

ENVIRONMENTAL REGULATION OF
MANUFACTURERS IN
OKLAHOMA

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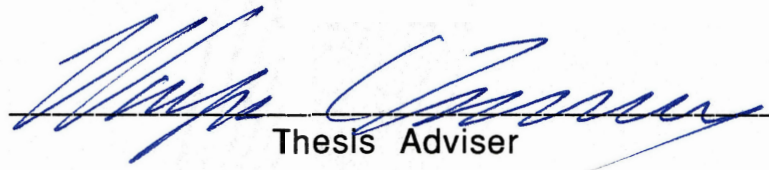
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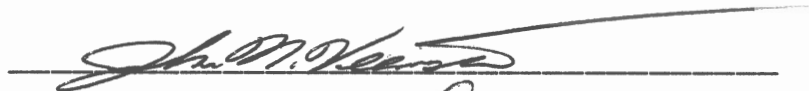
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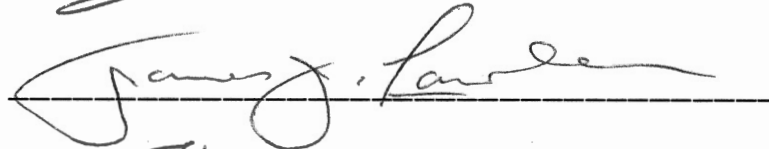
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PREFACE

This study developed an alternative to the current method of environmental regulation enforcement in Oklahoma. The new approach required periodic completion of a Comprehensive Environmental Compliance Review (CECR). The review was required for all companies which were or might have been subject to regulation under the various environmental standards. This approach would be effective because it increases public participation and did not require large commitment of funds or personnel by the regulatory agencies.

Prior to the start of the study I felt it would be adequate to establish qualifications for private auditors/managers and then require that an annual audit be conducted by one of these "qualified" individuals. This method was rejected due to the reliance on individual interpretation of the regulations. It was also clear that defining "qualified auditor" would be nearly impossible. Maintenance of this body of qualified individuals would also be costly and require

manpower commitments on the part of regulatory agencies.

The alternative of a formal pre-approved compliance review document would eliminate the requirement for "qualified" individuals and would also provide a uniform standard. I did conclude that there would still be a role for qualified environmental professionals in the area of program development.

I must express my thanks to Governor Henry Bellmon's Environmental Concerns Council for the thorough review of the regulatory system in Oklahoma. Their work provided a foundation for this study. I would also like to thank Dr. Wayne Turner for his patient guidance and assistance. Without his participation this study would not have been completed or even attempted. I am also grateful to the other members of my committee, for their participation.

Special thanks are in order for my wife Renae who encouraged me and provided the opportunity to complete this study without "little interruptions" and to my children who did not drive their mother crazy.

TABLE OF CONTENTS

Chapter	Page
I. INTRODUCTION	1
Problem Statement	1
Primary Assumption	1
Multiplicity of Agencies	2
Inspection Frequencies	5
Adversarial Approach	6
Proposed Alternative Practices	9
Certification of Environmental Auditors/Managers	10
Comprehensive Environmental Compliance Review	12
Conclusions	17
II. ALTERNATIVES PROPOSED	18
Oklahoma Environmental Concerns Council Regulatory Subcommittee	18
Department of Environmental Management	19
Department of Pollution Control	23
Conclusions	24
Certification of Environmental Auditors	24
Periodic Audits	25
Qualified Auditors	26
Benefits	26
Drawbacks	27
Conclusion	28

Chapter	Page
Oklahoma Department of Environmental Quality	29
Structure of the Department of Environmental Quality	30
Analysis	33
Conclusions	34
III. COMPREHENSIVE ENVIRONMENTAL COMPLIANCE REVIEW	36
Comprehensive Environmental Compliance Review Process	36
Management Awareness	37
Effectiveness of Public Awareness	37
Efficiency for Regulatory Agencies	39
Liability Concerns	40
Areas for Further Investigation	44
IV. RELEVANT ENVIRONMENTAL REGULATIONS	45
RCRA Hazardous Waste Regulations	45
RCRA Underground Storage Tank Regulations	48
SARA Community Right to Know: Emergency Planning and Notification	50
SARA Community Right to Know: Hazardous Chemical Reporting	52
SARA Community Right to Know: Toxic Chemical Release Reporting	54
OSHA Employee Right to Know: Hazard Communication	56
OSHA Laboratory Standard	57
OSHA Hazardous Waste Operations and Emergency Response	59
OSHA Process Safety Management of Highly Hazardous Chemicals; Explosives and Blasting Agents	60
TSCA Premanufacture Notification	61
TSCA Polychlorinated Bi-phenol Control	62

Chapter	Page
CWA Waste Water Discharge Regulations	64
CWA Stormwater Discharge Regulations	65
CAA Air Emissions Permitting/Control	67
CAA Amendments Hazardous Air Pollutants Permitting/Control	68
Title V Air Permits	69
BIBLIOGRAPHY	71
APPENDIXES	73
APPENDIX A- OPINION SURVEY OF THE OKLAHOMA HAZARDOUS MATERIALS ASSOCIATION	74
APPENDIX B - SECTION 6 OF TITLE 27 A OKLAHOMA STATUTES	76
APPENDIX C - EXAMPLE CECR SECTION - EMERGENCY PLANNING AND NOTIFICATION	91
APPENDIX D - EXAMPLE CECR SECTION - EMERGENCY RELEASE NOTIFICATION	93
APPENDIX E - EXAMPLE CECR SECTION - COMMUNITY RIGHT TO KNOW	95
APPENDIX F - EXAMPLE CECR SECTION - TOXIC RELEASE REPORTING	97
APPENDIX G - EXAMPLE CECR SECTION - CONTROLLED INDUSTRIAL (HAZARDOUS) WASTE GENERATORS	99

LIST OF FIGURES

Figure	Page
1. Structure of Proposed Department of Environmental Management	21
2. Structure of Environmental Regulatory System	31
3. Structure of Department of Environmental Quality	32

NOMENCLATURE

CAA	federal Clean Air Act
CAAA	federal Clean Air Act Amendments of 1990
CAER	Community Awareness and Emergency Response program of the Chemical Manufacturers Association
CEA	Certified Environmental Auditor, semantically derived for this study only
CECR	Comprehensive Environmental Compliance Review
CEM	Certified Environmental Manager, semantically derived for this study only
CERCLA	federal Comprehensive Environmental Response, Compensation and Liability Act
CFR	Code of Federal Regulations
CIW	Controlled Industrial Waste
CWA	federal Clean Water Act
DEQ	Oklahoma Department of Environmental Quality
DOT	US Department of Transportation
DPC	Oklahoma Department of Pollution Control
EHS	Extremely Hazardous Substance
HAP	Hazardous Air Pollutant

HC	Hazardous Chemical
HS	Hazardous Substance
LEPC	Local Emergency Planning Committee
NPDES	National Pollution Discharge Elimination System
OHMA	Oklahoma Hazardous Materials Association
OSDH	Oklahoma Department of Health
OSHA	federal Occupational Safety and Health Admin.
OWRB	Oklahoma Water Resources Board
PCB	Polychlorinated Bi-phenol
POTW	Publicly Owned Treatment Works
RCRA	Resource Conservation and Recovery Act
RQ	Reportable Quantity
SARA	Superfund Amendments and Reauthorization Act
TC	Toxic Chemical
TPQ	Threshold Planning Quantity
TPY	Tons Per Year
TSCA	federal Toxic Substance Control Act
TSD	hazardous waste Treatment, Storage or Disposal facility
USEPA	US Environmental Protection Agency
UST	Underground Storage Tank

CHAPTER I

INTRODUCTION

Problem Statement

The goal of the study was to define actions which could be taken by regulatory agencies in Oklahoma to improve environmental regulatory compliance by manufacturers. Recommended actions had to fit the current regulatory and agency structures and respond to the need for public participation. This study identified an alternative to the current enforcement methods.

Primary Assumptions

The primary assumptions guiding this study were that "Regulatory compliance would assure protection of the Environment" and "Industry compliance with all regulations was required as a condition of operation." The terms 'compliance' and 'protection' were relative. Different individuals and groups would define them in

their own ways. For this study compliance meant fulfilling all requirements of current environmental regulations and permits. Protection meant there were no environmental releases, worker exposures or other impacts on the environment beyond the limits established by regulation or permit. Many other factors could cause a manufacturer to exceed the regulatory requirements, civil liability for example, but it was assumed that compliance alone would protect the environment adequately.

Multiplicity of Agencies

Environmental standards in Oklahoma were enforced by several agencies with little interaction between them. This lack of cooperation was confirmed in a phone interview with an Oklahoma State Department of Health employee on July 17, 1990, Coulter, (4), p. 1. This has led to frustration on the part of the public and the regulated community, Swimmer (15), p. 3-10.

The approach put forward by the Environmental Concerns Council's Regulatory Structure subcommittee to clarify the enforcement picture and make the system more efficient was to create a single agency to administer all environmental concerns, the Oklahoma Department of Environmental Management. The majority

report stated a centralized agency would simplify the process of regulation and insure that the public and the regulated community would have a single source for environmental information, Swimmer (15), p. 3-10.

The need for an authoritative source of compliance information was reinforced by an opinion survey given to those attending the August 18, 1990 meeting of the Oklahoma Hazardous Materials Association, (OHMA Survey, see Appendix A). Thirty-eight of forty-seven respondents agreed that; "Oklahoma badly needs an authoritative source of Environmental regulatory information.", twenty-four of forty-seven indicated that they "strongly agreed".

The Environmental Concerns Council's Environmental Report to the Governor 1989, Minority Report, signed by the heads of five Oklahoma regulatory agencies, stated that regardless of the benefits of consolidation, no changes should or could be made to the current structure, Swimmer (15), Appendix D.

These findings led to two conclusions, the users were frustrated and the regulatory agency establishment would be resistant to change. These concepts were included in the design. Any alternative form of regulatory enforcement developed must have clarity and provide for public participation to meet the needs of the

public and the regulated community. The alternative also needed to preserve the current regulatory structure in order to obtain cooperation from the heads of the regulatory agencies.

In July of 1992 the Oklahoma Legislature acted to resolve the issue of regulatory agency structure by creating a new Cabinet Level Position, Secretary of Environment, and a new Regulatory Agency, the Department of Environmental Quality, State of Oklahoma (14). While similar to the Department of Environmental Management suggested by the Concerns Council, it was somewhat different in organization. This action addressed many of the concerns of the public and the regulated community, such as communication and consistency, Swimmer (15) p. 3-10. Further information regarding this new agency was recorded in Chapter II of this study. The existing agencies remained in place until January of 1993, State of Oklahoma (14).

Regulation of Manufacturers. Oklahoma had three primary agencies that dealt with environmental standards affecting manufacturers, Oklahoma Department of Health, Oklahoma Water Resources Board and the Oklahoma Department of Labor. The Oklahoma Department of Health was divided into three services,

Solid Waste, Air Quality and Water Quality, Swimmer (15), p. 3-10.

Each of these agencies, and even the separate services within the Health Department, conducted independent programs. The enforcement and inspection processes were all conducted individually. This meant that if a manufacturer were inspected by a representative of the Air Quality Service, no review of RCRA Hazardous Waste records would be conducted. Only obvious or flagrant violations would have been discovered. This meant that even at facilities inspected by one of the state agencies, there could be violations in an area not reviewed, Coulter, (4), p. 1.

A complete regulatory review of a facility was accomplished only if representatives from all agencies and services conducted independent inspections. Five independent regulatory inspections would be a burden on a manufacturer and would consume a large fraction of the limited resources available to the state agencies.

Inspection Frequencies

The degree of regulatory compliance was evaluated by facility inspections. These inspections were specific to the regulations administered by the agency conducting the inspection. The Oklahoma Water Resources Board and the Oklahoma Department of Health had

field agents that conducted these evaluations. The Oklahoma Department of Labor, which administered the SARA Community Right to Know programs had been given the responsibility but no provisions had been made for field inspection or any additional personnel.

According to a July 17, 1990 phone interview with Mr. Al Coulter of the OSDH Hazardous Waste Division, the OSDH 1991 written program, submitted to the United States Environmental Protection Agency (USEPA), committed the department to inspection of 14% per year of the 650 Oklahoma Hazardous Waste Generators. This number included only those who had notified the agency of their hazardous waste activities. At this rate it would have taken at least seven years for all generators that had notified to be inspected. Compliance inspections, at a rate of once every seven years, served as a deterrent measure. Major increases in the budget and staff outlined in the written program would be required to approach 100% inspection of Oklahoma RCRA generators, Coulter (4), p. 1.

Adversarial Approach

Under the current system, enforcement agencies relied on deterrent factors such as fines, imprisonment and other legal

remedies. These deterrents were meant to assure that the relative cost of violating a standard was greater than the direct or perceived cost of compliance, Heritage (8) p. 52. A similar theory was used to encourage drivers to limit their speed on the highway to avoid a fine. Relying on deterrents has built an adversarial relationship between some members of the regulated community and some agencies, Swimmer (14) p 6. Just as with the speeder, environmental enforcement action was taken only after the offense had occurred and had been discovered.

Additionally under the current system each firm was responsible for obtaining, interpreting and complying with the current regulations. The regulated community was required to gather the various regulations and apply them to their unique situation successfully in order to avoid violation. The strongest reaction obtained in the OHMA survey was disagreement with the statement; "Compliance with environmental regulations is easy, anybody can do it." Since individual interpretations may vary, a successfully completed regulatory agency inspection was the only decisive evaluation of a compliance program.

The USEPA was also an active enforcement agency in Oklahoma. This agency retained primacy over some aspects of the RCRA

Hazardous Waste Regulations and general oversight over all of the environmental programs. The USEPA promoted the adversarial relationship and relied heavily on negative reinforcement to achieve compliance. The USEPA sought to find and significantly punish a few violators to inspire the rest of the regulated community to comply, Heritage (7) p. 13-16. This was found to be EPA policy as late as March 1991, Heritage (8) p. 52.

While a negative reinforcement system may be a valid enforcement method, there were two important features which were not part of the current system, Communication of Standards prior to violation and Prevention of Violations rather than punishment after an occurrence. If a concise, authoritative compliance guide was available, it would be easier for manufacturers to willingly conform. The majority of respondents to the OHMA survey indicated that, under certain conditions, they would not oppose making a compliance survey public. If a majority of facilities were in compliance, the enforcement agencies could use more resources to pursue those with outstanding or willful violations.

Proposed Alternative Practices

The first alternative evaluated was to require each manufacturer to conduct an compliance survey by either an independent third party or a qualified employee. The key to this method was the pre-qualification of the auditor. This approach was rejected upon further evaluation due to continued reliance on individual interpretation and because of the need to create a certification system.

The second alternative developed built on the idea of a regular evaluation of compliance, but relied on an standardized evaluation document, the Comprehensive Environmental Compliance Review (CECR). The document would be compiled by facility employees or with the help of an environmental professional. The plant manager or ranking corporate officer would sign the final document and be held responsible for the documents' content. The CECR would provide the regulated community with definition of compliance, a clear statement of regulatory requirements and would serve as a communication tool. Making the CECR a public document would also provide a basis for informed public participation. It is for these reasons that the CECR was selected for study.

Certification of Environmental Auditor/Managers

The basis of this enforcement alternative was that each facility would have been required to independently evaluate regulatory compliance on a regular basis. These evaluations would become part of the public record. An additional element was required to assure the compliance evaluation was completed by a “qualified” individual. A qualification or certification program was required. Some public interest groups were not willing to accept internal audits without some means of validating the results, La Barr, (9), p. 37-38. Certification of auditors/managers was presented as a method to increase the confidence level regarding the accuracy of environmental audits.

Professional certification was in place in many fields; including Doctors, Nurses, Lawyers, Accountants and even Electricians and Plumbers. Standards and qualifications would have been developed for auditors providing this service commercially. These individuals would be designated Certified Environmental Auditor (CEA)*. CEA status was granted to those who passed the exam and had the appropriate combination of education and experience.

Individuals functioning only within the company with which they are employed, would have been Certified Environmental Managers (CEM)*. CEM status would have been awarded to those able to demonstrate competence by passing a written exam.

A strength of the CEA/CEM method was that each manufacturer would have been able to select outside assistance or develop the needed expertise internally. The requirement for a periodic review would be established well in advance of the due date and each facility would have had the opportunity to prepare for the audit. A compliance report which was made a public document would be a motivation for compliance, Chemical Manufactures Association, (3), p. 3.

A significant weakness of this approach was the necessity of creating a certifying board and administering the certification process due to a lack of additional state funds, Coulter, (4), p. 1. This system also continued to rely on individual interpretation of the regulations.

*These terms CEA and CEM were selected semantically and should not be equated with any actual certification programs. This study was also not intended to indorse any specific certification program.

An alternative was sought which utilized the strengths of this approach, regular evaluation and public participation, but avoided the negatives, reliance on individual interpretation and the need for a certification board.

Comprehensive Environmental Compliance Review

Regular environmental program reviews which become part of the public record appeared to be a valid approach, La Barr, (9), p. 37-41. The OHMA survey indicated the majority of those answering the survey would not have opposed an approach such as this. Reporting to files which were publicly available was a feature of the SARA Release Reporting requirements found in 40 CFR 372. The key to the effectiveness of this approach would be the review instrument. Such a document would serve as a communication tool to provide guidance to the facility, compliance information for the regulatory agencies, and would also allow informed public participation.

Review Instrument. The regulatory agencies would be required to develop in depth review documents for each area. These documents should also provide applicability guidance. In this way the regulated community would be able to identify which standards

applied to their operations and within the same document be able to understand the compliance requirements. Examples sections were included as appendixes C - G. These examples were meant to demonstrate the level of detail that would be required.

The CECR sections would differ from existing checklists published by the EPA and others in that they would include questions establishing how companies complied with regulations rather than a yes/no format. For example a company would be asked how hazardous the waste stream determinations required by 40 CFR 261, were made, not whether they were made. Existing checklists provided listings of compliance components, the new documents would require specific information on how the elements were fulfilled.

To ensure public availability and to provide for regulatory review, completed CECR documents would be submitted to regulatory agencies on a regular schedule. All facilities would submit a completed CECR even if exempted from regulation. The applicability sections of the documents would provide a verification for exempt facilities. The environmental activities of all facilities would then be subject to agency and public review.

The review documents would serve as a supplement to the CFR

and State rules but would not supersede them. Manufacturers would still be required to comply with the regulations and the specified compliance dates, regardless of the timing of the CECR. Changes to regulations would be addressed with modified sections of the CECR. Submission dates would be independent of compliance dates, this would allow users to complete and review compliance programs before submitting the new CECR sections for public review.

Signatories. The CECR documents would be signed by the plant manager or the ranking corporate officer at the facility. This feature was designed to tie environmental compliance to the primary function of the facility. Significant civil and criminal penalties would be associated with any fraudulent or misleading information on the CECR document. Stiff personal penalties would be intended to insure the accuracy and validity of the responses, Heritage, (8), p. 13-16.

If it were determined that inaccurate or misleading information on CECR documents was a problem when the documents were signed by facility management, the use of professional auditors, such as the CEA or CEM discussed earlier, could be required. Requiring signature by professionally licensed individuals

had precedent in the requirement that TSD facility permits be signed by Professional Engineers, 40 CFR 264. Severe penalties, such as fines and loss of professional standing, would be needed to help ensure accurate reporting by the auditors, Heritage, (8), p. 13-16.

Regulations. The Comprehensive Environmental Compliance Review would cover the following areas:

- Hazardous Waste

- Underground Storage Tanks

- Community Right to Know

 - Emergency Planning/Notification

 - Hazardous Chemical Reporting

 - Release Reporting

- Employee Right to Know

- Laboratory Standard

- Hazardous Waste/Emergency Response Worker Training

- Process Safety Management of Highly Hazardous

 - Chemicals; Explosives and Blasting Agents

- Premanufacture Notification

- PCB Regulation

- Waste Water Discharge

- Storm Water Discharge

- Air Emissions

- Air Toxics Emissions

Applicability. This CECR compliance review was designed to address manufacturers. The applicability and reporting thresholds associated with the individual standards were included in the relevant sections of CHAPTER IV of this study.

Enforcement Agencies. A fundamental strength of this approach was that all agencies would retain jurisdiction in their specific areas. The compliance review would serve as a tool to facilitate evaluation by agency inspectors in their area of expertise and would also allow cross jurisdictional reviews. This review would establish a framework for the evaluation of compliance performance in a form that allowed interpretation by individuals not specifically trained in the areas of concern. This allowed a review of all compliance program features by any inspector visiting a facility. If problems or discrepancies were detected, the problem would be directed to the appropriate agency.

Another strength was that the CECR would allow public participation. The public participation portion of the Community Right-to-Know program has been a strong motivational force which has moved manufacturers not only towards compliance but also toward real emission reductions, Chemical Manufactures

Association, (3). Evidences of this include industry responses such as the Community Awareness and Emergency Response (CAER) and the "Responsible Care" programs developed by the Chemical Manufactures Association, Chemical Manufactures Association, (3). The structure of these programs was established in written manuals published by the Association, Chemical Manufactures Association, (3). The total reported emissions on the public SARA Form R reports, have decreased by 600 million pounds from 1989 to 1990, according to the 1990 Toxic Release Inventory (TRI) data.

Conclusions

Enforcement of environmental regulations with regard to manufacturers in Oklahoma would be achieved through the use of a comprehensive environmental compliance review which was part of the public record. Use of this method required no modification of the regulatory system, provided for public participation and communicated regulatory requirements to manufacturers.

CHAPTER II

ALTERNATIVES PROPOSED

Oklahoma Environmental Concerns Council

Regulatory Subcommittee

In November of 1988, then Governor Henry Bellmon, created the Oklahoma Environmental Concerns Council by Executive Order. The Regulatory Structure sub-committee was charged with evaluating the structure of the environmental regulatory system. The mission statement for this group reflected a concern that since environmental regulatory jurisdiction was spread among at least four state agencies, the system was cumbersome and it was hard for the users to deal with the multiplicity of agencies. The need for effective regulations was also identified, Swimmer, (15), p. 33.

The sub-committee offered two approaches for improving the regulatory system: Formation of a single regulatory agency called the Department of Environmental Management or empowerment of the existing Department of Pollution Control. The first approach was

vigorously opposed by leaders of the existing agencies, Swimmer, (15), appendix D. The second option was presented only as a low impact alternative, Swimmer, (15), p. 39.

Department of Environmental Management

Proposed Structure. The Oklahoma Department of Environmental Management would have been headed by the "Secretary of Environmental Management" a cabinet level executive appointed by and reporting to the Governor. The Governor would have also appointed a Deputy Secretary to head the "Bureau of Planning". It was recommended that this individual be drawn from the regulated community.

The Bureau of Planning would have provided long term planning and given direction to the five operating divisions: Air Quality, Water Quality, Waste Management, Office of General Counsel and Enforcement, and the Laboratory Services Division. These divisions would have been headed by career professional administrators.

Balance and oversight was provided by an advisory board, appointed by the Governor, and made up of environmental professionals and "other concerned citizens". Regulations were reviewed by this board and impact analysis was provided as well as

a review of technical merit. This body consisted of 15 members serving six year terms. The initial terms were staggered so that 5 members were replaced every two years, Swimmer, (15), p. 34-39. A diagram of the proposed structure was included as Figure 1, p. 21.

Benefits. This system was proposed to address two principal issues the committee had identified: complexity for users and difficulty in obtaining primacy from the USEPA, Swimmer, (15), p. 33. By creating a single agency the committee intended that the entire regulatory program would be better coordinated and more efficient. A single agency would have also provided a consistent position to the USEPA and thereby obtained control over more of the regulatory arena, Swimmer, (15), p. 33.

This single agency structure provided a single source of information. The users and the public directed their questions and concerns to one entity. A single agency also eliminated redundant physical facilities. This efficiency, along with increased federal funding, would have allowed the new agency to hire and retain needed environmental professionals, Swimmer, (15), p. 33.

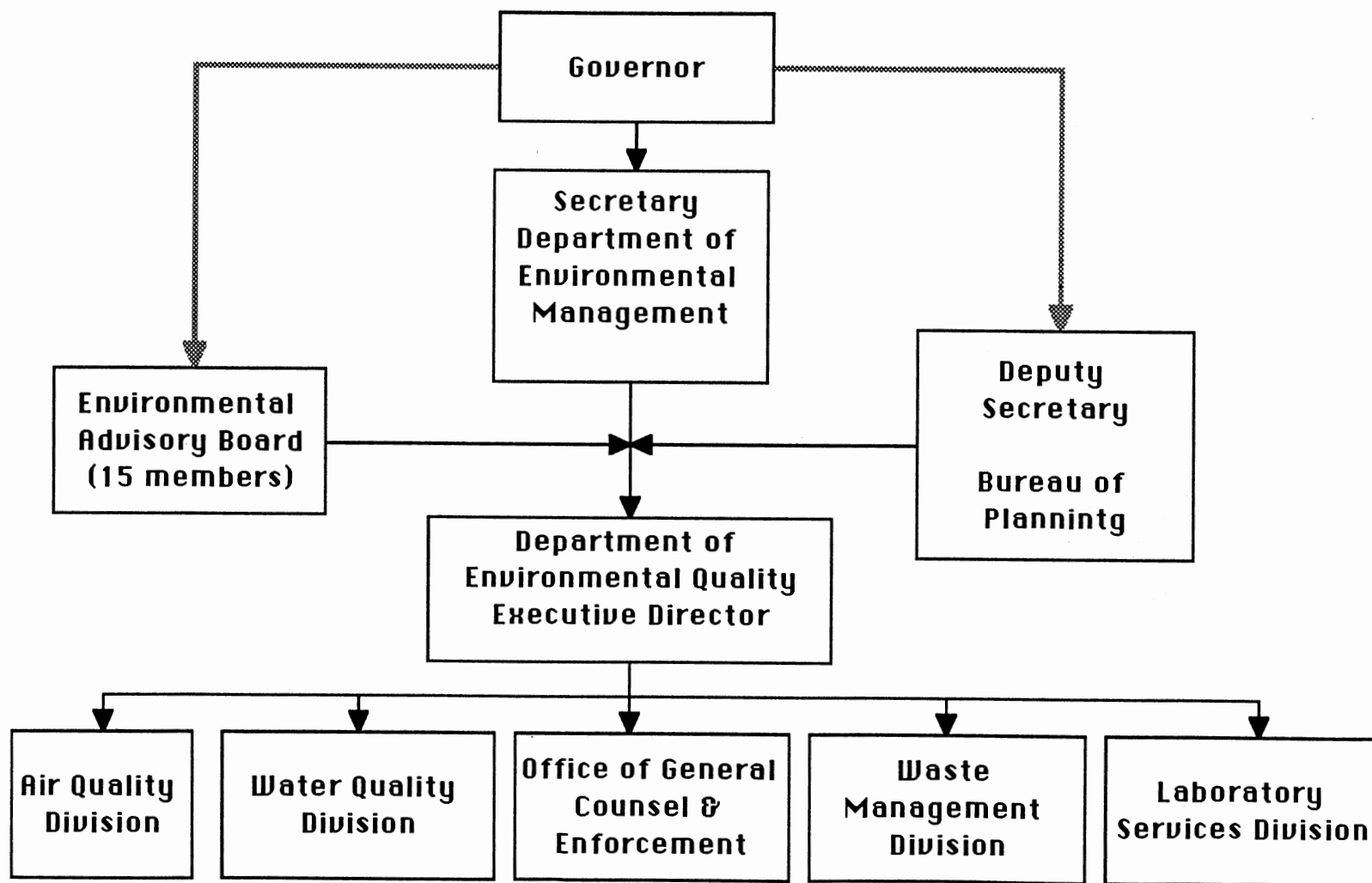


Figure 1. Structure of Proposed Department of Environmental Management

Criticisms. Strong opposition to this approach, was voiced by the administrators of five of the existing agencies, Swimmer, (15), appendix D. One of the key arguments was that there already existed a strong working relationship between the agencies and the respective regulated communities. The agency heads stated that the needs of these user groups could be lost in the larger bureaucracy of a single agency.

Another negative impact of this structure given was that much of the direction given the regulators would come through individuals serving under appointment by the Governor. This shifted the regulation of the environment into the political arena. The Oklahoma State Legislature has often taken a direct role in environmental regulation, State of Oklahoma, (14). Some of these instances coincided with the application or planned application by commercial hazardous waste management facilities. A single agency directed by appointees of the Governor would have been required to function in this highly political arena. Approval of this system would have been difficult since the Governor would have been perceived as having considerable control in this sensitive area and centralized government has not been popular in Oklahoma, Swimmer, (15), p. 31.

Conclusions. This structure would have provided a single source of guidance for the Oklahoma regulated community and a single contact for the USEPA. If well managed and scientifically based it would have been an effective method. It faced strong opposition due to shift of control to the Governor and because it overturned the existing system. Many features of this proposal were included in the newly Created Oklahoma Department of Environmental Quality, see page 29 of this study. Enforcement methods are not addressed by either system.

Department of Pollution Control

As an alternative the subcommittee suggested strengthening the role of the Department of Pollution Control (DPC) in coordinating the environmental regulatory efforts of the various state agencies. This alternative was supported by the agency heads who wrote in opposition to the single agency proposal. Both groups felt that reorganization and role redefinition could not be effective without adequate funding, Swimmer, (15), p. 39.

Conclusions

This alternative did not disturb the current structure and was therefore politically neutral, however unless the DPC was given real oversight authority, little change could be expected on the part of the independent agencies, Swimmer, (15), p. 39. The dissenting opinion in the report to the Governor indicated considerable inertia to leave the regulatory structure as it is, Swimmer, (15), appendix D. Modifying the role of the DPC failed to address the shortcomings of the current enforcement methods and did not provide coverage for areas not adequately addressed under the current system. Therefore, modifying the role of the DPC was not selected for study as the model for environmental regulation in Oklahoma.

Certification of Environmental Auditors

The first alternative regulatory enforcement method reviewed during this study was the certification of auditors, CEA/CEM, who would perform periodic environmental audits. These would have been comprehensive environmental compliance reviews which evaluated facility compliance with all relevant standards. Certification of the individuals performing the audits attempted to ensure the audits

were completed by qualified individuals.

Facilities would have been given the option of qualifying employees to conduct these audits or obtaining the services of independent auditors. The results of these audits would have provided regulatory agencies with an opportunity to quickly review the compliance programs of several facilities without field investigation. Including these reports in publicly accessible files would have provided a communication link to interested groups and individuals, as well as a strong motivating force for management to ensure compliance, Chemical Manufactures Association, (3).

Periodic Audits

The scope of the audits would have included all programs whether the facility was required to participate or not. An applicability review for all standards would also have been required. Facilities would have documented how their regulatory status was determined. This would have ensured facilities did not overlook programs or sections with which they should be complying.

Published deadlines and frequencies allowed for program evaluation and correction prior to required reports being issued. This method, periodic audit by CEA/CEM, stressed the achievement of

compliance as a goal. The federal enforcement methods to date have centered on punitive actions, Heritage, (7), p. 15-20.

Qualified Auditors

An effective auditor qualification/certification system was required to ensure accuracy for these audits. Accuracy would be required if regulatory agencies and interested third parties were to rely on the audit reports, La Barr, (9), p. 37-41. Auditors would have been required to pass a comprehensive examination and thereby demonstrate the knowledge of the requirements needed to complete an accurate evaluation. Provisions would have also been needed to ensure auditors would be updated with regulatory changes and agency interpretations.

Criminal penalties would also be required to prevent fraudulent reports. Without qualifications for auditors, the reliability of the audits was questioned, La Barr, (9), p. 37-41.

Benefits

This system would have provided a comprehensive review of all members of the regulated community without additional burdens on the regulatory agencies. Interested groups and individuals would

have had access to detailed information. This communication would have not only informed the public but also provided strong motivation for compliance. Facilities were able to comply with this requirement either by developing internal expertise or obtaining qualified outside assistance.

Regular review also provided a basis for internal communication. Accurate audit results provided an opportunity for facilities to develop programs which were compliant and could stand public scrutiny.

Drawbacks

While potentially a powerful enforcement and communication tool, the certification of auditors had several shortcomings.

Individual Interpretation. The chief drawback was that no matter how qualified the auditor, the system would have continued to depend on individual interpretation. The subject of environmental regulation was wide and varied, it was difficult for an individual to master all areas. Certification of auditors alone did not provide an authoritative source of information.

Legitimacy. Audits conducted by facility personnel or by contractors were suspect to outside parties. Gregg La Bar quotes Diane Sheridan of the League of Women Voters, "I feel strongly that there has to be some sort of independent evaluation of industry performance." Ms. Sheridan referred to her role on the Chemical Manufacturers "Responsible Care" Advisory Board. This statement reflected the need for meaningful outside participation, La Barr, (9), p. 37-41.

This skepticism was reflected in another quote from Mr. La Bar's article. He quotes Fred Millar of Friends of the Earth, "They want people to take Boy Scout tours, but they're not offering to share decision-making or key information." Internally generated audits did not provide data which met the requirements of third parties, La Barr, (9), p. 37-41.

Conclusion

The periodic audit of compliance status was an effective tool for internal management, regulatory agencies and interested third parties. This view was shared by industry officials as well as activists groups, La Barr, (9), p. 37-41. The preamble to Process Safety Management regulations OSHA required periodic audits,

Federal Register, (5), page 6396. The study then shifted to develop a nonpolitical, authoritative, public audit which did not require a new governmental agency structure. The recommended alternative was the Comprehensive Environmental Compliance Review (CECR), presented in CHAPTER III of this study.

Oklahoma Department of Environmental Quality

The Oklahoma Legislature acted to reorganize the administration of environmental regulations by creating the Oklahoma Department of Environmental Quality, (DEQ), State of Oklahoma, (14), p. 1-47. The details of it's organization, structure and function were to be determined under an executive environmental taskforce. While the final arrangements were not available until January 1993, House bill 2227 provided the frame work for the new agency. The jurisdictional assignments for the new agency as well as the existing agencies was included as attachment B, which was excerpted from the new law, section 6 of Title 27 A, Oklahoma Statutes.

The law created a new Cabinet position, Secretary of Environment, an Environmental Quality Board, and three Advisory

Councils; Water Quality Council, Controlled Industrial Waste Council, and the Solid Waste Management Advisory Council. The Air Quality Council continued to function. These councils were assigned the responsibility to provide oversight of the rule making process in their assigned area. A graphical depiction of the organization was included as Figure 2, p. 31.

Structure of the Department of Environmental Quality

The DEQ was headed by an Executive Director and made up of five divisions: Air Quality, Water Quality, Waste Management, Special Projects, and Administration and Planning. The Administration and Planning division contained the Office of Complaints, Office of Business Advocate, Office of Local Government Advocate and the Office of Hearing Examiners, State of Oklahoma, (14), p. 9-16. A graphical depiction of the organization was included as Figure 3, p. 32.

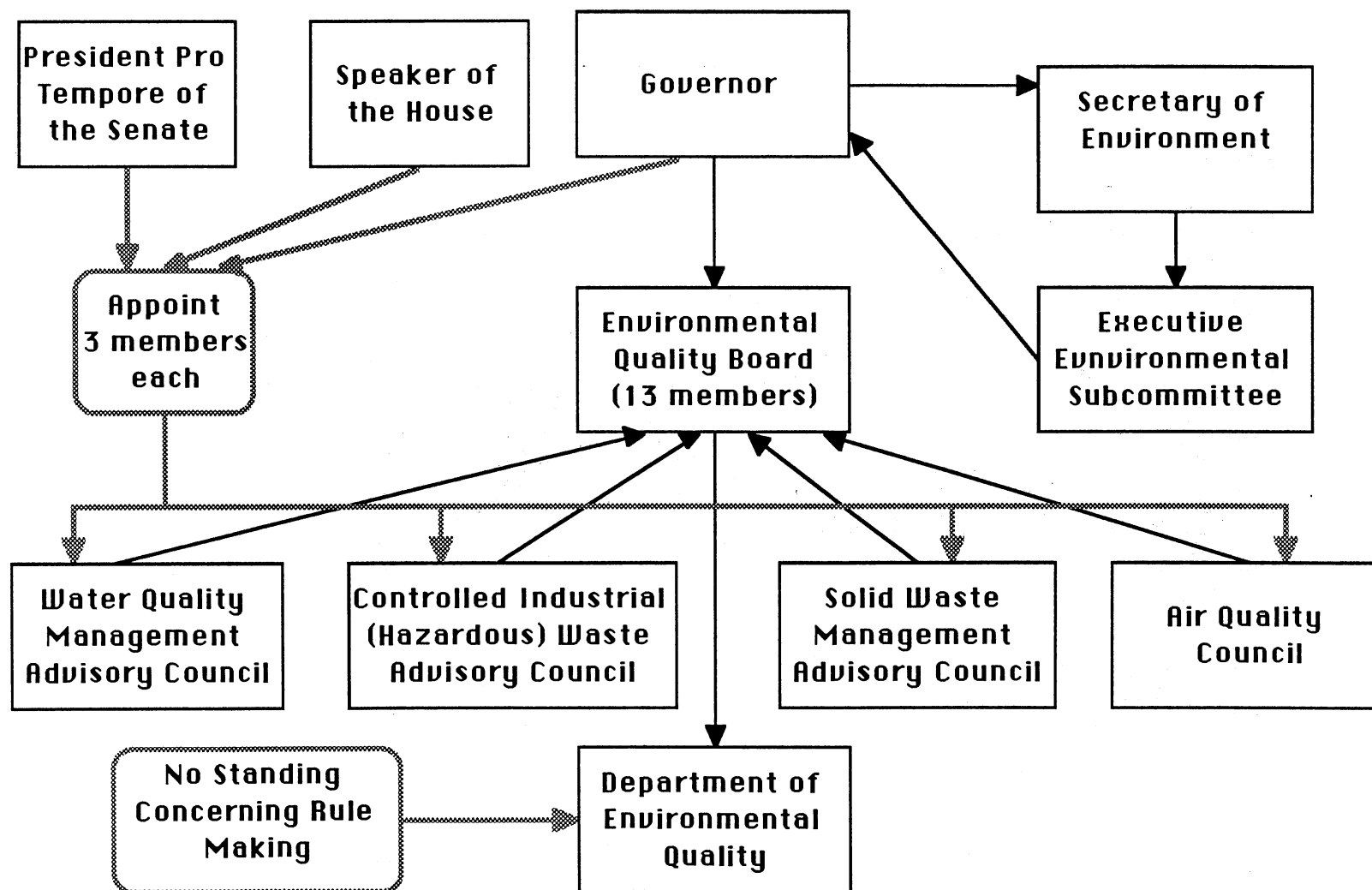


Figure 2. Structure of Environmental Regulatory System

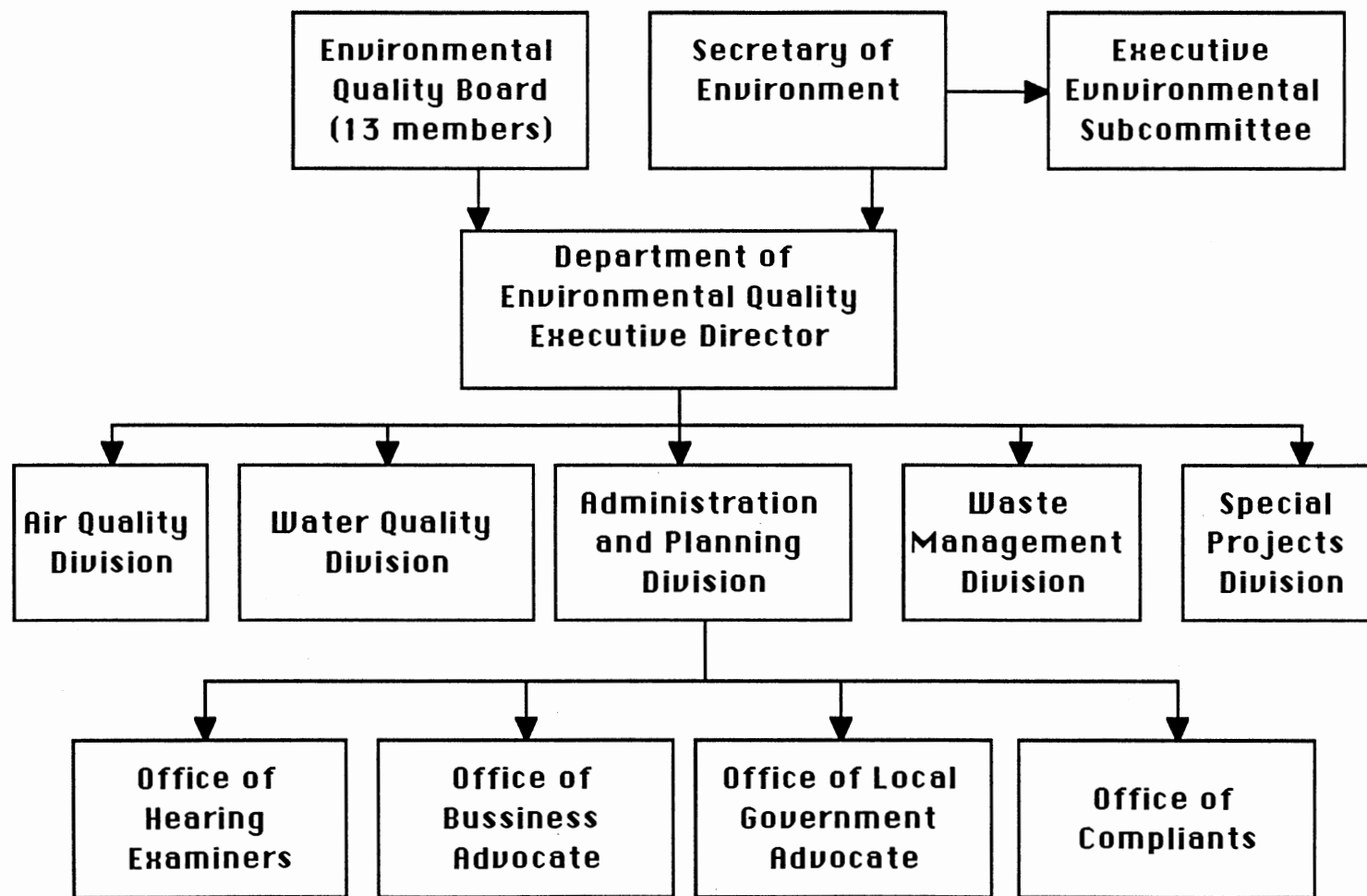


Figure 3. Structure of Department of Environmental Quality

Analysis

This law reorganized the administration of Environmental Regulations in Oklahoma. The Legislature stated in section 2 that there were four goals, State of Oklahoma, (14), p. 3.

1. Eliminate jurisdictional overlap and duplication.
2. Address the regulatory concerns of industry and the public in an expedient manner.
3. Insure citizen complaints are tracked and resolved.
4. Better utilize state financial resources for regulatory services.

To accomplish these goals the law created the Secretary of Environment, an Executive Environmental Subcommittee, an Environmental Quality board, three Advisory Councils and a new agency, the Department of Environmental Quality. The Air Quality Advisory Council remained in place. The Department of Pollution Control was the only body dissolved.

In section 4 paragraph F the law stated that the intent was to effect this change without increasing the number of State employees, State of Oklahoma, (14), p. 6. With this stated goal, it was clear that it was intended that the new system accomplish more through better organization rather than by increased resources.

The oversight of the function by the various boards and councils was also greatly increased, State of Oklahoma, (14), p. 9-16.

This system centralized environmental regulation and designed direct accountability into the system. The Secretary of Environment, the Executive Environmental Subcommittee and the other oversight boards and councils were given a voice in the direction of the new agency. Responsiveness was emphasized. The DEQ had offices dedicated to both industry and the public.

Industry responsiveness was designed into the new system. When the goals were listed, industries needs were listed before the needs of the public, State of Oklahoma, (14), p. 3. The lack of centralized information in the Environmental area which was identified in the Environmental Concerns Council report, Swimmer, (14), 31, was addressed by this law, State of Oklahoma, (14), p. 1-47.

Conclusions

The final functional relationships were not yet set, however, the new system centralized Environmental Regulation. Oversight of the function was also greatly increased with the goal of increased responsiveness to Government, Industry and the Public.

The methods for enforcement were not specifically addressed. This single focused agency attempted to improve communication, increase consistency and improve efficiency. However, multiple layers of oversight committees and other bureaucratic features have been added to the oversight of the agency, State of Oklahoma, (14), p. 1-47.

The CECR could be implemented by the new centralized agency. The input from the various councils and Boards would be used in developing the reporting requirements. Use of the CECR could be implemented with less interagency coordination under the single agency system.

The CECR could be used as communication tool to convey the new regulations developed by the new agency. Newly assigned inspectors could use the CECR documents as an authoritative source of training information.

The new agency did not receive increased resources and so needs to develop new methods of regulatory enforcement to increase effectiveness, State of Oklahoma, (14), p. 6.

CHAPTER III

COMPREHENSIVE ENVIRONMENTAL

COMPLIANCE REVIEW

Comprehensive Environmental

Compliance Review

Process

The format of the proposed Comprehensive Environmental Compliance Review (CECR) was designed as a prompted response document. The contents would be developed to address all of the administrative aspects of the regulations. In practice the regulatory agencies would need to develop/approve the instrument and it would be subject to update as regulations were modified. The goal of the document was clear communication of the requirements.

Draft sections of the review have been prepared for SARA
Emergency Planning and Notification - attachment C, Emergency
Release Notification - attachment D, Community Right to Know -

attachment E, and Toxic Release Reporting - attachment F.

A section applicable to Controlled Industrial (Hazardous) Waste Generators utilizing containers only and with less than 90 day storage has also been prepared - attachment G.

Management Awareness

Periodically, subject facilities would complete the review. The facility manager or ranking corporate officer would be required to certify that the CECR document was complete and accurate to the best of their knowledge. This was consistent with certification currently required on OSDH quarterly reports and the Federal SARA release reports, United States of America, (16). Complete knowledge of the contents of the document was a requirement of the CECR prior to management signature. Criminal penalties would be developed in order to discourage intentional fraud or misrepresentation, Heritage, (8), 13-16.

Effectiveness of Public Awareness

Industry has responded to public involvement, Chemical Manufactures Association, (3). The Chemical Manufactures Association made community involvement a key aspect of two of it's

environmental programs. Both the CAER (Community Awareness and Emergency Response) and the Responsible Care Program stressed this aspect of doing business, Chemical Manufactures Association, (3).

The SARA emission reports have also resulted in targeted reductions. The overall emission rate of subject materials has declined for many companies since the inception of this program, Heritage, (7), p. 18. The fact that these reports were highly publicized was acknowledged as a strong motivation moving companies toward emission reductions, Chemical Manufactures Association, (3).

Public awareness was combined with agency enforcement as a motivation to improve industry performance. The CECR also provided a means of communication. Public and activist group were anxious, for access to this information, LaBarr, (9), p. 40. The EPA was willing to respond to the public desire to participate and to utilize public involvement as an enforcement tool, 40 CFR 303.

As with the Superfund regulations, the public was given a direct role in the CECR program by granting standing to bring legal action, if agencies failed to act to enforce regulations, 40 CFR 303. Manufacturer's exposure to legal actions was limited to strict

compliance with existing regulations. New state legislation was required to establish citizen standing. Limiting action to regulatory compliance restricted actions under the CECR program to the stated goal of regulatory compliance. Other legal actions would need to be pursued in cases where groups or individuals wanted additional actions taken, 40 CFR 303.

Efficiency for Regulatory Agencies

Use of the CECR provided a review mechanism for regulatory agencies. Since the document itself delineated the requirements, inspectors determined compliance in multiple areas by analyzing the review documents. Requiring submission of the CECR reports enabled agencies to conduct "In Office" reviews. Travel time and expense were eliminated for these In Office reviews.

State agencies could rely on public attention to improve the overall performance and could focus on facilities which were either not participating in the systems or were engaged in questionable activities. An assisting approach rather than adversarial relationship was espoused by agency heads in several of the letters sent to the Environmental Concerns Council, Swimmer, (14), appendix D.

Liability Concerns

From the standpoint of the subject manufacturing facilities, the legal liability aspects of the new approach were a key consideration. The two areas, Corporate Liability for deficiencies identified by the CECR and Personal Liability on the part of the Environmental Professional or Plant Manager who prepared and or signed the document were also addressed.

Corporate Liability. If a facility was not in compliance with the relevant regulations the CECR would both record and make the status public. Facilities with compliance problems which were not corrected would have to self-incriminate or conceal the problem by making inaccurate entries. Fraudulent statements were addressed under the following section on personal liability. Corporate liability resulting from non-compliance was a long standing feature of all environmental regulations. The use of penalties as a means of achieving compliance was one of main enforcement tools for the regulatory agencies, Heritage, (7), p. 18.

The CECR did not increase the liability for non-compliance. The penalties established under the individual regulations were not altered. The CECR introduced a new incentive to comply by making

violations public. In an address to the 1992 Monsanto Corporate Environmental Conference, Executive Vice President, Environment, Safety, Health and Manufacturing, N. L. Reding stated that, (the SARA Toxic Release Inventory) ... "is the most powerful Environmental Standard ever passed." This standard did not establish emission limits or dictate control methods. It simply required public reporting of performance. The only new liability features added would be for non-reporting, late or fraudulent reporting.

Resolution of Non-compliance. Those facilities with areas of non-compliance were subject to liability through enforcement. The CECR did not increase that liability. Liability for non-compliance already existed in cases where violations were recorded on confidential or internal documents. OSHA successfully obtained access to internal documents and obtained a conviction, Bureau of National Affairs, (1), page 426. Legal president was thereby established so that other agencies could also obtain similar internal program analysis. All documented violations were subject to enforcement actions whether the information was in the public or private arena.

An avenue would have to be provided for facilities to establish compliance schedules as part of the CECR program. Provisions would have to be made to allow scheduled compliance with regulatory requirements. Only violations which pose no immediate threat to human life, health or the environment were eligible for this approach. The CECR program would include a classification system for violations and a related schedule for compliance. These schedules would include a predetermined time table which included documentation of progress and significant penalties for missed deadlines. A similar system was used for the Categorical Industry Wastewater discharge regulations found in 40 CFR 403.

This system allowed facilities to identify and correct, in a timely manner, non-threatening violations without being subject to severe fines associated with violations "discovered" by regulatory agencies. Facilities participating in this compliance monitoring system would also be exempted from legal actions taken by citizens as long as the predetermined time table is met. Making these actions public allowed review of all related enforcement actions.

Personal Liability. Severe penalties were already in place for individuals who knowingly put others at risks, 29 CFR 1903.13, or

submit fraudulent information, 40 CFR 372.18. Individuals would be required to put forth an honest effort to complete the review and would be required to certify that the information submitted was complete and accurate to the best of their knowledge. Similar certifications are in place in other environmental programs. The Toxic Release Inventory includes such a certification, 40 CFR 372.

Viable Alternatives. This program was designed to provide viable alternatives to concealing violations. Alternatives to concealing violations allowed individuals to accurately complete reports for facilities which had violations without violating the reporting requirements.

The benefit of the CECR program to the individual Environmental Professional was that the standards each facility must meet were included as part of the review document. Requiring top management to be familiar with the contents and sign the CECR contributed to internal communication.

Conclusion. The CECR did not extend either Corporate or Individual liability except those for failure to report and heavy penalties for fraudulent reporting. The use of compliance schedules was specified for regulated improvement of non-compliant items.

Areas for Further Investigation

Further investigation was needed on the following topics:

Economic Impact on Small Business

Relationship to USEPA/State Authorizations and potential for increased funding based on program performance

Impact on Industry/Community Relations

Effectiveness of current regulations and permitted emission limits

Effectiveness of a single Environmental Enforcement Agency in other States

Classification of non-compliance issues and the related time tables for correction

CHAPTER IV

RELEVANT ENVIRONMENTAL REGULATIONS

This chapter of the study identified the environmental regulations which were covered by the CECR program. Each standard was identified, the applicability detailed and the relevant enforcement agency was identified.

RCRA Hazardous Waste Regulations

Regulations

The regulations applicable to handlers of Hazardous Waste were listed in Rules and Regulations for Controlled Industrial Waste issued by the Oklahoma State Department of Health, Industrial Waste Division. These regulations incorporated the Federal Regulations found in 40 CFR 260-268 and 270.

40 CFR -

- 260 Hazardous waste management system: General
- 261 Identification and listing of hazardous waste
- 262 Standards applicable to generators of hazardous waste
- 263 Standards applicable to transporters of hazardous waste
- 264 Standards for owner and operators of hazardous waste treatment, storage, and disposal facilities
- 265 Interim status standards for owners and operators of hazardous waste treatment, storage, and disposal facilities
- 266 Standards for the management of specific hazardous waste and specific types of hazardous waste management facilities
- 267 Interim standards for owners and operators of new land disposal facilities
- 268 Land disposal restrictions
- 270 EPA administered permit programs: The Hazardous Waste Permit Program

Applicability

These standards applied to all handlers of "Hazardous Waste". Therefore all facilities were required to determine if they handled hazardous waste. In order to have been a hazardous waste a material must first have been a solid waste. This definition was found in 40

CFR 261.2. A further determination was needed to classify solid waste as hazardous waste.

Hazardous wastes either exhibited a characteristic of hazardous waste, 261 subpart C or were listed in 261 subpart D. Characteristic waste may have been tested as described in 261 subpart C or the determination made using knowledge of the generating process. The listings found in subpart D were specific and described fully the materials subject under this provision.

Generators of small quantities of waste were subject to slightly reduced requirements found in 262.44. Generators were subject to the requirements of 262. Transporters were subject to 263. Those which store, treat or dispose of hazardous waste were subject to 264 or 265, 267 and 268.

Most recyclers were not required to obtain a permit for the reclamation process, but the storage of material prior to processing was subject to these requirements. Some forms of recycling were subject to the provisions of 266. This included uses which constituted disposal, used oil for energy recovery, precious metal recovery, lead-acid batteries and hazardous waste used in boilers & industrial furnaces.

Enforcement Agencies

Authority in Oklahoma was shared, the Oklahoma State Health Department was the primary enforcement agency. The USEPA retained authority over the Land Disposal requirements found in 266. OSDH had a pending application for full primacy.

Conclusions

All handlers were required to obtain USEPA identification numbers. This list of notifiers was the primary tool used to identify subject facilities. The CECR audit would include the relevant compliance items required by these regulations. It also included a section requiring non-notifying facilities to document the process used to exempt the facility from these regulations.

RCRA Underground Storage Tank Requirements

Regulations

The regulations which applied to Underground Storage Tanks (UST's) were found in 40 CFR 280.

Applicability

These regulations applied to all owners/operators of UST's as defined in CFR 280.12. Certain UST's were exempted, Hazardous Waste tanks (regulated under 264 or 265), waste water treatment tanks, equipment and machinery such as hydraulic lifts, UST's with less than 110 gallon capacity, those with de minimis quantities of regulated materials, and emergency or spill collection systems which were expeditiously emptied after use.

Enforcement Agency

These standards were enforced by the USEPA, however the program was administered under a memorandum of understanding by the Oklahoma Corporation Commission.

Conclusions

All owner/operators were required notify the Corporation Commission. This list of notifiers was used to identify subject facilities. The CECR included compliance items required in these regulations. Included was section requiring non-notifying facilities to document the process used to exempt it from regulation.

SARA Community Right to Know:

Emergency Planning and

Notification

The federal Superfund Amendments and Reauthorization Act of 1986 included emergency planning requirements. The goal was to create awareness and the frame work under which communities might prepare to deal with serious releases, 40 CFR 355.

Regulations

These regulations were found in 40 CFR 355.

Applicability

There were two separate components to these regulations, Emergency Planning and Release Notification. The emergency planning section was applicable to any facility at which an amount equal to or greater than the "Threshold Planning Quantity" of an "Extremely Hazardous Substance" was present. The list of these materials and their related quantities was found in 40 CFR 355 appendix A. Subject facilities must have notified State and Local planning commissions on or before May 17, 1987 or within 60 days

of becoming subject to the standard.

The release notification section was applicable to any release of a “reportable quantity” (RQ) of an Extremely Hazardous Substance or a CERCLA Hazardous Substance. Specifically exempted from these requirements were releases which resulted only in exposure to persons within the boundaries of the facility, federally permitted releases, pesticide products exempt under CERCLA section 103 a and certain radionuclide releases. Continuous releases were subject to reporting which included initial notification, significant increases, new releases and new release ranges. The reportable quantities for Extremely Hazardous Substances were found in 40 CFR 355 appendix A. The reportable quantities for CERCLA hazardous substances were found in 40 CFR 302.4.

Enforcement Agency

Primary enforcement responsibility for these requirements was retained by the USEPA. The State Planning Commission and the Local Planning Committees monitored the compliance activities.

Conclusions

The compliance features to be reviewed under this standard included proper notifications and verification of emergency provisions. Key aspects were the methods used to determine regulatory significant quantities.

SARA Community Right to Know:

Hazardous Chemical Reporting

Regulations

The regulations which applied to Hazardous Chemical Reporting were found in 40 CFR 370.

Applicability

This section applied to all facilities which were required to obtain or generate OSHA Material Safety Data Sheets. This included chemical manufacturers, chemical importers and "Workplaces". A workplace was defined by OSHA in 29 CFR 1910.1200 as an establishment, job site, or project, at one geographical location containing one or more work areas. A Work area meant a room or defined space in a workplace where hazardous chemicals were

produced or used, and where employees were present.

Subject facilities used the applicable thresholds to determine reporting responsibilities. MSDS's were submitted for any hazardous chemical at the facility at any one time in quantities greater than 10,000 lbs. Sheets were also required for extremely hazardous substances in any quantity of 500 lbs.-or more. Local agencies were authorized to require submission of MSDS's for any quantity of material.

Annually, by March 1, subject facilities were required to submit either a Tier I summary report or a Tier II report for each subject chemical. Specific requests for either MSDS's or Tier II reports were required to be honored whether by the local agencies or individuals. Only certain business information was eligible to be kept confidential, 40 CFR 370.

Enforcement Agency

These regulations were enforced by the USEPA.

Conclusions

Compliance with these regulations included verification of threshold determination and submission of required information. A

written verification of full participation was also required to be completed by the local fire department.

SARA Community Right to Know:

Toxic Chemical Release

Reporting

Regulations

The regulations which applied to Toxic Chemical Release Reporting were found in 40 CFR 372.

Applicability

Annual release reports were to be submitted by facilities which manufacture, import, process or "otherwise use" chemicals listed in 40 CFR 372.65 in quantities of 10,000 pounds or more per calendar year. There were several important exceptions, mixtures containing less than 1% of a toxic chemical or less than 0.1% of a listed carcinogen were not required to be included in either the threshold or release determinations. Articles which contained toxic chemicals and did not release toxic chemicals were also exempted. Five uses, structural components, routine janitorial and grounds

maintenance supplies, personal use materials, vehicle maintenance and toxic chemicals used in process water and non-contact cooling water were all exempt. Toxic chemicals used in non-production laboratories under the supervision of a qualified individual were also exempt unless pilot plant scale operations were involved.

Chemical manufacturers/importers were required to notify users if materials they sold contained toxic chemicals.

Enforcement Agency

These standards were enforced by the USEPA.

Conclusions

Compliance with this standard was viewed on two levels. It was easily determined if release reports were filed in a timely manner. What was much more difficult to determine was the technical basis for threshold determination and emission calculations. The checklist approach worked well on the primary level, but detailed analysis would be required to determine technical compliance. This area was undergoing significant modification. This standard will include more and more detailed information including on-site and off-site management choices.

OSHA Employee Right to Know:

Hazard Communication

Regulations

The regulations which applied to Hazard Communication were found in 29 CFR 1910.1200.

Applicability

Chemical manufacturers, importers and all employers covered by US OSHA were subject to these requirements. They were required to determine the hazards presented by the chemicals handled, and provide information to their employees by means of a written program, labels and other forms of warning, Material Safety Data Sheets, information and training. This requirement applied to any chemical which was known to be present in a workplace in such a manner that employees may be exposed under normal conditions of use or in a foreseeable emergency. Laboratories and Distributors were subject to other, specific requirements, these were detailed in 29 CFR 1910.1200(b)(3&4).

Enforcement Agency

These standards were enforced by the federal OSHA. States were specifically restricted from adopting or enforcing similar standards except under federally approved state programs.

Conclusions

This standard involved very specific requirements which can be reviewed against a checklist effectively. As with many of the standards, the written program and employee training were key factors. Federal participation would be required in this portion of a CECR due to the restriction on state's enforcing similar standards, 29 CFR 1910.1200 (a)(2).

OSHA Laboratory Standard

Regulations

The regulations which applied to the Laboratory Standard were found in 29 CFR 1910.1450.

Applicability

This standard applied to all employers engaged in the laboratory use of hazardous chemicals. A laboratory was defined as a workplace where relatively small quantities of hazardous chemicals were used on a non-production basis. Laboratory scale operations were easily and safely manipulated by one person. These employers were required to develop a written Chemical Hygiene Plan and provide employee training. Employees were required to be medically monitored in the event of excess exposure.

Enforcement Agency

These standards were enforced by the federal OSHA.

Conclusions

As with the Hazard Communication Standard, compliance with this standard would be evaluated primarily by review of the written plan, employee training and evaluating the applicability determination. The medical monitoring of employees was not suitable for evaluation through this method. The privacy of the individuals required restricted access to this information.

OSHA Hazardous Waste Operations and Emergency Response

Regulations

The regulations which applied to Hazardous Waste Operations and Emergency Response were found in 29 CFR 1910.120.

Applicability

These regulations applied to five types of operations: Government required cleanups of uncontrolled waste sites, Cleanups at RCRA regulated sites, Voluntary Cleanups at uncontrolled sites, RCRA Treatment, Storage and Disposal site operations and Emergency Response Operations.

Enforcement Agency

These standards were enforced by the federal OSHA.

Conclusions

Those facilities which were TSD's or had employees tasked to emergency response were required to demonstrate compliance with the training and equipment maintenance requirements.

OSHA Process Safety Management
of Highly Hazardous Chemicals;
Explosives and Blasting Agents

Regulations

The regulations which applied to Process Safety Management were found in 29 CFR 1910.109 and 119.

Applicability

These regulations applied to any "process" which involved the use of a listed chemical, 29 CFR 1910.119 Appendix A, at or above the "Threshold Quantity" or involved 10,000 pounds or more of flammable liquid or gas. Storage was included as a "process", unless steps have been taken to prevent involvement of multiple containers or vessels, i.e. diking, separate buildings, etc..

Enforcement Agency

These standards were enforced by the federal OSHA.

Conclusions

Those facilities which were subject to the Process Safety Management standard were required to review designated process in detail and demonstrate the ability to recognize and deal with emergency situations. Compliance with this standard included written process review procedures and written operating procedures, training documentation and investigation of incidents. Not all of these plans and documents were made available for public review, i.e. those that pertain to confidential processes. However very strict definitions were already in place in this standard that delineated what could and could not be withheld.

TSCA Premanufacture Notification

Regulations

The regulations applicable to new chemicals either created or imported to the United States were found in 40 CFR 720-723.

Applicability

A Premanufacture Notice was required to be filed for any chemical being created or imported for non-research purposes which

was not already listed on the EPA chemical inventory found in 40 CFR 710. Materials which were regulated by other standards such as drugs or pesticides were exempt.

Enforcement Agency

These regulations were enforced by the USEPA.

Conclusions

If a facility planned to create or use non-listed chemicals a Premanufacture Notice was required to be filed. This requirement was easily integrate with the list of materials compiled for the OSHA Hazard Communication Standard. The CECR would compare the list of chemicals used/manufactured with the chemical inventory found in 40 CFR 710.

TSCA Polychlorinated Bi-phenol Control

Regulations

The regulations applicable to PCB's were found in 40 CFR 761.

Applicability

These regulations applied to all materials containing PCB's with varying requirements for materials with low levels i.e. < 50 ppm.

Enforcement Agency.

These regulations were enforced by the USEPA.

Conclusions

A notification was required of those facilities which had these materials on site. Each facility was required to identify and manage all PCB materials. The management plan for each facility would be reviewed and compared with the handling requirements and with the various regulatory deadlines. Shipment records were also included in the review.

CWA Waste Water Discharge Regulations

Regulations

The regulations applicable to Waste Water Discharge were varied. The federal regulations were found in 40 CFR 400 et. al., the OWRB and OSDH had written regulations, and individual POTW's issued site specific permits to industrial users.

Applicability

These regulations applied all discharges to “waters of the United States of America”. Direct discharges to waters of the US were regulated by the National Pollution Source Discharge Elimination regulations which were administered by the OWRB under authority granted by USEPA. Publicly Owned Treatment Works regulated industrial users under specific permit conditions which were administered by the OSDH. The OSDH was also authorized by USEPA. The USEPA was also able to take direct action.

Enforcement Agency

These regulations were enforced by the USEPA, Oklahoma Department of Health, the Oklahoma Water Resources Board and individual Publicly Owned Treatment Works (POTW).

Conclusions

Each discharger was subject to specific conditions established in either an NPDES permit, POTW user permit or POTW general limitations. Each facility was required to describe the applicable regulatory limits and describe how compliance was achieved and maintained. The CECR was designed to provide a clear summary of these limitations for regulators and the public. The CECR document provided a method to chronicle everyone's understanding and provided a vehicle to insure proper communication.

CWA Stormwater Discharge Regulations

Regulations

The regulations applicable to Stormwater discharge were found in 40 CFR 122, 123, and 124.

Applicability

These regulations applied to all discharges of stormwater from industrial facilities. New permits were required unless all stormwater was discharged through an existing permitted outfall. This included facilities which discharged to a non-permitted municipal stormwater system. No permit was required for direct discharges if stormwater was included in NPDES permit for the facility or if the facility discharges to a POTW treating stormwater under NPDES permit.

Enforcement Agency

These regulations were enforced by the USEPA and local POTW's.

Conclusions

Industrial facilities subject to the permit requirement were required to submit a permit application to USEPA and fulfill the monitoring requirement specified. All records needed for compliance would become part of the review.

CAA Air Emissions Permitting/Control

Regulations

The federal authorization for the Oklahoma Air Pollution Control Regulations was found in 40 CFR 52.1920. The regulations themselves were published by the OSDH Air Quality Service.

Applicability

These regulations applied to sources of air contaminants. Federal Categorical Industry Standards were also required to be met. These standards were found in 40 CFR 52.

Enforcement Agency

These regulations were enforced by the OSDH under authorization from USEPA.

Conclusions

Facilities which emitted contaminants to the air were required apply for a permit to the OSDH. Certain listed industries were required to comply with federal emission and control guidelines. Individual facilities not listed were issued a permit

based on their individual situation. The CECR document would identify all of the required controls and documents required of individual facilities. As with wastewater discharge, determining applicability of the various standards was a key element. The communication between regulators and individual facilities was very important since each facility was unique and may have different requirements.

CAA Amendments Hazardous Air
Pollutants Permitting/Control

Regulations

The draft regulations regarding Hazardous Air Pollutants (HAP) were found in the Clean Air Act Amendments of 1990 section 301, McCoy and Associates, (10), p. 236.

Applicability

These regulations applied to sources of listed air contaminants, CAA section 112 (b), McCoy and Associates, (10), p. 236. A major source which had the potential to emit 10 TPY or more of any listed HAP or 25 TPY or more of any combination of HAP's.

Enforcement Agency

These regulations were enforced by the OSDH under authorization from USEPA. Pending approval of OSDH's plan, USEPA will enforce these requirements.

Conclusions

Facilities which emitted any quantity of HAP's were required to include a threshold determination as a minimum. Specific permit conditions for Major and Area sources were to be determined and would be included in the review.

Title V Air Permits

The Clean Air Act Amendments section 501, also established the requirement for comprehensive permits for "Major Sources". The goal of these permits was to collect all the air related requirements for these facilities into a single document.

These permits were to function within the Air Pollution Control area in much the same way as the proposed CECR was designed for the overall Environmental Regulatory system.

These permits also included public participation. It was this

aspect along with organization of the permit requirements which made them such powerful enforcement tools. Company officers were also required to certify as to the existence of violations. This participation by the high level officials and the public provided key elements of this system, McCoy and Associates, (10), p. 236-250. These new permitting regulations provided a current example of the use of the enforcement method suggested by this study.

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APPENDIX A

OPINION SURVEY OF THE OKLAHOMA
HAZARDOUS MATERIALS
ASSOCIATION

Choose the number matching your feeling to the following statements.

Strongly Disagree	Disagree	Neither Agree or Disagree	Agree	Strongly Agree
-2	-1	0	1	2

- | | | | | | | |
|---|---|----|----|---|---|---|
| 1 Oklahoma badly needs a source of authoritative Environmental Regulatory Information. | <table border="1"><tr><td>-2</td><td>-1</td><td>0</td><td>1</td><td>2</td></tr></table> | -2 | -1 | 0 | 1 | 2 |
| -2 | -1 | 0 | 1 | 2 | | |
| 2 More agencies should be created to regulate Environmental Concerns. | <table border="1"><tr><td>-2</td><td>-1</td><td>0</td><td>1</td><td>2</td></tr></table> | -2 | -1 | 0 | 1 | 2 |
| -2 | -1 | 0 | 1 | 2 | | |
| 3 Compling with regulations is easy, anybody can do it. | <table border="1"><tr><td>-2</td><td>-1</td><td>0</td><td>1</td><td>2</td></tr></table> | -2 | -1 | 0 | 1 | 2 |
| -2 | -1 | 0 | 1 | 2 | | |
| 4 Environmental consultants can make a positive contribution to a companies compliance effort. | <table border="1"><tr><td>-2</td><td>-1</td><td>0</td><td>1</td><td>2</td></tr></table> | -2 | -1 | 0 | 1 | 2 |
| -2 | -1 | 0 | 1 | 2 | | |
| 5 Environmental managers should be licensed just like Professional Engineers. | <table border="1"><tr><td>-2</td><td>-1</td><td>0</td><td>1</td><td>2</td></tr></table> | -2 | -1 | 0 | 1 | 2 |
| -2 | -1 | 0 | 1 | 2 | | |
| 6 As an environmental manger, my work is recognized as a discrete talent. | <table border="1"><tr><td>-2</td><td>-1</td><td>0</td><td>1</td><td>2</td></tr></table> | -2 | -1 | 0 | 1 | 2 |
| -2 | -1 | 0 | 1 | 2 | | |
| 7 If regulatory agencies inspect 5% of material handlers, compliance will be greatly improved. | <table border="1"><tr><td>-2</td><td>-1</td><td>0</td><td>1</td><td>2</td></tr></table> | -2 | -1 | 0 | 1 | 2 |
| -2 | -1 | 0 | 1 | 2 | | |
| 8 The program at my facility would pass an inspection by any environmental regulatory agency without any violations. | <table border="1"><tr><td>-2</td><td>-1</td><td>0</td><td>1</td><td>2</td></tr></table> | -2 | -1 | 0 | 1 | 2 |
| -2 | -1 | 0 | 1 | 2 | | |
| 9 I would like to talk to someone about regulatory issues without worrying about being inspected as a result, right now I can't do that. | <table border="1"><tr><td>-2</td><td>-1</td><td>0</td><td>1</td><td>2</td></tr></table> | -2 | -1 | 0 | 1 | 2 |
| -2 | -1 | 0 | 1 | 2 | | |
| 10 If I had six months to make corrections before it was written, I would not violently resist putting an audit of my program into a public file. | <table border="1"><tr><td>-2</td><td>-1</td><td>0</td><td>1</td><td>2</td></tr></table> | -2 | -1 | 0 | 1 | 2 |
| -2 | -1 | 0 | 1 | 2 | | |

Check the item that best describes your position.

Environmental Manager
 Plant or Line Manager
 Regulatory Agent
 Consultant
 Waste Industry Representative
 Member of the General Public

Group	Question #									
	1	2	3	4	5	6	7	8	9	10
Consultant	2	- 1	- 2	2	1	0	- 1	0	0	0
Consultant	2	- 2	- 2	1	0	1	1	- 1	0	1
Consultant	1	- 2	- 2	2	1	2	0	1	1	- 2
Consultant	- 1	1	- 2	1	0	1	0	1	1	1
Consultant	2	- 2	- 2	2	1	0	1	1	- 1	1
Educator	2	- 2	- 1	1	1	1	0	- 2	2	1
Env. Manager	2	- 2	- 2	1	2	1	0	2	1	2
Env. Manager	2	- 2	- 2	1	0	- 1	- 1	0	1	- 1
Env. Manager	2	- 1	- 2	1	- 1	1	1	- 1	2	1
Env. Manager	0	- 1	- 2	2	0	0	- 1	- 1	2	1
Env. Manager	- 1	- 1	- 2	2	0	- 1	- 2	- 1	2	1
Env. Manager	2	- 2	- 2	1	- 1	1	- 1	- 1	2	1
Env. Manager	2	- 2	- 1	1	1	1	0	- 1	0	1
Env. Manager	2	- 2	- 2	2	0	1	1	- 1	2	- 1
Env. Manager	1	- 1	- 2	1	1	1	2	- 1	1	1
Env. Manager	2	- 2	- 2	1	1	0	1	- 1	- 1	0
Env. Manager	2	- 2	- 2	0	1	1	1	1	2	2
Env. Manager	1	0	- 2	1	1	0	0	- 1	0	- 1
Env. Manager	2	- 2	- 2	0	- 2	1	2	2	0	0
Env. Manager	2	- 2	0	1	- 1	1	0	- 1	- 2	1
Env. Manager	2	0	- 1	1	1	1	1	0	1	1
Env. Manager	2	1	- 1	1	1	2	1	- 1	0	1
Env. Manager	1	- 2	- 2	1	- 1	0	0	0	0	0
Env. Manager	1	- 1	- 1	1	1	- 1	- 1	- 1	- 1	1
Env. Manager	0	1	- 1	2	1	1	1	- 2	2	1
Env. Manager	0	- 2	- 2	2	2	0	1	0	- 1	1
Env. Manager	1	- 1	- 2	2	1	1	1	0	1	0
Env. Manager	1	- 1	- 2	1	2	- 1	1	1	0	1
EM/PM	0	- 2	- 2	1	1	- 1	0	- 1	1	- 1
Gen. Public	1	1	- 2	1	2	1	1	- 2	2	1
Gen. Public	2	- 2	- 2	2	2	0	0	0	2	0
Gen. Public	0	- 2	- 1	1	- 1	- 2	1	- 2	2	1
NOTMARKED	2	1	- 2	1	0	0	1	0	- 1	1
Plant Manager	2	- 2	- 2	2	2	2	1	0	2	1
Plant Manager	2	- 2	- 2	1	1	1	1	0	1	- 1
Plant Manager	1	- 1	- 2	1	1	2	0	1	0	0
Plant Manager	0	- 1	- 1	1	0	0	0	1	1	1
Plant Manager	- 1	- 2	- 2	1	- 2	1	1	1	- 1	0
Plant Manager	2	- 2	- 1	1	1	- 1	- 2	- 1	- 1	1
Plant Manager	1	0	- 1	1	1	0	2	- 2	0	1
Plant Manager	1	0	- 1	1	1	0	- 1	- 1	1	1
Plant Manager	1	- 1	- 1	1	0	1	0	0	0	1
Plant Manager	1	- 2	- 1	1	- 1	0	1	2	1	1
Waste Ind.	1	- 1	- 1	1	1	0	1	0	1	0
Waste Ind.	2	- 2	- 2	1	0	0	1	- 1	0	1
Waste Ind.	2	- 2	- 2	1	- 1	1	1	- 1	0	1
Waste Ind.	2	- 2	- 2	1	1	2	1	- 1	1	1

APPENDIX B

SECTION 6 OF TITLE 27 A

OKLAHOMA STATUTES

SECTION 6. NEW LAW A new section of law to be codified in the Oklahoma Statutes as Section 6 of Title 27 A, unless there is created a duplication in numbering, reads as follows:

A. Effective July 1, 1993, the following state environmental agencies shall have the specified jurisdictional areas of environmental responsibilities:

SECRETARY OF ENVIRONMENT

The Secretary of Environment or successor cabinet position shall have the following jurisdictional areas of environmental responsibilities;

1. Powers and duties for environmental areas designated to such position by the Governor;
2. The recipient of federal funds disbursed pursuant to the Federal Water Pollution Control Act and the Federal Environmental Protection Act. Such funds shall be disbursed to each state environmental agency based upon its statutory duties and responsibilities relating to environmental areas. Such funds shall be distributed to the appropriate state environmental agency within thirty (30) days of its receipt by the Secretary without any assessment of administrative fees or costs. Disbursement of other

federal environmental funds shall not be subject to the Oklahoma Environmental Quality Act; and

3. Chairperson of the executive environmental subcommittee.

DEPARTMENT OF ENVIRONMENTAL QUALITY

The Department of Environmental Quality shall have the following jurisdictional areas of environmental responsibility, except as otherwise provided in this section:

1. All point source discharges except as otherwise provided in this section;
2. Non-point-source discharges for industrial and municipal facilities;
3. Groundwater quality and protection;
4. Operator certification (water and waste/wastewater treatment units);
5. Public water supplies;
6. Underground injection control for other than brine recovery, saltwater disposal or secondary or tertiary oil recovery;
7. Air quality under the Federal Clean Air Act and applicable state law, except for indoor air quality and asbestos;
8. Controlled industrial (hazardous) waste and solid waste;

9. Superfund responsibilities of the state under the Comprehensive Environmental Response, Compensation and Liability Act of 1980 and amendments thereto, except the planning requirements of Title III of the Superfund Amendment and Reauthorization Act of 1986;

10. Radioactive waste;

11. Statewide water quality standards;

12. Sewage treatment and municipal waste facilities;

13. Emergency response except for present authority granted to the Department of Civil Emergency Management;

14. Public environmental information dissemination;

15. Environmental laboratory services and certification;

16. Hazardous substances; and

17. Freshwater wellhead protection.

OKLAHOMA WATER RESOURCES BOARD

A. The Oklahoma Water Resources Board shall have the following jurisdictional areas of environmental responsibility:

1. Water quantity including, but not limited to, water rights, surface water and underground water, planning, and interstate stream compacts;
2. Weather modification;
3. Dam safety;
4. Flood plain management;
5. State water/wastewater loans and grants revolving fund;
6. Wastewater project prioritization for funding from the state revolving fund;
7. Water well drillers/pump installers licensing;
8. Technical lead agency for clean lakes eligible for funding under Section 314 of the Federal Clean Water Act; and
9. Environmental and natural resources education within its jurisdictional areas.

B. Except as otherwise provided by this section, any existing jurisdiction of the Oklahoma Water Resources Board over water quality including but not limited to point source and non-point-source pollution and statewide water quality standards, and

groundwater quality including, but not limited to, freshwater wellhead protection programs shall be transferred to the Department of Environmental Quality.

C. Any existing jurisdiction of the Oklahoma Water Resources Board over underground storage tanks shall be transferred to the Corporation Commission.

STATE DEPARTMENT OF AGRICULTURE

A. The State Department of Agriculture shall have the following jurisdictional areas of environmental responsibility:

1. Non-point-source jurisdiction for agriculture, agribusiness, silviculture, feed yards, livestock markets and animal waste;
2. Pesticide control;
3. Forestry and nurseries; and
4. Fertilizer.

B. Any existing jurisdiction of the Department of Agriculture over point source and non-point-Source discharges requiring a federal National Pollutant Discharge Elimination Systems permit shall continue to be subject to the direct jurisdiction of the federal Environmental Protection Agency for issuance and enforcement of such permit, except for commercial manufacturers of fertilizers,

grain, feed and agriculture chemicals, which shall be regulated by the Department of Environmental Quality.

C. Except as provided in paragraph B of this subheading, the division of jurisdictional areas by this section shall not limit the existing jurisdiction of the State Department of Agriculture, nor extend the jurisdiction of the other state environmental agencies over agricultural activities.

CORPORATION COMMISSION

A. The Corporation Commission shall have the following jurisdictional areas of environmental responsibility:

1. Oil and gas drilling, development, production, and processing;
2. Transportation (motor, pipeline and railroads);
3. Saltwater injection;
4. Brine production;
5. Underground storage tanks (L.U.S.T. Trust Fund, Indemnity Program, and Regulation);
6. Aboveground storage tanks (commercial); and
7. Oil-and gas regulation except as otherwise provided by paragraph B of this subheading.

B. Any existing jurisdiction of the Corporation Commission over pollutant discharges from refineries, petrochemical manufacturing plants and natural gas liquid extraction plants shall be transferred to the Department of Environmental Quality, provided that any oil and gas drilling, development or production site requiring a federal N.P.D.E.S. permit shall continue to be subject to the direct jurisdiction of the federal Environmental Protection Agency for issuance and enforcement of such permit.

C. Except as otherwise provided in paragraph B of this subheading, the division of jurisdictional areas by this section shall not limit the existing exclusive jurisdiction of the Corporation Commission, nor extend the existing jurisdiction of the other state environmental agencies, over oil and gas exploration and production activities.

CONSERVATION COMMISSION

The Conservation Commission shall have the following jurisdictional areas of environmental responsibility:

1. Soil conservation and erosion control;
 2. Monitoring, evaluation and assessment of waters to determine the extent of non-point-source pollution and the development of conservation plans. Serve as the technical lead agency for Section 319 of the Federal Clean Water Act, except for activities related to industrial and municipal stormwater;
 3. Wetlands strategy;
 4. Abandoned mine reclamation;
 5. Cost share program for land use activities;
 6. Assessment and conservation plan development and implementation in watersheds of clean lakes, which may include, but not be limited to, funding for such purposes under Section 314 of the federal Clean Water Act;
 7. Complaint data management;
 8. Coordinate environmental and natural resources education;
- and
9. Federal upstream flood control program.

DEPARTMENT OF MINES

A. The Department of Mines shall have the following jurisdictional areas of environmental responsibility:

1. Mining regulation; and
2. Mining reclamation of active mines.

B. Any existing jurisdiction of the Department of Mines over point source discharges requiring a federal National Pollutant Discharge Elimination Systems permit shall be transferred to the Department of Environmental Quality.

DEPARTMENT OF WILDLIFE CONSERVATION

The Department of Wildlife Conservation shall have the following jurisdictional areas of environmental responsibilities:

1. Investigating wildlife kills;
2. Wildlife protection and seeking wildlife damage claims; and
3. Environmental and natural resources education within it's area of jurisdiction.

DEPARTMENT OF PUBLIC SAFETY

The Department of Public Safety shall have the following jurisdictional areas of environmental responsibilities:

1. Vehicle inspection for air quality;
2. Hazardous waste, substances and material transportation inspections as authorized by the Hazardous Materials Transportation Act; and
3. Inspection and audit activities of hazardous waste and materials carriers and handlers as authorized by the Hazardous Materials Transportation Act.

DEPARTMENT OF LABOR

The Department of Labor shall have the following jurisdictional areas of environmental responsibility:

1. Regulation of asbestos;
2. Asbestos monitoring in public and private buildings; and
3. Indoor air quality.

Such programs shall be a function of the Department's occupational safety and health jurisdiction.

DEPARTMENT OF CIVIL EMERGENCY MANAGEMENT

The Department of Civil Emergency Management shall, insofar as authorized by statute on July 1, 1992, have the following jurisdictional areas of environmental responsibilities:

1. Coordination of all emergency resources and activities relating to threats to citizens' life and property;
2. Administer and enforce the planning requirements of Title III of the Superfund Amendments and Reauthorization Act of 1986 and develop such other emergency operations plans that will enable the state to prepare for, respond to, recover from and mitigate potential environmental emergencies and disasters;
3. Administer and conduct periodic exercises of emergency operations plans provided for in subparagraph 2 of this subheading;
4. Administer and facilitate hazardous materials training for ; state and local emergency planners and first responders; and
5. Continue existing program to develop and maintain a computerized emergency information system allowing state and local access to information regarding hazardous materials' location, quantity and potential threat.

B. 1. Effective July 1, 1993, any existing jurisdiction of the Oklahoma State Department of Health over point source and non-point source discharges of municipal facilities; underground injection for other than brine recovery, saltwater disposal or secondary or tertiary oil recovery; air quality under the Federal Clean Air Act and applicable state law, except for indoor air quality and asbestos; sewage and municipal waste facilities; hazardous substances; emergency response except for present authority granted to the Department of Civil Emergency Management; solid waste; controlled industrial (hazardous) waste; operator certification of water and waste/wastewater treatment; environmental laboratory services and certification; Superfund responsibilities of the state under the Comprehensive Environmental Response, Compensation and Liability Act of 1980 and amendments thereto, except the planning requirements of Title III of the Superfund Amendment and Reauthorization Act of 1986; public water supplies; groundwater quality and protection; freshwater wellhead protection; radioactive waste; public environmental information dissemination; and any other environmental responsibility except as otherwise specified by this subsection shall be transferred to the Department of Environmental Quality.

2. Any existing jurisdiction of the Oklahoma State Department of Health over wastewater project prioritization for funding from the state revolving fund shall be transferred to the Oklahoma Water Resources Board.

3. Any existing jurisdiction of the Oklahoma State Department of Health over indoor air quality and asbestos, except for asbestos analysis which shall be performed under the supervision of the Department of Environmental Quality, shall be transferred to the Department of Labor as a function of its occupational safety and health jurisdiction.

4. Except as otherwise provided by this paragraph, the Oklahoma State Department of Health shall retain the following jurisdictional areas of responsibility, currently within the Oklahoma State Department of Health's Environmental Health Services Division: occupational licensing services functions, food protection services, radiation and special hazards services, Cancer Tumor Registry, milk program, day care center program, medical devices, barber shops, over-the-counter drugs, hotel and motel inspections, consumer product safety, bedding, public bathing place program, rabies control, vector control, noise control, and camp inspections.

The Department of Environmental Quality shall assume any environmental jurisdiction from the Oklahoma State Department of Health in regard to the responsibilities outlined in this paragraph if such responsibilities include but are not limited to jurisdiction over air quality, sewage, solid waste, controlled industrial (hazardous) waste, and public water supplies.

5. For designating the responsibility for the performance of local services, the Oklahoma State Department of Health and the Department of Environmental Quality may enter into interagency agreement contracts as necessary.

APPENDIX C

EXAMPLE CECR SECTION - EMERGENCY PLANNING AND NOTIFICATION

SARA 40 CFR 355 EMERGENCY PLANNING AND NOTIFICATION

Requirement A: Notify State Emergency Planning Commission and Local Emergency Planning Committee (LEPC) within 60 days if, at any one time, there is on-site an amount of Extremely Hazardous Substance (EHS) equal or greater than the Threshold Planning Quantity (TPQ).

[Note: the EHS's and their TPQ's are listed in 40 CFR 355.65]

Action Required 1. Describe system used to determine on-site thresholds for EHS's.

Action Required 2. Describe method for calculation of quantity of EHS's in mixtures stored and used on the site.

Action Required 3. List EHS exceeding TPQ, if any, during the last calendar year.

Requirement B: Designate a Facility Emergency Coordinator to interface with LEPC.

Action Required 4. List current Emergency Coordinator(s) and their Qualifications.

Requirement C: Provide the LEPC with requested information needed for Emergency Planning.

Action Required 5. List responses to request, if any, for information from LEPC.

APPENDIX D

EXAMPLE CECR SECTION

EMERGENCY RELEASE

NOTIFICATION

SARA 40 CFR 355 EMERGENCY RELEASE NOTIFICATION

Requirement A: Immediately notify the LEPC and State Emergency Commission if a release of an EHS or Hazardous Substance (HS) will affect an area outside of the workplace, i.e. Off-site. This quantity is defined as the Reportable Quantity (RQ).

[Note: EHS's (40 CFR 355.65) and HS's (40 CFR 302.4) are listed along with their RQ's.]

- | | | |
|--------------------|----|---|
| Action
Required | 1. | List all incidents involving RQ releases of EHS's or HS's. |
| Action
Required | 2. | List location of copies of written reports. |
| Action
Required | 3. | Describe methods used to determine RQ reporting thresholds. |

APPENDIX E

EXAMPLE CECR SECTION

COMMUNITY RIGHT TO

KNOW

SARA 40 CFR 355 COMMUNITY RIGHT TO KNOW

Requirement A: Report, by March 1 of each year, each Hazardous Chemical, (HC) either by name or by hazard type, which is present at any one time in Quantities greater than 10,000 Lbs., and EHS's >500 Lbs. or TPQ.

[Note: Hazardous Chemicals are any material which requires an MSDS, 29 CFR 1200]

Action Required 1. List location of annual reports, if any.

Action Required 2. Describe method used to determine reporting thresholds.

Requirement B: Supply an MSDS, or list of subject Chemicals, to the LEPC and Fire Department.

Action Required 3. Provide a copy of list and documentation of receipt on the part of LEPC and Fire Department.

Requirement C: Supply "Tier II", chemical specific quantity, storage location and conditions and inventory information when requested by Fire Department or LEPC.

Action Required 4. List responses to request, if any, for information from local fire department.

Action Required 5. Describe system used to identify and inventory HC's >10,000 Lbs. and EHS's >TPQ's or >500 Lbs.

[Note: System must also address mixtures.]

Action Required 6. List locations of either Tier I or Tier II reports.

APPENDIX F

EXAMPLE CECR SECTION

TOXIC RELEASE

REPORTING

SARA 40 CFR 372 TOXIC RELEASE REPORTING

Requirement A: Report the releases of Toxic Chemicals (TC's) if material is imported or manufactured in quantities >25,000 Lbs. or "Otherwise Used" in quantities >10,000 Lbs. by July 1 of each year.

[Note: TC's are listed in 40 CFR 372.65]

- | | | |
|--------------------|----|---|
| Action
Required | 1. | Describe system used to track usage of TC's and mixtures. |
| Action
Required | 2. | Document threshold determination for TC's used on site. |
| Action
Required | 3. | List location(s) or Form R reports or threshold determinations as applicable. |

APPENDIX G

EXAMPLE CECR SECTION CONTROLLED INDUSTRIAL (HAZARDOUS) WASTE GENERATORS

CONTROLLED INDUSTRIAL (HAZARDOUS) WASTE

Requirement A: File and update as needed, a "Notification of Hazardous Waste Activity" which includes a listing of all wastes and waste codes that are generated at the facility.

Action Required 1. Provide a copy of the current notice and a certification statement which establishes that all applicable waste codes are listed.

Requirement B: Hold individual containers of Hazardous Waste for less than 90 Days.

Action Required 2. Describe method used to ensure storage of CIW does not take place.

Requirement C: Properly identify hazardous waste and classify each as either "Listed" or "Characteristic" include all characteristics applicable to each waste stream.

Requirement D: Retain records regarding both hazardous and non-hazardous waste determination for a minimum of five years.

Action Required 3. Provide documentation of waste classification determinations for each stream generated on the site.

Requirement E: Utilize only authorized waste transporters and waste management facilities.

Action Required 4. List all transporters and TSD facilities used by the facility in the last year, include USEPA and State ID numbers.

Requirement F: Manifest each shipment of hazardous waste.

Action 5. List the location of manifest documenting CIW
Required shipments.

Action 6. List any incident and the outcome of any action
Required taken due to the delayed return of a manifest.

Requirement G: Properly Package hazardous waste according to DOT
49 CFR 173, 178 and 179.

Action 7. Describe system used to determine proper waste
Required container for wastes generated on-site.

Requirement H: Properly Label hazardous waste according to DOT
49 CFR 172.

Action 8. Describe system used to determine proper waste
Required labels for wastes generated on-site.

Requirement I: Offer the required placards or observe placement.

Action 9. List the placards needed for waste streams shipped
Required off-site and include placard sources.

Requirement J: Manage hazardous waste only in closed containers
which are compatible with the waste and in good condition, i.e.
not leaking.

Action 10. Describe any incident where containers were found
Required to be leaking or incompatible with waste they
contained.

Requirement K: Inspect containers holding waste at least once a week and properly document completion of inspection, corrective actions needed/taken and retain documentation for review.

Action 11. Describe inspection program and list location of
Required records.

Requirement L: Locate all containers holding ignitable waste at least 50 feet from property line.

Action 12. Provide a scale drawing or diagram showing all
Required waste storage locations and distances to property
 lines.

Requirement M: Do not mix incompatible wastes.

Action 13. Describe system used to insure incompatible
Required wastes are not mixed.

Requirement N: Hold incompatible waste containers in areas which provide a physical barrier to mixing in the event of a release.

Action 14. Describe methods use to determine incompatible
Required wastes.

Action 15. Describe methods use to segregate incompatible
Required wastes.

Requirement O: Label and mark on-site containers with "accumulation start date" and "Hazardous Waste".

Action 16. Describe system used to determine proper waste
Required labeling.

Requirement P: Generator may accumulate waste at point of generation if container is marked "Hazardous Waste" and is moved to holding area upon filling or accumulating 55 gallons or 1 liter of Acutely Hazardous Waste, within three days.

Action 17. List areas accumulating waste in accordance with
Required this restriction.

Requirement Q: Maintain and Operate facilities so as to minimize the possibility of fire, explosion or unplanned sudden or non-sudden release of waste.

Action 18. Describe steps taken to design, operate and
Required maintain waste handling features of the site.

Requirement R: Ensure availability, test, maintain and inspect, with documentation, the following equipment: Internal alarm system, External communication system, Fire control equipment, spill control and decontamination equipment.

Action 19. List and evaluate all emergency response
Required equipment and provide a written testing, maintenance and inspection program.

Action 20. List location of inspection and testing records.
Required

Requirement S: Maintain emergency and routine access to all containers by providing adequate aisle space.

Action 21. List locations where containerized waste is stored.
Required

Action 22. Provide certification that aisle space is routinely
Required provided.

Requirement T: Familiarize local police, fire, hospitals and other emergency response teams of the layout, hazards and possible medical needs due to waste handled at the facility and document.

Action 23. Provide documentation of arrangements with the
Required agencies listed or documentation that agencies
 would not participate.

Requirement U: Establish a contingency plan which includes, actions to be taken, arrangements with outside agencies, Names - home and office- phone and addresses of Emergency Coordinators, List of emergency equipment- location and capabilities, and a Site Evacuation Plan.

Requirement V: Designate and train, with documentation, qualified individuals as Emergency Coordinator, list alternates in descending order of contact, and insure that a coordinator is either at the site or on call to respond within a "Short" period of time.

Action 24. List current Emergency Coordinators and provide
Required documentation that they are fully trained and
 authorized to carry out the actions called for in the
 Contingency Plan.

Action 25. List on-site location of Contingency Plan and date
Required it was last up-dated.

Requirement W: Distribute updated copies of Emergency Plan to local police, fire and hospital officials and to State Emergency Planning Commission and LEPC.

Action 26. Provide documentation of Distribution of plan as
Required required.

[Note: Redistribution is required when the facility changes, response equipment is changed, or Emergency Coordinators are added/deleted.]

Requirement X: Immediately notify local officials if local evacuation is required or if other assistance is needed.

Action 27. Describe any incident where local evacuation was
Required required.

Requirement Y: Report within 15 any situation which requires implementation of the Contingency plan.

Action 28. List all incidents involving use of the Contingency
Required plan and locations of written reports.

Requirement Z: Provide training for all site personnel utilizing a qualified instructor. This training must include emergency response, operational guidance, and communication systems use.

Action 29. List by job description all employee who handle or
Required may come in contact with CIW during foreseeable emergencies. For each listed job description list the type, amount and instructor for training to meet the above requirement.

Action 30. Provide location of written documentation of
Required training listed above.

VITA²

Curtis Jackson Baker

Candidate for the Degree of

Master of Science

Thesis: ENVIRONMENTAL REGULATION OF MANUFACTURERS IN
OKLAHOMA

Major Field: Environmental Science

Biographical:

Personal Data: Born in Peoria, Illinois, November 25, 1958, the son of Leland Curtis and Lila Fern Baker.

Education: Graduated from Princeville High School, Princeville Illinois, in June 1976; received Associate of Science Degree from York College, York Nebraska in June 1978; received a Bachelor of Science Degree in Chemistry from Oklahoma Christian College, Oklahoma City, Oklahoma, in August 1980; completed requirements for the Master of Science degree at Oklahoma State University in December 1992.

Professional Experience: Environmental Specialist, Oklahoma State Department of Health, 1980-1983; Senior Marketing Specialist, Customer Waste Disposal and Recycling, Ashland Chemical Company, Oklahoma City, Oklahoma, 1983-1986; Safety and Environmental Specialist, Moore Business Forms and Systems Division, Stillwater, Oklahoma, 1986-1990; Environmental Affairs Manager, G. D. Searle & Co., Skokie Illinois, 1990-Present. Certified Hazardous Materials Manager #2586.