ENVIRONMENTAL PROTECTION
ENVIRONMENTAL REGULATION
Toxic Catastrophe Prevention Act Program

Readoption with Amendments:	**N.J.A.C. 7:31**
Adopted Repeal:	**N.J.A.C. 7:31-3**
Proposed:	September 15, 2008 at 40 N.J.R. 5109(a)
Adopted:	_____, 2009 by Mark N. Mauriello, Acting Commissioner, Department of Environmental Protection.
Filed:	February __, 2009 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:	14-08-08/660
Effective Date:	_____, 2009, Readoption; _____, 2009, Amendments and Repeals.
Operative Date:	(365 days from publication) – repeal of N.J.A.C. 7:31-3.1, 3.2, 3.3, 3.5 and 3.6; new N.J.A.C. 7:31- 7.1(c)9 through 12; amendments to N.J.A.C. 7:31-1.1(c)3v; deletion of and new N.J.A.C. 7:31-1.1(c)4ii; and deletion of N.J.A.C. 7:31-11.4(c) Table III penalties 10 - 14, 108 - 208, and 522 - 540.
Expiration Date:	_____, 2014

The Department of Environmental Protection (Department) hereby readopts with amendments, repeals and new rules the Toxic Catastrophe Prevention Act (TCPA) Program rules, N.J.A.C. 7:31. The goal of the TCPA program is to protect the public from catastrophic accidents that could cause death or permanent disability to citizens beyond the property boundary. The TCPA, N.J.S.A. 13:1K-19, requires owners and operators using, manufacturing, storing or handling EHSs in quantities that meet or exceed threshold quantities to anticipate the circumstances that could result in EHS accidents and to take precautionary or preemptive measures to prevent these accidents. The TCPA rules at N.J.A.C. 7:31 contain the requirements for developing and implementing risk management programs to reduce the risk of accidental releases to the environment.

The Department is adopting the following amendments: (1) deletion of the "industrial complex" definition and related rule provisions; (2) amend the petroleum refining process unit definition; (3) delete the Program 2 prevention program requirements (repeal of Subchapter 3); (4) delete the definition of “state-of-the-art;” (5) revise the concentration and likelihood criteria to determine risk reduction in risk assessment; (6) add the components of liquefied petroleum gas (LPG) to the list of Extraordinarily Hazardous Substances to be consistent with the EPA's 40 CFR 68 rule; (7) delete the exemption for Group I Reactive Hazard Substances that have an inhibitor; (8) addition of an exemption for Reactive Hazard Substance mixtures that cannot have a catastrophic accident; (9) addition of organometallics to the list of RHS mixture functional

groups at N.J.A.C. 7:31-6.3 Table I, Part D, Group II; (10) increased penalties for facilities that fail to submit a Risk Management Plan; (11) changing the means of determining rule applicability based on the threshold quantity of an EHS present at the entire facility rather than within a covered process; (12) amended confidentiality provisions; and (13) clarifications to other rule requirements.

The Department published the proposed amendments with repeals and new rules in the New Jersey Register at 40 N.J.R. 5109(a) on September 15, 2008. The comment period closed on November 14, 2008.

Summary of Hearing Officer's Recommendations and Agency Response:

On October 14, 2008, 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. Seven persons presented oral comments at the public hearing; three of these persons also submitted written comments to the Department. The Hearing Officer recommended that the Department readopt the rules with amendments and repeal as proposed, with the changes described in the responses to comments, 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. 14-08-08/660
P.O. Box 402
Trenton, New Jersey 08625-0402.

Summary of Public Comments and Agency Responses:

The following is a list of the commenters, with their affiliations, if any, who made timely written and/or oral comments on the proposal:

1. Armstrong, Robert J., Oxy Vinyls, LP
2. Brogan, David H., New Jersey Business and Industry Association
3. Confoy, Karen A., New Jersey Propane Gas Association
4. Edwards, Allan T.
5. Egenton, Michael, New Jersey State Chamber of Commerce
6. Hornsby, Michael L., PSEG Services Corporation
7. Jain, Pawan, Basell USA
8. Kaufman, Adam, Independent Energy Producers of New Jersey
9. Lalwani, Allen, American Spraytech
10. Loncar, Suzana, New Jersey American Water
11. Maxwell, John, New Jersey Petroleum Council
12. McCann, Chuck, Lubrizol Advanced Materials
13. Mulvey, Neil, Dewling Associates, Inc.
14. Northey, Scott, DuPont

15. Pajak, John, New Jersey Work Environment Council
16. Patel, Denise, New Jersey Work Environment Council
17. Russo, Anthony, Chemistry Council of New Jersey
18. Sammis, Gordon, Aeropres Corporation
19. Simmons, William, Monmouth County Board of Health
20. Smith, Steve, BASF
21. Walker, Morgan T., ConocoPhillips
22. Wilk, Cynthia, New Jersey Department of Community Affairs (in coordination with the Liquefied Petroleum Gas Education and Safety Board)

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: The TCPA rules are important to reduce the risk of a catastrophic release at subject facilities and need to be readopted. (4, 13)

RESPONSE: The Department acknowledges the commenters' support and agrees that implementation of the TCPA rules is important to reduce the risk of a catastrophic release at subject facilities.

2. COMMENT: The overall effect of all the proposed amendments is to make the rules more restrictive. The rule amendments place additional burdens on facilities without clearly demonstrating any additional public benefit. The Department should not rehash previously resolved issues unless there is a tangible concern or if the change truly results in improved safety; the proposed amendments are unjustified tweaks and realignments which indicate changing the rule for change's sake. (1, 2, 5, 7, 11, 12, 13, 14, 17, 20, 21)

RESPONSE: The Department agrees that some of the adopted amendments increase the regulatory requirements with which certain facilities must comply. Although there are many amendments, the Department does not expect that current facilities will be affected by all of the amendments so that an individual facility would be unduly burdened. For example, the elimination of the industrial complex definition and associated rule provisions will affect nine of the approximately 90 currently registered TCPA facilities. The amendments to the petroleum refining process unit definition affect the four petroleum refineries that are subject to the rules. The repeal of the Program 2 requirements affects 19 facilities that have registered Program 2 processes in their Risk Management Plans. The addition of LPG components to the Extraordinarily Hazardous Substance list affects approximately eight current TCPA registrant facilities and an estimated eight additional facilities not currently subject to the rules. The amendments for threshold quantity applicability do not affect most of the current TCPA registrant facilities; these amendments would affect some non-registered sites.

The Department proposed all of the amendments to address existing deficiencies in the rules and to make the rules clearer. The Department anticipates that these amendments will provide incentive for facilities to improve their risk management program implementation and to help reduce the risk of catastrophic EHS accidental releases. None of the amendments were

proposed solely for the sake of making change. A summary of the amendments can be found in the rule proposal published at 40 N.J.R. 5101(a).

3. COMMENT: The proposed fee increases will have a negative impact on industry and will make it difficult to continue operations. (1, 2, 5, 7, 11, 12, 13 14, 17, 20, 21)

RESPONSE: The rule amendments regarding fees will not result in an overall fee increase for all TCPA- regulated facilities. While the fees for petroleum refineries are increasing, fees for all other TCPA registrants are decreasing. This is because fees are calculated by allocating the Department's total budget across all registrants according to data collected concerning the total number of hazard units, covered processes and stationary sources at all facilities Statewide. Accordingly, the greater the aggregate number of registered covered processes, the lower the per covered process fee, because fees are allocated over a larger number of processes.

The effect of adopting the definition of "covered process" and "petroleum refining process unit" will be that petroleum refineries will be required to register each petroleum refining process unit (rather than registering the facility as a whole), and to pay a fee for each unit. The end result will be an increase in the total registration fees paid by these facilities. The Department estimates that each New Jersey refinery operates an average of approximately ten to twenty petroleum refinery process units per facility, so the total covered process fee for each facility will increase from approximately $33,000 to about $65,000 because each facility will owe a fee for each covered process. As discussed at length in the proposal, the Department has determined that adopting the amended definitions of "covered process" and "petroleum refining process unit" will ensure that each petroleum refining process unit is considered as an individual covered process that will have to be addressed in the Risk Management Plan, rather than continuing to allow refineries to list the entire refinery as one covered process. The accompanying increase in fees is warranted because of the level of effort that the Department expends in monitoring these process units. Petroleum refineries are very complex facilities that require significantly more oversight effort than is required in connection with other affected facilities. One petroleum refinery process unit is analogous to a covered process at a chemical facility in terms of size and Department review time, and the Act authorizes the Department to collect fees that are sufficient to cover the Department's oversight costs such as review time.

On the other hand, the remaining approximately 86 TCPA regulated facilities will benefit from the adoption of the amended definitions of "covered process" and "petroleum refining process unit" because their per process fees will decrease as a result of the increase in the aggregate number of processes being required to register and across which the aggregate covered process fee is proposed to be allocated. The fees are intended to reflect the level of effort for the Department to implement the program for the regulated facilities, and the refineries are some of the most complex facilities in the program requiring extensive resources to inspect.

The rules include a new fee for filing for an exemption of an RHS mixture that does not have the potential for a runaway reaction and adjusts the fees for substantiation of confidentiality claims with the consumer price index. However, these fees are minimal compared to the level of effort required to provide the associated services. The Department continually streamlines its oversight procedures in an effort to minimize fee increases.

4. COMMENT: Given the magnitude of the proposed rule amendments, the Department should have conducted a stakeholder process similar to the stakeholder process held for the 2003 TCPA rule readoption and amendments. The stakeholder meetings at that time made the rule less ambiguous. (1, 2, 5, 11, 12, 14, 17, 20, 21)

RESPONSE: The Department held one meeting with the representatives of the regulated community in January 2008 and one with representatives of the New Jersey Work Environment Council in December 2007 regarding the rule readoption and the amendments under consideration and solicited input prior to proceeding with the rule proposal. The amendments proposed reflect the input of those representatives and the Department's experience in implementing and administering the program.

5. COMMENT: The Department should require facility management to actually adopt feasible inherently safer technology (IST), not just review its potential for adoption as currently specified at N.J.A.C. 7:31-3.6 and 4.12. (16)

RESPONSE: Owners or operators 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 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. Accordingly, the Department does not believe that the rules should mandate implementation of feasible ISTs.

6. COMMENT: The TCPA rules should be amended to require facility management, upon the request of the Department, a Local Emergency Planning Committee (LEPC), or twenty-five or more residents and/or employees, to convene a community meeting to address the facility's health, safety, environmental, emergency response, and sustainability. (16)

RESPONSE: On February 20, 2008, the Department received a petition for rulemaking from the commenter in which the commenter made an identical request. The Department determined to deny this request (see 40 N.J.R. 2570(b), May 19, 2008) and the Department continues to believe that its response remains valid. As the Department stated in its response to the petition for rulemaking, several mechanisms already exist for involving the public and facility employees in emergency planning such that additional rulemaking in this arena is not necessary.

One such mechanism is codified in the TCPA rules, N.J.A.C. 7:31. The Federal Clean Air Act Section 112(r)(7) is implemented through the Federal Chemical Accident Prevention

regulations, codified at 40 CFR Part 68. The TCPA rules incorporate by reference with noted amendments the Federal Chemical Accident Prevention regulations. These rules contain requirements to promote participation by employees in facility emergency planning. Specifically, under 40 CFR 68.83, incorporated in the TCPA rules with changes at N.J.A.C. 7:31-4.1(c), the owner or operator of the facility must develop an employee participation plan, and must consult with employees and their representatives on the conduct of process hazards analyses with risk assessments and on the development of the other process safety management elements covered by the rule.

The Federal Emergency Planning and Community Right-to-Know Act (EPCRA), 42 U.S.C. § 11001 et seq., also contemplates facility/community interaction through the LEPCs. 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.

It is noteworthy that EPCRA requires that any emergency plan prepared by an LEPC contain nine elements, because these planning requirements are designed to address community involvement concerns such as those raised by the NJWEC in the instant petition for rulemaking. First, the plan must identify facilities within the emergency planning district, including identifying routes likely to be used for the transportation of substances on the list of extremely hazardous substances, and identifying additional facilities contributing or subjected to additional risk due to their proximity to EPCRA-regulated facilities, such as hospitals or natural gas facilities.

Second, the plan must include methods and procedures to be followed by facility owners and operators and local emergency and medical personnel to respond to any release of extremely hazardous substances. Third, the plan must designate a community emergency coordinator and facility emergency coordinators, and it is these coordinators who are charged with making determinations necessary to implement the plan. Fourth, the plan must detail procedures for providing reliable, effective, and timely notification by the facility emergency coordinators and the community emergency coordinator to persons designated in the emergency plan, and to the public, that a release has occurred. Fifth, the plan must outline methods for determining the occurrence of a release, and the area or population likely to be affected by such release. Sixth, the plan must contain a description of emergency equipment and facilities in the community and at each facility in the community subject to the requirements of EPCRA, and must identify the persons responsible for such equipment and facilities. Seventh, the plan must include evacuation plans, including provisions for a precautionary evacuation and alternative traffic routes. Eighth, the plan must provide for training programs, including schedules for training of local emergency response and medical personnel. Finally, the plan must include methods and schedules for exercising the emergency plan.

Moreover, 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.

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 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 the TCPA 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.

7. COMMENT: The TCPA rules should be amended to require that facility emergency response plans include explanations of what actions neighbors should take in the event of a major toxic release and descriptions of the steps facility management has taken each year to inform neighbors, including addressing language and transportation barriers that may be faced by those neighbors. (16)

8. COMMENT: The Department should be commended for the amendment to N.J.A.C. 7:31-5.2(b)3, requiring that the written assessment include the adequacy of notification to outside agencies and the public in addition to a written assessment of the emergency response (ER) plan and of the adequacy or need for ER equipment after each ER plan implementation or each ER exercise. However, the rule should include a mechanism for facilities to notify the public, including identifying who should be notified, and requiring that hospitals should be one of the local emergency responders that must be notified. (16)

RESPONSE to COMMENTS 7 and 8: On February 20, 2008, the Department received a petition for rulemaking from the commenter in which the commenter made an identical request. The Department determined to deny this part request (see 40 N.J.R. 2570(b), May 19, 2008) and it believes that its response to that petition continues to be valid. As the Department stated in its response to the petition for rulemaking and as discussed above in the response to Comment 6,

facility owners or operators must coordinate their emergency response plans with their LEPCs. In addition, pursuant to N.J.A.C. 7:31-5.2(b)2, facilities are required to perform an annual full scale exercise to demonstrate how the plan is to be implemented and to assess the adequacy of the plan and its implementation. Facility management often invites the LEPC and local response agencies to participate in these exercises and assess the emergency response plan. Active LEPCs can be extensively involved in the performance and assessment of the exercise. The LEPC is the best organization to address the specific needs of a given location within its community, as its broad-based membership possesses knowledge of community resources, evacuation routes, and other community-specific factors.

The adopted amendment at N.J.A.C. 7:31-5.2(b)3 will require facilities to evaluate the adequacy of their notification procedures as part of the assessment for the required annual full-scale emergency response exercise.

9. COMMENT: The TCPA rules should be amended to require that facilities establish joint employee/employer site safety and security committees which would have the authority to help prevent and respond to toxic releases. Neither management nor labor alone can create a safe, healthy, or secure workplace environment. Only management has the knowledge of the overall policy, and how health and safety fits into that general policy. Only workers know the specifics of their jobs and what operations are unsafe. The committees can promote cooperative attitudes that enhance labor/management cooperation and create an ethic of internal responsibility. (16)

RESPONSE: On February 20, 2008, the Department received a petition for rulemaking from the commenter in which the commenter made an identical request. The Department determined to deny this request (see 40 NJR2570(b), May 19, 2008), and it believes that its response to that petition remains valid. As the Department stated in its response to the petition for rulemaking and as discussed above in the response to Comment 6, the TCPA rules already include requirements in the employee participation plan for input from employees and employee representatives into the risk management program.

Concerning involvement in security planning, the "Best Practices Standards at TCPA/DPCC Chemical Sector Facilities," November 21, 2005, require that subject facilities afford employees and their representatives a reasonable opportunity to identify issues in the facility's security vulnerability assessment and prevention, preparedness, and response plan. Employers that own or operate a facility subject to the security best practices standards are also required to provide security awareness training to all operational personnel. As part of this training, the owner or operator must provide an opportunity for employee input, explain the employees' role in security, and cover the components of the facility's security plan.

10. COMMENT: The Department should conduct a study to determine whether disinvestment and downsizing by New Jersey's chemical industry increases dangers to workers and surrounding communities. (16)

RESPONSE: The TCPA rules require subject facilities to implement a risk management program to reduce the risk of a catastrophic accidental release, whether or not that facility is "downsizing." Facilities' compliance with the risk management program requirements will ensure that dangers to workers and surrounding communities are minimized. The risk

management program includes elements such as process safety information, process hazard analysis with risk assessment, standard operating procedures, operator training, mechanical integrity/preventive maintenance, management of change, pre-startup review and safety reviews, compliance audits, accident investigation, employee participation, hot work permit, contractors, emergency response, and inherently safer technology reviews. The Department will continue to monitor the affected facilities to ensure compliance with the risk management program requirements is maintained and the potential for catastrophic discharges of hazardous substances into the environment is minimized.

11. COMMENT: The Department should ensure transparency so that workers, the public, emergency responders, and elected officials have a right to know about the potential toxic dangers posed by facilities in their communities and steps that have been taken to reduce risks. (16)

RESPONSE: Mechanisms to ensure transparency are in place in the TCPA rules. As discussed in response to comment 6, employees and their representatives have access to all risk management program information at the facility required by the TCPA rules. Furthermore, emergency responders, elected officials, and the public are provided information regarding the potential toxic dangers posed by facilities and risk reduction steps taken, and this information is incorporated into the community emergency response plan.

12. COMMENT: The Department and other government agencies should be provided sufficient staff and resources to ensure effective administration and enforcement of chemical safety and security requirements. (16)

RESPONSE: The Department acknowledges the support for providing sufficient staff and resources to the Department and other government agencies to implement and enforce the TCPA program. The Department's TCPA program is provided with sufficient resources through the development of the Governor's and Department's budgets to ensure that the Department implements appropriate administrative and enforcement activities to verify regulated facilities' compliance with the TCPA rules.

13. COMMENT: The Department has underestimated the costs and level of effort required for newly regulated and currently regulated facilities to comply with the rule by roughly a factor of two. Examples include areas of the rule such as familiarization and initial compliance, PHA, management of change, process safety information, operating procedures, and training contractors. Also, we estimate the annual ongoing TCPA costs based on level of effort to be nearly 40 per cent higher than the Department's estimate. By underestimating the effort required to revise or develop a program, the Department is grossly underestimating the burden of the proposed rule amendments on the regulated community. (6)

RESPONSE: The Department's estimates in the economic analysis section of the proposal are based on the level of effort to comply with the various rule requirements above and beyond an average facility's normal good engineering, operating, and business practices. The Department acknowledges that the commenter's estimates of level of effort based on experience at its facility

for the various tasks and activities for initial and ongoing compliance are in the realistic range. However, even if those estimates are accepted as the actual costs for rule compliance, the Department has determined that the cost of compliance is more than offset by the benefit of reducing the risk of a catastrophic release impacting the public.

Additionally, the TCPA rules incorporate the Federal EPA 40 CFR 68 Program 3 prevention program requirements by reference, which are very similar to the OSHA Process Safety Management standard's requirements. Facilities that are already subject to the OSHA Process Safety Management standard and EPA's regulations do not have to expend extensive additional effort to comply with the TCPA rules. These additional TCPA requirements are discussed under the Federal Standards Analysis of the proposal and this adoption.

Confidentiality/security information definition

14. COMMENT: The amended definition of security information at N.J.A.C. 7:31-1.5, which provides examples such as offsite consequence analysis data and quantities and locations of EHSs at facilities, and the amendment to N.J.A.C. 7:31-10.2(b), which allows the Department to protect from disclosure to the public any security information submitted to the Department, are harmful to the public's right to know this vital information about the chemicals at facilities and their potential impact to the public, would undermine the goals of the Act, and would violate provisions of the Federal Emergency Planning and Community Right to Know Act (EPCRA) because the quantities of EHSs are a subset of the hazardous substances list under EPCRA. Information about EPCRA substances cannot be withheld from public access by any State delegated to enforce this rule. Witholding this OCA data from the public is not consistent with the practice of the EPA; the EPA reading room in Edison, New Jersey continues to provide public access to offsite consequence analysis information for EPA regulated facilities. These amendments also are not consistent with statements by the Department in rule amendments under the Spill Act in which the Department said that it intends to adopt a Department wide method for confidentiality of submitted documents. (15, 16)

RESPONSE: The Department is adopting the amendments to the security information definition and provisions of N.J.A.C. 7:31-10 to ensure that any information that has the potential to adversely affect national security can be protected from public disclosure. This issue was raised earlier in May 2008 by the TCPA regulated community within the context of adoption of the Department's Inherently Safer Technology (IST) Review rules. There is concern within the regulated community that IST review reports submitted to the Department may contain security information.

The amendment to N.J.A.C. 7:31-10.2(b) will allow the Department, in addition to being able to protect confidential information so designated by a TCPA regulated entity, to protect information which may adversely affect the security of the facility if released. The Department intends to consult with the State Office of Homeland Security and Preparedness (OHSP) prior to making any such determinations as to extraordinary information protection. The Department will also review and consider evolving Federal and State laws and regulations in addition to security alerts issued by OHSP that become effective requiring confidential handling of risk

management program documents containing security information that are submitted to the Department.

These amendments to the TCPA rules will not limit the public's access to records submitted to the Department pursuant to the Emergency Planning and Community Right to Know Act (EPCRA). The public still will have access in accordance with the rules of the Department's Community Right to Know program. Neither the Department nor the State has adopted Department-wide or State-wide rules on the handling of confidential information. In the current absence of such broader regulatory authority, the Department determined that these amendments are necessary additions to the confidentiality provisions of the TCPA rules.

The Department cannot comment on the availability of risk management plan information submitted to the EPA through the EPA reading rooms. Information submitted to the Department concerning risk management plan information will continue to be available pursuant to applicable State statutes and rules.

To summarize, the adopted amendments to the security information definition and provisions of N.J.A.C. 7:31-10 clarify the Department's current procedures for making information publicly available. It is the Department's intention that all information that is currently available will continue to be available. However, the provisions of N. J. A. C. 7:31-10 do provide discretionary authority for the Department to withhold security related information for cause after consultation with OHSP on an as needed, going forward basis.

15. COMMENT: The Department should provide public access to Inherently Safety Technology review documents. (16)

RESPONSE: The public may request access to review Inherently Safety Technology review documents. However, as described in the response to Comment 14 above, the Department will not provide access to security information. Also, confidential information that is submitted to the Department in accordance with the provisions of N.J.A.C. 7:31-10 is not available to the public for review.

Liquefied Petroleum Gas (LPG)

16. COMMENT: The Department is commended for adding the liquefied petroleum gas (LPG) components to the list of Extraordinarily Hazardous Substances at N.J.A.C. 7:31-6.3(a) Table I, Part C. Inspections by the Department's staff will make facilities handling these substances safer. (4, 15, 16)

RESPONSE: The Department acknowledges the commenters' support and agrees that including LPG components on the EHS list will result in the reduction of the risk of a catastrophic release of LPG at subject facilities.

17. COMMENT: The liquefied petroleum gas (LPG) components should not be added to the list of Extraordinarily Hazardous Substances at N.J.A.C. 7:31-6.3(a) Table I, Part C since they are already regulated under Department of Community Affairs (DCA) rules, the EPA regulations at 40 CFR Part 68, and the OSHA Process Safety Management Standard. There will be duplication of effort because inspectors from the DCA's Bureau of Code Services conduct inspections

initially and triennially on LPG systems. DCA inspectors already review the following elements of LPG systems: management system, site plan and process flow diagram, training program and records, standard operating procedures, emergency response procedures, incident investigation procedures, preventive maintenance program and records, quality assurance of materials of new and replacement equipment, audit reports, and manufacturer's data reports. Additionally, since facilities regulated under 40 CFR 68 are subject to EPA audits and those audits concern all the Program 3 elements, regulation and inspections by the Department are not necessary. (3, 6, 9, 17, 18, 22)

RESPONSE: The Department disagrees that LPG should not be subject to regulation under the TCPA rules. When the Department readopted the TCPA rules in 1998 (see 30 N.J.R. 2728(a), 2737), the Department determined to not adopt its proposed listing of LPG and its constituents as flammable EHSs because LPG was already regulated by the New Jersey Department of Community Affairs' (DCA's) Office of Safety Compliance, under the New Jersey Liquefied Petroleum Gas Act of 1950, N.J.S.A. 21:1B-1 et seq. and the rules promulgated by the DCA pursuant to that Act at N.J.A.C. 5:18. In response to several comments concerning the impact on small businesses of regulating LPG fuels under the TCPA program, the Department agreed to rely on the LPG Act to supplement the Federal CAP rules and provide adequate protection to the public. At that time, the Federal CAP program did not exclude LPG gases when used as fuels. The Department stated that it may, at a later time, reevaluate the need for additional coverage under TCPA.

In 2003, DCA included requirements in its rules for facilities with 10,000 gallon water capacity volume or more, which is about 45,000 pounds of LPG or more, to maintain a "quality control manual," which includes several of the elements of a risk management program. Facilities that handle LPGs in amounts less than the 10,000 gallon water capacity are not regulated, and the threshold quantity specified at 40 CFR 68.130 is 10,000 pounds for a flammable substance mixture. The DCA rules also cross-reference the TCPA rules, stating that the quality control manual must include documentation of compliance with the Department's Risk Management Program. See N.J.A.C. 5:18-9.2(a)6.

Since the CAP program rule at 40 CFR 68.126 now excludes from regulation flammable substances used as fuel or held for retail sale for use as fuel, the Department has determined that it is necessary to regulate LPG and its constituents in the same manner as the USEPA, when LPG is processed or used as feedstocks. To bring the LPG facilities that store between 10,000 and 45,000 pounds of LPG back under State regulation, and to ensure consistent regulation across all large LPG facilities, the Department is including LPGs and their components as EHSs. This will make the State and Federal programs consistent in the regulation of LPGs. Risk Management Plans submitted to the EPA show that eight facilities that currently are not regulated under the TCPA program are now subject to the TCPA rules. The Department also estimates that eight current TCPA registrants will register LPG components as additional EHSs in their New Jersey Risk Management Plans.

Another reason that the Department has determined that it is necessary to regulate LPGs under the TCPA rules is that several critical elements of the risk management program that are required under the TCPA rules are not reviewed by the DCA inspectors. These include several items of process safety information, the process hazard analysis with risk assessment, management of change, hot work permits, employee participation, contractors, emergency

response exercises, and the risk management plan including the offsite consequence analysis. The additional costs to implement these requirements are justified when compared with the risk reduction provided to the public at the facilities anticipated to be affected by the addition of LPG to the TCPA EHS list.

The Department is delegated by EPA to be the implementing agency for the Federal Chemical Accident Prevention rules, 40 CFR 68, with the exception of the regulation of the LPG components. Delegation was not given to the Department for the regulation of LPG components because the Department previously had not included these substances on the TCPA EHS list. Following the inclusion of the LPG components on the EHS list, the Department intends to update its delegation submittal to EPA. If the updated delegation is approved by EPA, the Department will be the implementing agency at the subject LPG facilities. As a result, EPA would cease conducting risk management plan inspections at LPG facilities.

Finally, in order to avoid duplication of effort with the DCA, the Department intends to undertake compliance inspections at any particular facility in a year other than a year in which DCA conducts one of its triennial inspections.

18. COMMENT: The estimated initial start-up costs of $8,000 and annual compliance costs of $24,000 will make it difficult for LPG facilities to remain competitive. The costs to comply with the rules will be passed onto the residential and commercial fuel users. (3, 9, 18)

19. COMMENT: Because of the economic burden for LPG facilities to comply with the TCPA rules, the Department's regulation of LPG will prevent other facilities from expanding or moving their operations into New Jersey. The effect of the economic burden on New Jersey facilities resulting in facilities suspending operations in New Jersey is illustrated by the fact that Michigan and Georgia have similar populations to New Jersey, but Michigan has 309 facilities subject to the EPA rules, Georgia has 452, and New Jersey has 144. (9)

RESPONSE to COMMENTS 18 and 19: As discussed in the Federal Standards Analysis of the proposal and this adoption, facilities subject to the OSHA PSM standard and the EPA's regulations codified at 40 CFR 68 will not incur extensive additional implementation costs to comply with the TCPA rules. The Department disagrees that costs will be passed on to consumers because facilities that use flammable substances as a fuel or hold flammable substances for sale as a fuel at a retail facility (to consumers) are exempt from these rules.

Michigan and Georgia are much larger states than New Jersey by area, and New Jersey has a much higher population density than Michigan and Georgia. The fact that New Jersey has such a high population density provides justification for the Department to have oversight of facilities subject to these catastrophic accidental release prevention rules. Since the EPA 40 CFR 68 regulations apply to all states, facilities in other states are required to implement similar risk management program as in New Jersey. Therefore, regulating LPG through the TCPA rules should not be a deciding factor concerning whether to operate a facility in New Jersey.

20. COMMENT: The TCPA does not authorize regulation of flammable substances as Extraordinarily Hazardous Substances (EHSs). The Legislature did not intend regulation of a non-toxic substance such as propane as evidenced by the title of the Act (Toxic Catastrophe

Prevention Act). All of the chemicals and chemical compounds on the initial list in the Act and the 93 additional chemicals adopted in the EHS list in the Department's initial rules are toxic.

Also, the Act states that the Department shall have the power to amend the EHS list by regulation to accommodate new chemical compounds that may be developed or reflect new information or scientific data that may become available to the Department. There is no new information or scientific data that justify the regulation of flammable substances as EHSs. (3)

RESPONSE: The LPG components meet the TCPA statutory definition of an "extraordinarily hazardous substance," which is "any substance or chemical compound used, manufactured, stored, or capable of being produced from onsite components in this State in sufficient quantities at a single site such that its release into the environment would produce a significant likelihood that persons exposed will suffer acute health effects resulting in death or permanent disability." Many accidents have been documented of fires or explosions of these flammable substances, which may result in deaths and injuries.

Although the Department acknowledges that the LPG components are not toxic substances, they are hazardous because of their high flammability. As Federally listed regulated flammable substances, they are subject to Federal chemical accident prevention requirements in every state, including New Jersey. In developing the regulated flammables list, EPA chose to list those flammable substances having a National Fire Protection Association (NFPA) 4 rating, which represents the highest fire hazard rating. NFPA 4 flammable substances are materials which will rapidly or completely vaporize at atmospheric pressure and normal ambient temperature, or which are readily dispersed in air and will burn readily. As discussed above, these substances meet the TCPA statutory definition of EHSs.

In the Department's "September 1987 Basis and Background Document for Proposed New Rule N.J.A.C. 7:31," the Department discussed at length how the original EHS list expansion was based on each chemical's toxicity and vapor pressure. The Department recognizes that propane does not meet the toxicity criterion as an EHS. However, the Department stated in the Basis and Background Document that other physical and chemical properties may be used to describe an EHS, and that flammable substances can cause health effects and permanent disability due to fires and explosions.

The EPA adopted its list of regulated substances in 1994 and the Chemical Accident Prevention (CAP) regulations, 40 CFR 68, in 1996. The Department intended to include all flammable substances from the EPA list in 1998 when it incorporated by reference the EPA list and rules. The Department decided not to include the LPG components in the EHS list because LPG was already regulated under the New Jersey Liquefied Petroleum Gas (LPG) Act of 1950, N.J.S.A. 21:1-B et seq. and to avoid the anticipated impact on small retail businesses and facilities that used LPG as a fuel. However, the Department subsequently determined that the LPG Act of 1950 and rules at N.J.A.C. 5:18 did not address risk management program requirements and proposed to include the LPG substances in the 2003 readoption of the TCPA rules. The Department did not adopt the proposal to include the LPG components when it became aware that the Department of Community Affairs was amending the rules at N.J.A.C. 5:18. However, the Department has determined that these rules do not fully address the risk management requirements (see the response to Comment 17 above) and has determined it is now necessary to include the LPG components to the TCPA EHS list in order to be consistent with the EPA CAP rules.

21. COMMENT: At N.J.A.C. 7:31-6.3(a) and 7.5(e), the Department should provide a cross reference to 40 CFR 68.126 as incorporated by reference at N.J.A.C. 7:31-6.1(a) to clearly exempt facilities that store and use LPG and its components at or above threshold quantities when those facilities only use LPG and its components as a fuel or hold LPG for sale as a fuel at a retail facility. (1, 2, 5, 11, 14, 17, 20, 21)

22. COMMENT: The commenter supports the Department's decision to exclude the coverage of LPG components and flammable substances when used as a fuel or held for sale as a fuel at a retail facility as consistent with the Federal Chemical Accident Prevention program. (16)

RESPONSE to COMMENTS 21 and 22: The exemption at 40 CFR 68.126 for flammable substances used as a fuel or held for sale at a retail facility and the definition of retail facility at 40 CFR 68.3 are incorporated into the TCPA rules at N.J.A.C. 7:31-6.1(a) and 1.1(a), respectively. No additional cross references are necessary to clarify this exemption.

The Department intends to continue to regulate LPG to be consistent with the EPA CAP rules regarding the exemption for facilities that use LPG (and other regulated flammable substances) only as a fuel or held for sale as a fuel at a retail facility.

23. COMMENT: The facilities affected by both DCA and TCPA requirements potentially would be subject to different and conflicting requirements if the Department adopts the amendment that would add LPG to the EHS list. The LPG facilities that are subject to both the DCA and TCPA rules and the LPG facilities that are subject to DCA but not to TCPA would be subject to different requirements. (22)

RESPONSE: Pursuant to these adopted TCPA rules, the facilities that are currently subject to the DCA rules, N.J.A.C. 5:18, would continue to be subject to the same DCA requirements as before. Under the TCPA rules, the facilities that are exempt will continue to be exempt as they were under EPA ARP rule. Other than implementation of the EPA CAP rules by the Department after delegation is obtained from EPA, the readoption of the TCPA rules would not alter existing regulatory requirements.

24. COMMENT: The definition of industrial complex in the rules may extend the Department's jurisdiction to LPG facilities that would not otherwise be regulated. Many LPG facilities that use LPG as a fuel or for retail sale are in industrial parks and may be subject to the TCPA rule if adjacent to a regulated facility. (22)

RESPONSE: The former industrial complex definition and related rule provisions do not apply to an LPG facility in an industrial park. The industrial complex provisions applied to adjoining TCPA facilities that previously were owned and operated under a single entity which subsequently divided into separate entities. Note that the Department is adopting the proposed amendment that deletes these provisions.

Threshold quantity applicability

25. COMMENT: There is an inconsistent statement in the first paragraph of the threshold quantity applicability section in the summary of the rule proposal in the sentence that states, "The practical result of this requirement is that a facility can have several covered processes, but because each of these processes involves an EHS at a quantity that falls below the threshold, the facility is not subject to the TCPA rules for that EHS." The word "covered" should be deleted at "covered processes." (4)

RESPONSE: It is correct that the word "covered" should not have been used in the proposal summary statement as noted by the commenter. Under the prior rule, a covered process was a process with an EHS that met or exceeded the threshold quantity; this method of threshold quantity applicability was adopted by the Department in 1998 with the incorporation by reference of the EPA rule 40 CFR Part 68. The intent of this section of the summary was to explain that an owner or operator could have several individual processes, each with a particular EHS below the threshold quantity of that EHS spread across a property, and not be subject to the rules. With the adoption of the proposed amendments, this same owner or operator will be subject to the rules if the sum aggregate of that EHS in all the individual processes meets or exceeds the threshold quantity; this method of threshold quantity applicability was adopted in the initial TCPA rules in 1988 and enforced by the Department through 1998.

26. COMMENT: The method of determining threshold quantity applicability in the current, expiring rule, which is based on 40 CFR Part 68 and the EPA definition of covered process, should be used instead of the Department's proposal to base threshold quantity applicability on the sum total of an EHS stored, handled, or generated within the entire contiguous property. An extraordinarily hazardous substance is defined in the Act as "any substance … in sufficient quantities at a single site … ." This should be interpreted such that threshold quantity is based on the covered process in the same way as in the EPA rule. (1, 2, 4, 5, 6, 11, 12, 14, 17, 20, 21)

27. COMMENT: The commenter supports the Department's decision to base threshold quantity applicability on the total EHS amount at the facility rather than at a specific process. (16)

RESPONSE to COMMENTS 26 and 27: The Act states at 13:1K-22.b that the Department shall issue a registration form to the owner of each facility in the State which at any time generates, stores, or handles any of the EHSs on the list. The method of determining applicability in the prior TCPA rules, which was based on whether a threshold quantity amount was in a covered process, was adopted in 1998 with the incorporation of the EPA's Chemical Accident Prevention regulations by reference. From a historical perspective, these amendments return the applicability trigger to its pre-1998 form, and generally make the rules comport more closely with the TCPA.

28. COMMENT: "Facility" is defined in the Act. The Department does not have the authority to amend the definition of "facility" as proposed, which differs from the definition in the Act. (4)

RESPONSE: The Department has the authority to clarify the definition of "facility" provided in the Act when defining the term in the implementing rules. The Act defines facility as "a building, equipment, and contiguous area. Facility shall not include a research and development

laboratory… ." The intent of the Act was to base threshold quantity applicability on the total amount of EHS used, manufactured, stored, or capable of being produced from onsite components at a facility, but the terms "site" and "facility" are used interchangeably (see N.J.S.A 13:K-20, 13:1K-21.e, definition of "Extraordinarily Hazardous Substance, and N.J.S.A. 13:1K-22.b.) However, the intent of the Act is that the threshold quantity determination be based on the amount at the "facility," not parts of the facility such as individual pieces of equipment or a process that consists of multiple pieces of equipment. The Department is amending the definition of "facility" and all other provisions in the rule regarding threshold quantity applicability. As discussed in the response to Comment 27, these amendments return the applicability trigger to its pre-1998 form, and generally make the rules comport more closely with the TCPA.

29. COMMENT: Separation of EHSs throughout the site is an inherently safer method employed by sites to minimize or eliminate the potential for release; the amendment that would base threshold quantity applicability on the total EHS amount at the facility rather than at a specific process would penalize facilities doing this and would greatly increase the administrative and financial burden to facilities with little or no additional safeguards to the public. Also, the Department may inadvertently subject many more facilities to Program 3 requirements than previously anticipated. For example, a warehouse storing non-bulk containers or finished goods may have an aggregate amount of EHSs above the threshold, which would cause that site to be brought into the program. In addition, areas of a site not covered by the rule that may be utilizing small quantities (a few liters to less than 50 pounds) of a chemical covered elsewhere on the site could now be covered by the rule. Requiring areas to be covered by the rule for very small quantities is unnecessary to meet the intent of the TCPA rule. Such small quantities do not pose an offsite hazard. (1, 2, 5, 6, 11, 12, 14, 17, 20, 21)

30. COMMENT: The Department allowed exemptions for non-contiguous equipment in the TCPA rules effective 1988 and 1993 and for contiguous equipment in the TCPA rules effective 1993. These exemptions were allowed if the EHS amount released would not result in acute health effects to persons exposed beyond the site boundary. (6, 20)

RESPONSE to COMMENTS 29 and 30: As explained in the responses to Comments 26, 27, and 28, the Act requires facilities that have an EHS above a threshold quantity at the facility to have a risk management program (RMP). The effect of this change will be that a facility will have to count the total aggregate quantity of an EHS at the facility when determining threshold quantity applicability, regardless of where or how the EHS is stored. This will prevent facilities from segregating inventory of an EHS solely for the purpose of evading the rules. Every process having an EHS must implement an RMP; however, the depth and complexity of complying with each of the elements of the RMP will vary depending on the complexity of the individual process. For example, the level of detail of risk management program documentation for elements such as process safety information, standard operating procedures, process hazard analysis/risk assessment, maintenance requirements, and training will be less complex for a storage area than for a complex reaction process.

Separation of equipment and/or processes could be considered an inherently safer method, but the concept is similar to implementing process safeguards and layers of protection

such as installing detection and automatic shutdown systems, mitigation systems, or adding inhibitors to reactives. The separation of equipment is an administrative method that requires the ongoing implementation of elements such as a management system, standard operating procedures, training, and management of changes to make it work effectively, in other words a risk management program. Also, separating equipment or inventory to fall below regulatory threshold requirements should not be done without careful consideration. For example, location in relation to the property line, the public, other equipment, and other stored materials must be considered so that applicable codes and standards are being followed and that the risk of an accidental release is not increased.

However, for de minimis amounts handled at a separate section of a facility, the Department intends to exercise enforcement discretion when evaluating the detail of the risk management program requirements for inconsequential amounts.

31. COMMENT: Clarification is needed in the definition of "facility" at N.J.A.C. 7:31-1.5 regarding "contiguous or adjacent property sites and that are under common control of the same owner or operator." For example, a municipal water company could have separate, non-contiguous water wells, each of which stores or uses a particular EHS in quantities below the threshold quantity on separate properties that are located miles apart in different sections of the municipality that are connected by roads owned by the municipality. This would make these separate water wells subject to the rules. (4)

RESPONSE: The EPA provides guidance on this issue in its "General Guidance for Risk Management Programs (40 CFR Part 68)," April 2004, for clarification of contiguous property and rights of way. Since the TCPA rules incorporate 40 CFR Part 68 by reference, EPA guidance on 40 CFR Part 68 is instructive. In the commenter's example, two municipal water wells on municipal properties that are located on opposite side of a municipality, and that are connected only by municipal roads are not contiguous for purposes of 40 CFR Part 68 or the TCPA rules, as interpreted by the EPA in its guidance document. Contiguous property is property that is adjoining, in actual contact, such as touching along a boundary or at a point. A facility that is under control of one owner or operator and that is located on two adjacent sites that are bisected by a public right-of-way (e.g., railroads or highways) is considered contiguous. However, property connected only by rights-of-way is not considered contiguous (e.g., two plants with a connecting pipeline).

Deletion of the "Industrial Complex" definition and related amendments.

32. COMMENT: TCPA regulated facilities that are outside the property boundary of another TCPA regulated facility, and that are in the same industrial complex, are not public places to each other respectively. The industrial complex definition was very narrowly defined to apply to sites which originally had been in the TCPA program under one owner with a clearly defined property line; this is reflected by the fact that only three industrial complex sites meet the definition. The original intention of including the industrial complex provisions in the TCPA rules was to allow these sites to continue using the property boundary that existed when the particular site was controlled under a single owner when the program began in 1988 for the

purposes of determining risk reduction and the reporting of accidental releases. (1, 2, 5, 11, 14, 17, 20, 21)

RESPONSE: As the Department indicated in the proposal summary, a main reason for deleting the industrial complex definition and associated rule provisions is to make the rule consistent with the EPA rule and the Act so that adjacent facilities and their employees working there are considered the "public" to each other so that they receive the same protection from a catastrophic release as would individuals living and working in the surrounding community. In the EPA rule at 40 CFR 68.3, which is incorporated by reference at N.J.A.C. 7:31-1.1(a), "public" means any person, except employees or contractors, at the stationary source. "Public receptor" means offsite residences, institutions (e.g., schools, hospitals), ***industrial, commercial,*** (emphasis added) and office buildings, parks, or recreational areas inhabited or occupied by the public at any time without restriction by the stationary source where members of the public could be exposed to toxic concentrations, radiant heat, or overpressure, as a result of an accidental release. "Offsite" means areas beyond the property boundary of the stationary source, and areas within the property boundary to which the public has routine and unrestricted access during or outside business hours. Under the EPA definitions, each entity within the former "industrial complex" is a separate stationary source; therefore, each is considered offsite public to each other.

33. COMMENT: The reason for the industrial complex rule provisions at the definition at N.J.A.C. 7:31-1.5 and related rule provisions at N.J.A.C. 7:31-4.2(f) and 5.2(b)4iii(1) is to protect the workers at the adjoining companies that are part of the industrial complex. Instead of deleting these provisions, the Department should make them more stringent. For example, the Department should clearly mandate an emergency response plan for the whole complex, require risk orientation training of the adjoining sites for employees, and require that a unified security structure be applied to the whole site. (1, 2, 4, 5, 11, 12, 14, 17, 20, 21)

RESPONSE: As explained in the responses to comments 32 above and 34 below, it is inappropriate for the Department to apply different requirements to facilities within a former industrial complex beyond the requirements with which other TCPA facilities must comply, regardless of whether the requirements are more or less stringent. The adjacent facilities of the former industrial complex can cooperatively coordinate activities if they conclude that it will enhance the effectiveness of certain risk management program elements. However, these coordination activities will not be mandated following the deletion of the industrial complex provisions because each of the facilities are considered a separate entity. However, if facilities cooperatively agree to implement coordinating activities, they must ensure that any coordinating activities, especially regarding security, are done in compliance with applicable State and Federal laws and rules.

34. COMMENT: The industrial complex definition at N.J.A.C. 7:31-1.5 and related rule provisions at N.J.A.C. 7:31-4.2(f) and 5.2(b)4iii(1) should not be deleted. These amendments will cause facilities to redo their plans and cause an administrative burden. (1, 2, 5, 7, 11, 14, 17, 20, 21)

RESPONSE: The definition of industrial complex allows any potential catastrophic impacts from an accidental release of an extraordinarily hazardous substance on an adjacent TCPA regulated facility to be exempt from being identified using a consequence analysis. When these potential catastrophic impacts on an adjacent TCPA regulated facility are not identified, then the opportunity to take actions to minimize or eliminate the risk of such catastrophic releases would be lost. As explained in the response to Comment 32, deleting the industrial complex definition and associated rule provisions make the rule more consistent with the EPA rule and the Act so that adjacent facilities and their employees working there are considered the "public" to each other so that they receive the same protection from a catastrophic release as would individuals living and working in the surrounding community.

Also, many TCPA facilities are adjacent or near to other commercial or industrial facilities that are not regulated by the TCPA rules. These TCPA facilities have been and continue to be required to identify any potential catastrophic impacts on the adjacent facilities and take actions to minimize the risk of such impacts. Out of the approximately 90 current TCPA regulated facilities, only eight were exempt from identifying impacts on adjacent facilities under the industrial complex definition.

The deletion of the industrial complex definition and rule provisions impacts two areas of the rules: the risk assessment requirements of N.J.A.C. 7:31-4.2 regarding determination of whether a release scenario has an offsite impact thus requiring evaluation of risk reduction; and notification provisions of EHS accidental releases pursuant to N.J.A.C. 7:31-5.2(B)4iii(1) regarding the reporting of a release that has an offsite impact to the Department's emergency communication center. The amendments related to the deletion of the industrial complex provision do not affect fees at all, will not require facilities to revise their Risk Management Plans, and will not require revisions to the risk management program other than in the above specified areas. Accordingly, the Department believes that these amendments will not result in an excessive administrative burden for the affected facilities.

Facilities will not have to perform any additional consequence analysis pursuant to the risk assessment requirements of N.J.A.C. 7:31-4.2 as a result of the deletion of the industrial complex provisions. However, some release scenarios at a particular facility within the former industrial complex that previously were not considered to have an offsite impact would now be considered to have an offsite impact if the release extends to another of the adjacent facilities. In this case, if the likelihood of the scenario is greater than 10^{-6} releases per year, the owner or operator must evaluate risk reduction measures which would reduce the likelihood or consequences of the EHS release. Identification of risk reduction measures to be evaluated is left to the facility. There is no requirement to evaluate all available or a specific number of risk reduction measures. Upon identifying one or more risk reduction measures, the facility would then determine which ones are feasible. If the facility determines that a risk reduction measure that they have selected to evaluate is feasible, the facility would be required to implement that measure on a schedule of their choosing.

35. COMMENT: The Department's reasons for the amendments regarding security, improved employee protection, and consistency with Federal rules are not valid. Facilities in industrial complexes have robust security programs. Because employees have access to documents and because of the integrated management approach to safety, security, and emergency response, employees are adequately protected. (1, 2, 5, 6, 11, 12, 14, 17, 20, 21)

36. COMMENT: The deletion of the industrial complex provisions would result in reduced access to risk management program information for the workers of the adjacent facilities. (16)

RESPONSE to COMMENTS 35 and 36: The reasons for deleting the industrial complex definition and related provisions are valid as discussed in the responses to Comments 32 through 34. The handling of security information is also a concern. The definition of industrial complex required the owners or operators of each individual stationary source within the industrial complex to provide access of all information required under the rules to the employees of the other stationary sources within the industrial source. Some of the risk management program information may include security information that should not be made accessible outside of the individual facility. The Department encourages facilities to share risk management program information and provide access to it with adjacent facilities and their employees if they feel that it will increase the safety and protection of all concerned. However, facilities must ensure that they comply with applicable State and Federal security laws and rules when sharing risk management program information and providing access to that information to persons outside the facility.

37. COMMENT: Facilities within the industrial complex are very integrated and intertwined. Small accidental EHS releases that do not have an impact beyond the industrial complex boundary will now be required to be reported to the Department's hotline. This could result in a facility having to report approximately an additional eight to ten small accidental releases per year. (1, 2, 4, 5, 7, 11, 14, 17, 20, 21)

RESPONSE: The commenters are correct that facilities affected by the deletion of the industrial complex provisions will likely have to report an increased number of accidental releases to the Department's emergency communications center. However, these are releases that also must be investigated pursuant to the accident investigation rule requirements. The task of making the phone call to the Department's emergency communications center will take minimal resources. Neither an initial nor a follow up written report are required to be submitted to the Department pursuant to the TCPA rules. Therefore, this will not create an undue administrative burden for the affected facilities.

Revised concentration and likelihood criteria to determine risk reduction in risk assessment

38. COMMENT: The likelihood of release criterion proposed at N.J.A.C. 7:31-4.2(c)1 to be amended from 10^{-4} releases per year to 10^{-6} releases per year is too conservative. The offsite impact of a toxic Extraordinarily Hazardous Substance cloud is determined using a concentration criterion endpoint of one Acute Toxicity Concentration, which is estimated to be the concentration that would cause ten percent lethality to persons exposed. Coupling this concentration criteria with the proposed likelihood value would yield a risk criteria of one in 10 million fatalities per year. The Department should consider 10^{-5} releases per year as the likelihood of release criterion. (4)

39. COMMENT: The likelihood criterion of 10^{-4} releases per year should not be amended for several reasons. In the responses to comments in connection with the 1993 readoption of the TCPA rules, the Department stated that a release frequency of 10^{-4} releases per year translates to an individual risk of approximately 10^{-7} releases per year, depending on wind speed, stability, direction, and other factors such as indoor concentration attenuation. Also, to apply the same frequency level of 10^{-6} for chronic cancer risks to acute TCPA risks is arbitrary. The definition of Acute Toxicity Concentration (ATC) incorporates a safety factor of more than 10^{-1} so that exposure at the ATC is not equivalent to the pollutant specific inhalation unit risk factors that are the basis for the 10^{-6} level used for cancer risk assessments. Finally, the ATC, which was created by the Department and is the basis for TCPA risk assessment, has no similar body of scientific work to support its application in risk assessment. (1, 2, 5, 11, 12, 14, 17, 20, 21)

40. COMMENT: Changing the likelihood criterion to 10^{-4} releases per year is too strict, especially for facilities formerly part of an industrial complex, taking into consideration the shorter property boundary resulting from the deletion of the industrial complex definition and provisions. However, it is not unusual for companies to consider a 10^{-4} risk threshold for an onsite release scenario and 10^{-6} for an offsite scenario of concern; thus, the use of a risk frequency of 10^{-6} would be consistent with industry practice. (1)

RESPONSE to COMMENTS 38 through 40: In the April 5, 1993 proposal for adoption with amendments of the TCPA rules (see 25 N.J.R. 1425(b)), the Department first proposed using 10^{-4} releases per year as the likelihood criterion to be used to determine the need to evaluate risk reduction measures for a release scenario that has an offsite impact of the Acute Toxicity Concentration (ATC) endpoint. In the summary for that proposal, the Department explained, "This likelihood value would translate into an individual risk of fatality of approximately 10^{-7} per year, when wind speed, stability, direction and other factors such as indoor concentration attenuation are taken into account. Risks at this level are considered acceptable, since they are more infrequent than acts of God or nature."

The Department has evaluated this further and has determined that the 10^{-4} likelihood value would not result in an individual risk of fatality of 10^{-7}. The dispersion modeling required under the rules is required to be performed using one set of meteorological conditions, which is 1.5 meters/second wind speed and F atmospheric stability. Each of these meteorological conditions may occur a certain percentage of time around a facility. For example, F atmospheric stability may occur 10 percent of the time at a facility with the other (less conservative) stabilities of A, B, C, D, and E occurring the remaining 90 percent of the time. An example of the wind speed can be viewed in the same way; 1.5 meters per second may occur 10 percent of the time at the facility with higher (less conservative) wind speeds occurring the remaining 90 percent of the time. However, adjusting the likelihood value of 10^{-4} releases per year by a factor of 10 percent for wind speed and 10 percent for stability is not appropriate.

In the modeling to determine the risk to the public of short term releases of hazardous air pollutants, it is the accepted practice to assume that the release occurs under the most conservative meteorological conditions for the facility. No adjustments are made to the resulting risk values to account for the percentage of time that those meteorological conditions occur. EHS release scenarios that are analyzed in the TCPA program generally are short term releases. It is also not appropriate to multiply the likelihood factor by 0.1 as stated by commenters to take

into account that the ATC is estimated to be the concentration that would cause 10 percent lethality to persons exposed. Since exposure to the ATC, the derivation of which is explained in the Department's September 1987 Basis and Background Document for Proposed New Rule N.J.A.C. 7:31, may result in fatality or serious injury, a conservative approach to risk determination is reasonable and necessary.

In the study of risk assessment, two factors are evaluated in assessing risk, the consequence and the likelihood (or probability). The Department has defined the consequence as an offsite impact of the endpoint criteria specified in N.J.A.C. 7:31-4.2. The appropriate value for the likelihood is arguable and controversial. Various sources cite values ranging from 10^{-3} to 10^{-7} as the likelihood values for the consequences of concern that are not considered tolerable to the public (see, for example, Lees, Frank P. Loss Prevention in the Process Industries, Second Edition,; Guidelines for Design Solutions for Process Equipment Failures, Center for Chemical Process Safety of the American Institute of Chemical Engineers, 1998,). The Department selected 10^{-6} as it is often cited as the level of concern for the frequency of occurrence of a specified consequence to a member of the public.

Furthermore, the Department chose 10^{-6} based on its evaluation of other programs that incorporate risk management and assessment. For example, the Air Quality Permitting Program, Bureau of Air Quality Evaluation's Technical Manual 1003, "Guidance on Preparing a Risk Assessment for Air Contaminant Emissions," details the policy for cancer risk that indicates that 10^{-6} is a negligible risk, and 10^{-4} is an unacceptable risk, while if the risk is between 10^{-4} and 10^{-6}, it is evaluated on a case by case basis. Both the Air program and the TCPA program evaluate the likelihood of the undesired consequence; for air the risk is getting cancer, and for TCPA it is the likelihood of a catastrophic release that would present an imminent and substantial endangerment to public health and the environment. Therefore, the Department has determined that it is appropriate to use the 10^{-6} likelihood value as a trigger above which an evaluation of risk reduction measures would be performed.

41. COMMENT: The higher level of consequence analysis criteria at N.J.A.C. 7:31-4.2(b)3iii, which corresponds to an endpoint concentration criterion of five times the Acute Toxicity Concentration (ATC) for a toxic EHS, and which are used to require evaluation of state of the art risk reduction measures, regardless of the likelihood of release, should not be eliminated as proposed by the Department. Instead, the Department should retain the higher level and mandate that risk reduction must be implemented for scenarios that result in release with an offsite impact of this level regardless of the likelihood. A likelihood criterion should be applied to determine when risk reduction is required for scenarios that have an offsite impact of the lower level, which corresponds to an endpoint concentration criterion of one times the ATC for a toxic EHS. (4)

RESPONSE: The Act specifies that risk reduction measures at facilities should be feasible. This intent is reflected in the risk assessment provisions of N.J.A.C. 7:31-4.2. Requiring risk reduction measures to be implemented regardless of their feasibility for scenarios that have an offsite impact of some specified concentration criterion would not be consistent with this intent.

The amendments simplify and improve the rule. Because the higher concentration criteria level has been eliminated, facilities will not have to perform as much consequence analysis modeling. Also, the decision making process to determine the need for risk reduction is clearer. Previously, at the higher concentration level, facilities were required to evaluate state-

of-the-art but were not required to take any action to reduce or eliminate the offsite impact, even if there were feasible risk reduction measures; this state-of-the-art evaluation was required for those scenarios in which the lower concentration level had an offsite impact and the likelihood criterion was exceeded. In the rule as adopted, if the scenario has an offsite impact and the likelihood criterion is exceeded, the facility must implement feasible risk reduction measures to reduce the consequences or likelihood of an offsite impact.

Repeal of the Program 2 prevention program requirements.

42. COMMENT: Eliminating Program 2 is based on an unsubstantiated claim that some Program 2 facilities present a higher risk than some Program 3 facilities. (1, 2, 4, 5, 6, 8, 11, 14, 17, 20, 21)

RESPONSE: The Department determined that the distinction between Program 2 covered processes and Program 3 covered processes does not necessarily relate to the potential risk present in that process. For example, the risk management plans of some Program 2 processes submitted to the Department show much worse offsite impacts of the worst case scenario than some Program 3 covered processes. Accordingly, the Department has determined that it is substantiated and justified to delete the Program 2 requirements from the TCPA rules.

43. COMMENT: Program 3 elements such as management of change, pre-startup review, and hot work permit, would add a significant, unnecessary burden to former Program 2 facilities. (1, 2, 4, 5, 6, 8, 10, 11, 14, 17, 20, 21)

RESPONSE: The Program 3 elements and rule requirements are recognized as good engineering and operating practices for any facility that handles hazard substances, regardless of the extent of the potential offsite consequences of a release. This is substantiated in numerous process safety management references, such as Loss Prevention in the Process Industries by Frank P. Lees, and publications by the Center for Chemical Process Safety of the American Institute of Chemical Engineers. Also, pursuant to the OSHA Process Safety Management standard, 29 CFR 1910.119, elements such as management of change, risk assessment, hot work permits, contractors, and employee participation that were not included under Program 2 are an important part of a comprehensive risk management program and need to be implemented at all facilities handling Extraordinarily Hazardous Substances subject to the TCPA rules. As stated in the proposal, the Department recognizes that implementing Program 3 requirements will require additional resources at existing Program 2 facilities. Accordingly, the repeal of N.J.A.C. 7:31-3 (except for 3.4) will not be effective until a date that is 365 days from the effective date of the amendments. Related provisions, discussed in the proposal at 40 N.J.R. 5112 will also have delayed effective dates. The Department determined to delay the effective date of these amendments to give existing Program 2 facilities adequate time to revise their Program 2 risk management program requirements to the Program 3 requirements.

44. COMMENT: The less complex Program 2 requirements should be retained because facilities that are in Program 2 are in industries that do not have a high frequency of serious accidents. EPA analyzed data from an accidental release database and only selected North American

Industry Classification System (NAICS) codes to be included in Program 3 that showed a high frequency of the most serious accidents across a significant percentage of all the sources within each specific NAICS code. (6)

RESPONSE: Compliance with the Act is not triggered by a particular level of acceptable frequency of serious accidents. Even if a particular industry does show a lower number of reported incidents than other industries, individual facilities within that industry may have higher rates of incidents or more severe potential consequences. Accordingly, compliance with the Act is triggered by the quantities of EHSs at a facility. Any facility with a threshold quantity of an EHS must implement a risk management program.

45. COMMENT: Instead of eliminating Program 2, the Department should establish criteria based on the population impact of the worst case scenario to determine the Program level for facilities. Facilities that have a lower worst case population impact should be required to comply with the Program 2 requirements, and those with a higher worst case population impact should be required to comply with the Program 3 requirements.

RESPONSE: The Department has determined that it is not appropriate to categorize facilities by the consequences of the potential releases from a facility or by the likelihood of those releases. Accordingly, as indicated in Comments 42 through 44 above, all subject facilities must implement the Program 3 risk management program requirements in order to comply with the Act and good engineering and operating practices.

Petroleum refining process unit definition

46. COMMENT: The increased fees for refineries will add significant administrative burdens on refinery resources with little environmental or safety benefit gained and will place a greater percentage of the revenue burden on refineries. (1, 2, 5, 11, 13, 14, 17, 20, 21)

47. COMMENT: The Department is reversing its position regarding the delineation of covered processes for refineries; in 1999, the Department directed refineries to register as a single process. (21)

RESPONSE to COMMENTS 46 and 47: The Department agrees that this amendment will result in an increase in the TCPA fees for refineries. As explained in the proposal summary, this was intended to reflect the level of effort for reviewing individual refinery units. The Department acknowledges that refineries were instructed to register as one process shortly after the EPA 40 CFR Part 68 regulations were incorporated by reference into the TCPA rules, but the Department has since found that the fees failed to reflect the level of effort. Therefore, the Department has determined that this amendment is necessary to comply with the Act and to reflect parity for all registrants.

Addition of organometallics to the list of RHS mixture functional groups at Table I, Part D, Group II

48. COMMENT: The Department is commended for adding organometallics to the list of RHS mixture functional groups at N.J.A.C. 7:31-6.3(a) Table I, Part D, Group II. (4, 13, 16)

RESPONSE: The Department acknowledges the commenters' support and agrees that adding organometallics to the list of RHS mixture functional groups at N.J.A.C. 7:31-6.3(a) Table I, Part D, Group II is important to reduce the risk of a catastrophic release at subject facilities with these substances.

49. COMMENT: The Department should not include organometallics to the list of RHS mixture functional groups at N.J.A.C. 7:31-6.3(a) Table I, Part D, Group II until the U.S. Chemical Safety Board (CSB) issues a final report on the investigation of the T2 Labs incident. (20)

RESPONSE: The preliminary reports issued by the CSB provide sufficient information to justify the need to include organometallics on the list of RHS functional groups at N.J.A.C. 7:31-6.3(a) Table I, Part D, Group II. The Department provided a detailed description of the CSB's findings of this incident (see 40 N.J.R. 5115).

50. COMMENT: Production of organometallic compounds can be highly exothermic and it is therefore appropriate that these compounds be added to the list. However, inclusion of organometallics to the list of RHS mixture functional groups at N.J.A.C. 7:31-6.3(a) Table I, Part D, Group II should be limited to their production. It would be inappropriate to include organometallics when they are used in reactions.

RESPONSE: The Department acknowledges that the T2 Labs incident occurred during the production of organometallics. Preliminary findings from the U.S. Chemical Safety and Investigation Board (CSB) indicated that the accident occurred as a result of a runaway chemical reaction during the production of a gasoline additive in the first step of the process where more than half a ton of metallic sodium was reacted in a steel vessel with other raw materials. However, the Department does not agree that the regulation of organometallics should be limited to only their production. Organometallics are highly reactive, not only during their production as demonstrated by the recent T2 Labs incident, but also during various reactions with other reactants with or without RHS functional groups. As stated in Bretherick's Handbook of Reactive Chemical Hazards, Sixth Edition,1999, edited by P.G. Urben, many organometallic substances are pyrophoric, highly reactive, and there are numerous incidents involving the use of organometallics, not just in their production.

Furthermore, in the definition of reactive hazard substance (RHS) mixture at N.J.A.C. 7:31-1.5 and the conditions for determining whether an RHS mixture is subject to the TCPA rules at N.J.A.C. 7:31-6.2(b)2, the Department specifies that RHS mixtures include a reactant, product, or byproduct that is a chemical substance or a mixture of substances having one or more of the chemical functional groups specified in Table I, Part D, Group II. For these reasons, the Department has determined that it is appropriate that organometallics are included to the list of RHS mixture functional groups at N.J.A.C. 7:31-6.3(a) Table I, Part D, Group II for both their production and when used in a reaction.

51. COMMENT: The Department should add oxidizers to the list of reactive hazard substances at N.J.A.C. 7:31-6.3(a) Table I, Part D, in particular potassium persulfate, ammonium persulfate, and sodium persulfate. One facility in Monmouth County that makes hair dyes had several fires involving these substances. (19)

RESPONSE: The Department plans to evaluate reactive chemicals to determine whether any additions should be made to the list of RHSs. Before any addition can be made, however, the scientific basis for a chemical's inclusion must be established. As a part of this process, the Department monitors incidents that have occurred in New Jersey, other states and the world, conducts research on these substances and evaluates research conducted on these substances by the scientific community. To help facilitate this process, the Department intends to organize a workgroup consisting of the regulated community, environmental groups, and safety professionals to provide input and assist in the development of a list of chemicals for possible inclusion on the RHS list. The Department will contact the commenter for participation in the workgroup when it is established.

Repeal of the definition of "State-of-the-Art"

52. COMMENT: Replacing the term "state-of-the-art" with the term "feasible" as proposed by the Department at N.J.A.C. 7:31-4.2 is inappropriate. The definition of feasible should include the phrase "available at reasonable cost commensurate with the reduction of the risk expected to be achieved," which was included in the "state-of-the-art" definition. The Department indicated at the June 2008 Inherently Safer Technology workshop that technology would be feasible if it had been successfully applied to similar processes or similar situations. However, a risk reduction measure may be economically feasible but not provide a significant risk reduction or be at a cost that is commensurate with the risk reduction expected to be achieved. (6)
RESPONSE: The Act mandates that the Department consider cost effectiveness, extraordinary accident risk reduction effectiveness, and technical feasibility for correcting deficiencies in facilities' risk management programs (see N.J.S.A. 13:1K-23.c.) Feasible is defined at N.J.A.C. 7:31-1.5 as "capable of being successfully accomplished, taking into account environmental, public health and safety, legal, technological, and economic factors." The overall goal of the TCPA rules is the prevention of catastrophic releases of toxic, flammable, and reactive Extraordinarily Hazardous Substances (EHSs). Pursuant to the risk assessment requirements of N.J.A.C. 7:31-4.2, for each release scenario that has an offsite impact which could potentially result in a fatality or permanent disability as determined following the procedure outlined at N.J.A.C. 7:31-4.2(c), the owner or operator must evaluate the release likelihood. If the likelihood of release occurrence meets or exceeds the specified likelihood criterion, feasible risk reduction measures must be implemented. In this way, the rules lead to minimization of the risk of EHS releases. The rules do not require that the consequences or likelihood be reduced to an "acceptable risk" level. The phrase "reasonable cost commensurate with the reduction of risk" is not clear since the rule does not provide acceptable risk criteria; therefore, this phrase has not been included in the definition of feasible.

Exemption for Reactive Hazard Substance Mixtures for which there is no possibility of a catastrophic accident.

53. COMMENT: An exemption for RHS mixtures for which there is no possibility of a catastrophic accident is provided at N.J.A.C. 7:31-6.2(i), but it requires that the exemption request include calorimetry testing that must be independently verified and certified by a New Jersey licensed professional engineer. Specifying that the exemption request be supported by calorimetry testing only is too prescriptive. The owner or operator should have the opportunity to demonstrate to the Department that it qualifies for the exemption through other scientific analyses as an alternative to calorimetry testing. However, if such analyses do not satisfy the Department, then the application could be denied unless calorimetry testing is conducted. (21)

RESPONSE: The intent of this exemption provision is to ensure that the owner or operator explicitly demonstrates that there is no possibility of a runaway reaction, over pressurization, and accidental EHS release during either normal or abnormal conditions. The Department agrees that an owner or operator may demonstrate this by providing other scientific analyses such as an evaluation of data from actual incidents. Accordingly, the Department will amend N.J.A.C. 7:31-6.2(i) and 6.2(i)1 on adoption to include the phrase "or other scientific analyses" as an alternative to calorimetry testing. If another method of scientific analysis is submitted as an alternative to calorimetry testing, then it still must be independently verified by either a New Jersey licensed professional engineer or laboratory certified pursuant to N.J.A.C. 7:18 (the amendment made on adoption to allow the certification to be made by a laboratory certified pursuant to N.J.A.C. 7:18 as an alternative to a New Jersey licensed professional engineer is explained in the response to Comment 54 below). However, the Department may require calorimetry testing if the alternate scientific analysis does not provide sufficient information to determine whether there is any possibility of a runaway reaction, over pressurization, and accidental EHS release during either normal or abnormal conditions.

54. COMMENT: The Department is requiring that the exemption for RHS mixtures for which there is no possibility of a catastrophic accident provided at N.J.A.C. 7:31-6.2(i) be independently verified and certified by a New Jersey licensed professional engineer. The Department should allow other qualified personnel to certify the exemption request. (14)

RESPONSE: The Department agrees that other qualified personnel may have appropriate expertise in the field of reactive chemical hazards. Laboratories certified pursuant to N.J.A.C. 7:18 must meet specific standards to ensure that regulatory decisions made by Federal, State, and municipal government agencies are based upon accurate and dependable analytical data. The Department has determined that a laboratory certified pursuant to N.J.A.C. 7:18 is an acceptable alternative to a New Jersey licensed professional engineer to provide an independent certification for an RHS mixture exemption. Accordingly, on adoption, the Department will amend N.J.A.C. 7:31-6.2(i)1 to provide that the results of calorimetry testing or other scientific analyses for the RHS mixture exemption request must be independently verified by a New Jersey licensed professional engineer or laboratory certified pursuant to N.J.A.C. 7:18 and certified by that engineer or laboratory.

Deletion of the exemption for Group I Reactive Hazard Substances that have an inhibitor

55. COMMENT: The Department is commended for eliminating the exemption for Group I Reactive Hazard Substances that have an inhibitor at N.J.A.C. 7:31-6.3(b)1. The use of an inhibitor in a Group I Reactive Hazard Substance, which degrades rapidly by nature, requires observation and analysis. The best way to prevent a runaway reaction is to implement a risk management program that includes all the equipment, procedures, and training to maintain the proper concentration of the inhibitor. (16)

RESPONSE: The Department acknowledges the commenters' support and agrees that the deletion of the exemption for Group I Reactive Hazard Substances that have an inhibitor is important to reduce the risk of a catastrophic release at subject facilities.

Increased penalties for facilities that fail to submit a Risk Management Plan

56. COMMENT: The Department is commended for increasing the penalties for facilities that fail to submit a Risk Management Plan at N.J.A.C. 7:31-11.4(c), Table III. These facilities are acting irresponsibly and may well pose an enormous risk to workers, the community, and the environment. (16)

RESPONSE: The Department acknowledges the commenter's support and agrees that increasing the penalties for facilities that fail to submit a Risk Management Plan is important as an enforcement tool to deter this rule violation. The penalty for this violation previously did not have the intended deterrent effect.

Additional Rule Revisions

57. COMMENT: The amendment at N.J.A.C. 7:31-1.1(c)5i which incorporates 40 CFR 68.15 with changes that would modify the documentation plan to require additionally a list of all documentation required by this chapter including the document title, identification number, and storage location, is not necessary. Developing and maintaining an exact and current inventory list of every single document would be costly and impractical. Table of contents and descriptive directories, specifying storage locations and means of access have been an effective means of meeting this requirement. Mandating the development and maintenance of a catalog list of thousands of documents serves no useful benefit to facility personnel and does not support or enhance facility safety. (4, 21)

RESPONSE: Prior to this amendment, the documentation plan was required to provide a means of identifying all documentation required under the chapter. The Department's experience has been that some documentation plans were too vague and did not adequately identify the appropriate documentation. Providing a list will enable facility and Department personnel to identify and readily obtain the necessary risk management program documents such as element procedures, process safety information, records showing implementation of the program elements, process hazard analysis and risk assessment reports, and all other reports and records required under the rules. This list of the documentation can refer to other lists maintained on file at the site meeting the requirement, some of which may be kept electronically. For example, some large facilities may have numerous piping and instrumentation diagrams (P&IDs) that are

catalogued with a list of all the P&IDs. If this P&ID list adequately identifies the P&IDs that are covered under the TCPA rules, it can be referenced in the documentation plan. Also, all of the specific individual records for each of the program elements do not have to be listed; for example, thousands of inspection/test records for all the EHS equipment in the mechanical integrity/preventive maintenance program do not have to be listed. However, as a group or category, the maintenance records required under the rule should be adequately identified and listed so that they readily can be located and retrieved. Many facilities are already maintaining a documentation plan in this format. For those facilities that do not have a documentation plan in the format described above, the Department anticipates that it will require minimal effort and cost to make revisions to their documentation plan.

58. COMMENT: The phrase "into the environment" should not be deleted from the definition of EHS release at N.J.A.C. 7:31-1.5. This contradicts the Act's definition of "extraordinarily hazardous substance," which is "any substance or chemical compound used, manufactured, stored, or capable of being produced from onsite components in this State in sufficient quantities at a single site such that its release into the environment would produce a significant likelihood that persons exposed will suffer acute health effects resulting in death or permanent disability." This amendment could be interpreted to mean that discharges or emissions of an EHS from a piece of EHS equipment in which it is contained into another piece of equipment, would be considered an EHS release because the concept of releasing to the environment has been removed. However, the Department should, as proposed, remove from the definition the cross reference to Air Pollution Control Act rules. (4, 21)

RESPONSE: The Act states that the purpose of a risk management program is to minimize extraordinarily hazardous accident risks and defines an extraordinarily hazardous accident risk as "a potential for release of an extraordinarily hazardous substance into the environment which could produce a significant likelihood that persons exposed may suffer acute health effects resulting in death or permanent disability." Since only a "potential for release" is specified, a release into the environment does not necessarily have to occur in order for the incident to be investigated. For example, a facility may have an EHS contained within a room of a building which is vented to a scrubber. A loss of containment of the EHS from a storage vessel could occur, and under normal circumstances the release would be contained within the room and mitigated by the scrubber without any of the EHS actually being released to the outside environment. However, the potential for a release to the environment exists if a door or window of the room is left open or broken or if the scrubber is not functioning properly. The significance of this is that prior to the amendment, the above scenario may not have been considered an EHS accident requiring investigation because an EHS accident is defined at N.J.A.C. 7:31-1.5 as an unplanned, unforeseen or unintended incident, situation, condition, or set of circumstances which directly or indirectly result in an EHS release. In the above scenario, if the accidental release is contained within the building and mitigated, it would have to be investigated pursuant to the requirements of 40 CFR 68.81 incorporated with changes at N.J.A.C. 7:31(c). However, if no offsite impact occurred, no injuries or fatalities occurred, or the emergency response plan was not activated, the accidental release would not have to reported pursuant to N.J.A.C. 7:31-5.2(b)4iii.

Also, if a loss of containment from a vessel occurs without an actual subsequent release to the outside atmosphere, it still would be considered a "potential catastrophic accident," which is defined as an incident that could have reasonably resulted in a catastrophic release of an EHS. This phrase is often otherwise referred to as a "near miss." Both EHS accidents and potential catastrophic events must be investigated pursuant to 40 CFR 68.81 incorporated with changes at N.J.A.C. 7:31-4.1(c). It is beneficial to know of these unusual incidents to prevent more serious ones in the future.

59. COMMENT: The Department has added clarifying language at four citations of the rule to specifically differentiate "inspections" from "audits." See specifically, N.J.A.C. 7:31-4.11(d), 8.1(c)1, the title of section 8.2, and 8.2(e). Definitions of these terms should be provided at N.J.A.C. 7:31-1.5. (21)

RESPONSE: The purpose of an inspection is to evaluate compliance with the rules. Findings of non-compliance during an inspection will be issued in an enforcement action document. The purpose of an audit is to evaluate a facility's risk management program to identify material deficiencies, which are defined as an inadequacy or omission of an owner's or operator's risk management program that reduces its effectiveness. Material deficiencies and corresponding corrective actions are listed in a written preliminary determination letter which, upon execution by the facility and the Department, become a consent agreement, or a consent agreement addendum for ones executed subsequent to the original consent agreement. Definitions of these terms are not needed. Provisions for audits are included in the rules at 40 CFR 68.220(a) through (j) with changes specified at N.J.A.C. 7:31-8.1(c)2 through 12. Specifically, 40 CFR 68.220(a) with changes specified at N.J.A.C. 7:31-8.1(c)2 through 4 states that the Department periodically will audit risk management programs and plans in addition to performing inspections. 40 CFR 68.220(e) through (i) with changes specified at N.J.A.C. 7:31-8.1(c)6 through 11 provides that the Department will include the findings from an audit in a written preliminary determination of material deficiencies, which ultimately culminates in the signing of a consent agreement or addendum between the owner or operator and the Department. Note that 40 CFR 68.220(j) with changes specified at N.J.A.C. 7:31-8.1(c)12 provides that nothing in 40 CFR 68.220 with changes specified at N.J.A.C. 7:31-8.1(c) precludes, limits, or interferes, in any way with the authority of the Department to exercise its enforcement, investigatory, and information gathering authorities concerning this chapter.

60. COMMENT: One commenter supported the amendments at N.J.A.C. 7:31-1.11A(q) and (r) regarding fee increases for the substantiation of a confidentiality claim and a petition to withhold privileged information based on adjusting the fees relative to the Consumer Price Index (CPI), as provided in N.J.A.C. 7:31-1.11A(u), to cover the Department's costs. (16)

61. COMMENT: The CPI should not be used as a means to calculate fee increases and new fees for RHS mixture exemption requests at N.J.A.C. 7:31-1.11A(q), (r), and (t). Instead of adjusting these fees automatically based on the CPI, the Department should evaluate the appropriate fees every five years upon the sunsetting and readoption of the rules so that the fees could be evaluated as part of the rulemaking process. N.J.A.C. 7:31-1.11A(u)4 does not allow the fees to be reduced even if the CPI has decreased, and there are no maximum calculated fee limits. (21)

RESPONSE to COMMENTS 60 and 61: Utilizing the CPI for calculation of fees enables the past base fee amount to be adjusted to its present day value. However, if the CPI does decrease, the level of effort and costs for the Department does not decrease; in an instance where the CPI decreases for a particular year, the fees will remain the same as for the previous year. The Department believes it is preferable to require that the applicable fee be calculated based on the monthly fluctuation of the CPI rather than adjusting the fees every five years upon rule sunset because a fee that is based on the CPI more closely reflects the actual costs of administering the TCPA program and will avoid abrupt changes in fees that would otherwise result if fees were adjusted every five years. Additionally, ensuring that the method by which fees are to be adjusted is offered for public comment through the rule proposal process ensures that all stakeholders have had an opportunity to offer public comment on that method and that the method is therefore adequately vetted.

62. COMMENT: One commenter expressed support of the amendment at N.J.A.C. 7:31-4.1(c)28, which incorporates 40 CFR 68.73(e) with changes that would clarify what is meant by "the timely correction of equipment deficiencies identified during preventive maintenance/mechanical integrity inspections or tests." This amendment requires that equipment deficiencies be corrected as soon as feasibly possible but in no case to exceed three months without providing a written justification, including an explanation of the necessary measures taken to ensure safe operation. However, employees and union representatives should receive copies of all justifications. (16)

RESPONSE: In accordance with the employee participation plan requirements at 40 CFR 68.83 incorporated with changes at N.J.A.C. 7:31-4.1(c)22, owners or operators must provide access to all risk management program documents to employees and to employee representatives, including the written justification for correction of equipment deficiencies. Accordingly, the commenter's suggested amendment is not necessary.

63. COMMENT: For the amendment at N.J.A.C. 7:31-4.1(c)28, which incorporates 40 CFR 68.73(e) with changes that would clarify what is meant by "the timely correction of equipment deficiencies identified during preventive maintenance/mechanical integrity inspections or tests," the adoption of three months as a time limit is arbitrary, and the Department has not provided any basis or justification. (21)

RESPONSE: The Department selected three months as a reasonable time frame to correct identified equipment deficiencies for most equipment replacements or repairs taking into account factors such as the time required to obtain parts, schedule the work order in relation to the production schedule, and complete the work. If there are circumstances where this time needs to be extended, the justification must be documented in writing and be available for review by the Department.

64. COMMENT: N.J.A.C. 7:31-4.2(b)3 will require an owner or operator to identify all scenarios of toxic, flammable, and reactive hazards that have a potential offsite impact for the

endpoint criteria at N.J.A.C. 7:31-4.2(b)3iii using a consequence analysis, consisting of dispersion analysis, thermal analysis and overpressure analysis, as applicable to the EHS and scenario. For a significant number of covered chemicals, one or more of these exposure scenarios is not physically possible. Performing modeling in these cases should not be required. (14)

RESPONSE: If it is not physically possible to perform one of the types of consequence analysis due to the physical properties associated with the EHS and scenario, it would not have to be modeled. Atmospheric dispersion modeling is the consequence analysis that should be used when analyzing the release of an EHS with toxic properties. For flammable and reactive EHSs, the incident outcome could be a boiling liquid expanding vapor explosion, flash fire, jet fire, pool fire, or confined/unconfined vapor cloud explosion. Therefore, the consequence analysis should be performed based on the criterion endpoint associated with the EHS and the incident outcome of the released EHS. For example, if the released EHS does not have flammable or explosive properties, thermal analysis and overpressure analysis would not have to be performed.

However, if the released EHS has flammable or explosive properties, the owner or operator should clearly define each pathway of the incident outcome as part of the hazard analysis or with an "event tree." When the possible incident outcomes are defined for the release scenario, the appropriate type of consequence analysis model using the appropriate endpoint criterion should be performed. This was the intent of including the phrase "as applicable to the EHS and scenario" in this rule requirement.

65. COMMENT: The amendments to N.J.A.C. 7:31-4.9(b)4 and (b)4ii that require that a summary of potential catastrophic events, in addition to EHS accidents that occurred during the previous year, be included in the annual report, would be new requirements with associated additional burdens, with no appropriate justification and little value. (1, 2, 5, 11, 12, 14, 17, 20, 21)

66. COMMENT: The amendments to N.J.A.C. 7:31-4.9(b)4 and (b)4ii that require that a summary of potential catastrophic events, in addition to EHS accidents that occurred during the previous year, be included in the annual report because reporting of potential catastrophic events and "near miss" incidents will help management, employees, and the Department to identify potential weaknesses in processes using EHSs and will help to reduce the risk of a catastrophic incident. (16)

RESPONSE to COMMENTS 65 and 66: Many process safety management references such as Loss Prevention in the Process Industries by Frank P. Lees, and publications by the Center for Chemical Process Safety of the American Institute of Chemical Engineers acknowledge that the evaluation of "near misses" is important to help prevent actual catastrophic releases from occurring. The Department agrees that including the reporting of the potential catastrophic events, or "near misses," in the annual report, in addition to EHS accidents, will give facility management and the Department an indication of deficiencies in the risk management program as indicated by their frequency and causes. Also, the Act at N.J.S.A. 13:1K-27.b mandates that each registered facility shall report to the Department unanticipated and unusual events. This includes both potential catastrophic events and EHS accidents. A potential catastrophic event is defined at N.J.A.C. 7:31-1.5 as an incident that could have reasonably resulted in a catastrophic

release of an EHS. Pursuant to 40 CFR 68.81, incorporated with changes at N.J.A.C. 7:31-4.1(c), potential catastrophic events are required to be investigated in the same way as an EHS accident, which is defined as an incident, situation, condition, or set of circumstances which directly or indirectly results in an EHS release.

67. COMMENTS: The proposed amendment to the method of calculating the heat of reaction for applicability of reactive hazard substance mixtures at N.J.A.C. 7:31-6.3(b)2 can yield unrealistically high values when applied to organometalics. For example, in some reaction processes, only small amounts of organometallics are used, and the use is as a promoter or an initiator. Calculating the heat of reaction per weight of promoter will result in huge and misleading heats of reaction. When organometallics are used as promoters, the determination of reactivity should be by the chemicals which react as a result of introducing the promoter. These would be all the chemicals and functional groups currently included in reactive chemicals. (1, 2, 5, 11, 14, 17, 20, 21)

RESPONSE: The Department agrees that determining the heat of reaction in the units of calories per gram of the substance with the specified functional group that yields the highest value can result in an unrealistically high value if that particular substance is used in very small amounts as part of larger RHS mixture. In the summary of the proposed amendments (see 40 NJR 5119), the Department explained that the rationale for changing the heat of reaction unit was to eliminate the consideration of non-reacting components such as solvents in the heat of reaction calculation. Solvents act as a heat sink in a reaction mixture, and their inclusion in the heat of reaction calculation lowers the resulting heat of reaction calculated value. In this way, they act as a safeguard. However, mistakes could be made in the amount of solvent fed to a reaction process. This includes errors made in charging materials to a reactor or other process vessel, equipment or instrument failures, or failure to fully analyze the consequences when making changes to the recipe of a reaction process. On adoption the Department is modifying the definition of RHS mixture at N.J.A.C. 7:31-1.5 and modifying the corresponding rule provision at N.J.A.C. 7:31-6.3(b) to clarify that an RHS mixture does not include non-reacting substances such as solvents and that non-reacting substances such as solvents shall not be included in the determination of the heat of reaction value of the RHS mixture. With these modifications, since the heat of reaction will be determined taking into account all the substances involved in the reaction and not just the one substance yielding the highest heat of reaction value, an unrealistically high heat of reaction value will not be obtained if a particular substance with one of the RHS functional groups is used in very small amounts as part of larger RHS mixture, as in the case of organometallics cited by commenters.

The Department understands that there may be some isolated instances where an RHS mixture meets the criteria of N.J.A.C. 7:31-6.3(b) and (c) but there may not actually be the possibility of a runaway reaction or EHS release occurring due to the specific reaction chemistry for that RHS mixture. Therefore, N.J.A.C. 7:31-6.2(i) provides that owners or operators may request an exemption for EHS equipment containing an RHS mixture. In the request for exemption, the owner or operator must demonstrate to the satisfaction of the Department that there is no possibility of a runaway reaction, overpressurization, and accidental EHS release during either normal or abnormal conditions based on an evaluation, using calorimetry testing or other scientific analysis, of the reaction chemistry of the RHS mixture.

The field of reactive chemistry is complex, and no other Federal or State agencies have adopted rules for the regulation of reactive hazard substance mixtures. The United States Chemical Safety Hazard and Investigation Board (CSB) has conducted several incident investigations involving reactive substances and has offered recommendations concerning their regulation. The Department may consider other means of specifying the criteria for determining applicability of reactive hazard substances developed in the future by the CSB, other Federal or State agencies, the Center for Chemical Process Safety of the American Institute of Chemical Engineers, the regulated community, or the public if they are determined to be more appropriate.

68. COMMENT: The Department should be commended for the amendment to the method of calculating the heat of reaction for applicability of reactive hazard substance mixtures at N.J.A.C. 7:31-6.3(b)2. (16)

69. COMMENT: The Department should not change the units for expressing the heat of reaction value used to determine applicability to the rules at N.J.A.C. 7:31-6.3(b)2 from calories per gram of RHS mixture to calories per gram of the substance with the specified functional group. This amendment will effectively lower the threshold quantity for RHS mixtures. Dilution can reduce the hazard of reaction and make it inherently safer. Dilution is an inherently safer concept noted by Center for Chemical Process Safety of the American Institute of Chemical Engineers. Since an RHS mixture is defined as an intentional one, it is not appropriate to justify the definition change by saying a mistake may be made in the amount of solvent fed. This would be an unintentional mixture which is outside the definition of the reactive substance mixture and threshold. No incidents have been cited where the current definition led to an accident or near miss. (1, 2, 5, 11, 12, 14, 17, 20, 21)

RESPONSE to COMMENTS 68 and 69: The United States Chemical Safety Hazard Investigation Board (CSB) issued a case study report dated July 31, 2007 of a runaway chemical reaction and vapor cloud explosion that occurred at Synthron, LLC in Morgantown, NC on January 31, 2006. According to the CSB report, one worker was killed and 14 injured (two seriously) as a result of this incident. The explosion destroyed the facility and damaged structures in the nearby community. Two church buildings and a house were condemned, and glass was broken up to one-third mile from the site. Two citizens driving by the site were slightly injured. The U.S. Chemical Safety Board (CSB) found that the reactor lacked basic safeguards to prevent, detect, and mitigate runaway reactions, and that essential safety management practices were not in place.

Synthron manufactured a variety of powder coating and paint additives by polymerizing acrylic monomers in a 1,500 gallon reactor. The company had received an order for slightly more of an additive than the normal size recipe would produce. Plant managers scaled up the recipe to produce the required larger amount of polymer, and added all of the additional monomer needed into the initial charge to the reactor. Also, two types of solvent normally were used in the batch, an aromatic solvent and an aliphatic solvent. According to the batch sheet, roughly equal amounts of the aromatic and aliphatic solvent should have been added to the reactor. However, there was not enough of the lower boiling temperature aliphatic solvent available in storage. To compensate, the superintendent and manager decided to make up half the

shortfall using the higher boiling aromatic solvent, and to run the batch with slightly less total solvent than specified in the recipe.

Together, these changes increased the total amount of monomer in the reactor by 45 percent, increased the concentration of monomer by 27 percent, and increased the atmospheric boiling point temperature of the mixture by almost 5ºC (9ºF).

Each of these changes would be expected to increase the rate of heat release in the reactor. This more than doubled the rate of energy release in the reactor, exceeding the cooling capacity of the reactor condenser and causing a runaway reaction. The reactor pressure increased rapidly. Solvent vapors vented from the reactor's manway, forming a flammable cloud inside the building. The vapors found an ignition source, and the resulting explosion occurred.

The Department acknowledges that not including solvents in the heat of reaction determination of an RHS mixture is more conservative in determining applicability of the rules. The Synthron incident illustrates how changes in the types or amount of solvents used in a reaction process can contribute to the occurrence of an uncontrolled runaway reaction. This supports the Department's decision to not include the amount of solvent when determining the heat of reaction value of an RHS mixture. The Department is amending upon adoption the definition of RHS mixture at N.J.A.C. 7:31-1.5 and a corresponding revision at N.J.A.C. 7:31-6.3(b) as discussed in the response to Comment 67 for clarification.

70. COMMENT: The change in the units for expressing the heat of reaction value could effectively lower the threshold quantity by orders of magnitude. At a minimum, the Department should continue to base threshold determinations for RHS mixtures on the weight of the mixture, not the RHS, when those mixtures are received pre-mixed at the facility and no further processing is conducted. This would address the Department's stated concern that the manufacturing of an RHS mixture might be done incorrectly which would result in a mixture with a much higher concentration of the RHS within the mixture than was tested. This type of situation would not be possible if the RHS mixture was brought onsite already prepared. (20)

RESPONSE: RHS mixtures that are received pre-mixed without further processing in a process vessel at the facility are not subject to the rule. However, RHS mixtures that are received pre-mixed and are involved in further processing at the facility are subject to the rule if the heat of reaction as determined pursuant to at N.J.A.C. 7:31-6.3(b) and the threshold quantity criteria are met. If a substance is included on the Individual Reactive Hazard Substances list at N.J.A.C. 7:31-6.3(a), Table I, Part D, Group I, it is subject to the rules if the amount at the facility of that Group I RHS meets or exceeds the specified threshold quantity regardless of whether it is only stored or if it is involved in further processing.

71. COMMENT: Calorimetry testing conducted by facilities to determine the heat of reaction of reactive hazard substance mixtures for applicability to the rules at N.J.A.C. 7:31-6.3(b)2 should not have to be certified by a professional engineer. (14)

RESPONSE: Certification by a professional engineer is required only in the case where an owner or operator is applying for an exemption from the rule pursuant to pursuant to N.J.A.C. 7:31-6.2(i). However, in response to issue raised in Comment 44, the Department is amending N.J.A.C. 7:31-6.2(i) upon adoption to allow certification of the RHS mixture exemption request

by a laboratory certified pursuant to N.J.A.C. 7:18 in addition to a New Jersey licensed professional engineer.

72. COMMENT: At N.J.A.C. 7:31-7.2(c), the Department has proposed to require the owner or operator to submit to the Department a Risk Management Plan correction within one month of a change in the qualified person or position. This time period should be set at 90 days. Correspondence addressed to a reassigned or redeployed qualified person or position will still be internally forwarded to the correct person, and 90 days will allow sufficient administrative time to submit the correction. (21)

RESPONSE: The Department disagrees that the timing of this requirement should be extended from 30 to 90 days. It is essential that the Department know as soon as possible the identity of the current responsible person because this is the person to whom the Department sends official correspondence. The identity of the current responsible person is necessary for matters involving enforcement actions as well as in the event of an emergency at the site. As the commenter did not provide any evidence to substantiate the claim that 30 days is difficult to comply with or unduly burdensome, the Department has no further basis on which to address the commenter's concern.

73. COMMENT: In order to allow facilities enough time to incorporate the amended requirements into their operating procedures and appropriately develop, communicate, and train employees and management on the amendments, the time frame of 365 days from the effective date of the amendments should be replaced with 24 months in each paragraph of N.J.A.C. 7:31-7.5, especially for current Program 2 facilities. (6)

RESPONSE: The Department's past experience with amendments to the rules and for new facilities coming into the TCPA program has shown that facilities typically require less than 365 days in order to comply with the rule requirements. Therefore, 365 days is an adequate time for existing facilities to comply with these amendments to the TCPA rules.

74. COMMENT: At N.J.A.C. 7:31-7.5(b), the Department proposes an amendment that would allow a facility one year to come into compliance for the newly listed functional group number 44. However, at N.J.A.C. 7:31-6.3(b)2, the Department proposed a change in the heat of reaction units to determine applicability of an RHS mixture from calories per gram of RHS mixture to calories per gram of the substance with the listed functional group without allowing any time to achieve compliance for facilities that may be affected by this amendment. N.J.A.C. 7:31-7.5(b) should also allow one year to achieve compliance for a facility that is newly subject to TCPA because of the amendment at N.J.A.C. 7:31-6.3(b)2. (20)

RESPONSE: The Department agrees with the commenter. As stated in the proposal at 40 N.J.R. 5120, it is the Department's intent to allow all facilities affected by the amendments 365 days from the effective date of the amendments to achieve compliance, including facilities that are "newly" affected by the rules such as facilities that handle EHSs in functional group 44, organometallics, and to account for the amendments made in response to comment 67 that exclude solvents from the calculation of heat of reaction. This is illustrated by the amendments

to N.J.A.C. 7:31-7.5(a), (b), (e), and (f) involving facilities that become regulated pursuant to the readoption of the TCPA rules with amendments and new rules. Accordingly, the Department is modifying N.J.A.C. 7:31-7.5(b) and violation number 600 at N.J.A.C. 7:31-11.4(c), Table III, to provide that all owners or operators having, as of (effective date of these amendments), reactive hazard substance mixtures subject to this chapter based on the calculation of the heat of reaction of the RHS mixture excluding solvents in accordance with N.J.A.C. 7:31-6.3(b)2, at or above threshold quantities, shall be in compliance with this chapter no later than 365 days from the effective date of these amendments. The Department is also deleting the phrase "newly listed" and in favor of adding a date that corresponds to the effective date of these amendments from the first part of N.J.A.C. 7:31-7.5(b) to make the compliance dates more precise.

75. COMMENT: At the new N.J.A.C. 7:31-7.5(g), the Department is requiring all owners or operators that have an approved risk management program for EHSs listed in N.J.A.C. 7:31-6.3, Table I, Parts A, B, C, or D to comply with the process hazard analysis with risk assessment requirements of 40 CFR 68.67 with changes specified at N.J.A.C. 7:31-4.1(c) and 4.2. In the summary for the proposal the Department stated that the effect of this proposed amendment would be that previous Program 2 processes that are required to perform a hazard review update any time following the effective date of these amendments would then have to instead perform process hazard analysis with risk assessment pursuant to N.J.A.C. 7:31-4.1(c) and 4.2. However, the Department has not provided any time in the rule for facilities affected by this amendment to comply. (6)

RESPONSE: All facilities, whether they are formerly Program 2 or Program 3, must comply with the process hazard analysis with risk assessment (PHA/RA) requirements of N.J.A.C. 7:31-4.2 whenever they have to perform their next PHA/RA pursuant to existing rule requirements. This would include the next scheduled 5-year hazard analysis update (for former Program 2) or PHA/RA revalidation (for Program 3), modifications when a PHA/RA is required, and new covered processes. Therefore, facilities will not be provided additional time to comply and will be required to conduct PHA/RA's in accordance with the requirements of N.J.A.C. 7:31-4.2 following the effective date of the adopted amendments.

76. COMMENT: The Department should add a new N.J.A.C. 7:31-7.5(h) to allow owners or operators of facilities that are newly subject to this chapter as a result of the change to applicability based on the "facility" threshold (instead of "process" threshold) to achieve compliance with this chapter. Time periods of 365 days or 24 months from the effective date of these amendments are suggested. (6, 20)

RESPONSE: The Department agrees with the commenter. As stated in the proposal at 40 N.J.R. 5120, it is the Department's intention to allow all facilities affected by the amendments 365 days from the effective date of the amendments to achieve compliance. This is illustrated by the amendments to N.J.A.C. 7:31-7.5(a), (b), (e), and (f) involving facilities that become newly regulated pursuant to the TCPA rules. Facilities that are newly subject to the TCPA rules as a result of the change to applicability based on the "facility" threshold (instead of "process" threshold) are no exception. Accordingly, to comport N.J.A.C. 7:31-7.5 with other similar rule requirements, on adoption, the Department has adopted a new N.J.A.C. 7:31-7.5(h) to provide

that all owners or operators that, as of the effective date of these amendments are subject to this chapter based on the threshold quantity at the facility as provided at 40 CFR 68.10 with changes specified at N.J.A.C. 7:31-1.1(c)3 shall be in compliance with this chapter no later than 365 days from the effective date of these amendments. As discussed in the response to comment 73 above, the Department has determined that 365 days, rather than 24 months, is an adequate time for "newly" regulated facilities to come into compliance.

77. COMMENT: At N.J.A.C. 7:31-8.1(c)1, which incorporates 40 CFR 68.200 with specified changes, the Department is proposing that the owner or operator shall maintain records supporting the implementation of this Chapter for five years unless otherwise provided in N.J.A.C. 7:31-4, and to require that the enumerated records be kept as follows: mechanical integrity/preventive maintenance records for the lifetime of EHS equipment, design safety review reports for the lifetime of a covered process, and hot work permits until they are reviewed in the next Department audit or inspection. The lifetime of EHS equipment and covered processes can be over 40 years. This requirement raises significant potential document management concerns such as hard copy storage, electronic storage, and back-up. Pursuant to the OSHA process safety management standard and EPA 40 CFR 68 rules, hot work permits are required to be kept on file only until the completion of the job. Retaining hundreds of executed hot work permits for review by a TCPA auditor would add a significant administrative burden. The proposal does not provide justification or explanation of a concern that needs to be addressed by establishing these substantial retention periods. (21)

RESPONSE: The purpose for adding the requirement to maintain mechanical integrity/preventive maintenance records for the lifetime of EHS equipment is to ensure that owners or operators maintain adequate data for the ability to perform reliability studies on individual pieces of equipment. This does not necessarily mean that the data has to be archived in its original hardcopy form for the entire life of the equipment. Appropriate data related to failure events of equipment can be maintained electronically if the facility has large amounts of equipment. However, 40 CFR 68.200, incorporated by reference with changes at N.J.A.C. 7:31-8.1(c)1, does require that unless otherwise specified, all records be maintained for five years, including all mechanical integrity/preventive maintenance records for equipment in the covered process.

The initial safety review of design report for a new covered process required pursuant to N.J.A.C. 7:31-4.5(b) through (d) is a vital record that details the codes and standards upon which the covered process design and operations were based. Keeping this one report for the life of the process is not a burdensome amount of paperwork to be maintained.

Owners or operators need to retain completed hot work permits for an extended period past the completion of the job for their own auditing purposes. The completed hot work permits are important in the evaluation of compliance with hot work safety procedures such as whether the permits have been filled out completely, that appropriate safety measures have been taken to perform the hot work, and that time limits for the permit have been met.

78. COMMENT: At N.J.A.C. 7:31-8.2(e), the Department has proposed a new requirement for the owner or operator to make all documentation required pursuant to this Chapter readily accessible for review by the Department during an audit or inspection. Making thousands of

documents "readily accessible" for surprise unannounced inspections or audits is not feasible or practical. Many of the requested documents are required to be retained for compliance verification purposes only, and it is not necessary for those documents to be readily accessible to all plant personnel. If the facility's "owner" for such documents has days or even weeks of scheduled vacation or business-related travel, the documents will not be readily accessible for surprise unannounced inspection or audit by the Department. (21)

RESPONSE: Conducting inspections, sometimes unannounced, is an important enforcement tool to verify real-time compliance with these critical rules. All risk management program information must be readily accessible to prevent delay to Department inspectors. If the facility's "owner" of specific documents will be away from the facility for an extended period, arrangements must be made as part of the facility's management system for alternate staff or delegees to be sufficiently knowledgeable of the documents and their location so that they can be made readily accessible to the Department.

79. COMMENT: The Department should require that copies of facilities' risk management program procedures and records be submitted to the Department. These records could potentially be destroyed in a catastrophic accident. The records could be submitted electronically to alleviate storage concerns and stored within secure locations by the Department. (16)

RESPONSE: Maintaining current copies of facilities' risk management program procedures and records would be a difficult administrative task for the Department. The Department can require documents to be submitted to the Department's offices when necessary. Also, the Department expects that facilities will maintain critical risk management program procedures, documents, and records in a safe and secure location to prevent their loss in the event of an incident.

Summary of Agency- Initiated Changes

The Department is making the following changes upon adoption to correct or clarify the language in the proposal:

1. At N.J.A.C. 7:31-1.1(c)5, the Department is correcting a typographical error to a referenced rule citation.
2. At N.J.A.C. 7:31-6.1(c)2, which amends 40 CFR 68.115(a), the Department is deleting the Federal provision and replacing it with a provision specifying that a threshold quantity of an EHS in N.J.A.C. 7:31-6.3(a), Table 1, is present at a facility if the total quantity of the EHS at the facility meets or exceeds the threshold. Prior to this amendment, N.J.A.C. 7:31-6.1(c)1 modified 40 CFR 68.115(a) to state that a threshold quantity of a EHS listed in N.J.A.C. 7:31-6.3(a), Table 1, is present at a stationary source if the total quantity of the EHS contained in a process meets or exceeds the threshold. This amendment to N.J.A.C. 7:31-6.1(c)1 will make this provision consistent with the other threshold quantity and applicability provisions in the TCPA rules that make a facility subject to the rule if the threshold quantity is present at the entire facility rather than only within a covered process.

3. At N.J.A.C. 7:31-6.3(a), Table I, Part D, Group I, List of Individual Reactive Hazard Substances, the Department is correcting a typographical error in the CAS # for item 3, Butyl hypochlorite tertiary.
4. At N.J.A.C. 7:31-11.4(c), penalty number 596, the Department is correcting the omission of the notation that this penalty is to have a 30 day grace period. The Department indicated in the proposal at 40 N.J.R. 5121 that this new penalty is a minor penalty with a 30 day grace period, but failed to include the number 30 in the grace period column associated with this penalty.

The Department has also determined not to delay the operative date of the amendment to N.J.A.C. 7:31-1.1(c)3iii because to delay the operativeness of the subparagraph's amendment would result in maintaining a requirement to comply with N.J.A.C. 7:31-3.4 for one year after that section is repealed.

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. This readoption of the TCPA rules at N.J.A.C. 7:31 with amendments includes the requirements of the Federal accidental release prevention program (ARP program) at 40 CFR 68, which were incorporated by reference into the TCPA rules in 1998. Based on its past experience in implementing a release prevention program since 1988 and the mandates of the TCPA, the Department supplemented the Federal rules with additional requirements at that time. The current TCPA rules contain 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 ARP program. Other requirements that exceed Federal standards are needed to protect the public from the threat of accidental releases of EHSs in New Jersey, which is more highly industrialized and densely populated than other states.

The TCPA rules and the Federal ARP rules currently regulate toxic and flammable substances. There are more toxic substances regulated as EHSs under New Jersey's TCPA Accidental Release Prevention program than under the Federal program. Listed below are the toxic substances on the TCPA EHS list that are not regulated toxic substances under the Federal program. The basis for the selection criteria used for listing substances is found in the TCPA definition of extraordinarily hazardous substance (EHS). The current TCPA list is comprised of toxic substances at threshold quantities that meet the statutory definition of an EHS, which is any substance ". . . in sufficient quantities . . . such that its release into the environment would produce a significant likelihood that persons exposed will suffer acute health effects resulting in death or permanent disability." The selection criterion, used by the Department in 1988 for including substances on the EHS list, the Substance Hazard Index (SHI), fulfills the statutory requirement to regulate substances having significant potential for lethal acute toxicity and high volatility.

The Substance Hazard Index (SHI) is a single value computed for a substance based on the following two factors combined as a ratio: equilibrium vapor concentration at 20 degrees Celsius divided by the ATC or the lethal concentration to five percent of the exposed population (LC_5). The greater the volatility and the greater the acute toxicity (that is, the lower the acute

toxicity concentration), the greater the SHI of a substance will be. The TCPA SHI criterion for selecting substances is the specific SHI value of 1,388, which reflects the equilibrium vapor concentration and ATC of 36 percent concentration solution of hydrogen chloride (hydrochloric acid). All substances regulated under TCPA are as hazardous as this substance, which in itself is highly hazardous and regulated as an EHS.

SUBSTANCES ON THE TCPA EHS LIST THAT ARE NOT ON THE USEPA TOXIC SUBSTANCES LIST

(Note: Substances with asterisks are also listed on the EPA flammable substances list.)

NAME OF EHS	CAS NUMBER	SHI
ACETALDEHYDE*	00075-07-0	6579
ALLYL CHLORIDE	00107-05-1	13384
BORON TRIBROMIDE	10294-33-4	1447
BROMINE CHLORIDE	13863-41-7	10000
BROMINE PENTAFLUORIDE	07789-30-2	45132
CARBON MONOXIDE (10% by volume or greater)	00630-08-0	1751
CARBONYL FLUORIDE	00353-50-4	27778
CHLORINE PENTAFLUORIDE	13637-63-3	175439
CHLORINE TRIFLUORIDE	07790-91-2	104167
CHLOROPICRIN	00076-06-2	6579
CHLOROPRENE	00126-99-8	1419
CYANOGEN*	00460-19-5	28571
DIAZOMETHANE	00334-88-3	100000
DICHLOROACETYLENE	07572-29-4	346260
DICHLOROSILANE*	04109-96-0	36765
DIETHYLAMINE	00109-89-7	1493
DIMETHYLAMINE*	00124-40-3	4975
ETHYL MERCAPTAN*	00075-08-1	2100
ETHYLAMINE*	00075-04-7	8157
HEXAFLUOROACETONE	00684-16-2	36364
HYDROBROMIC ACID (conc. 62% or greater)	10035-10-6	2105
HYDROGEN BROMIDE (anhydrous)	10035-10-6	20000
ISOPROPYLAMINE*	00075-31-0	8103
KETENE	00463-51-4	588235
METHACRYLALDEHYDE	00078-85-3	6316
METHYL BROMIDE	00074-83-9	38462
METHYL DICHLOROSILANE	00075-54-7	1548
METHYL FLUOROACETATE	00453-18-9	39277
METHYL FLUOROSULFATE	00421-20-5	92105
METHYL IODIDE	00074-88-4	18716
METHYL VINYL KETONE	00078-94-4	389254
METHYLAMINE*	00074-89-5	10000
NITROGEN DIOXIDE	10102-44-0	141398

(10% by volume or greater)		
NITROGEN TETROXIDE	10544-72-6	141398
10% by volume or greater)		
NITROGEN TRIFLUORIDE	07783-54-2	5000
NITROGEN TRIOXIDE	10544-73-7	141398
OSMIUM TETROXIDE	20816-12-0	95943
OXYGEN DIFLUORIDE	07783-41-7	6666667
OZONE	10028-15-6	2083333
PENTABORANE	19624-22-7	750000
PERCHLORYL FLUORIDE	07616-94-6	25974
PHOSPHORUS TRIFLUORIDE	07783-55-3	1890
PROPYLAMINE	00107-10-8	1413
SELENIUM HEXAFLUORIDE	07783-79-1	200000
STIBINE	07803-52-3	333333
SULFUR MONOCHLORIDE	10025-67-9	1864
SULFUR PENTAFLUORIDE	05714-22-7	738158
SULFURYL FLUORIDE	02699-79-8	3311
TELLURIUM HEXAFLUORIDE	07783-80-4	1000000
TETRAFLUOROHYDRAZINE	10036-47-2	20000
THIONYL CHLORIDE	07719-09-7	73680
TRICHLOROSILANE*	10025-78-2	25155
TRIFLUOROCHLOROETHYLENE*	00079-38-9	11547
TRIMETHOXYSILANE	02487-90-3	9474
TRIMETHYLAMINE*	00075-50-3	4022
VINYL TRICHLOROSILANE	00075-94-4	1551

USEPA's criteria for selecting substances differ from TCPA's Substance Hazard Index (SHI) criterion. USEPA used two separate criteria, one representing substance toxicity, and the other representing volatility.

The USEPA criteria are not based on a specific substance, but are designed to limit the list to a practical number of the most hazardous substances. The USEPA criteria for selecting substances are a median lethal concentration (LC_{50}) of 2.0 grams per cubic meter (g/m^3) or lower in all but the case of chloroform and a vapor pressure of 10 torr or higher at 25 degrees Celsius.

A total of 47 substances meet both TCPA's and USEPA's selection criteria. For example, a substance such as acrylonitrile is listed by USEPA because it has an LC_{50} of 1.27 g/m^3 and a vapor pressure of 115 torr at 25 degrees Celsius. The SHI for acrylonitrile is 1,896 and, therefore, it is listed in the TCPA regulations.

A total of 57 substances meet the TCPA SHI criterion but not USEPA criteria. For example, boron tribromide was selected for the TCPA list because it has an SHI of 1, 447. It has sufficient vapor pressure, 55 torr, to meet the first part of the USEPA criteria, but with an LC_{50} of 5.2 g/m^3, it does not meet the second part of the USEPA criteria.

Finally, 30 substances meet USEPA criteria but not the TCPA SHI criterion. For example, carbon disulfide meets USEPA criteria with an LC_{50} of 1.0 g/m^3 and a vapor pressure of 360 torr at 25 degrees Celsius, but its SHI of 1,236 falls just below the TCPA SHI criterion of 1388. These 30 substances are included in the Table I, Part B list because the TCPA program must regulate all Federally regulated toxic substances.

The threshold quantities assigned to the toxic EHSs were established to attain the statutory goal and were individually set by using the TCPA threshold determination method. Each threshold quantity established under this method is that quantity whose potential release over a one hour period at a point 100 meters from the property boundary would result in a death beyond the boundary. This method assumes a population density of 10,000 persons per square mile, a value chosen to reflect the average population density of New Jersey cities. The 100 meter distance between the point of potential release and the site boundary was chosen as representative of distances to property boundaries in New Jersey. Each threshold quantity has been calculated using dispersion modeling and mortality curves that directly reflect the acute toxicity concentration (ATC) of the respective substance, and its equilibrium vapor pressure at 20 degrees Celsius for substances that are normally liquid.

USEPA also determines threshold quantity of a substance by a method different from that used by the TCPA program. While substances regulated by both programs represent a hazard to the community at specific acute toxicity concentrations, in the TCPA program, each substance is assigned a unique threshold value. The TCPA program determined the threshold value as the quantity whose release would disperse as a cloud covering an area having specified population density to result in a consequence of death or permanent disability. In contrast, the USEPA method ranks substances by a toxicity/volatilization rate ratio into classes to which arbitrary threshold values have been assigned. Thus, USEPA assigns several substances with disparate characteristics to share the same threshold value.

As a result of the differences in threshold quantity determination, the TCPA threshold quantity is lower than the USEPA threshold quantity in 54 out of 58 cases where the toxic substance is listed on the existing TCPA list (Table I, Part A) and the USEPA list (Table I, Part B). Currently, 14 facilities are regulated under TCPA rules that would otherwise be unregulated if the Department adopted the Federal thresholds for toxic substances.

The Department believes the existing TCPA threshold quantity values are appropriate for New Jersey because of the number of small congested industrial sites in New Jersey handling such substances and the State's high population density in areas surrounding those industrial sites, which the TCPA threshold determination method takes into account. A TCPA threshold quantity release modeled by this method would result in the potential for 15 persons to suffer from acutely toxic effects with, statistically, one fatality. By comparison, the average USEPA threshold quantity of a substance when modeled by the same TCPA threshold determination method shows the potential for 606 persons to suffer from acutely toxic effects with statistically 108 fatalities. For 33 of the 47 toxic substances listed by both TCPA and USEPA, the USEPA threshold quantity, if released, based on the same acute toxic effect criteria, would potentially affect from 127 persons to as many as 11,426 persons, as compared to 15 persons potentially affected by the release of the TCPA threshold quantity of the same substance.

The TCPA toxic substances that are not also on the USEPA toxic substances list, but which meet the SHI criteria, represent hazards at least as severe as those of substances on the USEPA list. The benefits of their continued inclusion as EHSs are significant reductions of scientifically supported estimates of potential deaths or permanent disability in the communities surrounding these existing sites.

Owners and operators having EHSs regulated only under the TCPA rules or having EHSs at lower State thresholds incur the costs of implementing a risk management program and paying

annual fee assessments. The Department believes the benefits of protecting the public and the environment outweigh any incurred costs, which are described fully in the Economic Impact statement of the proposal.

The Department is changing the means of determining rule applicability based on the threshold quantity of an EHS present from the quantity within a covered process, which is a smaller set of equipment within a stationary source, to the quantity at the entire facility. This is consistent with the intent of the TCPA Act. The TCPA rules determined threshold quantity applicability in this way in the rules initially adopted in 1988, but this method was changed to the current method with the incorporation of the EPA's Chemical Accident Prevention in 1998 to be consistent with the EPA rules. Basing threshold quantity applicability on the covered process is less stringent because an owner or operator could potentially have less than the threshold quantity present in several processes but have greater than the threshold quantity present for the overall stationary source without being subject to the rules. However, the Department does not anticipate that these amendments will make additional stationary sources subject to the rules. Following the change to threshold quantity determination based on covered process in 1998, no stationary sources deregistered from the program because of the new threshold quantity determination method.

Changes to the applicability provision at 40 CFR 68.10(a), incorporated with changes at N.J.A.C. 7:31-1.1(c)3i, and the definitions of covered process, process, threshold quantity, facility, and inventory, are adopted to make these rule provisions consistent with the proposed amendments that will base threshold quantity applicability for the entire stationary source.

Several owners or operators are subject to these rules because one or more of their processes generates, or is capable of generating, an EHS at threshold quantities over a one-hour period of time. The TCPA statute explicitly includes both "generation" and "storage and handling" of extraordinarily hazardous substances as regulated activities, while the Federal ARP program does not include generation. One group that may be affected by this if their processes are capable of generating ozone at threshold quantities is New Jersey water purveyors using ozone to disinfect potable water. Because ozone is not a Federally regulated substance, these owners and operators come under the purview of the TCPA rules solely because ozone is a State-regulated EHS generated by their processes.

There is a possibility that an owner or operator can be subject to the TCPA rules and not be subject to the Federal ARP program because New Jersey regulates EHSs at quantities that meet or exceed the threshold quantity, while Federal program applicability is based on exceeding, rather than meeting, the threshold. While the chances are small of an owner or operator having the threshold quantity of a regulated substance without exceeding it, it is possible that this difference in determining program applicability may subject an owner or operator to the TCPA rules.

As discussed above, the TCPA rules list a greater number of toxic substances as EHSs than the number of toxic substances regulated under the Federal ARP program. Also, some of the toxic substances regulated under both programs have lower State thresholds. Because of this, the TCPA program is broader in scope than the Federal program and affects more owners and operators. Owners or operators that are affected by New Jersey's more inclusive EHS list or lower thresholds are already regulated under TCPA and have existing approved risk management programs.

In addition, owners or operators in New Jersey may come under the purview of the TCPA rules because of their EHS mixtures. Under the Federal program, amounts of regulated substances contained in mixtures where the concentration of the regulated substance is below one percent by weight or its partial pressure is less than 10 millimeters of mercury, need not be considered when determining whether more than a threshold quantity is present at the stationary source. The TCPA rules require that amounts of EHSs contained in mixtures at a concentration at or above the acute toxicity concentration must be considered when determining whether more than a threshold quantity is present. In general, the acute toxicity concentration of an EHS is much less than one percent. However, the stricter requirement for determining thresholds for EHSs in mixtures should have very little effect on the scope of stationary sources subject to the rules since EHSs are generally found stored at much higher concentrations. The different concentration cutoffs may affect whether equipment in a downstream process is subject to the rules.

Owners and operators regulated under TCPA but not the Federal ARP program for any of the reasons discussed above (EHS list and threshold differences, EHS generation, having an EHS at, but not above, the threshold quantity, or differences in calculating EHSs in mixtures) will be expected to continue to implement their risk management programs, and incur the costs associated with these activities as discussed in the Economic Impact statement in the proposal.

The Department will continue to regulate flammable substances at the current 10,000 pound threshold, which is the same threshold as the Federal program. By regulating LPGs, the TCPA list of flammable EHSs will be the same as the Federal list of regulated flammable substances.

The listing of reactive chemicals as EHSs is a significant requirement that is part of the TCPA rules. This requirement is not part of the Federal ARP rules. The Department lists reactive substances as EHSs that are subject to the TCPA rules because of their identification as contributors to the cause of past industrial accidents. The Department has determined that TCPA coverage of reactive substances is warranted to protect the public and the environment from accidental releases. Including reactive substances on the EHS list will ensure that owners or operators handling reactive substances at quantities that meet or exceed the proposed thresholds develop and implement risk management programs to minimize the risk of an accidental release.

The Department considered the causes of past industrial accidents and weighed the projected cost of compliance against the costs to the public and the environment associated with a reactive hazard substance accident and determined that the benefit to the public derived from regulation outweighs the cost of compliance.

Adopted amendments to these rules will also require owners and operators of New Jersey facilities to comply with additional State risk management program requirements due, in part, to the statutory mandates of the TCPA and to the experience gained by the Department in implementing its accidental release prevention program over the past 20 years.

The TCPA Act defines a risk management program as containing eight elements designed to minimize the risk of EHS accidents. The Federal ARP program, which mirrors the State TCPA program in its intent and scope, contains similar elements but lacks the detail for developing and implementing these risk management program elements.

In developing the TCPA rules, the Department evaluated the Federal rules against the current TCPA rules and found that the current State program defines with more specificity how to develop program elements that reach risk management goals. Wherever the Department

believed a performance based, less prescriptive Federal regulatory approach would not compromise public safety, the Federal rules were incorporated by reference with no changes. This approach allows owners and operators to develop individual risk management programs and maintain program documentation in accordance with company policies and procedures as long as all aspects of the eight required elements are reflected and properly documented.

There are several TCPA program elements that are more stringent than their Federal counterparts. The State requirement for the performance of a risk assessment as part of the process hazard analysis at N.J.A.C. 7:31-4.2 is one such element. As indicated above, risk assessment is one of the eight risk management program elements originally mandated by the TCPA statute. The risk assessment element reflects TCPA statute requirements to anticipate circumstances that could result in environmental accidents and take the necessary steps to prevent their occurrence. Risk assessment is commonly defined as a quantitative analysis to determine risk reduction measures that should be implemented by identifying release scenarios, estimating their consequences, and calculating their likelihood. The Department currently requires that for Program 3 covered processes facilities make an estimate of the consequences by performing modeling to determine whether a consequence criterion of the EHS will extend beyond the source boundary and an estimate of the likelihood of the accident. The Federal rules require that only a process hazard analysis be performed, but do not specify that consequence modeling or likelihood analysis be included. Personnel to perform the TCPA risk assessment may be supplied by the owner or operator's staff or by consultants. There is a continuing cost estimated at $6,150 (150 hours x $41.00/hr) to update the risk assessment every five years. In addition to these periodic updates, it may also be necessary for New Jersey owners and operators to perform a process hazard analysis with risk assessment if an anticipated process or equipment change is likely to have offsite impacts.

The Department is requiring an evaluation of risk reduction options for owners and operators of Program 3 covered processes as part of their process hazard analysis with risk assessment (PHA/RA). As discussed above, risk assessment is one of the eight risk management program elements mandated by the TCPA statute. An evaluation of options for risk reduction is part of the risk assessment. Following the evaluation of currently available technologies to reduce the risk of accidental releases, an owner or operator is required to incorporate these measures if they determine the technology will be cost effective. The Department estimates owners and operators will incur costs once every five years to research and evaluate options for risk reduction. The cost of researching risk reduction technologies depends on the expertise of the reviewer and the complexity of the covered process. The additional cost this evaluation is anticipated to be under $1,000 every five years. The potential benefit to the public of the use of risk reduction technologies exceeds the cost of the evaluation of new technologies.

The adopted rules with amendments include requirements for owners or operators to perform inherently safer technology reviews, which is not required by the Federal CAP rule. The Federal CAP rule and 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.

The Department is eliminating the Subchapter 3 Program 2 Prevention Program requirements, so that all owners or operators currently covered under Program 2 would have to revise their risk management programs to comply with the Program 3 requirements. Several of the risk management program elements are affected by this change. Additional process safety information such as process chemistry, safe upper and lower limits, consequences of deviation, electrical classification, relief system design, safety systems, electrical one-line diagrams, site plan, firewater system diagram, sewer system diagram, and external forces and events data are required. Elements such as standard operating procedures, operator training, mechanical integrity/preventive maintenance, and compliance audits are more detailed. The Program 2 hazard review and Program 3 process hazard analysis (PHA) studies are similar, but the PHA has more detail. Also, the risk assessment to determine the consequences and likelihood of releases is not required under Program 2. Finally, the elements of safety review, management of change, employee participation, hot work permit, and contractors are not required under Program 2.

Many owners or operators of Program 2 covered processes already have incorporated all or many of the additional Program 3 requirements into their risk management programs. Those owners or operators needing to revise their programs to include the additional Program 3 requirements will incur an initial cost estimated to be $7,840. Their ongoing implementation cost is not expected to be substantially higher than their current Program 2 risk management program implementation costs. Implementation of the additional Program 3 requirements will ensure that those previous Program 2 owners or operators address all currently accepted process safety management practices to reduce the risk of an accidental release.

The TCPA rules also contain additional risk management program requirements, at N.J.A.C. 7:31-4, which are described below, that are more comprehensive than the Federal program. In comparing the current TCPA rules to the Federal rules the Department determined that additional requirements are needed in order to implement the goals of State law. The cost of these additional requirements is expected to be minimal for currently regulated owners and operators since they are already complying with the requirements of the rule.

The TCPA rules supplement Federal requirements for the Program 3 release prevention program. For Program 3, the Department requires the submittal of annual reports every year containing program information updates and describing significant program changes, EHS accidents, updated process hazard analysis/risk assessment results, and compliance audits that occurred over the previous year (see N.J.A.C. 7:31-4.9). There is no Federal requirement for the submittal of annual reports for Program 3. The annual report is a program update and summary of certain required activities that the Department uses to prepare for and conduct on-site audits and inspections, which will continue under the proposed rules. The minimal cost of such reporting is the cost for gathering and submitting the required information.

Owners or operators of Program 3 covered processes are currently subject to a greater degree of emergency response planning than is required under the Federal program. The Federal program allows any owner or operator whose employees will not respond to emergencies to coordinate response activities with local agencies. These adopted rules offer this option only

after coordination with local agencies is documented, and the owner or operator must still prepare an emergency response plan describing their emergency response procedures and program. The Department also requires owners and operators of Program 3 covered processes to conduct a full scale exercise annually. The Federal program does not require emergency response exercises. The Department believes regular emergency response exercises are necessary to ensure the adequacy of the owner or operator's emergency response plan and that drills are effective in protecting public safety. At a source with complex Program 3 covered processes, this cost is estimated as $6,800 per exercise based on sixteen technical effort hours at $41.00 per hour and 256 production effort hours at $24.00 per hour.

These adopted rules also specify that an owner or operator shall conduct an internal compliance audit annually rather than every three years as required under the Federal program. See N.J.A.C. 7:31-4.1(c)13. Annual audits enable owners and operators to monitor their programs frequently and make necessary changes to ensure the risk of accidental releases is minimized. The cost of performing an audit is minimal, approximately $1,800, when compared to the benefits derived from the avoidance of an accidental release.

Owners and operators of new facilities will continue to comply with additional State requirements because the additional information or activity required has been beneficial to ensure public safety, to enhance the quality of risk management programs beyond what is specified in the Federal rules, or to enable the Department to adequately monitor risk management programs for covered processes. These requirements are not expected to significantly raise the cost of program implementation, but will ensure that owners and operators develop meaningful, effective risk management programs that ensure the safety of the public by reducing the risk of a catastrophic accidental EHS release.

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

7:31-1.1 Incorporation by reference

(a) – (b) (No change from proposal.)

(c) The following provisions of 40 CFR 68 Subpart A are incorporated by reference with the specified changes:

1. - 4. (No change from proposal.)

5. At 40 CFR 68.15, Management, add the text as indicated in (c)5i and *[iii]* ***ii*** below and delete the text as indicated in (c)5iii and iv below:

i. - iv. (No change from proposal.)

7:31-1.5 State definitions

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

…

"Reactive hazard substance (RHS) mixture" means an EHS that is a combination of substances intentionally mixed in a process vessel and is capable of undergoing an exothermic chemical reaction which produces toxic or flammable EHSs or energy. RHS mixtures include a reactant, product, or byproduct that is a chemical substance or a mixture of substances having one or more of the chemical functional groups specified in N.J.A.C. 7:31-6.3(a), Table I, Part D, Group II. ***RHS mixture does not include non-reacting substances such as solvents.*** An RHS mixture has a heat of reaction which, by convention, is expressed as a negative value for an exothermic reaction, that has an absolute value greater than or equal to 100 calories per gram of *[the substance with the specified functional group]* ***RHS mixture***.

…

7:31-6.1 Incorporation by reference

(a) – (b) (No change from proposal.)

(c) The following provisions are incorporated by reference with the specified changes:

1. (No change from proposal.)

2. 40 CFR 68.115(a), *[delete "regulated substance" and replace with "EHS" at both occurrences. After "listed in" delete "§ 68.130" and replace with "N.J.A.C. 7:31-6.3(a), Table 1," and add "meets or" before "exceeds".]* ***Delete and replace with, "A threshold quantity of an EHS in N.J.A.C. 7:31-6.3(a), Table 1, is present at a facility if the total quantity of the EHS at the facility meets or exceeds the threshold."***

3. – 5. (No change from proposal.)

7:31-6.2 Threshold quantity determination

(a) - (h) (No change from proposal.)

(i) An owner or operator may request EHS equipment containing an RHS mixture that would otherwise meet the threshold quantity at (h) above to not be considered in determining if the threshold quantity is present at the facility. In the request for exemption, the owner or operator shall demonstrate to the satisfaction of the Department that there is no possibility of a runaway reaction, overpressurization, and accidental EHS release during either normal or abnormal conditions based on an evaluation, using calorimetry testing ***or other scientific analyses***, of the reaction chemistry of the RHS mixture, and in accordance with the following:

1. The results of calorimetry testing ***or other scientific analyses*** shall be independently verified by a New Jersey licensed professional engineer ***or an officer or other authorized individual of a laboratory certified pursuant to N.J.A.C. 7:18*** and certified by that engineer ***or officer or other authorized individual of the laboratory*** as follows: "I certify under penalty of law that I have personally examined and am familiar with the information submitted in this application and all attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the information is true, accurate, and complete. I further certify that the operation described herein satisfies the criteria for exemption as set forth in N.J.A.C. 7:31-6.2(i). I am aware that there are

significant civil and criminal penalties for submitting false, inaccurate, or incomplete information."

2. – 3. (No change from proposal.)

7:31-6.3 Extraordinarily hazardous substance list

(a) The substances listed in Table I, Parts A, B, C, and D Group I and Group II (with its correlated thresholds listed in Table II at (c) below) constitute the Department's extraordinarily hazardous substance list.

Table I

Part A – EHS List

(No change from proposal.)

Part B

(No change from proposal.)

Part C

(No change from proposal.)

Part D

Group I

List of Individual Reactive Hazard Substances

	Substance	CAS #	Threshold Quantity (pounds)	Basis for Listing
1.-2	(No change from proposal.)			
3.	Butyl hypochlorite tertiary	*[507-40-5]* *507-40-4*	2,500	b
4.-30.	(No change from proposal.)			

Basis for listing:

a = DOT 4.1
b = DOT 4.2
c = DOT 4.3
d = NFPA 49
e = NFPA 325
f = NFPA 432

Part D, Group II

Reactive Hazard Substance Mixtures Functional Groups

(For Threshold Quantity Determination See N.J.A.C. 7:31-6.3(b) and (c))

(No change from proposal.)

(b) – (c) (No change from proposal.)

7:31-6.3 Extraordinarily hazardous substance list

(a) (No change from proposal.)

(b) The following conditions apply for determining whether RHSs or RHS mixtures listed in Part D of Table I are subject to the requirements of this chapter.

1. (No change from proposal.)

2. An RHS mixture is a combination of substances that is intentionally mixed in a process vessel and is capable of undergoing an exothermic chemical reaction which produces toxic or flammable EHSs or energy. RHS mixtures include a reactant, product, or byproduct that is a chemical substance or a mixture of substances having one or more of the chemical functional groups specified in Table I, Part D, Group II. An RHS mixture has a heat of reaction which, by convention, is expressed as a negative value for an exothermic reaction, that has an absolute value greater than or equal to 100 calories per gram of *[the substance with the specified functional group. If more than one substance in the RHS mixture has a specified functional group, the heat of reaction shall be calculated using that substance which yields the highest value]* ***RHS mixture***. ***Non-reacting substances such as solvents shall not be included in the determination of the heat of reaction value of the RHS mixture.***

(c) (No change from proposal.)

7:31-7.5 Schedule for risk management program implementation

(a) (No change from proposal.)

(b) All owners or operators of facilities having listed EHSs on N.J.A.C. 7:31-6.3(a), Table I, Part D, at or above threshold quantities, shall be in compliance with this chapter by September 30, 2004, except that, all owners or operators having*, **as of (effective date of these amendments),*** reactive hazard substance mixtures subject to this chapter with *[newly listed]* functional group number 44 on N.J.A.C. 7:31-6.3(a), Table 1, Part D, Group II, ***and all owners or operators having, as of (effective date of these amendments), reactive hazardous substance mixtures subject to this chapter based on the calculation of the heat of reaction of the RHS mixture excluding solvents under N.J.A.C. 7:31-6.3(b)2,***at or above threshold quantities shall be in compliance with this chapter no later than 365 days from the effective date of these amendments.

(c) - (g) (No change from proposal.)

(h) All owners or operators that, as of (effective date of these amendments), are subject to this chapter based on the threshold quantity at the facility as provided at 40 CFR 68.10 with changes specified at N.J.A.C. 7:31-1.1(c)3 shall be in compliance with this chapter no later than (365 days from the effective date of these amendments).

THIS IS A COURTESY COPY OF THIS RULE ADOPTION. THE OFFICIAL VERSION WILL BE PUBLISHED IN THE MARCH 16, 2009 NEW JERSEY REGISTER. SHOULD THERE BE ANY DISCREPANCIES BETWEEN THIS TEXT AND THE OFFICIAL VERSION OF THE ADOPTION, THE OFFICIAL VERSION WILL GOVERN.

7:31-11.4 Civil administrative penalty determination

(a) - (b) (No change from proposal.)

(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, 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.-595.	(No change from proposal.)						
596.	Failure to submit to the Department a Risk Management Plan correction within one month of a change in the qualified person or position.	N.J.A.C. 7:31-7.2(c)	500	1,000	2,500	M	***30***
597-599	(No change from proposal.)						
600.	Failure of an owner or operator having reactive hazard substance mixtures subject to this chapter with *[newly listed]* functional group number 44 on N.J.A.C. 7:31-6.3(a), Table 1, Part D, Group II, ***or having reactive hazard substance mixtures subject to this chapter based on the calculation of the heat of reaction of the RHS mixture excluding solvents under N.J.A.C. 7:31-6.3(b)2,*** at or above threshold quantities to be in compliance with this chapter by (365 days from the effective date of these amendments).	(No change from proposal.)					
601.-633.	(No change from proposal.)						

(d) – (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 readoption with new rules. I hereby authorize this adoption.

_____ _____

Date Mark N. Mauriello, Acting Commissioner
Department of Environmental Protection