

RESPONSE: In the IST review, facilities must determine if there are available IST alternatives for their process and must evaluate the feasibility of each IST alternative. Substitution is one of the IST techniques that must be evaluated. If there are no feasible IST alternatives utilizing substitution, other IST techniques such as reducing the inventory must also be evaluated. To evaluate the feasibility of an identified IST alternative, the owner or operator must take into account environmental, public health and safety, legal, technological, and economic factors. The continued use of chlorine as a disinfectant or substitution with another disinfectant must be evaluated and documented taking into account those factors. A conclusion that use of chlorine is the only feasible technology for a particular facility is acceptable as long as this conclusion has been drawn after conducting a complete and thorough IST analysis.

27. COMMENT: The rule should include provisions for an acceptable risk level to regulate the elimination and control of such risks. Further, risk elimination should address the location of facilities where accidental EHS releases may potentially impact nearby populations and the rules should include mandatory provisions to eliminate risks. (24)

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RESPONSE: The IST amendments to the TCPA rules dovetail with the overall goal of the TCPA rules, namely, the prevention of catastrophic releases of toxic, flammable, and reactive Extraordinarily Hazardous Substances (EHSs). The rules do not prescribe an acceptable risk level. Rather, the TCPA rules establish threshold reportable quantities for each EHS listed at N.J.A.C. 7:31-6.3; compliance with the TCPA rules is triggered by the act of handling, using, manufacturing, storing or generating EHSs in or above the threshold reportable quantities established for that EHS at a covered process. In other words, facilities that have the threshold quantity of EHSs in their processes must comply with the TCPA rules to reduce or eliminate their risks regardless of how low their calculated risks may be. The TCPA rules require facility owners and operators to anticipate the circumstances that could result in an EHS release and take precautionary and preemptive actions. The TCPA rules already include several mandatory provisions to achieve this goal. The owners or operators of the facilities subject to TCPA rules are required to develop a risk management system through which they implement the various risk management program elements. Those elements include conducting a hazard assessment; implementing the prevention requirements of the risk management program as outlined in 40 CFR 68.48 through 40 CFR 68.60, or 40 CFR 68.65 through 68.87 as applicable; and developing and implementing an emergency response program. The risk management program prevention requirements include elements such as up to date process safety information, process hazard analysis with risk assessment and risk reduction planning as appropriate, standard operating procedures, training of operators, equipment maintenance, compliance audits, accident investigation, and emergency response. The owner or operator is required to demonstrate that equipment complies with recognized and generally accepted good engineering and operating practices.

In the process hazard analysis with risk assessment, the owner or operator is required to identify, evaluate and control the hazards involved in a process. N.J.A.C. 7:31-4.2(b)3 requires that every process hazard analysis with risk assessment for Program 3 TCPA risk management programs include a consequence analysis, in which the potential consequences of an EHS release on the surrounding population must be determined, using dispersion, thermal or overpressure analysis, and by identifying potential populations exposed to the toxic, thermal or overpressure endpoint for each EHS.

For each scenario that has an offsite impact as determined following the procedure outlined at N.J.A.C. 7:31-4.2(c), the owner or operator must evaluate implementing risk reduction measures or evaluate the release likelihood to determine whether risk reduction is needed. In this way, the rules lead to minimization of the risk of EHS releases. With the adoption of the IST provisions, the TCPA rules provide a means for the elimination of EHS releases.

28. COMMENT: The IST review reports that are submitted to the Department should be subject to public review and comment. Also, the rules should require disclosure of risks to the public and public involvement in risk control. (4, 40, 55, 69, 15, 16)

RESPONSE: The Department disagrees that the TCPA rules should be amended to specifically require that IST review reports that are submitted to the Department be subject to public review and comment or that rulemaking to require disclosure of risks to the public and

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public involvement in risk control is necessary, because sufficient regulatory mechanisms already exist for involving the public in emergency planning through the Federal Emergency Planning and Community Right to Know Act (EPCRA), 42 U.S.C. § 11001 et seq., and its implementing regulations, incorporated by reference into the TCPA rules.

The Federal Emergency Planning and Community Right-to-Know Act (EPCRA), 42 U.S.C. 11001, et seq. specifically establishes Local Emergency Planning Committees (LEPCs) as the go-between between a facility and the public. EPCRA at 42 U.S.C. 11003 requires each LEPC to prepare an emergency plan and to review that plan at least annually, or more frequently as changed circumstances in the community or at any facility may require. The TCPA rules at N.J.A.C. 7:31-5.1(a), incorporating 40 CFR 68.95(c) by reference, require a facility to coordinate that facility's emergency response plan with the community emergency plan developed under EPCRA. Upon request of the LEPC, the facility owner or operator is required to provide the LEPC information necessary for developing and implementing the community emergency response plan. Additionally, the Discharge Prevention of Hazardous Substances rules at N.J.A.C. 7:1E-4.3(b)10, require the owner or operator of the facility to have a current agreement with the LEPC under which facility emergency response is coordinated with members of the LEPC.

EPCRA at 42 USCS § 11003(d) requires the owner or operator of the facility to notify the emergency planning committee (or the Governor if there is no committee) of a facility representative who will participate in the emergency planning process as a facility emergency coordinator, and to promptly inform the emergency planning committee of any relevant changes occurring at the facility as such changes occur or are expected to occur. In addition, upon request from the emergency planning committee, the owner or operator of the facility shall promptly provide information to the LEPC as necessary for developing and implementing the emergency plan. This ensures that the local experts who ultimately will be involved in emergency response will be fully informed of facility operations and the potential risk of the facility.

Local emergency plans are reviewed by the State emergency response commission (SERC) of each state in which such district is located. The commission reviews the plan and makes recommendations to the committee on revisions of the plan that may be necessary to ensure coordination of such plan with emergency response plans of other emergency planning districts. In New Jersey, the State Police and the Department are co-chairs of the SERC.

New Jersey LEPCs are established at the municipal and county level. They are required to have a broad-based community membership, including members from among elected State and local officials, law enforcement, civil defense, fire-fighting, first aid, health, local environmental, hospital, and transportation personnel; broadcast and print media; community groups; and owners and operators of facilities subject to the requirements of EPCRA. Each LEPC must have provisions for public notification of LEPC activities, public meetings to

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discuss the community's emergency plan, a means of soliciting and responding to comments from the public, and provisions for the distribution of the emergency plan. It must also have procedures for receiving and processing requests for information under EPCRA from the public, with an official designated to serve as coordinator of information. Therefore, LEPCs have been established as the interface between the public and the regulated facilities within their jurisdiction. The State Police have a planner assigned to each county who is responsible for coordinating the plans from all of the municipalities in that jurisdiction. Because both the TCPA and DPHS rules require coordination with the LEPC, and in turn the LEPC is required to coordinate with both the regulated facilities and the public, additional rule requirements involving this issue are not necessary.

It is appropriate for the facility to interface with local emergency responders because these responders have the expertise to understand the components of an emergency response plan and have the ties to the community to respond to public inquiries.

The adopted IST rules amendments require the facilities with Program 2 covered processes to evaluate inherently safer technologies and submit a report of their findings to the Department initially and as a part of the triennial reporting requirement (see N.J.A.C. 7:31-3.3(b)6). Owners or operators of Program 3 covered processes are now required to submit IST reports initially and for updated IST reviews in their annual reports to the Department (see N.J.A.C. 7:31-4.9). These reports become a part of the facility's risk management program. Risk reduction measures identified in the IST review and implemented by the owner or operator should be reflected in the facility's emergency response plan. The results of IST analyses should be helpful to the LEPC members or emergency response officials for developing and implementing the community emergency response plan.

29. COMMENT: Are the IST reviews completed pursuant to the Domestic Security Task Force Best Practices Standards voluntary, and are they adequate? The Department should clarify the chronology and intent of Acting Governor Codey's order and Governor Corzine's pledges regarding the Best Practices Standards. The Department should clarify how the proposed rule amendments compare with the Best Practices Standards. (24)

RESPONSE: The IST amendments are being promulgated under the authority of the Toxic Catastrophe Prevention Act (TCPA). The Best Practices Standards were assembled under the auspices of the Domestic Security Preparedness Act.

As described in the summary of the rule proposal, the IST reviews required under the Best Practices Standards were mandatory, not voluntary, for those TCPA regulated facilities listed under specified Standard Industrial Classification and North American Industry Classification System codes. The purpose of the IST amendments is to require the remaining TCPA regulated facilities not covered under the Best Practices Standards to conduct a similar IST review. Since the IST reviews required pursuant to the Best Practices Standards and these rules are very similar in nature, the Department determined that IST review reports completed pursuant to the Best Practices Standards could be submitted as the initial IST

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review report. The Department has reviewed those IST review reports completed pursuant to the Best Practices Standards. However, all future IST reviews and reports at subject facilities must comply with the requirements of these rules.

The goal of the Domestic Security Preparedness Act (DSPA) is to reinforce and expand New Jersey's existing anti-terrorism efforts by enhancing and integrating security planning and preparedness measures throughout the State. The goal of TCPA regulations is to protect the public from catastrophic releases of EHSs. The IST requirements outlined in the Best Practices Standards and the IST requirements of the TCPA rules are conceptually similar even though they were adopted for different purposes. However, the IST provisions in the TCPA rules include the following requirements that are not part of the IST requirements of the Best Practices Standards: updating the IST review periodically; prescribing the members of the team who will conduct the IST review; and factors to consider to determine the feasibility of IST, and information to be included in the IST review report.

30. COMMENT: Proposed N.J.A.C. 7:31-3.6(a) and 4.12(a) refer to the Best Practices Standards at TCPA/DPC Chemical Sector Facilities, November 21, 2005. Item 11 of the Best Practices Standards states that facilities will be subject to monitoring and inspection by the Domestic Security Taskforce, not the Department and union representatives. The Department should clarify who is responsible for monitoring and inspection and whether union representatives may be involved. (24)

RESPONSE: The Department was charged by the Domestic Security Preparedness Task Force with verifying subject facilities' compliance with the Best Practices Standards. The Department, not the Domestic Security Preparedness Task Force, has the authority and responsibility to verify compliance with the TCPA rules, including the adopted IST provisions, through the review of IST review reports submitted to the Department and through onsite inspections. The Department may interview the team members involved in the preparation of the IST review report including the employee representatives. The Department will issue appropriate enforcement actions for noncompliance. Administrative Order 2005-05, issued by the Department Commissioner, includes provisions for employees and their representatives to participate in site inspections conducted by the Department to verify compliance with the TCPA rules.

31. COMMENT: The proposed rule works in tandem with the U.S. EPA Chemical Accident Prevention rule, 40 C.F.R. 68, which was promulgated pursuant to Section 112(r) of the Federal Clean Air Act Amendments of 1990 (CAA). There is ample statutory authority to require safer technologies in the General Duty Clause of section 112(r) of the CAA. Therefore, the Department has the authority to adopt the IST rule amendments. (9)

RESPONSE: The General Duty Clause of section 112(r) of the CAA is implemented through the Federal Chemical Accident Prevention rule, 40 CFR 68. Although the Department has received delegation from the Federal Environmental Protection Agency (EPA) to be the implementing agency for the Chemical Accident Prevention rule, 40 CFR 68, the EPA does not allow delegation of the General Duty Clause to state implementing programs.

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Accordingly, the General Duty Clause does not provide the Department with any enforcement jurisdiction. However, the Department has the authority under the TCPA to promulgate these rules.

N.J.A.C. 7:31-3.6(a) and 4.12(a)

32. COMMENT: The deadline for the submittal of the initial IST review reports should be extended to 240 days, and the corresponding penalty items 193 and 432 at N.J.A.C. 7:31-11.4(c) Table III should be revised to reflect this change. Also, a provision should be included in the rule that would allow the Department to grant further extensions to the owners or operators of the facilities that are subject to these requirements. To comply with these rules, owners or operators will have to assemble a multidisciplinary team to conduct the IST review, will have to comply with management of change requirements of the TCPA rules, provide technical due diligence, and conduct a very detailed quantitative analysis and extensive engineering work. Accordingly, more time should be allowed than 120 days to complete the initial IST reports and the Department should be able to grant additional extensions if warranted. (2, 3, 6, 21)

RESPONSE: The deadline specified in the rule is based on the previous experience of the Department with the IST reviews that were completed by the owners or operators of the facilities that are subject to the Best Practices Standards. With the preparation and submittal of the IST review reports, there is no need to comply with the management of change requirements of the TCPA rules or to perform the final detailed engineering work of the IST. These would be done during the implementation phase of the ISTs selected by the owner and operator. The rule does not specify a deadline for the implementation of the selected ISTs.

33. COMMENT: The Department should accept IST reviews that were completed in accordance with the “Chemical Group Security Assessment and Best Practices Report,” (Chemical Sector Best Practices), April 30, 2003, prepared by the Chemical Sector Infrastructure Advisory Committee under the direction of the New Jersey Domestic Security Preparedness Task Force. (3, 6, 21)

34. COMMENT: The Chemical Sector Best Practices document provides inadequate guidance to facility management conducting IST reviews. Therefore, the Department should not accept IST reviews that were completed in accordance with the Chemical Sector Best Practices document. (7)

RESPONSE to COMMENTS 33 and 34: The rule does not mandate the use of a specific methodology in the conduct of the IST review. However, any selected method must meet the rule requirements specified at N.J.A.C. 7:31-3.6 and 4.12. The report for an IST review completed pursuant to the “Best Practices Standards at TCPA/DPCC Chemical Sector Facilities,” (Best Practices Standards), November 21, 2005, can be submitted to the Department in lieu of the IST review report that is otherwise required to be submitted within 120 days of the effective date of these new rules. This recognizes that the IST reviews required to be performed using the Best Practices Standards did meet substantially similar

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standards as set forth in these rules. It would be duplicative and an inefficient use of both the Department's and facilities' resources to repeat the IST reviews so recently completed. However, all facilities subject to the rules must update their IST reviews and conduct future IST reviews in accordance with the rules.

The Chemical Sector Best Practices does not discuss the performance of IST reviews; however, it does include a reference to the American Chemistry Council's Responsible Care Code, which refers to the American Institute of Chemical Engineers' Center for Chemical Process Safety's document, "Guidelines for Analyzing and Managing the Security Vulnerabilities of Fixed Chemical Sites" as guidance to conduct a security vulnerability assessment. This document recommends, but does not require, that facilities conduct inherently safer technology reviews as a means to reduce the attractiveness of the facility as a target. It describes the IST review concepts but does not provide specific guidance on how to perform or document an IST review. Therefore, any IST review performed using the Chemical Sector Best Practices guidelines can be submitted to the Department if it meets the rule requirements.

35. COMMENT: The IST review requirements at N.J.A.C. 7.31-3.6(a), 3.6(b), 3.6(d)1, 4.12(a), 4.12(b), 4.12(d)1, 3.4(e), and 4.11(e) should be revised to apply only to release scenarios that have an offsite impact. Also, the corresponding penalty items 194, 433, and 435 at N.J.A.C. 7:31-11.4(c) Table III should be revised to reflect this change. (2, 3, 6, 21)
36. COMMENT: The IST review requirements at N.J.A.C. 7.31-3.6(a), 3.6(b), 3.6(d)1, 4.12(a), 4.12(b), 4.12(d)1, 3.4(e), and 4.11(e) should not be revised to apply only to release scenarios that have an offsite impact; the proposed rule language is consistent with the TCPA. (7)
RESPONSE to COMMENTS 35 and 36: The purpose of this rulemaking is to require all owners or operators of TCPA facilities to complete an IST review to identify alternatives to eliminate or reduce the risk of an EHS release. The owner or operator is required to determine the feasibility of IST alternatives identified, while taking into account several factors, two of which include public health and safety, and environmental factors. Releases impact public health and safety and the environment both on a facility's site and off site. Allowing a facility to ignore the potential on-site consequences of a release would result in an incomplete analysis; the Department intends for facilities to evaluate IST for the entire process, whether or not certain scenarios have offsite impact, regardless of the extent of the potential impact. It is essential that the extent of the impact, both on site and off site, be evaluated, along with the economic, technological, and legal factors, to determine the costs and benefits of implementing ISTs that have been identified in the review, so that the facility has a complete picture of potential release impacts.
37. COMMENT: The link to the Domestic Security Preparedness Task Force Best Practices Standards ("Best Practices Standards") on the Department's website is not functioning, and it is therefore impossible to review the Best Practices Standards for the purpose of commenting on the proposal. The Department should re-propose so that meaningful comment would be possible. (15)

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RESPONSE: The Department acknowledges and regrets that when the Department's TCPA website was reorganized and redesigned shortly before the rule proposal was published, the link to the Best Practices Standards was inadvertently broken. However, the Department does not believe that reproposal is necessary because the Best Practices Standards document was posted and available on the newly designed website, albeit under a different URL address. Also, the Best Practices Standards document was available upon request from the Department. The commenter could have contacted the Department by phone or mail to request a copy of this document. Note that on adoption, the Department is revising N.J.A.C. 7:31-3.6(a) and 4.12(a) to provide the current website address for the website address for the page where the Best Practices Standards document is posted, <http://www.nj.gov/dep/rpp/brp/>, and the Best Practices Standards document also may be obtained by contacting the Department.

N.J.A.C. 7:31-3.6(b) and 4.12(b)

38. COMMENT: The requirement for the IST review to be repeated pursuant to N.J.A.C. 7:31-3.6(b) and 4.12(b) provides the most opportunity for overall ongoing evaluation of opportunities to make facilities inherently safer through the lifecycle of the chemical process or plant. (19)

RESPONSE: The Department acknowledges the comment in support of this rulemaking.

N.J.A.C. 7:31-3.6(c) and 4.12(c) – IST review team

39. COMMENT: The requirements for the qualified team at N.J.A.C. 7:31-3.6(c) and 4.12(c) should be changed to mirror the existing rule requirement for team make-up under the process hazard analysis (PHA) element, which requires that the team have members with expertise in engineering and process operations and include at least one employee who has experience and knowledge specific to the process being evaluated. Also, one member of the team should be knowledgeable in the specific methodology being used. Also, the corresponding penalty items 195 and 434 at N.J.A.C. 7:31-11.4(c) Table III should be revised to reflect this change. (2, 3, 6, 21)

40. COMMENT: The qualified team should include front-line wage workers, who have much experience in preventing and responding to industrial accidents. (1, 2, 4, 8, 9, 16)

41. COMMENT: The Department should require a specific number of non-supervisory employees be included on the team and if the facility is unionized, the rule should specify such employees should be selected by their representatives as established by precedent in the National Labor Relations Act. Also, the corresponding penalty categories at N.J.A.C. 7:31-11.4(c) Table III should be revised to reflect these changes. (11, 18, 22, 25)

RESPONSE to COMMENTS 39 through 41: The composition of the members of the IST review team and the necessary skill areas are consistent with 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. Owners or operators must

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include front-line workers in the IST review team. The TCPA rule at 40 CFR 68.83(b), incorporated with changes at N.J.A.C. 7:31-4.1(c)22, requires that the owner or operator consult with employees and their representatives on the conduct and development of process hazards analyses with risk assessments and on the development of the other elements of process safety management in this rule; this includes the conduct of the IST review. Furthermore, N.J.A.C. 7:31-3.6(c) and 4.12(c) require that team members have expertise in maintenance, and in production and operations. Front-line workers (employees) with expertise in these areas, along with engineers and managers for the process, must be included to satisfy this requirement. The number of personnel to be included is not specified because the rule is written broadly to allow each facility owner or operator to have the flexibility to ensure that the team is comprised of staff with sufficient expertise to participate in the review. Since the rule requires that future IST reviews be done on the same schedule as PHA and hazard review revalidations and updates, it is anticipated that those future ISTs will be done in conjunction with PHAs and hazard reviews. There is no need to have separate PHA/hazard review and a separate IST teams, and it is anticipated that the PHA/hazard review team members will be included in the IST team. However, all members of the IST and PHA/hazard reviews may not necessarily have to be present for all parts of the review.

N.J.A.C. 7:31-3.6(d) and 4.12(d)

42. COMMENT: The words “inherently safer” should be inserted after the word “designing” at N.J.A.C. 7:31-3.6(d)4. This will help clarify that the design of equipment should be geared towards inherently safer designs. (3, 6, 21)

RESPONSE: The introductory paragraph of N.J.A.C. 7:31-3.6(d) and 4.12(d) states that the IST review must identify available IST alternatives or combinations of alternatives that minimize or eliminate the potential for an EHS release. The IST review must include an analysis of the four specified principles and techniques. Accordingly, adding the phrase “inherently safer” at N.J.A.C. 7:31-3.6(d)4 and 4.12(d)4 would be redundant and unnecessary.

43. COMMENT: N.J.A.C. 7:31-3.6(d) and 4.12(d) should be revised by deleting the phrase “that minimize or eliminate the potential for an EHS release” from the requirement to identify available IST alternatives or combinations of alternatives in the IST review. Also, the corresponding penalty items 196, 197, 198, 199, 435, 436, 437, and 438 at N.J.A.C. 7:31-11.4(c) Table III should be revised to reflect this change. (2)

RESPONSE: The central purpose of performing an IST review in these rules is for the owner or operator to investigate and identify feasible options to minimize or eliminate the potential for an EHS release. Deleting the phrase as suggested by the commenter would make N.J.A.C. 7:31-3.6(d) and 4.12(d) unclear.

44. COMMENT: At N.J.A.C. 7:31-3.6(d) and 4.12(d), the Department should delete the phrase “at a minimum” from the requirement to include the four specified IST principles and

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techniques. Also, the corresponding penalty items 196, 197, 198, 199, 435, 436, 437, and 438 at N.J.A.C. 7:31-11.4(c) Table III should be revised to reflect this change. (2)

RESPONSE: Making the suggested deletion of this term would not change the substance of the requirement. By specifying the minimum principles and techniques, the rule allows other principles and techniques to also be used to identify ISTs in addition to the four that are listed, but does not require additional principles to be applied. However, the analysis must meet the minimum four requirements because these have been identified by the Department as the minimum principles needed in an Inherently Safer Technology review, as explained in the proposal summary with reference to publications of the Center for Chemical Process Safety.

N.J.A.C. 7:31-3.6(e) and 4.12(e)

45. **COMMENT:** The Department should delete N.J.A.C. 7:31-3.6(e) and 4.12(e), which require that the IST review include a feasibility determination. Also, the corresponding penalty items 200 and 439 at N.J.A.C. 7:31-11.4(c) Table III should be revised to reflect this change. (2)

RESPONSE: Because the commenter only submitted suggested edits to the proposed rule text without an accompanying explanation, the Department has no contextual reference in which to respond to this comment. However, the purpose of IST review is for the owner or operator to investigate and identify feasible options to minimize or eliminate the potential for an EHS release, and deleting the referenced sections of the rule would defeat this purpose because an evaluation of the feasibility of IST alternatives then would not be required. Performing the feasibility analysis enables the choice of the optimal alternative for the facility.

N.J.A.C. 7:31-3.6(f) and 4.12(f)

46. **COMMENT:** The Department should delete N.J.A.C. 7:31-3.6(f)3 and 4.12(f)3, which require including in the IST review report a list of inherently safer technologies determined to already be present in the covered process. It is not practical to document all past IST alternatives or risk reduction measures that have been incorporated into existing processes. Also, the corresponding penalty items 204 and 443 at N.J.A.C. 7:31-11.4(c) Table III should be revised to reflect this change. (2)

RESPONSE: N.J.A.C. 7:31-3.6(f)3 and 4.12(f)3 require that owners or operators include in the report of the IST review a list of inherently safer technologies determined to be already present in the covered process. This list should include information about principles and techniques incorporated in the covered process that would currently be considered IST. For example, the owner or operator may already have implemented reductions in their onsite EHS inventory and cannot feasibly make any further reductions. Other IST that has been implemented may have been listed as safeguards in PHA/hazard review reports. It is not expected that each and every piece of equipment be evaluated to determine if it was at one time considered IST. Documenting this information should not be overly time consuming

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and will provide owners or operators with a baseline from which to evaluate and determine whether additional IST alternatives are necessary.

47. COMMENT: The Department should delete the word “additional” from N.J.A.C. 7:31-3.6(f)4 and 4.12(f)4, which require including in the IST review report a list of the additional inherently safer technologies identified. Also, the corresponding penalty items 206 and 445 at N.J.A.C. 7:31-11.4(c) Table III should be revised to reflect this change. The Department should also delete the word “additional” from N.J.A.C. 7:31-3.6(f)5 and 4.12(f)5, which require including in the IST review report a list of the additional inherently safer technologies selected to be implemented and a schedule for their implementation. (2)

RESPONSE: Because the commenter only submitted suggested edits to the proposed rule text without an accompanying explanation, the Department has no contextual reference in which to respond to this comment. However, the word “additional” in these requirements is intended so that the owner or operator will provide a list of IST identified as being available beyond those IST that are already present in the process as required to be identified pursuant to N.J.A.C. 7:31-3.6(f)3 and 4.12(f)3.

48. COMMENT: The Department should replace the phrase “selected to be implemented and a schedule for their implementation” with “that will be considered for implementation.” (2)

49. COMMENT: The word “selected” is confusing and should be deleted from N.J.A.C. 7:31-3.6(f)5 and 4.12(f)5. (11, 18, 25)

50. COMMENT: The rule should require a facility to implement those ISTs that are determined to be feasible. (4, 8, 9, 11, 18, 24, 25)

51. COMMENT: The Department, not the owner or operator, should determine the feasibility, practicality, and need to implement IST as necessary to provide an adequate degree of public protection. (24)

52. COMMENT: The Department should be commended for not mandating the implementation of IST in the rule proposal and limiting the scope of IST to completing reviews, identifying those feasible technologies selected for implementation, and generating reports. IST reviews are very site and process-specific, and decisions of whether to implement an IST should not be made by a governing agency. (3, 6, 21)

53. COMMENT: The Department should be commended for recognizing that IST is a methodology and cannot be too prescriptive because each facility and its surrounding community are unique. (2)

RESPONSE TO COMMENTS 48 THROUGH 53: Revising N.J.A.C. 7:31-3.6(f)5 and 4.12(f)5 to replace “selected to be implemented and a schedule for their implementation” with “that will be considered for implementation” would make this requirement open-ended and difficult to enforce. Owners or operators who are subject to the IST provisions are required to identify available ISTs pursuant to N.J.A.C. 7:31-3.6(d) and 4.12(d). The next step is to determine the ISTs that are feasible and the ISTs that are infeasible. Owners or operators must provide a justification for any IST found to be infeasible pursuant to N.J.A.C. 7:31-3.6(f)7 and 4.12(f)7. Any ISTs that the owner or operator selects for implementation are required to be included in the report. Although the rules do not mandate that IST be

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implemented, they do mandate that the IST analysis be completed, including providing a list of ISTs to be implemented and a schedule for their implementation. The Department anticipates that owners or operators will implement those ISTs determined to be feasible because, not only are they feasible, but the resulting benefits to be derived from the reduced risk of an EHS release would tip the balance in favor of implementation. These benefits include lowering a facility's potential liabilities; increasing the surrounding community's perception, confidence, and acceptance of the facility; lowering operating costs in areas such as maintenance, operations, and emergency response requirements; and finally, avoiding business losses from a production shutdown following an incident.

54. COMMENT: N.J.A.C. 7:31-3.6(f)7 and 4.12(f)7 should be modified from "... qualitative and quantitative . . ." to "... qualitative or quantitative ..." because not all factors that are evaluated to determine feasibility would have both a qualitative and a quantitative basis. Also, the penalty items 208 and 447 at N.J.A.C. 7:31-11.4(c) Table III should be revised to reflect the change. (2, 3, 6, 21)
55. COMMENT: The Department should provide further clarification regarding the infeasibility determination. (7)
56. COMMENT: The factors that are required to be evaluated may not all be relevant for each IST analyzed; therefore, a response for each factor should not be required. (2)
RESPONSE TO COMMENTS 54 THROUGH 56: The Department agrees that not all factors that are evaluated to determine feasibility would have both a qualitative and a quantitative basis. Where there is either no qualitative or no quantitative basis for a particular evaluated factor, the owner and operator would simply so state. However, where there is both a qualitative and a quantitative basis on which a factor may be evaluated, both must be analyzed. The owner or operator must evaluate and document all factors listed in N.J.A.C. 7:31-3.6(f)7 and 4.12(f)7, including the determination of their relevance; without this documentation, it would be impossible to determine whether the facility consciously decided that a particular factor was irrelevant or whether an analysis of that factor was inadvertently overlooked.
57. COMMENT: It is not possible to review every latest IST development within the required review period, but it is possible to evaluate proven and newly viable technologies that industry is utilizing. Trade associations such as the American Petroleum Institute (API) and the National Petrochemical & Refiners Association (NPRA) share information on proven and emerging technologies. It is far beyond the capability of a facility's team of experts to attempt to determine the integrity and safety of every potential unproven IST technology. (2)
RESPONSE: Pursuant to N.J.A.C. 7:31-3.6(d) and 4.12(d), owners or operators are required to complete an inherently safer technology review which includes an analysis concerning reducing the amount of EHS material that potentially may be released, substituting less hazardous materials, using EHSs in the least hazardous process conditions or form, and designing equipment and processes to minimize the potential for equipment failure and human error. The Department agrees that information available from organizations such as API, NPRA, engineering contractors, and consultants could be used to identify IST

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alternatives that are already available and feasible. As specified at N.J.A.C. 7:31-3.6(e) and 4.12(e), feasible means capable of being accomplished in a successful manner. Therefore, owners or operators should consider technologies that are current and already have been proven. Individual owners or operators are required to evaluate these proven technologies to determine what may be utilized in their process. The subsequent updates of the IST review must address the IST alternatives that have been developed since the last IST review. The IST alternatives that would be reviewed would only be the ones that are applicable to the specific covered process for which the review is performed.

58. COMMENT: The rule as proposed is unclear concerning how the quantitative evaluation of economic factors would be applied in the determination of the feasibility of IST. The quantitative evaluation of economic factors should include detailed cost calculations, including projected financial benefits of each IST to the owner or operator, the potential societal costs of not implementing the IST in case of a release that impacts human health and the environment, and the current and projected net income of the facility. If an IST that is being used by other facilities at the time of the IST review is claimed to be infeasible due to economic factors, then the owner or operator of the facility should provide explanations. (9, 11, 18, 25)

RESPONSE: If the owner or operator finds a specific IST infeasible due to an economic factor, this finding must be substantiated using a qualitative and quantitative evaluation. Normally, economic factors are evaluated in the form of a cost benefit analysis. The cost would be the net cost to the facility of implementing the IST, including capital and operational costs less associated financial benefits. For example, if a facility replaces an EHS with a chemical that is not hazardous and is no longer subject to the TCPA regulation, then the cost of complying with TCPA and implementing the risk management program would no longer be an expense. The reduction in regulatory compliance costs would be taken into account in the economic evaluation. The calculated net cost would then be weighed against the environmental benefits. The environmental benefits in this case would be the reduction in the risk of a release that would impact human health, and the environment. In general, if an IST has been implemented by other facilities operating similar processes, it would be considered feasible.

59. COMMENT: The Department should establish criteria and standards concerning how it will review and approve an IST report and determine the feasibility of any IST. (8, 16, 24)

60. COMMENT: The criteria that the Department uses in its review of the IST review reports should be the same as the criteria that are used by the Department to evaluate IST analyses conducted under the Best Practices Standards. (24)

RESPONSE TO COMMENTS 59 AND 60: IST review reports submitted to the Department pursuant to N.J.A.C. 7:31-3.6 and 4.12 will be reviewed by the Department to determine compliance with the requirements outlined in the rules. N.J.A.C. 7:31-3.6(a) and 4.12(a) specify that TCPA facilities subject to the Best Practices Standards may submit the IST review report conducted pursuant to those Standards as the initial IST review report. The

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Department has completed the review of those IST review reports pursuant to the provisions in those Standards.

For all other TCPA facilities that are not subject to the Best Practices Standards and are submitting an initial IST review report pursuant to these rules, the Department will determine whether the IST analysis method included the principles and techniques outlined in N.J.A.C. 7:31-3.6(d) and 4.12(d), whether the team that conducted the IST review had the required expertise outlined in N.J.A.C. 7:31-3.6(c) and 4.12(c), and whether the report contains the information outlined in N.J.A.C. 7:31-3.6(f) and 4.12(f). Regarding the justification of the IST determined to be infeasible, the Department will review the qualitative and quantitative evaluation of environmental, public health and safety, legal, technological, and economic factors that are required at N.J.A.C. 7:31-3.6(f)7 and 4.12(f)7. During the review, the Department will look for completeness, accuracy, and relevance of the information submitted. The Department may ask the owner or operator for additional information and clarification or modifications to the IST report. At the end of the review of the report, the Department will make a determination of compliance or noncompliance.

61. COMMENT: N.J.A.C. 7:31-3.6(f) should be revised to include provisions that would require that the IST report must be signed and dated by the responsible facility owner or operator to ensure accountability, must include the names and titles of the members of the review team, and must identify the participating employees and whether such employees have been selected by the employee representative (the union) for union facilities. (7)
RESPONSE: N.J.A.C. 7:31-3.6(f) 1 and 4.12(f)1 require the IST report to include a list of the review team members with name, position, affiliation, responsibilities, qualifications and experience; the date of report completion; and the IST analysis method used to complete the review. The names of employees participating in the IST review as team members are required to be included in the report. Since the rules do not require that employees be selected by the employee representative for union facilities, it is not necessary to designate how the employees were selected in the report. In practice, all risk management program documents submitted to the Department are signed and dated by the owner or operator or his/her designee.

N.J.A.C. 7:31-3.6(g), 4.11(e) and 4.12(g) - Confidentiality

62. COMMENT: The confidentiality provisions in N.J.A.C. 7:31-3.6(g) and 4.12(g) are cause for concern. The IST reports should not be accessible by the public due to security reasons. The current TCPA rule does not provide sufficient protection, particularly when compared to the security provisions of the EPA Risk Management Program rule, OSHA's Process Safety Management rule, and the Department of Homeland Security's Maritime Transportation Security Act, all of which contain protocols prohibiting release of confidential and or security related information by the owners or operators to the Department. The current language in N.J.A.C. 7:31-3.6(g) and 4.12(g) should be replaced with, "The report and its content contains security information and will only be released as allowed under all State and Federal requirements," and the penalty section should be revised to include provisions for penalties

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for obtaining and releasing information contained in the IST reports without authorization. (2)

63. **COMMENT:** The Department should revise N.J.A.C. 7:31-4.11(e), which requires an owner or operator to submit the IST review report as part of the initial submittal for a new covered process, to include the phrase “as allowed under all State and Federal laws governing the facility’s security requirements.” (2)
64. **COMMENT:** The Department should confirm that approvals from Federal agencies are required before a facility owner would be permitted to release TCPA information to the Department or the public. Information in OSHA files is made available to the public (and state agencies) at EPA reading rooms with certain restrictions under the Federal Freedom of Information Act and EPA-maintained Risk Management Plan submissions, including off-site consequence information. Penalizing individuals for obtaining or releasing information without proper authorization raises a variety of issues that are beyond the scope of the proposed rule and would also appear to conflict with well established policy under federal and state laws, including the National Labor Relations Act, Occupational Safety and Health Act, NJ Public Employees Occupational Safety and Health Act, and NJ Conscientious Employees Protection Act. The Department can use appropriate mechanisms to make information available to the public while maintaining control of the information access. (7)
65. **COMMENT:** N.J.A.C. 7:31-3.6(g) and 4.12(g) are redundant to N.J.A.C. 7:31-10 and should be deleted or should be amended to cross reference the Federal Accidental Release Prevention rule at 40 CFR 68.83(c), which ensures worker and union access to “... all other information developed under this rule.” (8, 11, 18, 22, 25)
66. **COMMENT:** There may be a conflict between the confidentiality provisions set forth as Item 12 of the Best Practices Standards at TCPA/DPCC Chemical Sector Facilities, November 21, 2005, and the confidentiality provisions in the TCPA rule. (24)
67. **COMMENT:** Facilities should not be allowed to claim IST reports as confidential; the public has a right to know about the chemicals and processes in these facilities, and these reports should be publicly available. The Federal Freedom of Information Act requires OSHA files to be publicly available. (7, 8, 9, 14, 16, 24)
68. **COMMENT:** The rule text should be revised to provide that only security related information may be claimed confidential. (7)
69. **COMMENT:** Specific portions of the IST report should not be allowed to be claimed confidential, such as the feasibility analysis and information regarding reductions to offsite consequences. There are distinct benefits to making all part of the IST report except confidential business information accessible to the public. Among those benefits are the sharing IST information between facilities and the need for emergency responders and the community to know the potential risks. (7, 8, 9, 14, 16, 24)
- RESPONSE TO COMMENTS 62 THROUGH 69:** Paragraph 12 of the Best Practices Standards requires the Department to hold all documents, one of which includes the IST review report, submitted or obtained pursuant to the Standards in a confidential and secure fashion, protected as privileged and confidential information. The Department must handle this confidential information in accordance with the applicable requirements of N.J.A.C. 7:31-10.8. All other TCPA facilities not subject to the Standards may claim confidentiality

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for the submitted IST review reports using the procedures in Subchapter 10 of the TCPA rules. When information in an IST review report is claimed confidential, the Department will maintain the information in accordance with the provisions of N.J.A.C. 7:31-10.8 until a final confidentiality determination is made.

N.J.A.C. 7:31-10.5(d)6 and (j)6 state that prior confidentiality determinations concerning the information made by the Department, another agency, or court order could be used to substantiate a confidentiality claim.

The Department will review the confidentiality provisions of the rule to determine whether other changes are necessary to conform to other State and Federal provisions for the handling of security information in connection with the readoption of the TCPA rules in 2008.

It would be inappropriate to incorporate into N.J.A.C. 7:31-3.6(g) 40 CFR 68.83(c), which ensures worker and union access to all other information developed under the rule, since 40 CFR Part 68 deals with Program 3 processes, and Subchapter 3 of the TCPA rules governs program 2 processes. Note that 40 CFR 68.83(c) is incorporated by reference with specified changes into Subchapter 4 of the TCPA rules (see N.J.A.C. 7:31-4.1). Accordingly, there is no need to amend N.J.A.C. 7:31-4.12(g).

Penalties

70. COMMENT: The Department should collaborate with facilities instead of taking formal enforcement actions, because IST reviews are subjective and there is no systematic methodology to measure IST. Also, the Department should consider periodic workshops and information sessions to promote clarity, consistency and transparency as the IST rule is implemented. (2)

RESPONSE: The Department values collaborative efforts with the regulated community, and will consider holding workshops and information sessions on the implementation of the IST review requirements. However, the Department believes that the IST review program should be performance based and enforceable to ensure that facilities actually engage in IST analyses. Accordingly, the Department is adopting the IST rules to provide the regulated community with clear standards concerning what owners or operators must address in performing the IST review. Note that, in recognition of the fact that IST alternatives are facility-specific, the Department is not prescribing the actual measures that must be implemented at a facility. Rather, the rules require that owners or operators conduct the IST review to evaluate ISTs that could be implemented to reduce risk at the facility. Since these are clear standards that establish the obligations of owners or operators in completing and documenting the IST review, the Department will ensure compliance with these standards through enforcement actions authorized by the Act and codified at N.J.A.C. 7:31-11.

71. COMMENT: The penalties in general are too low and are not based upon the economic benefits to the regulated facility for non-compliance. (7, 16, 23, 24)

72. COMMENT: The \$500 penalty for failure to substantiate the infeasibility determination (violation item 446), which is a core issue in the rule, should be increased to \$2,000. (7, 8)

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73. COMMENT: Penalties should be assessed as a percentage of a non-complying facility's annual gross sales, such as one percent of annual gross sales for the first year of noncompliance, two percent for the second year, and three percent for the third year. (14)
74. COMMENT: Fines could be scaled to the size of the facility or the number of processes or the quantity of substances used, based on the capital investment and infrastructure of the facility. (16)
75. COMMENT: Penalties should be set as high as those under the Clean Air Act. (9)
RESPONSE to COMMENTS 72 through 76: The Toxic Catastrophe Prevention Act does not give the Department authority to assess penalties using the suggested methods such as percentage of gross sales, size of the facility and number of processes, or to set them as high as Clean Air Act penalty amounts. The Department has established penalty amounts for violations of the rule at N.J.A.C. 7:31-11.4(c), Table III, up to a maximum of \$10,000.00 for a first offense, \$20,000.00 for a second offense, and \$50,000.00 for a third offense, in accordance with the authority under the TCPA at N.J.S.A. 13:1K-30. Penalty amounts are set for all requirements of the risk management program based on the severity of the violation for first, second, and third offenses. The penalty amounts for noncompliance with the IST review requirements are consistent with the penalties for violations of other similar risk management program requirements in the rule. Penalty amounts may be modified based on mitigating, extenuating, or aggravating circumstances. Violations that are of a continuing nature may be assessed a penalty not to exceed \$10,000.00 per day.
76. COMMENT: The proposed penalties for non-compliance with the proposed IST requirements should not include consideration of the Grace Period Law, given the potential implications of non-compliance. (23, 24)
RESPONSE: The Grace Period Law, N.J.S.A. 13:1D-125, et seq., applies to laws that are enumerated in its definition of "environmental law," and the TCPA is one of the laws listed in that definition. See N.J.S.A. 13:1D-126. Accordingly, the Department has no discretion as to whether to apply the Grace Period Law to violations of the TCPA or its implementing regulations. The two IST review requirements that are designated as minor violations, penalty items 172 and 414, for failure to include the IST review report in the annual and triennial report, respectively, meet the criteria for a minor violation because they pose minimal risk to the public health, safety and natural resources; they do not materially and substantially undermine or impair the goals of the regulatory program; and they are capable of being corrected and compliance achieved within the time prescribed by the Department.
77. COMMENT: The proposal should require the facility to provide financial assurance to the Department and proof of private insurance for the total economic liability that would result from release of an EHS, based upon the off site consequence analysis. (24)
RESPONSE: The Department does not have the authority under the Act to require owners or operators to provide liability insurance for an EHS release.

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Federal Standards Analysis

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. 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.

Full text of the adopted amendments and new rules follows (additions to proposal by underline with asterisks **thus**; deletions from proposal indicated in brackets with asterisks **[thus]**):

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

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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>)]

<http://www.nj.gov/dep/rpp/brp/>, prior to the effective date of this rule may be submitted to comply with this requirement.

(b) through (g) (No change from proposal.)

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>)]

<http://www.nj.gov/dep/rpp/brp/>, prior to the effective date of this rule may be submitted to comply with this requirement.

(b) through (g) (No change from proposal.)

Based on consultation with staff, I hereby certify that the above statements, including the Federal Standards Analysis addressing the requirements of Executive Order 27 (1994), permit the public to understand accurately and plainly the purpose and expected consequences of this adoption and new rules. I hereby authorize this adoption.

Date

Lisa P. Jackson, Commissioner
Department of Environmental Protection