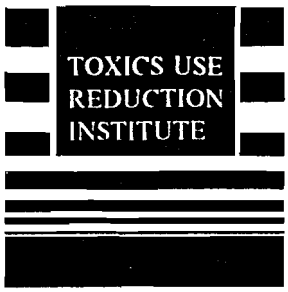



THE MASSACHUSETTS
TOXICS USE REDUCTION INSTITUTE

# REGULATORY AND PRACTICAL ISSUES IN THE PROMOTION OF TOXICS USE REDUCTION IN MASSACHUSETTS

Methods/Policy Report No. 7 1994

University of Massachusetts Lowell

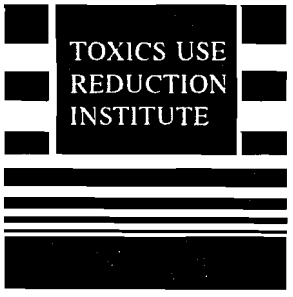
# REGULATORY AND PRACTICAL ISSUES IN THE PROMOTION OF TOXICS USE REDUCTION IN MASSACHUSETTS

Ken Geiser
Anne Berlin
Jody Hensley
Karen Thomas

September 1994
(revised edition)

Prepared for the Administrative Council on Toxics Use Reduction by

The Toxics Use Reduction Institute
University of Massachusetts Lowell






The Toxics Use Reduction Institute is a multi-disciplinary research, education, and policy center established by the Massachusetts Toxics Use Reduction Act of 1989. The Institute sponsors and conducts research, organizes education and training programs, and provides technical support to promote reduction in the use of toxic chemicals or the generation of toxic chemical byproducts in industry and commerce. Further information can be obtained by writing the Toxics Use Reduction Institute, University of Massachusetts Lowell, One University Avenue, Lowell, Massachusetts 01854.

# ACKNOWLEDGMENTS

This report is the result of the ideas and insights of many people. The authors would like to acknowledge the contributions of many talented and thoughtful people to this text. The following individuals contributed to the focused discussion group held at the Institute in June: Keith McCoy, Anne Reynolds, Gretchen Latowsky, and Stig Bolgen. Ed Jamro and Geoff Brown contributed insights during personal interviews. Michael DeVito provided reference materials and helpful comment. Chris Ford and Ray Lizotte provided consultation during phone interviews.

The following individuals from state Department of Environmental Protection provided information and consultation during this project: Tom Hughes, Deb Gallagher, Alyssa Katz, Doug Fine, Cynthia Chavez, Bill Lamkin, Susan Green, Peter Dore, Linda Benavides, Lee Dillard, Steve DeGabriele, Victoria Phillips, and James Doucette. The following individuals from the state Executive Office of Environmental Affairs provided insight or served as initial report reviewers: Penny Huss, Steve Pike and Gina McCarthy. Jim Craig, Harry Wells and Brett Van Akkren of the federal Environmental Protection Agency provided information during research for this project.

In addition, the following individuals from various organizations provided valuable information for this project: Natalie Roy (the National Roundtable of State Pollution Prevention Programs), Terri Goldberg (Northeast Waste Management Officials Organization), Carol Foley (Georgia Institute of Technology), Manik Roy (Environmental Defense Fund), Bob Pojasek (GEI Consultants, Inc.), Marianne Fitzgerald (Oregon Department of Environmental Quality), Bob Style (Waste Reduction Institute for Training and Applied Research), Tony Sasson (Ohio Department of Environmental Protection), and Kevin McDonald (Minnesota Office of Waste Management).

There were significant differences among the many contributors, the authors and those who reviewed the draft reports. We acknowledge and respect these differences. We have tried to accurately convey the perceptions gathered during this research as well as attribute the perceptions to their respective groups. We have also tried to incorporate many of the clarifications that were suggested by the reviewers of the drafts. Yet, we recognize that no "final" document on such a debatable topic will ever satisfy all of the contributors. We hope that we have provided a sound enough document to stimulate discussion and continue meaningful work in this area.

We would especially like to thank Richard Reibstein and Barbara Kelley, of the MA Office of Technical Assistance, Pat Deese-Stanton and Suzi Peck, of the MA Department of Environmental Protection, Susan Condon and Kevin Costas, of the Department of Public Health, Michael Feeney and Tom Nee, of the Department of Labor and Industries, and Gary Siegel, of Goldman Environmental Consultants, Inc., for their comments on our draft report

# EXECUTIVE SUMMARY

The Toxics Use Reduction Act (TURA) in Massachusetts mandates that efforts be made to promote toxics use reduction (TUR) in the Commonwealth through a) coordinated enforcement of laws and regulations and b) coordinated reporting requirements (while assuring consistent information about chemical usage and waste). The law requires that the state Administrative Council on Toxics Use Reduction (the Council) conduct inventories of all federal and state laws or regulations and reporting requirements pertaining to toxic chemicals, wastes and emissions and seek to promote increased coordination in the enforcement of these laws and regulations and reporting requirements. In order to assist in addressing this statutory mandate, the Toxics Use Reduction Institute (the Institute) has been asked by the Council to initiate a preliminary study of those regulatory barriers to pollution prevention (P2) that may impede effective implementation of toxics use reduction at the level of the industrial firm.

This study is intended as an early step in the long road that lies ahead if the Commonwealth seeks to modify its current regulatory structure in order to most effectively promote toxics use reduction. It builds off of earlier efforts commenced during the past several years and makes recommendations about future efforts that might follow this report. In other words, this study is not the final word on the subject of regulatory barriers. Instead, it should be viewed as an effort to provide an early inventory and analysis of some of the best recognized regulatory and practical problems and a catalyst for further study and dialogue.

Recognizing this facilitating role the report does not attempt to make recommendations of specific changes in legislation or regulations, but, instead, provides recommendations that are intended to encourage and facilitate further study and consideration. Specifically the report recommends:

- The Executive Office of Environmental Affairs should convene a standing workgroup to review not only proposed environmental regulations, but at all existing environmental regulations. This workgroup should be charged with identifying and making recommendations for removing regulatory barriers.

- The TURA Administrative Council should convene a task group including all stakeholders in the issues around streamlined environmental reporting.

- A high priority should be placed on filling the vacant position of reporting coordinator in Department of Environmental Protection's Office of Program Integration and producing a streamlined environmental reporting system using Section II of this document as a starting point.

- The Department of Environmental Protection should continue to explore avenues for more fully integrating its single-medium (air, water, land) programs into a whole facility approach to environmental regulation.

- Because real reductions in toxics use or waste occur at the facility level, some mechanism should be found for continuous collection and analysis of vital information on

practical barriers to TUR implementation at the facility level.

- Analysis of local regulations of the Commonwealth's 351 municipalities could be extremely useful in identifying ways to more broadly promote TUR in Massachusetts. Resources should be allocated to further investigate this area.

The report identifies and analyzes incentives, disincentives and opportunities for TUR and makes recommendations for adjustments to some current policies and regulations. This work represents only a first step on the road to coordinated laws and regulations which promote TUR. Although the report notes that government agencies have begun to make some changes to regulations and practices so as to promote TUR and P2, continued work needs to be done to pull individual media programs into a whole facility perspective. Also, serious additional analysis is required of all of the individual data elements that a facility must provide to all regulatory programs in order to streamline reporting requirements while assuring consistent and comprehensive information on chemical usage and waste.

# TABLE OF CONTENTS

"I know what the regulatory agencies want from me. They want to know: what materials I have on my site, the quantity of each material, where they are stored, how they are used, where they end up, how much of what is recycled, how much of what is treated, why I need to use it, what I am doing to cut down on my use and waste, and how I am responsibly managing my use and waste. I can provide those answers in any unit of measure or combination necessary. Just let me do it ONCE a year, not once for every single regulatory program!"

*--Industry Senior Environmental Engineer*
*Environmental Health and Safety Department*

# INTRODUCTION

While this report seeks to highlight ways in which Massachusetts' approach to TUR needs to be improved, it should be remembered that the Commonwealth's regulatory scheme is generally "TUR-friendly". Indeed, Massachusetts has invested significant resources to making TUR a regulatory and an industry priority, and aspects of the Commonwealth's approach to TUR have won high ratings from the federal Environmental Protection Agency ("EPA") and environmental organizations.[1] By identifying specific issues which impact TUR, this study is intended to highlight opportunities for refining Massachusetts' approach to TUR to promote pollution prevention even further.

In 1989, the Massachusetts Legislature enacted the Massachusetts Toxics Use Reduction Act, M.G.L. c.21I, ("TURA"). This Act requires facilities in certain industrial sectors (identified by Standard Industrial Codes--SIC) that manufacture, process, or otherwise use any toxic substance in amounts over certain thresholds to develop Toxics Use Reduction (TUR) Plans and submit plan summaries to the Massachusetts Department of Environmental Protection ("DEP") at regular intervals, beginning July 1, 1994. TURA also established a statewide goal of a 50 percent reduction, by means of toxics use reduction, in the amount of toxic or hazardous wastes generated by industry. The baseline for measuring this reduction, which is to take place by 1997, is the amount of toxic or hazardous byproducts generated in 1987 by Massachusetts

---

[1] See, e.g., Ongoing Efforts by State Regulatory Agencies to Integrate Pollution Prevention into Their Activities, EPA: OPPTS, September 1993; Rating the States' Toxic Use Laws, National Environmental Law Center, 1993.

industry.

To facilitate the promotion of toxics use reduction and to assist in the achievement of the 50 percent reduction goal, TURA established the Administrative Council on Toxics Use Reduction (the "Council") and charged the Council with several duties, including:

> (1) identifying all federal or state laws or regulations pertaining to chemical production and use, hazardous waste, industrial hygiene, worker safety, public exposure to toxics, and releases of toxics into the environment and determining how state programs should be coordinated to promote the most effective toxics use reduction methods; (See the Regulatory Issues Section of this document.)
>
> (2) identifying all state agency and publicly-owned treatment works (POTW) requirements for reporting on toxic or hazardous substance production, use, release, disposal, and worker exposure; (See the Reporting Issues Section of this document.)
>
> (3) to the maximum extent practicable, recommending ways to standardize, consolidate and coordinate these reporting requirements to minimize unnecessary duplication; (See recommendations for further study in the Reporting Issues Section of this document.) and
>
> (4) making policy recommendations in a report to the governor regarding toxics use reduction. [§ 4 A,B,D]

TURA also required all state agencies which administer existing programs pertaining to toxics production and use, hazardous waste, industrial hygiene, worker safety, public exposure to toxics, or release of toxics into the environment to review these programs and associated regulations to ascertain how toxics use reduction can be promoted and achieved and, where feasible, to amend those programs or regulations so as to promote toxics use reduction as the preferred method for achieving the goals of such programs. [§8 A,B]

As a step toward fulfillment of these statutory mandates, the Executive Office of Environmental Affairs requested that the Toxics Use Reduction Institute ("the Institute"), in conjunction with the Council, undertake a study of regulatory issues related to toxics use reduction implementation in the Commonwealth, including the extent of duplication in chemical reporting requirements. In preparing this report, the Institute sought input from a variety of industry and government representatives through organized focus group discussions and through other less formal personal communications.

This project began with a focus on identifying all the regulations pertaining to toxic chemicals and moved on to a review of the regulations in relation to their incentives and disincentives to toxics use reduction. The initial identification of the various relevant regulations was assisted by the report of an earlier inventory effort conducted for the Council in 1991 by the state Office of Technical Assistance (OTA). See the Appendix for a copy of this report.

Initially, the study began to analyze these various regulations looking only for the

barriers they provided to the promotion of toxics use reduction. As the study matured it became clear that some regulations that might generate barriers under certain conditions, might also provide opportunities for toxics use reduction under other conditions. Thus the study took a more general look at the effects of these regulations both as incentives and disincentives and, thus, the study uses the more generic term "issues" when referring to these effects collectively.

As this project developed, the comments most frequently heard in discussions with government representatives concerned specific barriers within individual government environmental media (land, water, air) programs. While discussing this issue with industry representatives, the most frequently offered comments concerned the burdens faced by firms attempting to fulfill what was reported as a significant number of data reporting requirements. The idea was that the enormous amount of time spent by industry staff fulfilling reporting requirements (mostly single media regulations) is time taken away from actually being out in the facility, identifying opportunities for pollution prevention, and implementing good engineering solutions. Because these issues were raised so often, it was decided to break out regulatory, reporting and other practical issues into their own specific sections.

These regulatory, reporting and practical issues which impact the implementation of TUR became the central focus of this project. For the purposes of this report, a "regulatory issue" is a specific part of a law which influences implementation of TUR or P2 options. A "reporting issue" is a specific type of regulatory issue that involves the collection, analysis and filing of data required to comply with a law or regulation. Finally a "practical issue" is a consideration that is not specifically part of a law or regulation that also influences identification or implementation of TUR or P2 opportunities or options.

These issues are reported in the following sequence:

a. Regulatory Issues. What are the specific statutory and regulatory barriers to pollution prevention existing in current environmental laws? What incentives could be brought to existing laws and regulations? What laws and regulations need to be changed in order to promote TUR?

b. Reporting Issues. How does the present environmental reporting scheme function? What are the implications across single environmental media (air, water, land) programs? How does this influence TUR efforts which emphasize a multi-media perspective? Also, how does the sheer volume of environmental reporting requirements affect TUR efforts? Where is there opportunity for coordination of current reporting requirements?

c. Practical Issues. What are the practical barriers to TUR which are encountered by industry in Massachusetts? ie. technical barriers, financial barriers, consumer/market barriers, educational barriers, organization of state agencies, enforcement policies, etc. What are the factors that enhance TUR and how can they be strengthened?

Additional research will be necessary to provide more specific recommendations for coordinating state programs and streamlining reporting requirements to an extent that will

meaningfully promote toxics use reduction efforts. In reviewing this document it is important to remember that several initiatives are currently underway at both the state level and federal level which are intended to help coordinate the functions of regulatory programs around TUR and P2. This report outlines additional research directions which the Institute recommends based on: 1) a survey of other federal and state work in this subject area, 2)gathering and analysis of data collected from individuals who are subject to chemical regulations and reporting requirements, and 3) input from individuals who are responsible for administering environmental, health and safety regulations.

## LIMITATIONS

While the TURA mandate to the Administrative Council is to look at all regulations and laws pertaining to chemical production and use, this is an enormous task and cannot be accomplished through the research and writing of one report. The Institute intends for this report to serve as a working paper for the Council and the TURA program in their consideration of issues concerning toxics use reduction, and it invites suggestions or comments on additional regulatory or program-related opportunities for toxics use reduction.

Due to limited time and resources, this report has omitted analysis of some federal or state laws or regulations pertaining to chemical production and use, hazardous waste, industrial hygiene, worker safety, public exposure to toxics, or releases of toxics.

- FIFRA and the Massachusetts Pesticide Act. The Federal Insecticide, Fungicide and Rodenticide Act (7 U.S.C. §§ 136-136y) and its Massachusetts counterpart, the Massachusetts Pesticide Act (MGL.c. 132B:1-11), regulate chemicals used as pesticides.

- CERCLA and M.G.L.c. 21E. The Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (42 U.S.C. §§ 9601-9675) and its Massachusetts analog, the Massachusetts Oil and Hazardous Material Release Prevention and Response Act (M.G.L.c. 21E), address the liability associated with the removal and remediation of oil and hazardous materials once they have been released into the environment.

- DOT Hazardous Materials Transport Regulations. The Hazardous Materials Transportation Act of 1975 and its regulations apply to shippers of hazardous waste.

The second limitation of this report is that it does not explore the barriers to TUR presented by local regulations. Town bylaws, zoning bylaws, board of health regulations, and sewer authority regulations are among the types of local restrictions that could potentially affect a facility's decision to implement TUR. However, analysis of the local regulations of the Commonwealth's 351 communities is a significant area for further research.

Additionally this report does not specifically examine barriers to the implementation of TUR by generators who are not subject to the TURA planning and reporting requirements. The report does not provide a thorough analysis of the opportunities for TUR by the Commonwealth, municipalities, or sources in SIC codes not listed under TURA. Time and resources also limited the analysis of OSHA and the implementation of new technologies to a cursory review of these large issues.

Each of the areas mentioned above merits more thorough research and analysis. However progress in these areas is dependent on the allocation of resources to support these efforts.

# I. REGULATORY ISSUES

This section identifies specific statutory or regulatory provisions that directly affect the implementation of TUR, whether positively or negatively. This section does not review federal and Massachusetts laws separately; rather, it addresses regulations according to subject matter.

## A. HAZARDOUS WASTE/RCRA

The main statutory framework for the regulation of hazardous waste is the federal Solid Waste Disposal Act of 1965, as amended by the Resource Conservation And Recovery Act in 1976 and the Hazardous and Solid Waste Amendments of 1984, among others (collectively, "RCRA"). 42 U.S.C. §§ 6901-6992k. RCRA regulates hazardous waste generators, transporters, and waste management facilities. EPA has delegated authority to Massachusetts to administer and enforce its own RCRA program within the Commonwealth.

Section 1003(b) of RCRA Subtitle A declares that it is national policy to reduce or eliminate the generation of hazardous waste expeditiously where possible. Generally, RCRA's regulatory scheme is conducive to the implementation of TUR in the sense that it does not provide disincentives for production process changes; as a result, a RCRA-regulated facility is free to meet its RCRA obligations through pollution prevention rather than pollution production. However, the degree of complexity of RCRA regulation, as well as its single-medium orientation, discourages many facilities from exploring innovative cross-media approaches to reducing toxics use and byproduct generation.

### 1. Incentives to TUR

RCRA provides a serious incentive to implementing TUR by regulating in-process recycling to a much lesser degree than other forms of waste disposal or treatment. First, RCRA does not define as a solid waste, and therefore does not regulate as a hazardous waste, secondary materials that are subject to the following qualifications: the materials are reclaimed and returned to the original process or processes in which they were generated, they are stored for less than twelve months, and the entire process is closed-pipe. 40 CFR § 261.4(a)(8). A material qualifying for this exemption may still be subject to the storage limitations in 40 CFR § 262.34 and the recycling reports and other requirements in 40 CFR § 261 Subpart D. Second, RCRA's treatment, storage, and disposal facility ("TSDF") requirements do not apply to a "totally enclosed treatment facility", which is a facility for the treatment of hazardous waste which is directly connected to an industrial production process and which is constructed and operated in a manner which prevents the release of any hazardous waste or any constituent thereof into the environment during treatment. 40 CFR §§ 260.10, 264.1(g)(5). The preceding is an attempt simplify a very complex issue. To add to the complexity, it should be noted that there is more than one interpretation of the definition of "closed-pipe" as applied to individual circumstances.

RCRA also provides an incentive to generate byproducts that may be resold as useful products by exempting them from regulation as hazardous wastes. For example, the alcohol generated as a byproduct from a semiconductor operation loses its status as a hazardous waste if it becomes a raw material for another operation. Under TURA, the use of a byproduct as such a product qualifies as TUR with the conditions that no subsequent treatment is used and "the byproduct would otherwise have been released, treated or shipped off site for recycling/reuse."[2]

Section 3002 of RCRA Subtitle C is the only section of the statute that imposes waste minimization-related requirements on generators. Section 3002(a)(6) requires generators who ship waste offsite to include in their biennial reports a description of efforts undertaken during the previous year to reduce the volume and toxicity of waste generated and the changes actually achieved, while section 3002(b) requires generators to certify on their hazardous waste manifests that they have a program in place to reduce the volume or quantity and toxicity of waste insofar as is economically practicable.[3] 40 CFR 262.41(a). These waste minimization requirements could provide an incentive to TUR depending on how they are enforced. The waste minimization requirements contain a few shortcomings. First, the requirements do not authorize EPA to enforce adherence to a waste reduction program described on a waste manifest or in a biennial report. Second, they require minimal waste reduction planning: the programs do not even have to exist in written form to comply with this provision. Third, they are ambiguous: the 1986 Congressional Office of Technology Assessment study of EPA's efforts to promote waste reduction found that the EPA language in the instructions accompanying the form was ambiguous and would probably lead to generators writing up their waste management activities rather than waste prevention activities. Clarification is still needed as to whether this language has been changed. Nonetheless, EPA has increased its enforcement efforts with respect to the certification requirement, which may have prompted some companies to take the requirement more seriously. It is doubtful that strengthening the waste minimization requirements of RCRA would encourage additional implementation of TUR by Massachusetts facilities that are already subject to the more rigorous planning requirements of TURA.

RCRA's burdensome regulations and large penalties regarding waste manifesting and recordkeeping are an indirect incentive to TUR. Another indirect incentive to implementing TUR is RCRA's reduced regulation of small quantity generators. RCRA allows small quantity generators to store waste on-site for longer than 90 days. 40 CFR § 262.34. Avoiding the expense of a storage permit is an incentive to qualify as a small quantity generator (SQG). It should be noted that a SQG must still pay for disposal and that is the major expense.

2. Disincentives to TUR

---

[2] Toxics Use Reduction 1992 Reporting Package, DEP.

In addition, section 3002(h) of RCRA Subtitle C requires TSD facilities to certify that a generator whose waste the TSDF receives has a program in place to reduce the volume or quantity and toxicity of waste insofar as is economically practicable.

Although in the long run RCRA may encourage TUR because it makes waste disposal burdensome, some of the statute's requirements do serve as a disincentive to implementing TUR in the short run. The following provisions of the RCRA regulatory scheme may discourage toxics use reduction:[4]

- Biennial Reporting Requirements. DEP has changed biennial reporting requirements to apply to specific points of generation within a facility, instead of to the facility as a whole. This means that wastes exempt from RCRA because they are discharged under a Clean Water Act (CWA) permit would now be counted under RCRA. Industry has objected to this change in reporting requirements on the grounds that (1) it would deflect resources away from TUR planning to double management of wastes, and (2) it would appear as an increase the total number of pounds of waste generated due entirely to a change in reporting requirements, not an actual increase. However, from DEP's perspective, this change would have a positive impact on the implementation of TUR because it may encourage pollution prevention by focusing on the source of generation rather than the waste product.

- Regulation of Certain Toxics Not Subject to TURA. RCRA defines as a hazardous waste a solid waste that (1) is listed as a hazardous waste or (2) exhibits the characteristics of a hazardous waste. 40 CFR §§ 261.2, 261.3. RCRA's definition of a hazardous waste could discourage input substitution in limited cases where a facility's TUR efforts result in the substitution a toxic waste with a non-toxic but characteristically hazardous waste. For example, suppose a facility seeks to substitute an alkaline solution for a listed solvent. The facility would be implementing TUR through the substitution of a non-toxic feedstock for a toxic feedstock. However, if the alkaline solution constitutes a characteristic hazardous waste under RCRA because of its pH, the facility's handling of the alkaline solution may be subject to RCRA. Consequently, the facility may conclude that it is not worth the administrative and technological hassle to switch process inputs if the change does not reduce the facility's level of RCRA regulation. Of course, any such substitution method should always be considered in light of the increased safety of workers and the public.

- Failure to Compare Health Risks of Toxics. RCRA does not distinguish among chemicals according to relative toxicity; all hazardous wastes are regulated to the same degree. This uniformity makes it difficult to identify and evaluate less toxic chemicals that might be used as input substitutes for more toxic chemicals. Input substitution in this manner qualifies as a means of TUR under TURA.

- 90 Day Storage Limit for Generators. RCRA prohibits large quantity generators from

---

[4] As part of this study, industry identified additional hazardous waste regulations as barriers to TUR. However, these additional regulations were not addressed in this report because they either (1) pose barriers to out-of-process recycling or another form of treatment or disposal, rather than to TUR, or (2) are barriers only in the remote sense that they--like any type of compliance requirement--theoretically take time and resources away from opportunities to implement TUR.

storing hazardous waste for more than 90 days without a storage permit. However, a facility that implements in-process or on-site recycling will often need to store materials until a sufficient amount is accumulated to process a batch cost-effectively. A facility faced with a permit requirement for storage beyond 90 days may choose not to implement TUR. A short-term storage permit exemption for on-site reuse/recycling should be provided, similar to the short-term storage permit exemption for small-quantity generators.

- Zero Water Discharge Permit. In providing data for this study, individuals in industry consistently identified RCRA regulation of "zero water discharges" as a barrier to TUR. Currently, a facility that discharges wastewater under a CWA permit is exempt from the onerous RCRA requirements. However, if a facility eliminates wastewater discharge by removing or treating contaminants and thereby allowing the reuse of the wastewater, it may become a treater of hazardous waste subject to the RCRA Part B requirements. DEP is working to rectify this through regulations which would allow a wastewater discharge permit to be written for zero discharge to preserve the facility's regulation under the Clean Water Act rather than under RCRA Part B requirements.

- Solvent Reclamation. Individuals in industry have objected that the time and money requirements for obtaining a Massachusetts Class A recycling permit discourage solvent reclamation. The Massachusetts requirements are more stringent than the federal requirements in this area and Massachusetts is one of the few states that requires on site recycling permits. This issue addresses P2 and not TUR because a closed-loop solvent reclamation process would not require a recycling permit. However, as a P2 issue, it is an important disincentive to a potentially environmentally beneficial operation.

3. Opportunities to Promote TUR

The Hazardous Waste Division of DEP's Bureau of Waste Prevention is undertaking a recodification of all of the Massachusetts hazardous waste regulations, which should be completed by September 1994. This undertaking involves changes in regulatory format, not content. In a simultaneous project, the Hazardous Waste Advisory Committee subcommittee is looking at substantive changes to hazardous waste regulations. It is recommended that this subcommittee use this opportunity to encourage changes that would promote TUR.

One change in the RCRA regulatory scheme that would promote TUR is a restructuring of RCRA fees. Currently, permit fees in Massachusetts are based on the time it takes DEP to review the permit application. Because the costs of RCRA compliance are large compared to permit fees, the fees themselves are probably not an incentive for TUR or disincentive for waste treatment at this point. However, a financial incentive could be created by lowering or eliminating permit fees for facilities that have implemented TUR and charging higher fees for less desirable waste management practices.

## B. EPCRA AND THE MASSACHUSETTS RIGHT TO KNOW LAW

The Emergency Planning and Community Right-To-Know Act (EPCRA) of 1986, at Title III of the SARA amendments to CERCLA (42 U.S.C. §§ 11001-50), requires all manufacturers in SIC codes 20-39 with 10 or more employees to complete a Toxics Release Inventory Form (TRI) (Section 313 Form R) for each toxic chemical that they manufacture or process in amounts of 25,000 pounds per year or more, or that they otherwise use in amounts of 10,000 pounds per year or more.[5] The Pollution Prevention Act of 1990 (42 U.S.C. §§ 13101-109) expanded the pollution prevention information section of Form R and made this section mandatory. In addition to the TRI reporting requirements, EPCRA requires facility emergency planning, reporting on the presence of extremely hazardous materials (in amounts greater than 500 pounds), reporting on the quantity and location of hazardous materials used in facilities (in amounts greater than 10,000 pounds), and the reporting of hazardous substance spills. Submissions under EPCRA 311 and 312 have been consolidated to the TURA program at DEP; this was accomplished by a Memorandum of Understanding between the MA Department of Public Health (DPH) and the DEP and approved by the MA State Emergency Response Commission.

The Massachusetts Right-To-Know Law (RTK) is the Massachusetts Hazardous Substances Disclosure by Employers Act (M.G.L.c. 111F) enacted in 1983. The Massachusetts statute requires facilities to report annually on toxic chemicals used and requires a one time filing of copies of Materials Safety Data Sheets ("MSDS") for each chemical, regardless of quantity used. (If the MSDS is amended, then submission of the new MSDS is required to replace the outdated document.) EPCRA requires annual reports on toxic chemicals used, but does not require MSDS submissions. The State RTK law set up a public petition process which allows the public access to facility data subject to the discretion of a municipal coordinator.

During the course of research for this project, a call was made to DEP regarding the status of compliance requirements under the Massachusetts Right-To-Know program. Guidance stated that the RTK office had been phased out on September 1, 1989 as a result of budget cuts. A guidance memo stated "please note that all Right-To-Know filing requirements remain the same. In addition, the state and federal RTK reports will continue to be accepted in the DEP regional offices with the exception of Section 313 reports which should be mailed to the Boston office of DEP, Bureau of Waste Prevention". The State RTK is administered by three agencies: DPH, DEP and the Department of Labor and Industries (DLI).

An environmental regulation reform effort launched by Governor Weld in 1992 criticized this statute as duplicative of EPCRA and burdensome and recommended the statute's repeal. If revisions to the State RTK law are considered, it appears that the MSDS filing requirements could be eliminated while protecting worker and citizen access to this information. Other aspects of the State RTK Law should be considered individually.

---

[5] Toxic Chemical Release Inventory Reporting Form R and Instructions, EPA 745-K-93-001. January 1993.

## C. SOLID WASTE

The Division of Solid Waste Management ("DSWM") in the Bureau of Waste Prevention regulates the disposal of non-hazardous solid waste, including municipal solid waste and certain industrial wastes.[6] DSWM regulates certain toxic wastes that are not regulated by DEP's Hazardous Waste Division.

Because solid waste regulation is disposal oriented rather than waste generation oriented, it is by and large an ineffective mechanism for promoting TUR at the source of waste generation. Notwithstanding this major limitation, DSWM is exploring several possibilities for promoting TUR or P2 through the solid waste regulatory scheme:

- Special Waste. Special waste is a category that includes industrial sludges such as paint sludge or wastes which are not hazardous wastes according to TCLP testing but which still contain levels of toxics. DSWM has the discretion to put special conditions, including TUR implementation (e.g., input substitution) on the handling and disposal of special wastes. 310 CMR § 19.061. One opportunity for TUR lies with the disposal of mercury generated by household wastes and from the operation of waste-to-energy facilities. Currently there are no restrictions on the disposal of mercury contained in household products. Special conditions could include a limitation on the concentration of mercury allowed in batteries or on the sale of mercury batteries. This might promote TUR indirectly by increasing the cost of using mercury in the manufacturing process. A ban on the land disposal of mercury may also accomplish the same thing but at the expense of a transfer of mercury from land to air through the choice of incineration for disposal.

- POTW Sludge Mixed With Solid Waste. DSWM regulates POTW sludge when mixed with and disposed with solid waste. DSWM can require the generating facility to look at the feasibility of composting the waste before it approves disposal in a municipal solid waste landfill. The assessment of feasibility does not take cost into consideration; if DSWM determines that composting of the waste is feasible, it can disallow disposal in a municipal solid waste landfill and require composting. If DSWM requires composting, a facility can recoup a portion of the expense by selling the compost. It is DSWM's hope that composting would encourage POTW operators to carefully regulate the toxic inputs to their facility so that the compost could be sold as a product.

---

[6] DSWM also regulates household hazardous wastes. Opportunities exist to promote the implementation of PP and TUR with respect to household hazardous wastes (e.g., input substitution for phosphates in laundry detergents, or mercury and VOCs in paints). While TURA regulates the production of these consumer items, it does not regulate the disposal of these products by households. Due to time and resource restrictions, this report does not explore TUR opportunities associated with household waste. OTA and DEP have accomplished much in this area including community workshops, videos, and curricula.

## D. INDUSTRIAL WASTEWATER

The Federal Clean Water Act. The Federal Water Pollution Control Act, as amended inter alia by the Clean Water Act in 1977, regulates direct dischargers into U.S. waters, including publicly owned treatment works (POTWs). 33 U.S.C. §§ 1251-1387. It also authorizes EPA to set pretreatment standards for the industrial users who are indirect dischargers into U.S. waters by virtue of discharging into POTWs.

In general, the Clean Water Act does not provide much incentive to undertake pollution prevention over pollution control. Individual National Pollution Discharge Elimination System (NPDES) permits, with which direct dischargers must comply, establish allowable discharge limits but do not indicate whether these limits must be met through TUR or pollution control. EPA sets technology-based effluent limitations as the minimum standards for each industrial source category, which are generally based on the limitations available through control technology. Similarly, the pretreatment programs which EPA is authorized to require municipalities to adopt (33 U.S.C. § 1317(b), 40 CFR § 403.2) may overly focus on strategies to minimize waste through end-of-pipe controls rather than through TUR techniques.[7]

The Act does provide a few opportunities to implement TUR. First, the Act requires industrial dischargers to POTWs to certify that they have a program in place to reduce the volume and toxicity of their hazardous discharges to an economically practical degree (40 CFR § 403.12(p)(4)). Clean Water Act reauthorization legislation now pending in Congress (S.B. 913) would modify this provision to require pollution prevention planning at regular intervals. Second, the Act offers direct or indirect dischargers a two-year extension on complying with effluent standards if EPA approves their use of innovative production processes or control techniques, provided that the innovative technology will result in significant effluent reduction and the technology has potential for industry-wide application. 33 U.S.C. §§ 1311(k), 1317(e). This provision provides an opportunity to promote TUR over pollution control by offering different compliance deadline extensions; however, a revision to the Clean Water Act would be necessary.

The Massachusetts Clean Waters Act. Massachusetts has not sought delegation of authority to administer the NPDES program. Instead, it administers its own water discharge program under the Massachusetts Clean Waters Act, M.G.L.c. 21, § 43. The regulations for surface water discharge permits are set forth at 314 CMR § 4.00. A facility seeking a surface water discharge permit must submit separate applications to EPA and to DEP. Usually, however, the two agencies jointly issue one permit.

Unlike the federal Clean Water Act, the Massachusetts Clean Waters Act regulates discharges into groundwater. The regulations for groundwater discharge permits are set forth at 314 CMR § 5.00-6.00. Industrial groundwater discharges must comply with state drinking water standards. Currently, DEP issues few permits for discharge into groundwater; permits

---

[7] EDF 1986:142.

are issued only where a sewer connection is not reasonably accessible. If sewer rates continue to rise, however, it is possible that the number of groundwater discharge permit applications would increase--which might indirectly encourage TUR because groundwater discharge regulation is more stringent than sewer discharge regulation. This equation would depend on the comparative costs of sewer disposal and TUR.

Sewer Regulations. [8] The Massachusetts Clean Waters Act requires facilities to obtain a permit from DEP before constructing a sewer connection or extension, in addition to any local sewer permit that may be required. M.G.L.c. 21, § 43(2), 314 CMR § 7.00. In addition, industrial dischargers are subject to pretreatment standards. 314 CMR § 12.00. Local sewer authorities can request a delegation of this authority to administer their own sewer connection permit programs. To date, only the MWRA has sought and received authority. The Industrial Wastewater Program at DEP (IWW) used its Memorandum of Understanding regarding the delegation of permitting authority to the MWRA as an opportunity to require that a certain percentage of MWRA employees undergo TURP training. This would be a creative means of requiring TURP training for employees of other local sewer authorities. In addition, this would be an opportunity to require attendance at certain OTA, DEP, or TURI workshops focused on learning TUR technologies. However, it is not clear that other local authorities will seek such authorization, nor that this requirement will translate into any actual toxics use reduction.

IWW has recommended the adoption of an anti-backsliding provision to prevent local sewer authorities from relaxing effluent guidelines that are more stringent than state standards. This provision would be similar to the anti-backsliding provision in the federal Clean Water Act, which prohibits the continuation of a less stringent standards upon renewal of a permit. 33 U.S.C. § 1342(o). Maintaining the strictness of effluent guidelines would pressure dischargers to alter their wastestreams, but would not necessarily lead them to favor pollution prevention over pollution control.

The most obvious way to build P2 into water programs is to require that orders issued to violators and permits issued to applicants require investigations of TUR and P2 options with milestones for reporting on that work. This would require TUR studies before treatability studies.

Coordination among the various wastewater discharge programs is sorely needed. One layer of duplication would be eliminated if Massachusetts were to seek delegation of the NPDES program. A single agency could then process a facility's surface water discharge permit. Another layer of duplication would be eliminated if the Commonwealth were to delegate its sewer permitting authority to local sewer authorities, or if local sewer authorities were preempted from issuing permits by an active state permitting program.

---

[8] Massachusetts administers another industrial wastewater discharge program, the subsurface sewage disposal program, which is currently being revised. M.G.L.c. 21A, § 13; Title 5 of the Massachusetts Environmental Code, 310 CMR § 15.00. This report does not address industrial discharges into septic systems because the opportunities for implementing TUR within this area of regulation are very limited.

## E. AIR EMISSIONS

The Clean Air Act and its 1990 Amendments, 42 U.S.C. §§ 7401-7671q, authorize EPA to establish emissions standards and air quality standards for a variety of pollutants and to regulate air emissions through a combination of pollution control and pollution prevention strategies. Massachusetts has promulgated air emission regulations at 310 CMR §§ 6.00, 7.00, and 8.00.

1. Incentives to TUR

Less Stringent Plan Review for Lower Emissions. The Massachusetts DEP air quality control regulations include preconstruction approval requirements which are applicable to new and modified sources of air pollution. These preconstruction approval regulations (310 CMR 7.02) are arranged with graduated approval requirements and fees based on potential emission rates. The larger the potential to emit (of the new facility or portion of a facility being modified), the more complicated and more costly the approval requirements. The graduated structure is as follows:

> For new or modified facilities which will have an increase in their potential to emit of less than 1 ton per year of any air contaminant: no application submittal is required (although the facilities are required to maintain records).
>
> For new or modified facilities which will have an increase in their potential to emit of greater than 1 ton but less than 5 tons per year of any air contaminant: a Limited Plan Application must be submitted.
>
> For new or modified facilities which will have an increase in their potential to emit of greater than 5 tons per year of any air contaminant: a Comprehensive Plan Application must be submitted.

This graduated structure provides an incentive to facilities to reduce emissions in order to: 1) simplify approval documentation requirements, 2) shorten or eliminate the approval process timelines, and 3) minimize or eliminate permit fees.

Less Stringent Compliance Oversight for Lower Emissions. Compliance fees and emission reporting requirements are also a function of a facility's potential to emit. There are two different classifications of air sources, major and non-major. Major sources must file emission statements annually and pay a higher annual fee. Non-major sources must file emission statements every third year. This provides an incentive to facilities to reduce emissions to non-major levels in order to simplify their emission reporting requirements and lower their compliance fees.

Title III/HAPs. Title III regulates the emission of hazardous air pollutants (HAPs). 42 U.S.C. § 7412. The spill and leak prevention provisions at 42 U.S.C. § 7412(r)(7), which specify

certain operation and maintenance standards, effectively require TUR.

Source Modification and BACT . The Clean Air Act and related Massachusetts regulations (310 CMR 7.02) require new and modified sources of air pollution to comply with Best Available Control Technology ("BACT"). BACT is an emission limitation based on the maximum degree of reduction achievable for any regulated air contaminant. Reductions can be achieved through application of production processes and available methods, systems and techniques for control of each such contaminant. BACT is determined on a case by case basis, taking into account energy, environmental, and economic impacts and costs.

BACT is determined through a "top down" BACT analysis procedure. In this procedure, all emission control and alternative process options are identified and the emission rate from each alternative is quantified. Next, all options identified are ranked by control effectiveness (lowest emission rate is the top case). Then, beginning with the most stringent control option (i.e., the lowest emission rate), the alternatives are evaluated in terms of technological feasibility, economic, energy, and other environmental impacts. If the most stringent control option is not eliminated by this criteria, it becomes the BACT emission limit. If the most stringent option is eliminated because of technological infeasibility, or unacceptable economic, energy or other environmental impacts, the next stringent option is evaluated by the same criteria. The process continues down the ranking until an alternative is not eliminated according to the criteria of technological feasibility or economic energy, or environmental impacts. The first alternative not eliminated becomes the BACT emission limitation.

To evaluate the economic feasibility of the various alternatives, DEP examines the ratio of annualized costs to the tons of pollutants controlled. If source reduction technologies are applied prior to considering any control device option, the economic evaluation of the control option becomes less favorable (since the pollutants controlled in the denominator is lowered and the resulting ratio of $/ton of pollutants controlled increases). As such, this provides a strong incentive to facilities to push the limits of TUR technologies in order to avoid costly add-on controls.

2. Disincentives to TUR

Actual Versus Potential Emissions. For purposes of regulation under the Clean Air Act, a facility's emissions are measured according to its potential emissions, or its maximum capacity to emit any air pollutant. CAA § 302. The calculation of potential emissions is based on theoretical emissions produced by around-the-clock operation, but it does take into account any federally enforceable emissions limitations such as control equipment. 40 CFR § 70. If a facility increases the efficiency of its manufacturing process, it achieves toxics use reduction because it uses and/or generates less toxic material per unit of production. However, under the Clean Air Act, if a facility increases process efficiency, its potential emissions may increase because the facility is capable of producing more units (whether or not it actually does). For example, if facility wants to modify its paint spray guns to use less paint (and therefore emit fewer VOCs), its actual emissions are reduced. However, under the Act, DEP is required to evaluate whether the facility's potential emissions could increase because the facility might be

able to increase production due to the use of a more efficient spray gun which would ultimately raise VOC emissions. The Act precludes DEP from evaluating potential emissions on the basis of VOC emissions per unit of production. Because the level of review required turns on potential rather than actual emissions, a facility that reduces actual emissions could well be subject to more stringent permitting requirements. This penalizes rather than rewards toxics use reduction--and economic growth.

Title V Permits. Title V of the Clean Air Act (42 U.S.C. § 7661 et seq.) and its accompanying regulations (40 CFR § 70) authorize states to issue federally enforceable operating permits to sources with the potential to emit air pollutants in "major source quantities". A burdensome process is required for any change to a permit that is considered a "modification" as defined in Title I of the Clean Air Act. However, EPA has not provided a clear definition of what constitutes such a modification. A modification may include a change to a permit to allow an input substitution or process change that would result in a reduction in actual emissions. However, because the Clean Air Act may view a reduction in actual emissions as an increase in potential emissions (as outlined above), a reduction in actual emissions may not be a "minor modification" exempt from the permit modification process. This would require the facility to undergo the full permit modification process[9]--a strong disincentive to implementing TUR. In order to provide a streamlined permit modification process for a permit change that would reduce actual emissions, DEP would have to modify its SIP. It is possible that EPA would not approve such a SIP modification.

Title III/HAPs. Title III does not give facilities full credit for emissions reductions achieved through the use of an alternative technology. This is a disincentive to TUR because it might discourage the use of waste reduction or process modification technologies. In addition, Title III places a heavy regulatory burden on a facility choosing to use a non-listed HAP--the facility must go through public review, etc. This burden is a disincentive to using non-listed (and presumably less toxic) HAPs.

NSPS Standards. Some New Source Performance Standards set technology-based standards rather than performance-based standards. 42 U.S.C. § 7411. These technology standards prescribe specific pollution control technologies. This precludes a facility from meeting NSPS standards through the use of a waste reduction technology that might achieve the same or a lower emissions rate.

Source Modification and BACT. The BACT requirement for new and modified sources of air pollution can serve as a disincentive as well as an incentive to TUR. The BACT requirement may serve as a disincentive when a facility that is in compliance with applicable air emissions standards voluntarily wants to upgrade technology that still has at least several years left in its useful life. The facility does not want to purchase expensive state-of-the-art technology but is

---

The Clean Air Act requires each state to include in its SIP a provision to allow operating permits to contain provisions for operational flexibility. CAA § 502(b)(10). It is not clear whether this would apply to emission reductions achieved through the implementation of TUR.

willing to purchase technology that is significantly better than its current technology. The BACT requirement would preclude the facility from voluntarily upgrading its technology in this manner: because the technology upgrade would constitute a source modification, it would trigger BACT requirements, which would require the facility to implement best achievable (i.e., state-of-the-art) technology. Consequently, many facilities may be discouraged from implementing TUR. Even if the BACT requirement could be waived by EPA in individual cases, it could not be waived by DEP, because the state cannot waive a requirement that it included in its State Implementation Plan (SIP) as a means of achieving attainment with the air emission standards set forth in the Clean Air Act.

Emissions Credits Banking And Trading. The Massachusetts emission credit banking and trading regulations at 310 CMR § 7.00 Appendix B allow facilities which reduce emissions below levels required by their permits or applicable regulations to generate emission reduction credits for those surplus emission reductions. Facilities may utilize those credits to offset future emission increases at the facility, or sell or trade those credits to other facilities. These provisions may provide incentives to facilities to look for opportunities to generate emission reduction credits through the implementation of TUR.

Congress' Office of Technical Assistance (OTA) has stated that it considers emissions trading to be a deterrent to TUR because it would allow a facility to avoid the implementation of TUR by buying emissions credits instead.[10] Because Massachusetts' emission credit banking and trading scheme is so new, it is premature to verify or disprove OTA's assertion. If the market for emission credits is sluggish, the emission credit option will not meaningfully discourage TUR. Moreover, OTA's assertion overlooks the fact that emission reduction credits may well be created by the implementation of TUR, and that facilities may prefer to generate emission reduction credits through TUR because it will be cheaper in the long run than pollution control.

Savings Clause Provision. The savings clause provision in the Clean Air Act requires a state to do an extensive analysis before it can modify a state air requirement that is stricter than a federal air requirement. This burden may discourage the Commonwealth from exploring ways to meet emission standards through more flexible options that would allow (or promote) the implementation of TUR.

Overly Restrictive Plan Approvals. Industry offered the comment that many plan approvals, issued by DEP, are very stringent in restricting changes to production operations even if they result in fewer emissions.

3. Opportunities to Promote TUR

VOC and NOx RACT. The Clean Air Act Amendments require all existing sources (not new or modified sources) with the potential to emit at least 50 tons per year of volatile organic compounds (VOCs) or nitrogen oxides ($NO_x$) to meet Reasonably Achievable Control

---

[10] U.S. OTA 1986.

Technology Standards (RACT). The standards for RACT are not technology-specific, so they allow flexibility in the process chosen to meet these standards.

- VOC RACT: EPA has issued Control Technology Guidelines (CTGs) for specific industries that emit VOCs; these guidelines describe technologies that could constitute RACT. Some of the CTGs, especially those for the surface coating industries, include specifications for TUR. Although CTGs are non-binding, they serve as the basis for the VOC regulations that states include in their State Implementation Plans (SIPs). CTGs typically outline two types of regulatory options for controlling VOC emissions: (1) input restrictions through a limit on the VOCs used in a facility's process, or (2) addition of end-of-pipeline pollution controls. Massachusetts regulations provide an incentive to choose the TUR option by extending the compliance deadline for facilities implementing the first option. 310 CMR § 7.18.

- $NO_x$ RACT: Many facilities implement $NO_x$ RACT through post-combustion controls such as selective catalytic reduction. Post-combustion controls are end-of-pipeline controls rather than toxics use reduction. However, there are opportunities to encourage the achievement of $NO_x$ RACT through TUR with pre-combustion controls such as operations and maintenance improvement or input substitution (e.g., the substitution of natural gas for oil, which would form less $NO_x$ upon combustion). 310 CMR § 7.19. Unlike VOC RACT, $NO_x$ RACT regulations do not extend the compliance deadline for facilities implementing TUR.

Title V Permit Fees. Title V of the Clean Air Act specifies that permitting fee systems shall be based on the quantity of pollution emitted. This provides an incentive to reduce emissions, but does not provide an incentive to favor pollution prevention over pollution control. Massachusetts currently charges fees based on the amount of DEP time needed to review a permit application.

Permits-By-Rule (Generic Approvals). Facilities in certain industries such as printing do not have to undergo time-consuming source-specific review to obtain air permits. 40 CFR § 70.6. Instead, the Massachusetts regulations give a generic approval to facilities in these industries, provided they meet certain threshold conditions. 310 CMR 7.03. Some of these "permit-by-rule" regulations encourage TUR by requiring facilities to reduce the VOCs they input into their processes. (See , for example, the printing process regulations at 310 CMR 7.18(25).) Industry supports the permit-by-rule process because it saves time and resources as compared to source-specific review, and it contends that permits by rule would encourage toxics use reduction by allowing facilities to make input substitutions or process changes without going through the permit modification process as long as the changes maintained compliance with emission standards. However, as with a change to the permit modification process, a SIP revision and EPA approval would be required in order to expand the permit-by-rule process to additional industries.

Emissions Credit Banking And Trading. Emissions reductions achieved through TUR may qualify as emissions credits that can be sold or traded. However, the emission credit regulations

do not favor emissions reductions achieved through TUR over emissions reductions achieved through add-on pollution controls, or through a facility shutdown. To encourage TUR, emission credits created through TUR should have a higher per-ton value than credits created through end-of-pipe controls. This would be consistent with the goal of the emission credit program to allow emission credits only for emission reductions that are certain and permanent: emission reductions generated through TUR are arguably more quantifiable and more stable than emission reductions generated through pollution control mechanisms.

Emissions Bubbling. The emissions bubbling regulations allow a facility to use emissions averaging to comply with VOC RACT, $NO_x$ RACT, or sulfur dioxide emission provisions. 310 CMR § 7.00 Appendix B. DEP intended these regulations to allow firms to allocate resources to the emissions point which is easiest to modify for emissions reduction. However, this does not mean that a facility will necessarily choose toxics use reduction over pollution control. The regulations could be revised to favor emission reductions generated through the implementation of TUR. However, this would add, rather than subtract, another level of DEP oversight.

Offset Requirements. The Clean Air Act requires significant new or modified sources in nonattainment areas (including Massachusetts) to offset new emission increases with emission reductions in a ratio of 1.2 tons reduced for every 1 ton increased. Like the emissions bubbling provisions, the offset regulations do not provide any incentive to achieve the emission reductions through TUR as opposed to pollution control. Initially, offset requirements promoted widespread pollution prevention in order to meet the required reductions. In order to encourage TUR, a revision of the offset requirements to allow for a lower offset rate for emission reductions achieved through TUR rather than reductions achieved through pollution control would be necessary. However, this is unlikely because it would require an amendment to the Clean Air Act itself.

Title III/HAPs. EPA must issue Maximum Achievable Control Technology (MACT) standards for each listed source category that emits a listed HAP. A requirement to implement TUR could be written into MACT standards, as appropriate. In addition, a facility that voluntarily reduces its emissions may receive a six year extension on the deadline for meeting MACT standards. The regulations could be revised to provide a longer extension if the emission reductions are achieved through TUR rather than pollution control.

## F. TOXIC SUBSTANCES

The Toxic Substances Control Act ("TSCA") of 1977 gives EPA the authority to regulate a broad category of hazardous chemicals by limiting or prohibiting their manufacture, processing, distribution in commerce, use, or disposal when there is a reasonable basis to conclude that these actions pose an unreasonable risk to human health or the environment. It also authorizes EPA, in limited circumstances, to require manufacturers or processors of chemicals distributed in commerce to test the health and environmental effects of those chemicals.

One way to use TSCA to encourage TUR would be to specify overall waste limitations or concentrations on certain types of waste. TSCA could also be used to mandate TUR, by requiring the phasing out or sunsetting of certain very toxic chemicals. However, it is unlikely that such a drastic measure would be adopted on a large scale, particularly because EPA has only issued regulations for four chemicals under TSCA.

TSCA does not require a generator or processor of a hazardous chemical to certify to the existence of a waste minimization program. A facility filing a Significant New Use notification form in order to manufacture, import, or process a hazardous chemical for that use can make a voluntary waste minimization commitment on the form. However, it is unlikely that many facilities will avail themselves of this opportunity, because the Act authorizes EPA to treat certain statements offered in a voluntary waste minimization commitment as legally binding and enforceable.[11]

The TSCA regulatory scheme is a potentially powerful tool to aid in the promotion of toxics use reduction measures. Further research should be undertaken to explore how existing provisions of TSCA regulation may be used to encourage the implementation of TUR.

## G. OCCUPATIONAL SAFETY AND HEALTH

The Occupational Safety and Health Act of 1970 ("OSHA") regulates worker health and safety and sets standards for the mitigation of health and safety dangers at the workplace. The OSHA standards for hazardous materials are listed at 29 CFR § 1910.1200. Tighter OSHA standards on worker exposure to hazardous substances could indirectly provide an incentive to TUR by imposing requirements on the manner in which chemicals are handled in the workplace.

The Massachusetts DLI administers Massachusetts worker safety and health regulations. The Industrial Safety and Wage Enforcement divisions were transferred last year to the Office of the Attorney General from the Office of the Secretary of Labor, but the Division of Industrial Hygiene and the Division of Asbetsos and Lead still remain. DLI has not promulgated new regulations in several years. Although it is severely understaffed, DLI still retains the authority to enforce the regulations within its purview.

It is not clear whether OSHA preempts state regulation of worker health and safety, including state environmental regulations that contain worker health and safety provisions. Recently the Fourth Circuit held that OSHA preempts state regulation to the extent that the regulation addresses workplace issues regulated under the federal statute.[12] In theory, the

---

[11] See Instruction Manual for Premanufacture Notification of New Chemical Substances, EPA-7710-25(I), Office of Toxic Substances, U.S. Environmental Protection Agency, 1991.

[12] Illinois v. Gade [cite].

preemption of state regulation by OSHA could weaken state environmental regulations that affect the workplace. The First Circuit has not ruled on the issue, and DLI has taken the position that the holding in Gade is inapplicable to Massachusetts.

TURI is currently sponsoring a research fellow who will be exploring the issues of incentives, disincentives and opportunities for toxics use reduction and pollution prevention in current OSHA regulations and policy.

## H. ENVIRONMENTAL IMPACT

The Massachusetts Environmental Policy Act (MEPA), M.G.L. c 30, 61-62H, and the regulations promulgated thereunder, 301 CMR 11.00 et seq., establish a two-level review process for proposed projects that trigger certain review thresholds and that require a permit. The MEPA program is administered by a MEPA office within the Executive Office of Environmental Affairs. While the permitees may consider MEPA review to be a time-consuming and expensive process, EOEA officials believe that the program has realized great environmental benefits for the Commonwealth.

There are opportunities within the MEPA program to promote TUR. If a proposed project will increase pollution emissions, the MEPA office will recommend the implementation of TUR, P2 or pollution control measures. The MEPA office recommends TUR where appropriate and evaluates the appropriateness of various methods of pollution reduction on a case-by-case basis. On occasion, the MEPA office solicits the advice of OTA or DEP regarding emission reduction options. In addition, DEP reviews notices of MEPA applications and submits comments to the MEPA office where it identifies pollution prevention opportunities in particular proposed projects. DEP officials report that there is a P2 Pilot Project underway to include a P2 information brochure with MEPA applications.

A built-in incentive to TUR in the MEPA program is that MEPA review is rarely triggered by a permit application for a process modification that would reduce actual emissions. (The MEPA office has latitude under MEPA to look at changes in actual emissions rather than changes in potential emissions associated with a process modification.) However, this incentive does not distinguish between companies that implement TUR and companies that implement pollution controls.

# II. REPORTING ISSUES

TURA requires the Council to identify all state agency and publicly-owned wastewater treatment (POTW) requirements for reporting on toxic or hazardous substance production, use, release, disposal, and worker exposure and recommend ways to standardize, consolidate and coordinate these reporting requirements to minimize unnecessary duplication. [§ 4 A,B,D] This section of the report lists the reporting requirements with which a "model" TURA-regulated facility must comply. There is much speculation about the amount of duplication among these various requirements. Identifying all requirements is a necessary first step before further detailed analysis can point to any duplicative data points. This report makes some recommendations for future work in this area.

The sentiment most frequently offered by the industry representatives interviewed for this project concerned the idea that the enormous amount of time spent on fulfilling reporting requirements is time taken away from actually being out in the facility, identifying opportunities for pollution prevention, and implementing good engineering solutions. Given this perspective, inefficiencies in the reporting requirements as a whole present a practical barrier to TUR by demanding valuable time of the environmental professional that could be spent doing more forward-thinking, proactive tasks.

From a traditional regulatory perspective, however, extensive environmental reporting requirements assure that industry remains mindful of appropriate environmental, health and safety practices and therefore promote better environmental behavior. More importantly, government officials need extensive data to guide public policy decisions.

The individuals interviewed for this project do recognize the necessity of reporting. Given this, streamlining does not mean decreasing the amount of information that will be available to the agencies or the public; it means decreasing the number of times the same information must be reported. Hopefully, it means allowing the environmental professional more time to implement pollution prevention by improving the efficiency of the entire reporting process.

## A. PREVIOUS WORK

Initial research for this study did not discover any attempts by other researchers at attempting to assess the reporting requirements for a given facility. There is a student project ongoing at Tufts University funded by EPA which will evaluate how state requirements mesh with federal requirements regarding facility planning.

## B. MODEL FACILITY

In order to recommend ways to standardize, consolidate and coordinate reporting

requirements, it would be helpful to first understand the extent of reporting, recordkeeping and planning requirements that a facility must fulfill. For this study, a "model" facility was defined and an attempt was made to identify all federal and state agency and POTW requirements for this facility. The list of reporting requirements appearing in Table A represents the Institute's preliminary efforts to perform this task. The list was compiled for a model facility with the following characteristics:

1. large quantity generator of hazardous wastes
2. Massachusetts air permit holder
3. NPDES (National Pollution Discharge Elimination System) permit holder
4. Massachusetts recycling permit holder
5. no underground storage tanks in service

Table A includes permits because permits often contain specific reporting requirements. However, for this model facility, those specific reporting requirements imposed by the permits were not itemized. The list includes, but does not count, recordkeeping requirements and reporting requirements for upset conditions (spills, emergency releases) and new situations. The list does not include the reporting requirements of CERCLA, M.G.L.c. 21E, FIFRA, and the Hazardous Materials Transportation Act. The "model" facility was made as complex as possible without inflating the scope by including the entire realm of environmental regulations. The model facility list may err on the side of brevity as it does not include the individual reporting requirements defined in each permit. The final version of this list will serve as the basis for the analysis prior to making recommendations to minimize duplication in reporting requirements.

This list developed in Table A identified twenty reporting requirements: 1 triennial report, 2 biennial reports, 8 annual reports, 3 quarterly reports, 1 weekly report, and 5 reports that must be kept current. The list provides a base from which analysis of each reporting form must be done to determine what duplications might exist.

## C. DUPLICATION

Due to limited time and resources, this study did not include an in-depth analysis of all of the layers of overlap between specific reporting requirements. However, in an effort to begin the process of identifying and characterizing the nature of reporting duplication, the Institute solicited specific examples of duplicativeness and suggestions for streamlining from individuals in industry. The examples provided here are, therefore, anecdotal, but they do suggest some of the types of problems that may be most pressing. These areas of duplication identified by the respondents are summarized in Table B.

| Reporting Requirements | Regulation | | Frequency | Agency | Information Required |
|---|---|---|---|---|---|
| Permit: Air Quality | 310 CMR 7.02 | | * | DEP | |
| Permit: Emission Control Plans | 310 CMR 7.18 | | * | DEP | |
| Permit: Restrict Potential Emissions (RACT) | 310 CMR 7.02(12) | | * | DEP | |
| CAA Permit: Prev of Significant Deterioration | 40 CFR 52.21 | | * | DEP | Meet SIPs, use BACT, modelling, analyze ambient air, loc, design, capacity, dr |
| CAA Permit: New Source Performance Stds | | | * | | |
| Air Source Registration Report | 30 CMR 7 | 1 | Annual - 1/31 | DEP | Tot VOC, fug & point, chem by point source, stack height, location |
| RCRA Permit: Solid Waste | 310 CMR 19.030 | | Once | DEP | Siting |
| RCRA: ID Number | 310 CMR 30.303 | | Once | DEP | |
| | 40 CFR 262 | | | | |
| RCRA: Recordkeeping | 310 CMR 30.330 | 2 | Weekly | DEP | Inspections of waste storage area, labeling, accumulation, record only |
| | 310 CMR 30.322 | | | | |
| | 310 CMR 30.680 | | | | |
| | 310 CMR 30.340 | | | | |
| RCRA: Manifest | 310 CMR 30.310 | | As Needed | DEP | 8 copies, transporter, generator, receiver, quantity, type |
| | 40 CFR 262.20 | | | | |
| RCRA: Manifest Exception Reports | 40 CFR 262.40(42) | | As Needed | | |
| RCRA: Haz Waste Contingency Plan | 310 CMR 30.520 | 3 | Keep current | DEP | Person responsible, phone #, evacuation plan send to SERC, fire, police, hosp |
| RCRA Recycle Permit | 30 CMR 30.212(14) | | Once | DEP | Desc of recycling activity, amount/yr, storage plans |
| RCRA Recycle Report | 310 CMR 30.200 | 4 | Annual | DEP | |
| RCRA Biennial Report | 40 CFR 262.40 | 5 | Biannual - 3/1 | EPA | By waste category, recycling by chem, transporter, receiver, desc of waste, |
| | 310 CMR 30.332 | | | DEP | volume reduction efforts, changes in volume, toxicity |
| RCRA: Boilers & Indus Furnaces | 40 CFR 260 | 6 | Keep Current | EPA | Daily inspect & calibration, quarterly errror, annual drift |
| | 522 CMR 5 | | | DPS | |
| Financial Report | | 7 | Annual | DEP | Prove not a waste processor |
| RCRA: UST | 40 CFR 264.192 | | Once | DEP | Register with DPS, local fire dept, leaks registered with DEP |
| | 310 CMR 30.253 | | | DPS | |
| Spill Reporting, Emer Release Reporting | 310 CMR 40.900 | | As Needed | DEP | If exceed RQ, call NRC, DEP, LEPC, reports to EPA and DEP, 21E form |
| CWA: Spill Prev, Cntrl & Countermeasure Pl | 40 CFR 112 | 8 | Triannual | EPA | Record of spills, reason, response, insure compliance with law |
| | | | Review Biannual | | |
| SARA 311 | 40 CFR 311 | 9 | Keep Current | EPA | List of chem and MSDS to LEPC, fire dept |
| State Right to Know | 310 CMR 33 | 10 | Keep Current | DEP | List and amounts of chem, MSDS |
| | 105 CMR 670 | | | DPS | |
| | 453 CMR 21.00 | | | DLI | |
| SARA 312 - Tier II (Tier I) | 40 CFR 213 (312) | 11 | Annual - 3/1 | DEP | Amounts present, storage, location, CAS # to SERC & LEPC, fire dept, chem s |
| | | | | | Emergency & Haz Chem Inventory Form |
| SARA 313 Form R | 40 CFR 313 | 12 | Annual - 7/1 | EPA | Man, Proc, OWU, fug & point, water & land dischg, trans, tmt, recycle by chem |
| | | | | | P2 info: waste change from yr prev, projections, P2 practices |
| TURA Form S | 310 CMR 50.00 | 13 | Annual | DEP | Use, byproduct, emission by chem by production unit |
| TURA Plan | 310 CMR 50.00 | 14 | Biannual | DEP | Process char, mat'l acctg, financial assess, options identification, implem |
| OSHA | 29 CFR 1904.2 | 15 | Annual - 2/1 | OSHA | Log of reportable inj/ill, post annual summaries, OSHA Form 101, 200 |
| OSHA: Haz Comm Standard | | 16 | Keep Current | OSHA | Chemical list, training performed, labeling, MSDS |
| OSHA: Recordkeeping and Training | | | Annual | OSHA | Fire ext, fork lift, respirator, lock out/tag out, bloodborne pathogen, first aid res |
| TSCA | 40 CFR 372 | | Once | EPA | Premanufacturing notification, significant new use |
| NPDES: Stormwater permitting | 314 CMR 3.04 | | Once | DEP | List of env permits, topo map, control meas, verify stormwater only, analyses |

| | | | | | |
|---|---|---|---|---|---|
| Stormwater Runoff | 314 CMR 15 | 17 | Annual | | |
| NPDES: Surface Water Discharge Permit | 40 CFR 121-5<br>314 CMR 3.03-3.26 | | Once | EPA | Process ident, water balance, flow, pollutant conc, analysis, bio tox, tmt, produ |
| NPDES: Discharge Monitoring Report | | 18 | Quarterly - 1/31 | EPA | Sampling, analysis |
| CWA - Pretreatment Permit | 40 CFR 403 | | Once | MWRA | Process diagram, permit list, sampling, analysis (submit to DEP) |
| Indus Pretreat Program | 314 CMR 12.00<br>314 CMR 7 | 19 | Quarterly - 1/31 | DEP | Permit info, operation, daily flow, pollutant analysis |
| Potable Water | 310 CMR 22.22(3) | 20 | Annual | DEP | One test to prove no cross contamination. City check semiannually |

* permit defines reporting requirements (quarterly, semiannual, annual, biannual)

Table B.
Examples of Duplication in Facility Regulatory Reporting

1. Some reports require yearly information that never changes. For example, the Air Source Registration Report, which is filed annually, contains information such as stack height and stack location that does not change. Other states require full reports less frequently and then require reports to be filed only when the information changes. (On subsequent interviews with DEP personnel, it was learned that exception reporting for this report will begin next year.)

2. Some facility planning requirements are duplicative of one another. For example, the RCRA Hazardous Waste Contingency Plan, the Clean Water Act Spill Prevention Control and Countermeasure Plan, the EPA Stormwater Pollution Prevention Plan and the OSHA Emergency Response Plan request very similar information. A consultant who was interviewed for the project offered that they had written a single plan to fulfill the requirements of more than one of the plans mentioned above, however this did not seem to be common practice among the individuals interviewed. In fact, some comments suggested that this practice of consolidation would not be well accepted by inspectors.

3. Some facility reporting requirements are duplicative of one another. For example, most of the information that is required on the State Recycling Permit Reports must be provided on either the RCRA Biennial Report or the TURA Form S Report. The question here is whether the information can be reported once and used by multiple agency officials and programs.

4. Pollution prevention information is required on many reports. From a multimedia perspective, is it encouraging that many of the current programs have incorporated pollution prevention information into their reporting requirements (and hopefully more completely into their programs). However, it appears that this information was an afterthought for most of these reports simply from its position of being tacked onto the end rather than being incorporated throughout. For example, the RCRA Hazardous Waste Minimization Plan, SARA Form R, MWRA new group permit, NPDES Stormwater Report, and TURA Form S all require pollution prevention information.

## D. CONFIDENTIALITY ISSUES

The issue of confidentiality arises in reporting because companies worry about revealing confidential business information and trade secrets. Under the current scheme of multiple reporting requirements, it is difficult for a company to keep track of all of the information it has made public. Companies fear that by combining the information made public in various reports, competitors could obtain confidential business information or reverse-engineer a proprietary product or process. There is at least one company whose sole business it is to gather public information and publish strategic plan reports on a particular process or product; they sell these reports for a sizeable fee. A streamlined reporting system would ensure that there would be a uniform set of rules regarding confidentiality for all material revealed in reporting. But this system must be constructed in a way which continues to consider the protection of proprietary business, product and process information.

## E. COMPUTERIZED REPORTING

Industry was enthusiastic about EPA's computerized Form R reporting. The Great Printer's Project is another example of using computerized reporting. As a streamlined reporting system is designed, the feasibility of computerized reporting should be considered. Ideally, such a system should save industry time in preparing reports and should facilitate the manipulation of aggregate data by regulatory agencies.

# III. PRACTICAL ISSUES

This section identifies practical issues which promote or discourage TUR. These issues are not found specifically in the letter of the law or the regulations, but, in various ways, they influence the implementation of TUR. Practical barriers may be found in government policies, programs, or initiatives, or they may be found in other domains such as financial, technological or skill and knowledge deficiencies. Because these factors may influence TUR efforts through their impact on individuals implementing TUR, rather than through specific regulatory language, this report classifies them as "practical" rather than "regulatory" issues.

## A. ORGANIZATIONAL STRUCTURE OF REGULATORY AGENCIES

The organizational structure of environmental programs along single media (air, land, water) issues may be a hindrance to promoting TUR which requires a whole-facility, multi-media examination of toxic chemical use and waste. The Massachusetts DEP, however, is a national leader in the multi-media organization and EPA is currently following their lead on reorganizing its environmental programs. The establishment of the Office of Program Integration (OPI) at DEP during the spring of 1993 has begun to facilitate the coordination of various regulatory programs with respect to TUR and pollution prevention. The mission of this office is to coordinate regulations across media in the areas of compliance and enforcement, permitting, policy and regulations, training, planning, facility reporting and consumer issues and to devise a three-year plan.

DEP's regional offices have been formally organized into compliance/enforcement and permitting groups which work across single media programs. This is significant because industry works most directly with staff in these offices. This organization of work should be an important step toward bringing both industry and the regulatory agencies into whole-facility perspectives.

OTA personnel meet with DEP personnel regularly to exchange information regarding opportunities for TUR. However, no mechanism was found to be tracking industry input and feedback regarding this issue in a systematic manner which would allow meaningful analysis of industry reaction or success in reporting on TUR. As the lead office on policy coordination, OPI needs to receive constructive suggestions for streamlining reporting requirements across media and rectifying regulatory barriers to TUR. Because real reductions in toxics use or waste occurs at the facility level, some mechanism should be found to provide for the continuing collection and analysis of vital information on practical barriers to TUR implementation at the facility level. Defining the problems encountered with implementing TUR in industry and looking for their causes are steps which must be taken before meaningful solutions to these barriers can be devised, recommended or implemented.

Traditionally EPA funds DEP through single media state grants and requires

performance of a quota of activities, like inspections, in that single media program. This is just beginning to change. DEP's Bureau of Waste Prevention (BWP) is currently negotiating with EPA for one of two multi-media "demo grants" in the nation which would combine compliance and enforcement funding for air, water and hazardous waste programs into one grant. Under the traditional single media scheme a given industry may be regulated by three or four different programs which have difficulty coordinating TUR strategies with one another. Lack of such coordination can inadvertently result in the transfer of toxic substances from one medium to another, e.g., through the implementation of a process modification that reduces toxic air emissions but increases toxic water emissions. Regulation of an industrial process by a single comprehensive program within DEP would help to reduce incidents where environmental risk is shifted from one media to another and could be much more effective in identifying TUR opportunities.

EPA and some states are exploring the option of taking a holistic rather than a piecemeal approach to regulating particular industries. The "Great Printers Project", a cooperative project of the Council of Great Lakes Governors, the Environmental Defense Fund, and the Printing Industries of America, is a pilot project seeking to identify and facilitate the implementation of pollution prevention in the printing industry. The Great Printers Project will identify barriers and possible incentives to pollution prevention throughout the printing industry as a whole and could serve as a prototype for cross-media, industry-specific environmental regulation. EPA is also exploring a cross-media approach to pollution prevention through its "Common Sense Initiative", a program formerly referred to as "Green Sectors". Six industries will participate in the pilot phase of this initiative: auto manufacturing, computers and electronics, iron and steel, metal finishing and plating, printing, and petroleum refining. Teams representing the six industries and EPA will address the following issues: reviewing laws and regulations as they apply to the industries, pollution prevention, improving environmental reporting, strengthening enforcement, improving the permitting process, and raising incentives to find innovative technologies to solve pollution problems.

## B. COMPLIANCE AND ENFORCEMENT POLICIES

The compliance and enforcement policies of EPA and DEP can have an effect on whether and to what extent facilities choose to implement TUR. While certain aspects of current enforcement policies appear to encourage TUR, opportunities exist to provide further incentives to TUR through modifications to enforcement strategies.

Waste Prevention Facility-Wide Inspections to Reduce the Source of Toxics (Waste Prevention FIRST). A Waste Prevention FIRST inspection is a DEP Bureau of Waste Prevention multimedia inspection which examines a facility's compliance with hazardous waste, air, industrial wastewater, solid waste, and toxics use reduction regulations in a single inspection. This inspection protocol is process-based, pollution prevention-biased and looks for source reduction opportunities. The principles and methods of Waste Prevention FIRST were developed in the Blackstone Project, a two-year pilot project implemented by DEP and the state Office of Technical Assistance (OTA) to promote TUR and conducted in central Massachusetts

in 1989 and 1990. The findings of the Blackstone Project indicated that multi-media, process-based inspections are more effective at identifying non-compliance than traditional single-medium inspections--particularly for identifying unregistered or unpermitted waste streams. Since 1992, DEP has conducted Waste Prevention FIRST inspections at facilities statewide.

Multimedia inspections encourage the implementation of TUR by improving the compliance assistance provided by DEP to regulated facilities. Process-based inspections allow DEP staff to identify specific source reduction opportunities and to provide generic encouragement for the implementation of source reduction measures. In all enforcement documents, DEP now includes a referral to OTA. OTA then contacts the facilities to offer assistance with regard to using TUR as the means of returning to compliance. In addition, DEP's regional offices have begun sending post-inspection reports to facilities highlighting the opportunities for TUR implementation identified during the inspection regardless of whether any enforcement action was recommended against the facility. Providing facility-specific TUR analysis in this manner has the potential to greatly increase the implementation of TUR. DEP is exploring the possibility of sending inspectors out to facilities with fact sheets regarding generic TUR opportunities for that industry. DEP is also considering targeting for inspection facilities in certain SIC codes that it deems ripe for TUR.

Industry has supported the use of multimedia inspections because they are time- and resource-efficient. More than 90% of the industries participating in the Blackstone project indicated a preference for multi-media inspections over traditional single medium inspections.

Pre-Permitting Scoping Sessions. DEP is publishing guidance on pre-permitting scoping sessions, which are meetings between the DEP and a regulated facility that take place after the facility has received a Notice of Noncompliance for discharging an unpermitted waste stream and before the facility has come into compliance through obtaining a permit. The guidance will outline DEP's intention of taking advantage of the window of opportunity presented by a scoping session to encourage TUR: in certain cases, instead of automatically requiring a company to apply for the necessary emission or discharge permit, DEP will offer to work with the company to eliminate the waste generation (and therefore obviate the need for the permit). DEP would offer this opportunity on a discretionary basis, depending on factors such as the company's prior history of environmental compliance.

Penalties. Although DEP does not yet have a formal mechanism for reducing penalties where TUR is used, for years, DEP officials have talked about a "TUR-bias" in enforcement. TURA states that where possible, toxics users violating a law enforced by DEP should practice TUR to come into compliance. [§ 3E] DEP has the discretion to use penalty calculations as an opportunity to encourage TUR by rewarding good-faith TUR efforts where appropriate. DEP is developing a policy on mitigating penalties. (See information on draft SEP policy in following paragraphs.) Also, the Office of the Attorney General has consulted OTA about including TUR in its actions. OTA has worked with the Massachusetts Environmental Trust on similar issues.

Supplemental Environmental Projects/Alternative Penalties. EPA allows the use of Supplemental Environmental Projects (SEPs) as alternatives to traditional monetary penalties.[13] A SEP provides a company the opportunity to take some of the money that it would pay through a fine and put it towards something else that is environmentally beneficial. SEPs are available in both administrative and judicial settlements.

To qualify as a SEP, a project must fall under one of these categories: pollution prevention (toxics use reduction); pollution reduction (an end-of-pipe control which represents a substantial increase beyond discharge limitations or an acceleration of compliance with a deadline); environmental restoration (going beyond repair to enhancement); environmental auditing projects (going beyond general good business practices and including a commitment to correct the problems uncovered during the audit); or industry awareness projects (addressing compliance problems in the industry within which the violation took place). Projects not allowed as SEPs include: contributions to a university or non-profit charity for environmental projects or environmental research, or general educational or environmental awareness raising projects (e.g., the promotion of recycling in a community). There must be an appropriate nexus between the nature of the violation and the environmental benefits to be derived from the SEP.

A company is not automatically eligible to undertake a SEP; EPA must examine a defendant's enforcement history and capability to complete the SEP project before approving a SEP. In general, SEPs are allowed only if it can be demonstrated that benefits will accrue to the public as well as to the defendant. For SEPs involving TUR, this requirement is waived, because a benefit to the public is assumed. A SEP does not gain a company additional time to correct a violation and return to compliance status.

The benefits to a company of undertaking a SEP include a reduction in the monetary penalty that it must pay for noncompliance. EPA can lower the gravity portion of the penalty by up to the net present after-tax cost of the supplemental project in order to ensure that a SEP does not reward a company financially. Only the punitive portion of a fine can be deflected towards a SEP; EPA cannot reduce the economic portion. The use of SEPs is being challenged because SEPs reduce the revenue received from penalties.

DEP is drafting a SEP policy which it hopes to implement in 1995. It is possible that the policy will allow penalty mitigation based on the amount of the pollution mitigated, rather than penalty mitigation based on the economic value of the SEP to a company, for two reasons: (1) DEP has expertise with regard to calculating the amount of pollution mitigated but not with regard to the economic value of a SEP to a company, and (2) DEP does not want to favor cost-ineffective processes by mitigating the fine up to the cost of an alternative penalty project

---

[13] February 1991 Memorandum amends section on Alternative Payments in GM-22, "A Framework for Statute-Specific Approaches to Penalty Assessments: Implementing EPA's Policy on Civil Penalties", February 16, 1984.

regardless of the price.

Amnesty Programs. DEP's amnesty program on TURA brought nearly 40 companies into the TUR reporting and planning universe. These companies paid back fees, but no penalties were assessed if they came in under the Amnesty program by a certain date. Industry interests state that many of these companies would have otherwise been too afraid to come in because of what they perceive to be the more typically heavy handed enforcement approach which would include costly penalties and negative publicity. Industry groups point out the need for more good faith programs which will bring companies into compliance in other regulatory programs and suggest that fear of big penalties if they reveal themselves keeps some companies un-registered and possibly out of compliance. It is only when firms are included in the regulatory universe that they will regularly be prompted to examine their industrial processes and look for options to reduce toxics use and waste.

## C. REGULATORY RULEMAKING PROCEDURES

Since the establishment of OPI, all proposed DEP regulations must be reviewed by a workgroup composed of representatives from each regulatory area. The workgroup analyzes each proposed regulation for its potential effect on toxics use reduction and other forms of pollution prevention. However, there is currently no systematic review of existing regulations for their effect on toxics use reduction. TURA authorizes such a review at DEP and other state agencies and by the Administrative Council. Initiating such a review will be a vital step in promoting TUR.

There is a call from industry for some flexibility in the rules so that exceptions could be provided where a project, which might be rejected under current rules, actually produces greater environmental, health and safety benefits. To suggest that regulations and rules be flexible is to suggest that criteria for decision-making would be less heavily weighted on compliance with a strict checklist of specific provisions from regulations, and more heavily weighted on an overall relative benefit to the environment, occupational and public health and safety.

It should be noted that where the current regulatory scheme creates a barrier to innovative technologies, separate programs have been established on a case by case basis. See Section I.G. "Innovative Technologies". DEP's program for Innovative Technologies is new but has great potential for addressing barriers.

Leadership Pilot Program. Massachusetts has been selected to participate in EPA's Environmental Leadership Program which will allow states to explore ways to encourage facilities to develop innovative auditing and compliance programs and reduce the risk of non-compliance through pollution prevention. Under this program, facilities will describe their multi-media pollution prevention program and its integration into overall operations. Facilities will track compliance improvements that result from this program.

## D. INADEQUATE GUIDELINES REGARDING RELATIVE TOXICITY

Under TURA, input substitution can consist of either (1) the use of a non-toxic substance in the industrial process, or (2) the use of a less toxic substance in the industrial process. However, there are no guidelines in the TURA regulations --or elsewhere in the federal or state environmental regulations--for measuring the relative toxicity of chemicals. (As mentioned later in this document, federal waste management regulates chemicals equally, without regard to their health-based risks.) As a result, facilities may be hesitant to explore the use of a less toxic chemical because the regulations do not specify an acceptable way of demonstrating lower toxicity.

## E. FINANCING OF TUR PROJECTS

There is a debate within the regulatory community as to whether meaningful barriers to TUR exist because of barriers to the financing of TUR projects. It appears that there are both more obstacles and more opportunities for financing TUR efforts by small businesses than for large businesses.

### 1. Barriers To Pollution Prevention

Small Business Credit Crunch. Smaller businesses have more difficulty obtaining credit in order to implement TUR. It is within the scope of the federal Small Business Administration's authority to fund investment in waste reduction equipment which modernizes business operations However, like many other governmental programs, the SBA is underfunded.

Restrictions On EPA Grants. The federal government has established a variety of grant programs to fund the research and development of pollution prevention technology.[14] Current laws regarding EPA grants for state and local TUR initiatives severely restrict the ability to use grant funds across single-media program lines. This limits state and local funding for many cross-media TUR projects, which are more effective than single-media TUR projects.

Lender Liability. The joint and several liability scheme under CERCLA and M.G.L.c. 21E (state Superfund) may indirectly deter TUR. Under this liability scheme, a lender runs the risk of being held liable for a hazardous waste release at a facility, even if the lender's only connection to the facility is the extension of credit for any purpose, including the implementation of pollution prevention or pollution control measures. EPA attempted to limit the liability of a secured creditor through the so-called "Lender Liability Rule". However, this rule was vacated by in February 1994. A secured creditor liability exemption may be included in CERCLA reauthorization legislation.

---

[14] Federal grants are available under, inter alia, the Omnibus Trade and Competitiveness Act of 1988, the Stevenson-Wydler Technology Innovation Act of 1980, the Federal Technology Transfer Act of 1986, the National Competitiveness Technology Transfer Act of 1989, and several Department of Energy use reduction projects.

Barriers to Obtaining Financing Information. Small businesses in particular may have difficulty obtaining access to information about sources of financing for TUR. Information sources for TUR financing for small businesses are scattered among various hotlines (including the EPA Small Business Assistance Hotline or the Department of Energy Small Business Technology Integration Program Hotline), networks (including the on-line Environmental Financing Information Network established by EPA's Environmental Finance Program), and information centers (including Environmental Finance Centers established by the Environmental Finance Program at five universities). Many of these sources are not well-publicized and consequently may be of limited assistance to businesses seeking advice. OTA has collaborated with the Northeast Waste Management Officials' Association (NEWMOA) in the development of a manual on financial analysis for pollution prevention in industry.

2. Opportunities to Increase Financing for TUR

Private Sector Financing. It is EPA's hope that the financial community's lending practices with regard to TUR can be changed through education about the reduction in environmental, health and safety risks achieved through TUR. In particular, EPA expects that facility planning requirements will serve as an incentive to TUR because banks will begin reviewing facility plans as a measure of the prospective environmental liability associated with a company's operations and will be more likely to extend loans to companies that have implemented TUR. It is common practice among the few insurance companies who offer pollution prevention policies to require pollution prevention or TUR for a high-risk facility.

Community Reinvestment. If TUR were to qualify as investment in the community for purposes of Community Development Block Grants and for the Community Reinvestment Act, banks would likely be encouraged to lend to small businesses for TUR.

State-Assisted Financing. State-assisted financing programs could also remove financial obstacles to TUR. The Massachusetts Capital Access Program extends general loans, which could be used to cover the cost of TUR implementation, to businesses that have difficulty obtaining credit elsewhere. The Massachusetts Industrial Finance Authority is considering a loan program for TUR projects, but to date no decisions on this have been made. Further research should be undertaken to determine whether the Commonwealth could catalyze the implementation of TUR through the following policy alternatives. These are some tools which have been raised for discussion and some problems with each that have been mentioned. All deserve further discussion.

- Tax Incentives. A company may depreciate the cost of equipment used for implementing in-process recycling or process modification or modernization. However, the tax regulations do not provide any incentive (i.e., a greater deduction) for undertaking toxics use reduction rather than end-of-the-pipeline control. EPA is not actively pursuing the option of proposing a change in the tax regulations to favor pollution prevention.

  Other tax mechanisms that can be used to encourage investment in TUR include

investment tax credits, exemption from sales tax for P2 equipment, and taxes on hazardous feedstock or hazardous waste generation. There are several problems with these types of mechanisms. First, they require agency oversight to determine eligibility. Second, they raise the issue of equity because they spread the costs of TUR to non-polluting taxpayers, who effectively subsidize TUR efforts. Third, research suggests that a tax allowance would have to be very high (approximately 50%) to affect investment decisions, which would translate into a large loss of revenue for the Commonwealth.[15]

- Tax-Exempt Bonds. Several states have floated tax-exempt bonds to raise funds to finance pollution prevention. However, this option is not very desirable because floating bonds is a complex undertaking. Moreover, Internal Revenue Service (IRS) regulations prohibit the use of tax-exempt bonds to finance the costs of complying with federal waste management regulations, and it is possible that IRS regulations prohibit the use of tax-exempt bonds for investment in process changes to reduce waste generation.[16]

- Insurance Premiums. TUR may decrease the health and safety risks to workers that are posed by exposure to toxic chemicals. Therefore, the company's workers' compensation insurance rates should also decrease.

State Facilitation of Financial Information Dissemination. The federal Clean Air Act Amendments require each state to set up a small business assistance program as part of its overall plan to implement the Act. OTA is providing this assistance program although separate funding has not been provided for this function. This program is intended, among other functions, to assist small businesses in locating sources of financing for TUR. In addition, the NEWMOA, in conjunction with the Commonwealth and EPA Region I, is developing an information booklet about sources of financing for pollution prevention capital investments and loan/grant application procedures.

## F. INNOVATIVE TECHNOLOGY

TURA provides a strong incentive to the development and use of innovative TUR technology. Section 17 of TURA provides that a toxics user may petition DEP for a waiver of up to two years of any state law or regulation which DEP administers if the toxics user proposes to comply with such law or regulation through the use of an innovative toxics use reduction technique instead of conventional treatment. DEP must decide whether to issue a waiver within 120 days of receipt of an application. This particular provision, written into the law to promote new technologies, does not appear to be working. To date, only two waiver applications have been received; one is still being reviewed and one was withdrawn.

---

[15] EDF 1986:126.

[16] EDF 1986:118.

In 1993, the Massachusetts Legislature created the Forum for Innovative and Alternative Technologies. Charged with the task of looking at efforts to enhance the development of innovative environmental technologies, the Forum concluded that the major factor impacting the development and use of innovative environmental technologies is the excessive risk and uncertainty involved. The Massachusetts Strategic Envirotechnology Partnership (STEP), a partnership between the Executive Office of Environmental Affairs, the Executive Office of Economic Affairs and the University of Massachusetts, was established as a result of the Forum's work. The goal of STEP is to enhance the development of innovative environmental technologies through the creation of a regulatory and business climate that is more conducive to investment in these emerging technologies. STEP literature cites technologies which address pollution prevention/source reduction/waste minimization as the first priority for potential assessment and support.

DEP has established an Innovative Technology Workgroup to identify and remove barriers to the development of innovative technology. The Workgroup has issued a guidance document setting forth review protocols for innovative technology project proposals. The guidance document recommends the establishment of an innovative technology clearinghouse for DEP. However, the guidance document does not set forth standards for evaluating innovative technologies, and it does not specifically discuss innovative technologies that would implement TUR.

It is not clear to what extent policies on innovative technology can be cross-media rather than media-specific. Certain statutes address the issue of innovative technology. For example, under the Clean Air Act, waivers can be granted to both new and existing sources to delay compliance dates while new systems are being designed, installed and tested if there is a substantial likelihood that the new methods will reduce emissions below the regulatory standard or meet the standard at lower cost. [§§111(j), 113(d)(4)] Restrictions on the development and use of innovative technology imposed by individual statutes or regulatory programs could hinder the development of innovative TUR technologies, particularly technologies that would reduce multi-media discharges.

## G. VOLUNTARY PROGRAMS AND GOALS

EPA's Pollution Prevention Office, which is independent of EPA's single-medium offices, administers several voluntary programs that provide opportunities for industrial implementation of TUR. EPA's "33/50 Project", which began in March of 1991, is a pollution prevention initiative to reduce national releases and off-site transfers to air, land and water of 17 toxic chemicals. The program establishes a goal of 33% reduction by 1992 and a 50% reduction by 1995. The project specifies that whenever possible, source reduction and/or recycling be employed to achieve the release reduction.

Voluntary programs or goals appeal to those who say that TUR does not lend itself to regulation because it is so site-specific. DEP's Northeast Regional Office is currently conducting the Source Reduction Permitting Pilot Program. Under this voluntary program, any

facility that requests a permit application for either new source or modification will receive a questionnaire and a brochure about P2 options. The program offers a pre-permitting meeting where technical support about P2 is given on a process-specific basis. DEP is currently considering ways to get more facilities involved with the program, such as facilities that are brought into the permitting process through enforcement actions.

TURA requires companies to report and plan but the amount of reduction is left to the voluntary discretion of the individual facility. While there is no DEP authority to enforce the goals of good faith plans, there is industry concern that DEP may be given such authority in the future. This could be a barrier to TUR, because of the possibility that companies may write less ambitious plans for fear that any voluntary commitments will translate into future requirements. To date DEP has shown no inclination to enforce individual goals. However, DEP is serious about pursuing enforcement against companies which do not report or plan in good faith. As a related issue, there is much speculation regarding how DEP will use its authority to establish user segments. This authority does allow DEP to use TURA reporting and planning data in order to identify areas on which to focus program resources.

## H. GOVERNMENT PROCUREMENT SPECIFICATIONS

Government contracts sometimes specify the use of a particular technology which generates toxic or hazardous waste. The contract specifications preclude the government contractor from fulfilling the contract through the use of an alternative technology which does not generate hazardous waste, or which generates a less toxic waste. This precludes the implementation of TUR.

Federal specifications from the Department of Defense (DOD) have long restricted defense contractors and their suppliers from implementing TUR techniques while fulfilling government contracts. DOD has initiated work in this area and should be encouraged to continue to pursue specifications which support clean alternatives.

The state Division of Capitol Planning and Operations (DCPO) recently hired an individual through the Clean States Initiative to explore procurement policies and recommend changes which would encourage the purchase of recycled products. A similar analysis could be done with the goal of promoting the purchase of products manufactured at facilities which practice TUR although this is a much more complex task.

## I. SMALLER BUSINESSES

Smaller businesses, such as auto repair shops, printers, dry cleaners and others, face a set of barriers different from the typical concerns of large corporations. When it comes to implementing TUR, problems here more often revolve around a lack of knowledge. A typical worker may have a vocational school education which did not include any coursework on environmental, health and safety issues. A manager, who may be very adept at business

practices, may have no formal training in environmental, health and safety (EH&S) issues. Typically one employee is expected to attend to EH&S duties along with several other functions. Because the operation of their business is often dependent on their being on-site, it is often difficult for these individuals to spare the time to attend conferences and workshops to explore the intricacies of TUR. Yet, without the knowledge of how their industrial processes impact environmental, health and safety issues, it is difficult or impossible for personnel at these facilities to identify TUR opportunities or implement TUR options.

A New England trade association representative explained that small businesses need TUR resources to reach out to them. They need to be visited at their facilities by a non-regulatory, non-compliance oriented resource. They need immediately relevant, industry specific information on TUR options. "A door-to-door campaign might be best for getting the right message out." It was also suggested that it might be effective and efficient to get this information and support out through cooperation with trade associations.

Although OTA has successfully worked with many small companies, TURA often misses very small companies which fall under reporting and planning thresholds. Lack of regulatory impetus, combined with a skill and knowledge deficiency, results in little chance that individuals in these settings will have incentive or opportunity to learn about TUR and pollution prevention and put it into practice.

Small businesses lack information on TUR alternatives, while larger companies are more likely to have devoted resources to discovering alternatives. There is a need for more needs-based, targeted technical and compliance assistance to business, and smaller businesses in particular in Massachusetts. It was suggested by some industry representatives that relevant information about large company successes be directed to smaller businesses. Additionally, research is warranted into the differences between large and small company experiences and barriers regarding TUR so that solutions appropriate for each may be developed.

## J. GENERAL EDUCATION

Public expectations of products on the market may be a barrier to TUR on a practical level. The public in general has very little knowledge of the industrial processes which produce the products they purchase. There is public demand for a clean and safe environment and at the same time, for high-quality, convenient and relatively inexpensive products and services which may or may not be environmentally friendly. More research and education regarding the environmental consequences of current consumer demands is warranted. However this would require an analysis of what is in consumer products. Manufactures may resist this in order to protect their trade secret rights. OTA and DEP have conducted household hazardous waste education programs for a number of years and could provide a base of knowledge and experience for more work in this area.

In an attempt to reach varied audiences, the Institute has participated in programs which develop curricula for K-12 and trained teachers to incorporate TUR concepts in their classrooms. Through its environmental leadership program, the Institute has trained community leaders on what TUR is and how they can promote and participate in TUR activities in their communities, workplaces and neighborhoods.

TUR at the whole facility and process level involves a number of fairly complex concepts and a novel approach to environmental protection. There is some skepticism about the level and depth of understanding and knowledge of TUR in both industry and government. The TUR reports and plan summaries submitted to DEP and performance on the TURP certification exam point to some gaps in knowledge and understanding by some in industry charged with TUR duties. More evaluation of the skill and knowledge levels in industry and relevant public programs should be done and targeted education and training interventions should be developed in response to skill and knowledge deficiencies.

# IV. GENERAL RECOMMENDATIONS

While Massachusetts remains a national model and leader in toxics use reduction, a number of specific observations, criticisms and recommendations in discrete subject areas can be found throughout this document. Based on an overview of all the information gathered during the course of this project, several broad recommendations can be made.

- The Executive Office of Environmental Affairs should convene a standing workgroup to review not only proposed environmental regulations, but all existing environmental regulations. This workgroup should be charged with identifying and making recommendations for removing regulatory barriers. It is recognized that the Executive Office has already initiated procedures for a fairly comprehensive review of all state regulations. Because of these on-going efforts in the Executive Office it would seem most effective to locate this function in the Executive Office and to formalize these procedures into a on-going and standing function of the office. Section III of this report can serve as a useful reference point for further work by those already involved in these more comprehensive reviews.

- The TURA Administrative Council should convene a task group including all stakeholders in the issues around streamlined environmental reporting to work through the analysis outlined above. This means including individuals who file reports, individuals who receive and analyze reports, as well as decision makers who depend on the aggregate of the data contained in these reports. Including input from all stakeholder groups should facilitate the design of a new environmental reporting system which is more efficient and effective while remaining comprehensive enough to guide both good environmental, health and safety public policy and good business decisions.

- A high priority should be placed on filling the vacant position of reporting coordinator in DEP's Office of Program Integration and producing a streamlined environmental reporting system using Section II of this document as a starting point. The Toxics Use Reduction Act requires a thorough analysis of the single medium (air, water, land) programs' reporting (as well as permitting and rule-writing) requirements with specific recommendations on how to coordinate them. This report contains an analysis of a model company's reporting cycle under the air, water, RCRA, TURA and other programs. This can serve as a first step in what needs to be a more thorough analysis of: 1) what data elements are contained in each of the environmental reports which are currently required from an industrial facility, 2) where are there overlaps? 3) where are there gaps? 4) what if any statutory barriers are there to consolidating the reporting requirements?

- DEP should continue to explore avenues for more fully integrating its single-medium (air,

water, land) programs into a whole facility approach to environmental regulation. Granted, the structure of federal regulatory programs in many cases constrains what DEP can do in this area--and EPA is just now beginning to remove some of those constraints. But ultimately, until DEP addresses the whole facility in a comprehensive way, Massachusetts industry will continue to mirror an end-of-pipe, single-medium regulatory framework. Progress in TUR is served by encouraging industry to examine their environmental health and safety issues on a facility-wide basis in order to reduce the use and waste of listed chemicals and to avoid shifting risks from one environmental medium to another. DEP must structure its programs to support and encourage that effort.

- Because real reductions in toxics use or waste occur at the facility level, some mechanism should be found for continuous collection and analysis of vital information on practical barriers to TUR implementation at the facility level. Defining the problems encountered when implementing TUR in industry and looking for their causes are steps which must be taken before meaningful solutions to these barriers can be devised, recommended and implemented. This should be a continuous evaluative process for program improvement.

- Analysis of local regulations of the Commonwealth's 351 municipalities could be extremely useful in identifying ways to more broadly promote TUR in Massachusetts. Resources should be allocated to further investigate this area.

# ANNOTATED BIBLIOGRAPHY

of documents reviewed in preparation of the Toxics Use Reduction Institute's report, Regulatory and Practical Issues in the Promotion of Toxics Use Reduction in Massachusetts

**EPA Documents**


1. EPA. March 1994. President Clinton's Clean Water Initiative: A Cost Benefit Analysis. *Briefly discusses proposed amendment to the Clean Water Act to improve EPA's ability to promote pollution prevention through effluent guidelines and standards.*

2. EPA. January 1993. Pollution Prevention Through Compliance and Enforcement: A Review of OPTS Accomplishments, 22T-1002. *Discusses success of use of Supplemental Enforcement Projects (SEPs) in EPA settlements. Makes recommendations for promoting pollution prevention further through SEPs.*

3. EPA. January 1993. Toxic Chemical Release Inventory Reporting Form R and Instructions: Revised 1993 Version.

4. EPA. January 1991. EPA Pollution Prevention Strategy. *Generalized discussion of EPA's blueprint for promoting pollution prevention.*

5. EPA, Office of Solid Waste and Emergency Response. October 1986. Report to Congress: Minimization of Hazardous Waste, vols. I and II. EPA 530/SW-86-033. *Report submitted pursuant to RCRA. Some discussion of regulatory barriers and incentives to pollution prevention and waste reduction.*

6. EPA Technology Innovation and Economics Committee, 1993. Transforming Environmental Permitting and Compliance Policies to Promote Pollution Prevention: Removing Barriers and Providing Incentives to Foster Technology Innovation, Economic Productivity, and Environmental Protection. EPA 100-R-93-004.

7. General Accounting Office. January 1994. Pollution Prevention: EPA Should Reexamine the Objectives and Sustainability of State Programs. Report to the Chairman, Subcommittee on Environment, Energy, and Natural Resources, Committee on Government Operations, House of Representatives. GAO-PEMD- 94-8. *Evaluates federally-aided state pollution prevention programs regarding implementation of federal pollution prevention policy. Makes recommendations for ensuring that state pollution prevention programs promote source reduction rather than recycling, treatment, or disposal of waste.*

8. Kerr and Associates, Inc. for EPA, Office of Pollution Prevention and Toxics. September 1993. Ongoing Efforts by State Regulatory Agencies to Integrate Pollution Prevention Into Their Activities. EPA 742/B-93-002PP. *Summarizes pollution prevention*

*regulations and programs in 41 states.*

9. Klee, H., and M. Podar. June 1992. Project Summary: AMOCO/EPA Pollution Prevention Project. *Summarizes data obtained and analyses conducted during a two-year pollution prevention study of Amoco Oil Company's Yorktown Virginia refinery. Some discussion of regulatory barriers and incentives to pollution prevention.*

10. Memorandum to Enforcement Branch and Section Chiefs from Paul G. Keough, Acting Regional Administrator (EPA Region I), Re New Regional Guidance on Supplemental Environmental Projects. November 5, 1993.

11. Memorandum to Regional Administrators from James M. Strock, Assistant Administrator, Office of Enforcement (EPA), Re Policy on the Use of Supplemental Enforcement Projects in EPA Settlements. February 12, 1991.

12. National Advisory Council for Environmental Policy and Technology (NACEPT) for EPA, Office of the Administrator. December 1992. Building State and Local Pollution Prevention Programs, EPA I30-R-93-001. *Examines status and trends in state and local pollution prevention programs. Analyzes government actions and policies affecting pollution prevention and makes recommendations for promoting pollution prevention.*

12. National Advisory Council for Environmental Policy and Technology (NACEPT) for EPA, Office of the Administrator. April 1993. Transforming Environmental Permitting and Compliance Policies to Promote Pollution Prevention: Removing Barriers and Providing Incentives to Foster Technology Innovation, Economic Productivity, and Environmental Protection, EPA 100-R-93-004.

13. U.S. Congress, Office of Technology Assessment. September 1986. Serious Reduction of Hazardous Waste: For Pollution Prevention and Industrial Efficiency, OTA-ITE-317. *Compares several policy options for promoting pollution prevention. Some discussion of regulatory barriers and incentives to pollution prevention.*

**Massachusetts Documents**

1. Massachusetts Department of Environmental Protection. February 1994. Bureau of Waste Prevention Standard Cover Letter For All Notices of Noncompliance (Policy #BWP-04-009).

2. Massachusetts Department of Environmental Protection. April 1994. Toxics Use Reduction 1993 Reporting Package.

3. Memorandum to Sue Tierney (EOEA) from Steve Pike (EOEA) Re Update on Regulatory Reform Phase I. September 22, 1992. Memorandum to Trudy Coxe (EOEA)

from Steve Pike (EOEA) Re Regulatory Reform. August 27, 1993. *Discuss environmental programs targeted for environmental reform, including the Massachusetts Right-To-Know Act.*

4. Executive Office of Environmental Affairs, Office of Technical Assistance. n.d. The Central Massachusetts Pollution Prevention Project: Summary Report.

**Other Documents**

1. Byers, R.L. "Regulatory Barriers to Pollution Prevention: A Position Paper of the Implementation Council of the American Institute for Pollution Prevention." Journal of the Air and Waste Management Association, 41(4): 418-422, April 1991. *Brief but good discussion of specific regulatory barriers to pollution prevention.*

2. The Business Roundtable. November 1993. Facility Level Pollution Prevention Benchmarking Study. *Examines successful facility-level pollution prevention programs. Recommends maximum flexibility in regulations and legislation to foster implementation of pollution prevention.*

3. Council of Great Lakes Governors, Environmental Defense Fund, and Printing Industries of America. May 1994. Recommendations of the Great Printers Project (Penultimate Version). *Discusses the recommendations of the first project to seek to create a business environment conducive to pollution prevention for an entire industry.*

4. Environmental Defense Fund. January 1994. Putting Prevention First: A Working Paper on EPA's Role in Leading the Nation's Efforts to Prevent Industrial Pollution (Draft). *Offers recommendations for promoting pollution prevention through all EPA activities.*

5. Environmental Defense Fund. 1986. Approaches to Source Reduction: Practical Guidance From Existing Policies and Programs. California Institute of Public Affairs, Claremont. *Discusses regulatory incentives to pollution prevention. Focuses on options to finance pollution prevention through loans, grants, and tax incentives.*

6. Harrison, D., C. Weisman, W. Garber, A. Shorett, and B. Upper. 1989. Hazardous Waste Source Reduction: Industry Perception of Regulatory and Other Impediments. Report by the Northwest Policy Center and Triangle Associates for the Pacific Northwest Hazardous Waste Advisory Council. The Pollution Prevention Research Center in Seattle (206-223-1151) is sending me a copy on interlibrary loan.

7. Minnesota Office of Waste Management. March 1991. Report on Barriers to Pollution Prevention. *Good discussion of regulatory barriers to pollution prevention. Also examines opportunities for government as a P2 role model.*

8. Minnesota Office of Waste Management. January 1993. Toxic Chemical Use Report.

9. Minnesota Office of Waste Management. February 1994. 1994 Pollution Prevention Evaluation Report.

10. National Environmental Law Center. 1993. Rating States' Toxics Use Reduction Laws.

11. The National Roundtable of State Pollution Prevention Programs. February 1994. Measuring the Effectiveness of State Pollution Prevention Programs.

12. New Jersey Institute of Technology, Office of Public Affairs. n.d. The Economic Impact of Environmental Statutes, Rules, and Regulations on New Jersey Industry: Recommendations Summary.

13. New York State Environmental Conservation Committee et al. March 1994. Making Environmental Regulations Work for New York's Economy and Environment. *Report on hearings before the committee.*

14. Ohio EPA, Office of Pollution Prevention. September 1993. Pollution Prevention and Waste Minimization in Ohio EPA Enforcement Settlements.

15. Ross & Associates Environmental Consulting, Ltd. for the Oregon Department of Environmental Quality. April 1994. Enhancing Technical Assistance and Pollution Prevention Initiatives at the Oregon Department of Environmental Quality (Final Report). Includes Technical Appendices I and II. *Good theoretical analysis of barriers and incentives to pollution prevention. Some discussion of barriers and incentives in selected areas of waste generation.*

16. Wisconsin Department of Natural Resources, Bureau of Research. December 1990. Reducing Hazardous Waste in Wisconsin: A National Literature Review and Bibliography on the Barriers and Incentives for Reducing Hazardous Waste. *Good annotated bibliography of articles relevant to defining and distinguishing barriers and incentives to waste minimization and publications addressing ways to reduce hazardous waste generation in specific industries.*

17. Wisconsin Department of Natural Resources, Bureau of Research. March 1991. Reducing Hazardous Waste in Wisconsin: a Summary of the Barriers and Incentives Wisconsin's Firms Encounter.

## APPENDIX: "Existing Controls on Toxics Use"

# Existing Controls on Toxics Use

DRAFT

The First Annual Report on Laws and Regulations

Pertaining To Chemical Production and Use,

Hazardous Waste, Industrial Hygiene, Worker Safety, Public

Exposure to Toxics, and Releases of Toxics Into the Environment.

Administrative Council on Toxics Use Reduction

Commonwealth of Massachusetts

January 1, 1991

**Acknowledgments**

This document was prepared for the Administrative Council on Toxics Use Reduction by Richard Reibstein, Esq. of the Office of Technical Assistance. Assistance in the preparation of this document was provided by Heidi Dolan of the Department of Labor and Industries, Michael Feeny of the Department of Public Health, Alycia Papke of the Executive Office of Environmental Affairs, Alyssa Katz of the Department of Environmental Protection, and Scott Colby of the Executive Office of Environmental Affairs.

To obtain a copy of this document, contact

For further information, contact

## Introduction

The 1989 Toxics Use Reduction Act established the Administrative Council on Toxics Use Reduction to ensure the proper administration of the new law. Its responsibilities include oversight of expenditures, and recommendations on the Act's implementation. It is also mandated to determine how state programs should be coordinated to promote toxics use reduction in the Commonwealth most effectively.

The Toxics Use Reduction Act establishes a goal of reducing the generation of toxic waste in the Commonwealth by fifty percent by the year 1997. The method by which this waste will be avoided is a new approach of reducing the use of toxic materials before they become pollution, cause occupational illness, or become incorporated into products. The Act requires reporting and planning by users of large quantities of toxic materials, and allows the state to set performance standards, which members of designated "priority user segments" must meet. But not all of the law's requirements target industry.

Some of the Act's focus is on what government must do. Section 8 of the Act requires all state agencies to review the programs and regulations to ascertain how toxics use reduction can be promoted and achieved, and to make toxics use reduction the preferred method for achieving program goals that pertain to toxics production and use, hazardous waste, industrial hygiene, worker safety, public exposure to toxics, and release of toxics into the environment. In short, to change the focus from control after the fact to prevention before the fact.

Section 8 also requires agencies to submit to the Council recommendations for coordinating toxics use reduction efforts in each agency with the DEP's toxics use reduction work, and the work by two other bodies created by the Act, the Toxics Use Reduction Institute at the University of Lowell, and the Office of Technical Assistance of the Executive Office of Environmental Affairs.

By January 1, 1992, all agencies must to the extent feasible coordinate reporting requirements and guidelines that concern the manufacture, use or release of toxic or hazardous substances in a manner consistent with recommendations of the Council. All relevant agencies must also develop on a biennial basis, "a multi-media inspection manual and training program for all inspectors on multi-media team inspections related to toxics. Where feasible, inspector training shall include cross-training with other agencies that administer toxics-related inspections.

Section 4 of the Act establishes the Administrative Council and specifies what it must do. The Council is invested with the task of promoting increased efforts to enforce laws that relate to toxics use and with determining how state efforts should be coordinated to promote toxics use most effectively.

To begin the process of bringing all state agencies into a concerted pollution prevention effort, the Council is required to identify on an annual basis, beginning January 1, 1991, all state and federal laws and regulations pertaining to chemical production and use, hazardous waste, industrial hygiene, worker safety, public exposure to toxics, and releases of toxics into the environment. It must identify state agency and POTW requirements for reporting on chemical use (as defined above). It is also required to make recommendations to state agencies and POTW operators on standardizing, consolidating, and coordinating these reporting requirements "to minimize unnecessary duplication and provide for up-to-date and consistent information about manufacturing, worker exposure, distribution, process, sale, storage, disposal, release or other use of chemicals on a facility, regional and statewide basis."

The Council is also responsible for making policy recommendations in an annual report to the Governor which reviews the progress of the act, and "may comment on all proposed regulations pertaining to" toxics use and related issues.

## Status of TURA

At this time, the state's toxics use reduction effort is in a vigorous start-up phase. In brief, the Toxics Use Reduction Institute at the University of Lowell has begun holding conferences, publishing a newsletter, and development of TUR curricula. The Office of Technical Assistance has established a resource library, has held workshops, has trained inspectors, and is conducting technical outreach and assistance programs. The Department of Environmental Protection has dedicated staff to TUR, has surveyed the state's toxics users, and is developing guidance for those that must engage in toxics use reduction planning. DEP has also begun to meet the requirements of TURA Section 3, which mandates that it consolidate its information on a computer system and standardize its inspection, enforcement and reporting activities. The Council has met to identify funding needs under the Act and to set fees so that the required level of funding will be reached.

Notably, industry representatives have been invited to participate and have participated in the formation of guidance and policy under the Act. Some companies have even agreed to test out toxic use reduction planning in advance of the requirements taking force, in order to inform the development of guidance materials and regulations.

## Changing Reporting Requirements

Changing reporting requirements is a large undertaking. Changes in existing reporting requirements must not cause deficiencies in the information needed by the state. New reporting forms must accomplish the purposes that the old forms accomplished. TURA establishes a framework within which this work can proceed.

The Council is not the only body with responsibility for identifying chemical reporting requirements. This responsibility is also given to DEP and all state agencies. (DEP is authorized by the Act to seek unified reporting and enforcement authority from EPA on federal toxics laws and regulations). Each agency, therefore, has the opportunity to make sure that new reporting requirements meet their statutary mandates and their operational needs.

This report is intended to serve as the basic tool for agencies and the Council to use in the process of consolidation, coordination and standardization of chemical use reporting. It lists all relevant requirements, describing every provision of state regulations wherein a person using toxic materials must take an affirmative step of transmitting information to an authority.

## RELEVANT LAW

Land Application of Sludge and Septage. 310 CMR 32.00. Authority under M.G.L. c. 21, 21A, 111, and 30A. C. Regulations also affect c. 83. Department of Environmental Protection.

## BRIEF DESCRIPTION

Sludge and septage may be disposed of on land but only in such a way that pathogens, metals, and toxic chemical compounds will not endanger public health.

## REPORTING REQUIREMENTS

Approval of Suitability. 32.11. No one may use, sell, or distribute sludge or septage unless they have obtained an Approval of Suitability from the DEP.

32.13. Application concerning sludge must contain detailed report on the facility's flow and its sampling program, and include a listing of industrial discharges to the facility. Application concerning septage must describe by quantity and quality all materials from industrial and commercial sources. Both applications must describe stabilization process. Both must sample for at least six months and test for specific pollutants, for example PCBs and metals. Unless land application is not near water resources sampling must be for organic chemicals for which drinking water standards or guidelines exist. Results of analysis must be sent to DEP and boards of health in relevant towns immediately upon receipt.

Soil Texture. 32.21 (1). No application of Type II or III sludge or septage is allowed on land whose soil has coarse sand unless approval is granted by DEP expressly and in writing.

Slope. 32.21 (7). No application without prior express written approval by DEP of Type II or III sludge or septage on land whose slope exceeds 8 percent from the horizontal plane.

Water Supplies. 32.22. Application within 2,500 feet of well used as public water supply or high water mark of Class A water may be approved if applicant persuades DEP there is no pollution risk (hydrogeological studies are necessary) and DEP expressly and in writing approves.

Lead. 32.23 (1) (f). DEP may approve land application of Type II or III sludge or septage at a rate that allows lead to accumulate to the point that the cation exchange capacity of the soil is five or more milliequivalents per 100 grams. Applicant must persuade DEP significant risk is not involved and DEP must expressly approve the application in writing.

Certificate. 32.25. No one may apply Type II or III sludge or septage to the land without a certificate from DEP. The certificate is specific to the site of application. Applicants to DEP must submit copies of the application to the board of health in the town where the site exists. Applications consist of detailed information about the sludge, the site, transportation, and application.

Recording Notice in Registry. 32.26. Anyone land applying Type III sludge or septage or who owns land on which it is applied shall record in the registry of deeds (or registry section of land court) a notice of such application. This must happen before the land is conveyed or lease, within 30 days after the certificate expires, or immediately after sludge is applied if it was applied without a certificate, in violation of the law.

Storage. 32.30 (2). No sludge or septage can be stored within 2,500 feet of public water supply (existing, planned, or potential), unless DEP has been persuaded by hydrogeologic study that there is no risk of contamination.

32.31 (1). No sludge or septage may be stored for more than 42 days unless the local board of health has approved such storage expressly and in writing. (Except for storage in compliance with a DEP permit at a wastewater treatment facility).

32.31 (2). DEP approval is necessary of plans for storage.

Type I Sludge. 32.51. No one can sell or distribute Type I sludge or septage unless DEP has approved the sludge as Type I sludge and it has issued an Approval of Suitability.

Sale or Distribution of Type II Sludge. 32.52. Both the Approval of Suitability and the Land Application Certificate are necessary. Each person selling or distributing must provide the recipient with information about the Approval of Suitability and the most recent analysis of the sludge.

Molybdenum. 32.51 (6). Type III sludge or septage with more than 10 parts per million molybdenum must be specially approved for sale by DEP on condition that users are warned that forage crops may accumulate levels of molybdenum toxic to ruminants.

Boron. 32.51 (7). If Type III sludge or septage has more than 300 parts per million boron a written list of suitable crops must be provided.

Annual reports. 32.60 (2) (c). Each owner or operator must submit to DEP an annual report including information relating to application required by 32.60. Reports are due February 1.

32.60 (3). Anyone selling or distributing Type I sludge shall report annually the information on distribution that it is required to keep. (Includes name and address of all recipients of more than five cubic yards)

32.60 (4). Anyone selling or distributing Type II or Type II sludge or septage must submit annual report to DEP of information on land application required to be kept by 32.60. (Includes crops and animals that grazed on land in question).

32.60 (5). Anyone who uses Type II or III sludge or septage shall keep information on land application and submit an annual report to DEP. Reports are due February 1.

Laboratories. 32.70. Analyses performed to comply with this regulation must be by laboratories deemed acceptable by DEP. Deviations from DEP approved analytical methods must be approved in advance

## RELEVANT LAW

Pretreatment Regulations, Clean Water Act. 40 CFR 403. (Federal Water Pollution Control Act as amended by Clean Water Act of 1977. Part 403 - General Pretreatment Regulations for Existing and New Sources of Pollution). 50 (?) of 110 (?) Publicly Owned Treatment Works (POTWs - municipal or regional sewage treatment facilities) in MA have approved programs.

## BRIEF DESCRIPTION

Discharges of pollutants to POTWs are limited to prevent interference with its operation, its use or disposal or municipal sludge, and to prevent passage of pollutants through to receiving waters. Purpose of law is also to improve opportunities to recycle and reclaim municipal and industrial wastewaters and sludges. Prohibitions on discharge of fire and explosion hazards, corrosives, and oxygen demanding pollutants apply to all dischargers (403.5 (b)); and limits on specific pollutants are set for categories of industrial users (403.6).

## REPORTING REQUIREMENTS FOR CATEGORICAL INDUSTRIAL USERS

Baseline Report. 403.12 (b). When a new discharge limit is set under section 403.6 (National Pretreatment Standards) for a category of dischargers ("categorical pretreatment standard"), industrial users in that category must submit information showing flow and results of sampling and analysis showing concentration of the pollutants for which limits have been set. NOTE: reporting on mass of pollutants may be required by the standard or authority.

Existing industrial users have 180 days after standard is set to report, new sources must report at least 90 days before beginning discharge. New sources must report on the method of pretreatment to be used to meet the standard and existing sources must report on schedule for implementing new pretreatment if necessary.

Reports include schematic process diagram showing points of discharge; list of environmental control permits: time, date and place of sampling and analysis, and certification that standards are being met. Submittal is to POTW if it has approved program, if not, to (Massachusetts Department of Environmental Protection, Director, Division of Water Pollution Control or to EPA?).

Compliance schedule. 403.12 (c). When an industrial user submits a schedule for construction of new pretreatment, it must submit timely progress reports on the hiring of an engineer, completion of plans, execution of contract, or other discrete steps towards completion of the project. Such reports must be submitted by two weeks after each date in the schedule and must state whether compliance has been achieved or if it has not, when it will be, and the reason for delay.

Deadline compliance report. 403.12 (d). Existing industrial users submit certified report on flow and concentration of pollutants 90 days after deadline for final compliance. New sources submit right after beginning discharges.

Periodic compliance reports. 403.12 (e). Reports on nature and concentration of pollutants limited by categorical standards submitted by industrial users in June and December each year, more frequently if required by the regulating authority.

Notice of potential problems. 403.12 (f). All industrial users shall notify the POTW immediately of all discharges that could cause problems to the POTW.

Notice of violations. 403.12 (g)(2). If sampling performed by the industrial user indicates a violation, the user must notify the authority within 24 hours of becoming aware of the violation. Sampling and analysis must then be repeated and submitted within 30 days, unless the authority does the sampling.

Notice of substantial change. 403.12 (j). All industrial users must promptly notify the POTW if there is a substantial change in volume or character of pollutants in their discharge.

## REPORTING REQUIREMENTS OF NONCATEGORICAL INDUSTRIAL USERS

Appropriate reporting. 403.12 (h). The Control Authority, (that is, the POTW if it has an approved pretreatment program, or the EPA, or the state if the EPA has delegated authority), may require appropriate reporting from industrial users that are not in categories set by the National Pretreatment Standards.

Notice of potential problems. 403.12 (f). All categorical and non-categorical industrial users shall notify the POTW immediately of all discharges that could cause problems to the POTW. This includes release of prohibited pollutants.

Notice of substantial change. 403.12 (j). All industrial users must promptly notify the POTW if there is a substantial change in volume or character of pollutants in their discharge.

## REPORTING REQUIREMENTS OF POTWS

Annual reports. 403.12 (i). Report to (STATE EPA BOTH) shall include a list of industrial users discharging to the POTW that are subject to categorical and local limits; a summary of the status of their compliance, and enforcement actions taken by the POTW; whatever else is deemed relevant by the (STATE EPA).

Compliance reports. 403.12 (k). POTW which under 403.8 is required to establish a pretreatment program (has total design flow greater than 5 million gallons per day and receives pollutants which are passing through or interfering with its operation or is otherwise required by the authority to set up a pretreatment program) must report on its progress towards establishing a program 14 days after each increment of progress detailed in its compliance schedule. No increment can be greater than 9 months.

## RELEVANT LAW

Pesticide Regulations. 333 CMR 1.00 - 11.00. Authority under M.G.L. c. 132B. Department of Food and Agriculture (F & A), Pesticide Board.

## BRIEF DESCRIPTION

Regulations administer the Massachusetts Pesticide Act, which follows the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) in regulating labeling, distribution, sale, storage, transportation, use, application and disposal of pesticides.

## REPORTING REQUIREMENTS

### EXPERIMENTAL USE PERMITS

7.03 (1). Permits are required for pesticide experimentation out-of-doors, in greenhouses, and with domestic animals.

New Chemical. 7.03 (3) State permit is required in addition to federal permit for experimentation with new chemicals. Permit required even when exempted under federal law.

Unregistered Uses and New Products. 7.03 (4) (a). If application is on plot size between one quarter and ten acres and is at a rate higher than the rate registered by EPA for any use of the compound, state experimental use permit is required. When plot size is over ten acres, or when application is by aircraft, permit is required for all experiments involving and unregistered use or a new product.

Greenhouses. 7.03 (4) (b). State experimental use permit required when new chemical is applied to more than 100 sq. feet of greenhouse bench space of plant material and when new product or unregistered use is involved in application over that area at a rate higher than EPA registered rate for active or inert ingredients.

Animals. 7.03 (4) (c). Permit necessary when more than ten individuals of a large species (cow, hog, sheep, horse, etc.) or 25 individuals of small species (cat, dog, etc.) or 50 individuals of poultry are to be treated with either or new produce or an unregistered use compound (for which the rate is greater than the registered EPA rate for that active ingredient's use on any other species of animal). Dedicated research facilities testing pesticides are not included.

Public notice. 7.04 (4). When pesticide is applied under experimental use permit, signs must be posted along the perimeter and at every principle entrance on a public road warning the public of pesticide testing.

Adverse effects. 7.04 (6). Permittee shall report immediately any adverse effects from use of or exposure to pesticide.

Registration. 7.04 (8). Establishments in which pesticide products under state experimental use permits are produced shall be registered as required by 40 CFR 167.2 (a).

Application. 7.06. Applications for experimental use permits are to the Subcommittee of the Pesticide Board and must contain detailed information including dosage rates, flora, fauna, sites, modes of application, storage and disposal. Applicant shall propose duration (short of a year), and must apply for renewal before expiration.

Six Month Report. 7.09. Within six months of the conclusion of the experimental pesticide treatment or expiration date of the permit, applicant will report data of experimentation, including dates applied, quantities used, disposition of containers and unused pesticides, and indications of adverse health or environmental effects. Any indication of adverse effects to humans or environment must be reported immediately.

REGISTRATION

8.03. No one may distribute, purchase, or use a federally registered or special local needs pesticide in Massachusetts that has not been registered by the Subcommittee of the Pesticide Board. Does not apply to experimental use permit and pesticides being made into a registered product.

State Limited Use. 8.05 (3) (c). Registered pesticides are classified by the Subcommittee. Those classified as State Limited Use require permission from the Department prior to each use.

Amendments and Supplements. 8.05 (6). If FIFRA is amended to require changes or additions to registration applications, the state application must also be changed.

DEALER LICENSING

Restricted and limited use. 9.03. A license is necessary to distribute pesticides classified as for restricted or state limited use.

Registered pesticides. 9.04 (1). No pesticides not registered by the Subcommittee shall be distributed (see 8.03).

Certification. 9.04 (4). No restricted or state limited use pesticides shall be distributed to anyone not appropriately certified to use the pesticide.

Examination. 9.05. Passing a written and possibly an oral examination is necessary to obtain a pesticide dealer's license.

Application. 9.05 (2). Within one year of being notified of passing the examination or of being exempted from having to take the examination, applicant may apply for licensing. Time limit may be waived for good cause, otherwise examination must be taken again.

Annual reports. 9.08. Record keeping requirements include identifying pesticides and quantities purchased, and if deemed necessary by F & A, licensee may have to report this information annually.

CERTIFICATION AND LICENSING OF APPLICATORS

Registration. 10.03 (1). No one may purchase or use a federally registered pesticide that has not been registered by the Subcommittee, except when an experimental use permit has been granted.

Certification. 10.03 (2). Certification is necessary for use of a pesticide classified as for restricted or state limited use. Individual may use if under direct supervision of certified applicator. Does not apply to laboratory research, physicians or veterinarians performing their normal practice.

Commercial Use of General Use Pesticides. 10.03 (3). No one shall use as a commercial applicator any general use pesticides without certification or licensing.

Inquiries and Notice Regarding Apiaries. 10.03 (13). No one may spray or apply pesticides to fruit trees, alfalfa, clover, or trefoil grown as field crops while in bloom or other appropriate circumstances without making reasonable inquiry as to presence of apiaries in the immediate vicinity. Reasonable efforts to provide prior notification to owners of apiaries must be made unless spray is blossom thinning spray, fungicide, or pesticide bearing no label warnings of harmful effects on bees.

Surface Waters. 10.03 (16). Authorization from the DEP is required before any intentional application of pesticides to surface waters or their tributaries used for public water supply.

Restricted Use. 10.03 (19). Restricted or state limited use pesticides sahll not be applied to areas in excess of 25 acres unless notification has been given to F & A and approval has been granted. Notification in a local newspaper of proposed aerial application must be given to members of the public residing on lands within target area or adjacent lands. Notification must be given to the local Superintendent of Pest Control. Emergency situations may require a waiver.

10.03 (2). When restricted or state limited use pesticide is applied to agricultural commodity within 50 feet of public road or to a site with at least 400 feet of frontage on a public road, public notice of application must be given by postage of signs stating "Caution, Restricted Pesticide In Use." Signs may not be removed sooner than 72 hours after spraying.

Aerial Spray Notification. 10.03 (21). Except in production of agricultural commodity no aerial spray is allowed without notification in local newspaper in which legal notices are normally published, no later than two days before the application and no sooner than ten days before. Notice must be given to F & A and the local Superintendent of Insect Pest Control.

Designation for Exclusion. 10.03 (22). Private property may be designated for exclusion from application. Steps must be taken to communicate to applicator demarcation of excluded land.

Aerial Spray Permit. 10.03 (23). Permits are required for all aerial spraying except that which is exempted, such as under the state's mosquito control program.

Informing Employees of Hazards. 10.03 (25). Certified or licensed applicators have a duty to inform employees of hazards involved in handling pesticides.

Microencapsulated methyl parathion. 10.03 (28). Permit is necessary for each use. None can be sold except to a holder of a permit to use this pesticide.

Termites. 10.03 (29). Building inspector must be informed before any subsurface pesticide applications are made to control subterranean termites to structures with exposed soil areas in basements or crawl spaces, and other structures such as foundations with holes, cracks or voids, or with intra or subslab heating ducts or hollow masonry block foundations.

Providing Information Before Application to Residential Lawns. 10.03 (30). Before agreeing, or renewing an agreement to apply pesticides to residential lawns, the applicator must provide the contracting entity with information relating to safety to humans and the environment concerning the pesticide used. When F & A has not specified what that information must be, the applicator shall provide copies of the pesticide label, the material safety data sheet, the EPA fact sheet, and if available, relevant part of these regulations. Opportunity to request prior notification of spraying must be provided. After application, information about what was applied and advised precautions must be left with residence, and signs must be posted at conspicuous points of entry on the property.

Nonresidential properties. 10.03 (31). Similar requirements as above.

Agricultural Aerial Applications. 10.03 (32). No agricultural aerial applications of pesticides may be made by fixed wing aircraft unless a valid permit has been obtained from F & A for the field to be treated. Public notice by the posting of signs must be given when application is to a land within 500 feet of a protected area defined in 10.02 (residences, schools, etc.)

Categorization. 10.04. Applicators must be certified for application in the category appropriate to the pesticide use.

Private Applicators. 10.06. Certification is also necessary for noncommercial use of a restricted or state limited use pesticide for production of an agricultural commodity.

Financial Responsibility. 10.14. In order to obtain or renew a license or commercial certification, an applicant must submit an attestation by an insurance broker certifying coverage on behalf of applicator sufficient to meet standards set forth in the regulations.

10.14 (9). An applicator shall notify F & A in writing when insurance is altered, revoked or amended.

Record keeping and Annual Reports of Accidents and Illness. 10.15 (3). Annual reports of required record keeping (10.15 (1) (a) - (k)) may be required if F & A deems it necessary. All certified commercial and private applicators, and all licensed applicators or their employers must submit annually their records on accidents or incidents resulting from use of a pesticide which caused pollution, and on any illnesses or injuries caused by or suspected to have been caused by pesticides and reported to the applicator.

Immediate Notification of Significant Events. 10.15 (4). **Immediate** notification (no later than 48 hours in any case) of F & A is required when any applicator learns of significant accidents, injuries, incidents, or illnesses.

RIGHTS OF WAY

Certification. 11.03 (1). No one may use an herbicide to clear or maintain a right-of-way unless certified or licensed by F & A.

11.03 (2). Above use must also be in accordance with a Vegetation Management and Yearly Operating Plan approved by the Department. (11.05 and 11.06 describe applications for these plans). These plans must be carried during herbicide application and supplied upon reasonable demand to officials of F & A, Board of Health, and Conservation Commission.

Public Notification. 11.07. At least 21 days before application of herbicide to right-of-way, applicant shall provide notice by registered mail to the Mayor, City Manager or Chair of Board of Selectmen, Board of Health, and Conservation Commission in the affected municipality.

RELEVANT LAW

Underground Steel Storage Tank Dismantling Yards. 502 CMR 3.00. Department of Public Safety. (Authority: M.G.L. c. 148, s. 38A).

BRIEF DESCRIPTION

Any junkyard, wrecking yard, salvage yard, or other facility where underground steel storage tanks are dismantled, must hold licenses or permits from local authorities and be approved by the state Fire Marshal and inspected by local fire department. The regulated tanks and associated piping are those with ten percent of volume below ground and which have been used to contain regulated flammable substances.

REPORTING REQUIREMENTS

Transporters. 3.03 (4). Anyone transporting a leaking tank shall provide the head of the fire department with a receipt of the disposal location.

Fire department. 3.03 (10). The head of the fire department shall notify the regional office of DEP if there is evidence of gasoline, oil, or any other product leaking into the soil. Excavation may not be refilled until inspection.

Parties responsible for spills. 3.03 (11). Anyone responsible for a spill or release of hazardous waste material or oil must notify DEP pursuant to M.G.L. c. 21E.

Tank yard operators. 3.03 (14). Tanks must be dismantled within two working days. Approval of the fire department head must be obtained if there is delay.

## RELEVANT LAW

Dry Cleaning and Dry Dyeing and the Keeping, Storage, and Use of Cleaning and Drying Fluids. 527 CMR 3.00. Authority under M.G.L. c. 148, s. 10. Department of Public Safety.

## BRIEF DESCRIPTION

To prevent accidents, spills, fire, explosion, and contamination by controlling the storage and use of the hazardous materials utilized in dry cleaning operations.

## REPORTING REQUIREMENTS

Establishment of operations. 3.03 (3) (a). Before any dry cleaning plant is established or built, before any class of solvent is changed or any existing plant is remodelled, plans and specifications must be submitted to fire department.

Class A solvents. 3.03 (5). Dry cleaning plants or systems using Class A solvents are prohibited except when by permission of the fire department head, who must determine that such use does not constitute a distinct hazard to life or adjoining property.

## RELEVANT LAW

Oil Burning Equipment. 527 CMR 4.00. Authority under M.G.L. 148 s. 10. Department of Public Safety.

## BRIEF DESCRIPTION

Fuel oil burners must be installed and maintained in accordance with safe engineering practice, such as limits on maximum storage amounts, installation by certified technician, and use of fuels for which the burner is designed.

## REPORTING REQUIREMENTS

Storage. 4.02 (2) (b). Fuel oil in excess of 10 gallons shall not be stored in or adjacent to a building or other structure without a permit from the Fire Marshal.

Burner approval. 4.02 (2) (c). No fuel oil burner can be installed without approval by the Fire Marshal. Application for approval must have complete assembly drawings and specifications. New application necessary for change in model or design of burner, and approval necessary for connecting device or equipment not described in original application ((2) (d) and (e)).

Installation. 4.02 (2) (g). Installation and alteration of any fuel oil burner requires application for a permit to the fire department head. Affirmation necessary that work will be done by certified technician, and submission of evidence that installation or alteration is approved by fire marshal. Emergency alterations or installations are allowed, but application must be made in a timely manner afterwards. Upon completion of the installation a certification form provided by the Marshal must be filed with the fire department ((2) (i))

Maximum fuel. 4.02 (2) (h). Keeping over 10,00 gallons of fuel oil is not allowed without a license under M.G.L. c. 148. s. 13 from the Board of Fire Prevention Regulations. A permit is necessary for any amount

## RELEVANT LAW

Construction and Maintenance of Buildings or Other Strucures Used as Garages, Service Stations and the Related Storage, Keeping, and Use of Gasoline or Other Motor Fuel. 527 CMR 5.00. Authority under M.G.L. c. 148, s. 9, 10.

## BRIEF DESCRIPTION

Restrictions on how gasoline, other petroleum products, and flammable liquids must be handled at facilities related to motor vehicles. No fuels may be allowed to flow upon the floor or into the drainage system. (5.05 (19).

## REPORTING REQUIREMENTS

Leaks, overflows, spills. 5.05 (2). **Immediate** notification of the head of the fire department is required in the case of a leak, rupture, spill, overflow or other accident involving the handling of flammable liquids.

Unexplained Loss or Gain in Underground Storage Tanks. 5.05 (3) (d). Any abnormal loss or gain not explainable by spillage, temperature variations or other cause must be reported by operator to fire department and owner or person in control of facility.

## RELEVANT LAW

Liquefied Petroleum Gas Containers and Systems. 527 CMR 6.00. Authority under M.G.L. c. 22, s. 14; c. 148, ss. 9, 10, 28. Department of Public Safety.

## BRIEF DESCRIPTION

Design, construction, location, installation, and operation of liquefied petroleum gas systems must meet minimum standards for the protection and safety of the public.

## REPORTING REQUIREMENTS

Installations. 6.04 (1). All LP-Gas installations must be approved by State Fire Marshal.

6.04 (3). LP-Gas installations having a product vapor pressure greater than that allowed for commercial propane, each measured at 100 degrees Farenheit must be approved by Marshal.

6.08 (1). No installation or connection to LP-Gas equipment can be performed without a permit from fire department head, except for replacing portable containers or filling stationary containers. Application is in name of owner or occupant of premises, and certification in writing must be made to fire department that work has been completed and in conformity with 527 CMR 6.00.

License. 6.08 (2). 2,000 gallons in the aggregate of LP-Gas is the maximum amount that may be kept with a permit. Keeping above that amount necessitates acquiring a license from or registering with the local licensing authority (see M.G.L. c. 148 s. 13).

Emergency reporting. 6.04 (1) and (2). All LP-Gas installations with over 23 gallons capacity must have a marker plate or sign showing who should be called in the case of an emergency. Name and telephone numbers of supplier, installer, owner and operator must be displayed. These parties must maintain 24-hour phone service and respond when notified of emergencies.

## RELEVANT LAW

Transportation of flammable liquids. 527 CMR 8.00. Authority under M.G.L. c. 148, ss 9, 10; c. 22, s. 14. Department of Public Safety.

## BRIEF DESCRIPTION

Providing for safe transport of Class A and Class B flammable liquids by tanker, pipeline, or any other method. Class A: any flammable liquid having a flash point below 100 degrees Fahrenheit. Class B: flash point between 100 and 187 degrees F.

## REPORTING REQUIREMENTS

Cargo tanks. 8.03 (1). No cargo tanks can be used to transport Class A or B liquids or gases unless approved by Fire Marshal.

Pipelines. 8.16 (1). No pipeline constructed after (EFFECTIVE DATE OF THESE REGS) may be used for Class A or B liquids unless approval to construct has been granted by Fire Marshal.

Other. 8.17 (3). Persons wishing to use vehicles other than those approved in section 8.03 must apply to Fire Marshal, using a form furnished by DPS.

RELEVANT LAW

Tanks and Containers of flammable liquids. 527 CMR 9.00. Authority under M.G.L. c. 22, s. 14; c. 148, ss. 9, 10, 28 and 37. Department of Public Safety.

BRIEF DESCRIPTION

Stated intent is to prevent fire and explosion from leakage due to improper design, installation, testing, and maintenance of tanks and containers. The regulations protect environmental resources, particularly groundwater, from contamination, by requiring prevention of leakage and containment and detection equipment and practices.

REPORTING REQUIREMENTS

Aboveground tanks greater than 10,000 gallons capacity. 9.03 (1). Anyone constructing such a tank for a liquid other than water must submit plans and specifications in application for a permit from the Commissioner of the Department of Public Safety. Information will include location near sewers, rivers, or any other waters.

9.03 (2). No substantial modifications of such tanks without approval by the Fire Marshall.

Underground Tank Installation. 9.10 (1). No new or replacement tank or piping shall be installed without notice by owner to the head of the fire department. No new or replacement tank or piping can be buried or concealed unless it has been inspected by the fire department.

9.10 (2). Contractor must have written certification from manufacturer or a petroleum equipment association to install new or replacement tanks. The certification must be submitted to the fire department before the work is done.

9.10 (5). Air pressure testing must be performed before burial. Copies of these tests and all subsequent required testing (see 9.13) must be furnished to head of fire department.

Leak Detection. 9.11 (2) (c) (ii). When an approved double-walled tank with an interstitial monitoring system has been installed, the tank does not need annual tightness testing. But if the interstitial monitor activates, the owner or operator must immediately notify the fire department.

Inventory. 9.12 (c) (vii). When in the course of mandated daily inventorying of product, a discharge, leak or threat of release is discovered, operator shall immediately notify the owner, and either one must immediately notify the fire department.of the Office of Incident Response of DEP. (See 9.20).

Tightness Testing. 9.13 (2). If tightness testing (for different kinds of tanks there is a different multi-year schedule) discloses a leak or loss that cannot be accounted for, the operator and owner shall immediately notify authorities in compliance with 9.20.

9.13 (9). All tests are to be administered by qualified persons, who must notify the head of the fire department before testing.

9.13 (12). Test results must promptly be supplied to the owner and to the fire department.

Pipelines. 9.19 (1). If intended to carry Class A or B flammable liquids, must be approved before construction by the Fire Marshal.

Response to Leaks. 9.20 (1). Leaks may be found by testing or otherwise. Operator must immediately notify owner, and either one must immediately notify head of local fire department and Office of Incident Response of DEP.

Abandoned or Out of Service Tanks. 9.22 (1). When taking out of service a tank that can't be removed, because it is under a building or removal would endanger another tank, the owner must notify the head of the fire department.

9.22 (2). When a tank is out of service for a time constituting abandonment (Six Months ?? defined in 9.02) owner must immediately notify head of fire department and obtain a permit for removal (and remove subject to directions of fire department and in accordance with hazardous waste regulations 310 CMR 30.00).

9.22 (3) No tank may be taken out of service without prompt notification to the head of the fire department (at direction of fire department, all product must be removed and disposed of in accordance with 310 CMR 30.00). Tank may not be restored to service unless notification is provided to fire department, which may require testing.

Removal of Tanks. 9.23 (1). Within 72 hours of tank removal a receipt for delivery of the tank to site designated on the removal permit must be provided to the grantor of the permit (fire department or Marhal).

9.23 (2). If tank is not going to an approved tank yard, person requesting the permit for removal must provide permit-granting authority written approval for site of disposition. (WHAT IS WRITTEN APPROVAL?)

Upgrading. 9.24 (14). Section 9.24 describes required retrofitting and upgrading (overfill prevention, vapor recovery). Written notification must be given to the head of the fire department before upgrading, clearly describing what devices will be installed.

New Storage Facilities. 9.26 (2). In addition to all other permits required, a new storage facility must obtain a permit from the head of the fire department.

Existing Storage Facilities. 9.26 (3). Owners of underground storage facilities installed before May 9, 1986, must apply to the head of the fire department for a permit to maintain operations. (Exemptions are farm or residential tanks of 1100 gallons capacity or less used for storing motor fuel for noncommercial purposes, and residential or commercial tanks stored or having stored heating oil for consumptive use on the premises). Filing deadline was May 8, 1986.

Replacement or Substantial Modification. 9.26 (4). Not allowed unless approved in writing by fire department head. Application for such approval shall be in writing and clearly describe proposed replacement or modification.

Permit Renewal and Change of Ownership. 9.26 (5) (a). Permits for new and existing storage facilities (9.26 (2) and (3)) must be renewed every five years. Changes in name, address, telephone numbers of owner and operator, in number of tanks and capacity of tanks, and other factors must be included in application for renewal (CHECK THIS - regs confusing).

9.26 (5) (b). Within seven working days a change in name, address, or telephone numbers of owner or operator must be communicated to head of fire department. If ownership is transferred, notification is responsibility of new owner.

Aboveground Waste Oil Storage Tanks. 9.27 (1). License is required in accordance with M.G.L. c. 148, s. 13 (CHECK THIS), and permit from head of fire department if tank has over 500 gallons capacity. Permit is needed to install, maintain, and store. Designs other than as set forth in the regulations must be approved by fire department.

9.27 (2) and (30. Permits required if permanent or removable tank is to be stored inside a building.

Automotive Lubrication Service Centers. 9.28 (1) and (1) (d). License required for storage of flammable fluids in excess of 500 gallons aggregate (M.G.L. c. 148, s. 13).

RELEVANT LAW

Explosives. 527 CMR 13. Authority under M.G.L. c. 22, s. 14; c. 148, ss. 9, 10, 13.

BRIEF DESCRIPTION

No one may keep, store, manufacture, use, transport or handle explosives except as prescribed. Includes chemicals such as perchlorates, fulminate of mercury, nitroglycerine, flammable liquids.

REPORTING REQUIREM

Use and Handling. 13.04 (3). Permit is required for use and handling of Class A and Class B explosives (see definition section of act for list DEFINE BETTER - Class A includes grenades, having over 1,000 blasting caps, T.N.T., various kinds of ammunition: Class B includes smokeless powder in quantities over 100 pounds, ammunition for cannon). Certificate of competency (ELABORATE).

Portable Mixing Equipment. 13.05 (13). Permit from fire department head is necessary to use such equipment as is allowed by 13.05 (12).

Storage on Water. 13.07 (1). No one may store Class A or B explosives on Commonwealth waters without a permit from the Fire Marshal, unless in a magazine used exclusively for the purpose and moored and anchored according to the directions of the Harbor Master. Magazines must meet specifications of 13.08.

Temporary Magazines. 13.08 (1) (b). Permit for temporary explosive magazine must be obtained from Fire Marshal. (Such magazines are typically used at construction sites).

CHECK 13.08 (3).

Nighttime Transport or Delivery. 13.09 (16). No Class A or Class B explosives can be transported or delivered between hours of sunset and sunrise without authorization by Fire Marshal.

Loss by Theft. 13.12 (3). Immediate reporting to the Marshall of loss by theft of any explosive - Class A, B, or C, is required. Must be followed up by a writing.

Accidents. 13.12 (7). Any explosion, fire, or collision in connection with explosives which causes loss of life, injury, or damage to property must be reported to the Marshall and the fire department head immediately, and confirmed by a writing.

RELEVANT LAW

Keeping, Handling and Transportation of Flammable Liquids, and the Disposition of Crude Petroleum or any of its Products in Harbors or Other Waters of the Commonwealth. 527 CMR 15.00. Authority under M.G.L. c. 148, ss. 9, 10. Department of Public Safety.

BRIEF DESCRIPTION

To prevent accidents and contamination occuring due to mishandling or disposal of flammables and petroleum. 15.02 (27) bans discharge by anyone of petroleum or flammables, or bilge or sewage water containing same, into any surface water body, public sewer, drainage system, or into ocean waters within three miles of shore.

REPORTING REQUIREMENTS

Resale. 15.02 (2). Anyone keeping flammable liquids for resale in any harbor or other waters of the Commonwealth must get a permit from the Fire Marshal.

Accident. 15.02 (12). Immediate notification of the fire department required in the event of leak, rupture, spill, overflow or other accideent involving the handling of flammable liquids.

Dispensing. 15.04 (4). Before beginning installation of facilities for dispensing flammable and combustible liquids at piers blueprints must be submitted to the head of the fire department.

## RELEVANT LAW

Flammable Liquids in Bulk Plant Loading and Unloading Facilities. 527 CMR 18.00. Authority under c. 148, ss. 9, 10. Department of Public Safety.

## BRIEF DESCRIPTION

To provide for safe handling of flammable liquids in bulk. Prevention of spills from entering public sewers and waterways is required.

## REPORTING REQUIREMENTS

Waste Disposal. 18.01 (8). Storage is required of crankcase drainings and other flammable or combustible liquids. Removal and disposal must be in a manner satisfactory to the head of the fire department. The head of the fire department shall be guided by the hazardous waste regulations of the Division of Water Pollution Control.

## RELEVANT LAW

Obstructions and Hazards in Certain Buildings and in Public and Private Ways. 527 CMR 25.00. Authority under M.G.L. c. 22, s.14; c. 148, s. 28.

## BRIEF DESCRIPTION

To provide for adequate response to fires and to prevent compounding the hazards during emergencies entrances and passageways must be kept clear. Fire department is given authority to order removal of hazardous materials.

## REPORTING REQUIREMENTS

Hazardous substances. 25.08. Hazardous substances shall not be left unattended within one hundred feet of any building without a permit from the head of the fire department.

The following compilation is of the reporting requirements with which generators must comply under DEP's hazardous waste regulations. Numerous special requirements apply to transporters and hazardous waste facilities, and are not listed here.

## RELEVANT LAW

Hazardous Waste Regulations. 310 CMR 30.00. Authority under M.G.L. c. 21C, ss. 4, 6; c. 211, s. 6; and s. 47 of c. 548 of the Acts of 1987. Department of Environmental Protection (DEP).

## BRIEF DESCRIPTION

Comprehensive regulation of the generation, storage, collection, transport, treatment, disposal, use, reuse, and recycling of hazardous waste.

## REPORTING REQUIREMENTS

Notice Concerning Use of Land for Licensed Hazardous Waste Operations. 30.040 (1). If a license is required by these regulations for storage, treatment, use or disposal; or for construction, maintenance or operation of a facility that requires such a license; the owner of the land affected must record notice of the issuance of such licnese in the Registry of Deeds, or in the registry section of the appropriate land court if the land is registered land. Copy of the notice must be submitted to DEP.

Notice Concerning Past Use of Land for Disposal of Hazardous Waste. 30.040 (2). No land or interest in land on which hazardous waste has been disposed shall be conveyed or leased, nor devoted to any use other than as a disposal site, until notice has been recorded (in registry or land court as appropriate).

Notification of Generation and ID Number. 30.061 (1). Anyone generating hazardous waste except very small quantity generators (30.353) or small quantity generators of waste oil (30.253), and anyone transporting hazardous waste, or who owns or operates a facility for treatment, storage and disposal of hazardous waste, must notify DEP of the activity and obtain an EPA Identification number.

New Notification After Changes. 30.061 (2). Whenever the person who notified is no longer the same person responsible for noufication, or changes name or mailing address, new notification is necessary.

30.064 (1). Generator who only accumulates shall notify department of additional wastes to be generated.

30.064 (2). Transporter who will handle additional wastes not included in initial notification must apply for modification to DEP.

30.064 (3). Owner or operator of facility having interim status where no hazardous waste is incinerated or disposed of by landfill and no hazardous wastes is received from any off-site source, must notify DEP at least 45 days beginning before treatment, storage, or disposal of hazardous wastes not previously identified in part A notifications.

Responsibility of Generator to Send Manifest. 30.099 (1), incorporating 30.313(2). Except for small quantity generators (in compliance) all generators must send to DEP within ten days copy 7 of the manifest form that must accompany hazardous waste shipments.

Ten-Day Notification Recycling Permits. 30.099 (17) (a). Recycling Class A and Class B(4) materials may begin ten business days after the Department has received a properly completed application for the necessary permits (in 30.200).

30.099 (17) (b). If the activity involves transport of Class B regulated recyclable material, such activity cannot begin until the permit is received.

Mixed Waste. 30.099 (20). All activities involving mixed waste must be in accordance with hazardous waste law, as if the waste was not radioactive.

Shipment of Samples Over 200 Kg. 30.099 (23) (b) (6). Shipments of samples above this weight requires a manifest (30.310 - 30.314), and must be carried by a licensed transporter.

Report of Treatability Study Information. 30.099 (23) (b) (8). Information that a generator or sample collector must maintain in connection with treatability studies concerning how and how much hazardous waste was shipped as samples for such studies must be included in its annual report, if the generator or sample collector is a large quantity generator.

Notification of Intent to Perform Treatability Studies. 30.104 (19) (a). Laboratories or testing facilities must apply to the Department in writing before conducting treatability studies and may not begin until written authorization has been received. (DEP will make reasonable attempt to process within 45 days). Applications include documentation that written notification of intent to perform such studies has been given to Fire Department, Board of Health, and Emergency Planning Committee of the city or town where laboratory or facility is located.

Annual Report of Laboratory or Testing Facility. 30.104 (19) (l). By March 15 of each year information on the studies conducted, wastes handled, and disposition of the wastes, and estimates of what is expected in the current year must be submitted to DEP.

Certification of Closure. 30.104 (19) (o). When the laboratory or testing facility no longer plans to conduct treatability studies it must notify DEP by letter and certify compliance with the closure requirements of 30.585, 30.689, 30.698.

RECYCLING REGULATIONS - 30.200

30.205 (8).

RECYCLING REGULATIONS - 30.200

Continuing Duty to Inform. 30.205 (8). Permittees must immediately inform DEP of any incorrect or omitted facts in their applications for recycling permits, and report in advance any planned change that might result in noncompliance with the recycling regulations or the permit, and report cessation of the permitted activity.

Releases Into Environment. 30.205 (9). Immediate reporting to DEP is required of all accidental releases of recyclable material.

Change in Procedure. 30.205 (10). Express written approval from DEP is required for all changes in the procedure of recycling unless described in the application for the permit.

Annual Reports. 30.205 (12). By March 1 all permittees must report to DEP annually. If not submitting annual reports required of Large Quantity Generators or of licensed treatment facilities, report may be in form of letter.

Class A Materials. 30.221. No person shall engage in any activity involving any Class A regulated recyclable material without a Class A permit unless another section of 310 CMR 30.00 so authorizes. The permit only extends to Class A materials.

30.221 (c). Class A generators shall also notify EPA and DEP of their hazardous waste activity (30.060 - 064).

VSQGs. 30.222 (4). Those who generate and accumulate less than 100 kg per month of Class A materials and who generate and accumulate all other regulated recyclable materials and all other hazardous wastes as Very Small Quantity Generators may recycle Class A materials at the site of generation without a permit if they register as VSQGs (30.353 (5)) and notify the DEP of their activity regarding Class A materials.

Class A Generators. 30.222 (5). Those who generate and accumulate less than 100 kg per month of Class A materials and no other hazardous wastes or regulated recyclables may recycle the materials or transport it without license or permit except they must register with DEP by notifying of their activity. Registration shall include name, address and EPA identification number of transferees and information on where and how materials are recycled. Changes must be communicated to DEP.

Application. 30.224. A generator wishing to recycle Class A materials at the site of generation, or to transfer it to another location, or recyclers wishing to receive such material shall submit application as prescribed in this section.

Change in Recyclable Material. 30.225 (1). Permittees shall immediately notify DEP of any change in characteristics, composition, or source of Class A materials that would require it to be managed differently or that the conditions of the permit be changed.

Receipt of Unauthorized Material. 30.225 (4). Permittees authorized to burn specification used oil fuel must immediately notify DEP if they receive off specification used oil or hazardous waste not generated at the site of burning.

Class B(1) Materials. 30.231 (3). Class B(1) permit is necessary for any activity involving Class B(1) materials unless otherwise authorized by 310 CMR 30.00.

Notification. 30.231 (4). Permit holders must also notify DEP and EPA of hazardous waste activity (30.060 - 064).

Application. 30.232 (1). Permit application includes describing whether any hazardous constituents listed at 30.160 are present in concentration greater than 1 mg/liter and not ordinarily present in material when in commercial distribution, and complete description of nearby sensitive receptors.

Outside of Massachusetts. 30.232 (3). Anyone wishing to recycle Massachusetts generated materials outside of Massachusetts shall apply to be a designated B(1) facility. Must include statement that activity is in compliance with laws of relevant state.

Class B(2) Materials. 30.241 (1). Class B(2) permit is necessary for any activity involving B(2) materials unless otherwise authorized by 310 CMR 30.00.

Notification. 30.241 (2). Permits holders must also notify DEP and EPA of hazardous waste activity (30.060 - 064).

Marketers. 30.244 (2). Transferors of hazardous waste fuel to someone that plans to burn it must notify EPA and DEP of this activity before engaging in it.

30.245. Any generator who does not receive hazardous waste from off the site of generation and does not burn, store, treat or blend hazardous waste or hazardous waste fuel who wishes to be a marketer must supply, in addition to information required for Class B(2) permits, copies of certifications received from the person to whom the hazardous waste will be being transferred, which state that that person has notified DEP and EPA and has a currently valid license or permit (30.244 (2) (c)).

Receiving Hazardous Waste Fuel for Burning. 30.246 (2). (In addition to licenses required by 310 CMR 7.00 and 30.00), EPA and DEP must be notified (30.060 - 064) before constructing or operating any site or works for engaging in such activity, and before accepting the first shipment the marketer must be provided with certifications as noted immediately above.

Burning Hazardous Waste Fuel at Site of Generation. 30.247. Generators of hazardous waste fuel that is generated at the site of burning and that is accumulated, not stored (volume, time limits and definitions at 30.340), must include in B(2) permit application information on blending, accumulation, burning facility, sludge management, and copy of approval of burning by DEP's Division of Air Quality.

Hazardous Waste Fuel Handlers. 30.248. License is necessary pursuant to 30.800 or interim status under RCRA for each person not a "marketer" under these regulations who handles hazardous waste fuel he does not generate.

Class B(3) Materials. 30.251. Class B(3) permit is necessary for any activity involving B(3) materials unless otherwise authorized by 310 CMR 30.00.

Notification. 30.251 (2). Permit holders must also notify EPA and DEP of hazardous waste activity (30.060 - 064).

Waste Oil and Used Oil Fuel in Underground Storage Tanks. 30.253 (1) (h) (2). If testing as required every 30 days reveals more than a half-inch drop in height of the liquid immediate notification of the local fire chief and DEP is required. Results of the test must be submitted to DEP within 24 hours.

Notification or Registration. 30.253 (8). VSQGs of hazardous waste who generate and accumulate waste oil or off-specification used oil fuel in quantities entitling them to the status of a small or very small quantity generator may either use a manifest or a log to record the transportation of the material. If the transporter uses a manifest the generator must notify EPA and DEP of hazardous waste activity (30.060 - 064). If a log is used the generator must register with DEP.

Transport of waste oil or off-specification used oil fuel. 30.254 (1). No one shall transport these materials without a license to transport hazardous waste.

Monthly Reports. 30.254 (5). Transporters of waste oil or off-specification used oil fuel shall report monthly to DEP the source, amount, and destination of all such materials, no later than the last day of the following month.

Ancillary Generation. 30.254 (6). A person who contracts to perform an activity which results in the generation of waste oil may transport such waste oil without a license (licenses described in 30.402) according to requirements of this section and must register the activity with DEP (VSQG registration, 30.353(5)).

Notification by Marketers. 30.255 (4). Marketers as defined in 30.255 must notify EPA and DEP even if they have already notified under 30.060 - 064.

Certification of Notification. 30.255 (9). Marketers intending to receive off-specification used oil fuel shall give to a marketer sending such material a written statement certifying that EPA dn DEP have been notified of used oil fuel activity.

Generators of Specification Used Oil Fuel Who Market Used Oil Fuel. 30.255 (11). Such marketers must obtain a license pursuant to 30.800 or have a Class A permit (30.220).

Generators of Off-specification Used Oil Fuel Who Market Off-specification Used Oil Fuel. 30.255 (12). Such marketers must be licensed pursuant to 30.800 or have a Class B(3) permit (30.262).

Burners of Used Oil Fuels. 30.256 (2). Such persons must have a license under 30.800 or a Class A permit.

Generators Wishing to Burn Off-specification Used Oil Fuel. 30.256 (4). Such persons may burn these materials in a fossil fuel utilization facility if generated at the site of burning and if licensed under 30.800 or if in possession of a Class B(3) permit.

Notice and Certifications Concerning Off-specification Used Oil Fuels. 30.256 (6) and (7). Before anyone receives off-specification used oil fuel from a marketer for burning the marketer must provide written notice that EPA and DEP have been notified of their used oil fuel activity. The person burning the oil must provide to the marketer certification in writing that they have notified EPA and DEP of their used oil fuel activity, will burn the fuel only in an industrial or utility boiler or industrial furnace, and has a valid license or permit (specifying which one they have).

Certification Concerning Specification Used Oil Fuel. 30.256 (8). No burning of specification used oil fuel shall take place without either an analysis of the oil or a certification from a marketer that the oil meets specifications set forth in Table 310 CMR 30.216.

Marketers of Off-specification Used Oil Fuel. 30.261. Anyone wishing to be a marketer of such material or otherwise transfer or burn the fuel must apply for a Class B(3) permit and must in addition to such permit application requirements supply information on where the fuel is being transferred or offered for sale, including reference to the approval for burning or marketing held by the transferee, and shall also include a copy of the certification provided under 30.255 (8) (recipients of such fuel must provide certification to transferors that they have notified EPA and DEP of their used oil fuel activity, and that the off-specification used oil fuel will be burned only in an industrial or utility boiler or industrial furnace.

Marketers of Specification Used Oil Fuel. 30.263. Any marketer wishing to receive such material from off the site of generation and then transfer or burn that material must apply for a B(3) permit and in addition to the information required on that application must supply information on where the fuel is to be obtained, (including reference to permits held by marketers that supply the fuel); information on where the fuel is to be transferred, including reference to the approval granted to the transferees; and a statement of how the fuel will be determined to be specification used oil fuel. If the applicant intends to rely on the representation of the generator then a copy of the documentation required to be kept by the generator under 30.222 (3) (b) must be supplied (showing the generator has analyzed the fuel in a manner authorized by DEP).

Notification of Receipt of Off-specification Used Oil Fuel. 30.264 (2). If someone permitted to market specification used oil fuel receives off-specification used oil fuel or any hazardous waste fuel the permittee shall immediately notify DEP and shall manage the material as hazardous waste.

Permits for Burning Off-specification Used Oil Fuel at the Site of Generation. 30.265. Burning such material in any device other than a used oil fired space heater requires a Class B(3) permit. Permit applications must include proof that DEP's Division of Air Quality Control has approved the burning, must describe the characteristics of the fuel, the analytical procedure used, information on how the fuel will be managed so that it is not speculatively accumulated (accumulating before material is recycled or in the hope that it will be without a legally enforceable commitment that it will be recycled - definition set forth at 30.010), and if the fuel is to be mixed with other fuels, a description of how the mixing will occur.

Receipt of Unauthorized Materials. 30.266 (2). Those authorized to burn off-specification used oil fuel at the site of generation must **immediately** inform DEP if they receive any waste oil or hazardous waste fuel from off the site of generation.

Change in Characteristics. 30.266 (4). Permittee shall **immediately** notify DEP if there is any change in characteristics, composition, or source of any used oil fuel that would require the fuel be handled differently or that the permit be modified.